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Demand- vs. Supply-Driven Innovation

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Demand- vs. Supply-Driven Innovation: A Case Study of Alipay Credit Renting Platform

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This study updates the source of innovation theories by investigating the relationship between demand- and supply-driven innovation through a study of a fresh Chinese case of Alipay credit renting platform. Based on the primary data collected via interview and focus group discussion, as well as the secondary data from the company's website and media report, three main findings were obtained. First of all, from this case, we identify an unseparated relationship between demand- and supply-driven innovation and problems arose when one side is isolated and not given full attention. This adds new insights to the research on the source of innovation. Secondly, we propose that blue ocean strategical framework can help connect the demand side with the supply sides and facilitate the innovation. This provides some managerial guidelines to deal with the challenges as observed in this case. Lastly, this paper analyzes this new renting model (Alipay credit renting platform) from both lessors and lessees' perspectives, representing the first study to investigate the credit renting market systematically.

Keyword: source of innovation, demand-driven, supply-driven, blue ocean theory, credit renting

Introduction

With continuous changes in technology, market, and business atmosphere, innovation plays a crucial role in gaining the competitive advantages and sustainable profitability for companies, and the first step is to find the sources of innovation. For many years, scholars have conducted a lot of researches on the source of innovation (Stefano, Gambardella, & Verona, 2012). Drucker analyzed several innovation sources inside and outside the companies (Drucker, 1985). Besides, technology-driven innovation, open innovation, employee-driven innovation, demand- and supply-driven innovation are also analyzed (Schrage, 1999; Chesbrough, 2003; Dodgson, Gann, & Salter, 2006; Moor, Berte, De Marez, Joseph, Deryckere, & Martens, 2010; Høyrup, 2010). Referred to demand- and supply-driven innovation, on one hand, those who holds the demand-driven perspective highlights the key role of consumers' unmet needs in the innovation process. On the other hand, the supply-driven approach to innovation focuses on the internal development of new products from the perspective of firms. The literatures in this field in general discuss three types of innovating sources,

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demand-driven approach, supply-driven approach, and integrated-driven approach (Cleff, Grimpe, & Rammer, 2009; Darroch, 2010; Stefano et al., 2012; Kavin & Stentoft, 2017).

Yet, there are few literatures which consider demand and supply innovation sources collectively and provide systematical strategy solution to companies. Our investigation aims to fill this gap and extend the literature on demand and supply innovation sources by exploring two related and important questions: (1) among innovation sources, what the relationship between demand and supply innovation sources is; and (2) how to combine demand and supply innovation sources to provide strategy solutions to the innovation of companies.

To discover the related questions, we adopt the single case study approach. Our case study is about new phenomenon in Alipay credit renting platform. This new renting form is the first combination of “credit” and “renting” field. On 10th October in 2017, Alipay announced that the new renting form—Alipay credit renting platform started to run in Shanghai, Beijing, Shenzhen, and so on. In this new platform, Alipay aims to create the new renting form connecting lessors and lessees through its Zhima credit system. In the platform, the lessees with more than 650 scores in the Alipay’s credit system—Zhima credit can rent the house without deposit. For the lessor’s side, they don’t provide their houses to Alipay directly. At the beginning stage, not lessors themselves but several real estate intermediary agencies cooperate with Alipay online credit platform now; they provide many available houses to tenants through the platform, lessors as depicted in Figure 1. According to the data, more than one million apartments will be available in the Alipay’s online rent platform. In this way, they can help lessors find more reliable tenants (Sang, 2017).

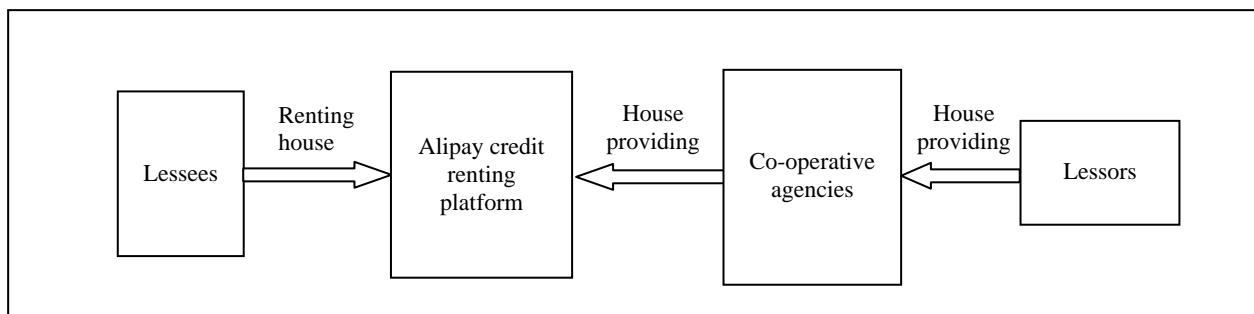


Figure 1. Overview of Alipay credit renting platform. Source: Own created based on newspaper review called renting market is in credit era by Sang Tong (2017).

As the innovative renting form, Alipay credit renting platform has huge research values, whereas few research touch it. Through investigating this new platform, some discoveries can enrich our understanding about demand and supply innovation sources and provide the strategic implications for the companies about innovation management.

Theoretical Background

This section presents and discusses the literatures of innovation sources aiming to clarify the theoretical background of innovation sources, which is then applied to analyze the emergence and development of this new renting model—Alipay credit renting platform.

Gradually, the development of innovation is becoming the prerequisite to the solutions of global competition (Lundvall & Nielson, 2007). With the highlighted significance of innovation in competitive success, the companies are faced with difficulties to manage the unpredicted innovation based on existing

predicted and beforehand decisions. In 1985, Druker put forward that most successful innovations are not formed accidentally. They are under the effect of systematic management of innovation sources. He analyzed the source of innovation as the first step of purposeful and systematic innovation. Four factors are within the company or industry, which are unexpected occurrences, incongruities, process needs, and industry and market changes. Three innovation opportunities outside the company are demographic changes, changes in perception, and new knowledge. Based on different context, these sources may have different roles in the emergence of innovation. In any of conditions, the companies should consider all innovation sources collectively (Drucker, 1985).

As the technology develops, it gradually serves as one significant source of innovation. For decades, the “technology determinism” has dominated the theoretical field (Moor et al., 2010). Many researches focus on the role of technology in creating innovation. In 2006, Dodgson et al. summarized that many new technologies have applied to facilitate the innovation, including some designs, models, and so on. The main role of these kinds of technologies is to open the mind of people to create more new options for innovation. For example, the information communication technologies (ICT) provide the high-speed computation power and other tools to contribute to innovation (Dodgson et al., 2006). Schrage pointed out that technologies offer a path to the emergence of innovation (Schrage, 1999).

To gain the competitive advantages, R&D investment is increasing in many firms to facilitate the innovation. However, the advantages of internal R&D are gradually decreasing for companies as the outflow of well-informed staff and the increased knowledge of producers (Dodgson et al., 2006). Chesbrough in 2003 put forward the open innovation, which focuses on jumping out the boundary of firms to the surrounding networks. Compared to internal R&D, the different surrounding factors work collectively to promote the open innovation (Chesbrough, 2003).

What’s more, the innovation is not only based on internal R&D and open external network, but also the internal employees. It means that the employees are one more sources of innovation, which is called employee-driven innovation by Høyrup (2010). This source implies that innovation is not limited to certain specific department in the company, like R&D department or certain experts. Employees in the company have certain skills to potentially promote the innovation in the company. Besides, they have close contact with production, market, and customers. Through these accesses, the information they gained can be exchanged in the internal network to contribute to the innovation in the company (Høyrup, 2010).

In addition, recent researches in innovation sources suggest the perspective of demand- and supply-driven innovation. There are separated demand-driven innovation (e.g., Kolter, 1973; Cleff et al., 2009; Darroch, 2010), separated supply-driven innovation (e.g., Burgelman & Doz, 2001; Narasimhan & Narayanan, 2013; Kavin & Stentoft, 2017), and integrated view of demand- and supply-driven innovation (e.g., Darroch, 2010).

Many literatures have mentioned separated supply-driven innovation approach. Darroch (2010) stated that in supply-driven innovation the new product was firstly crated based on the firm’s core business capabilities (Darroch, 2010). It is closely related to technology-driven innovation mentioned above. The bundle of business capabilities within the company can be seen as the resources of firms. Resource-based view theory provides the explanation between firm resources and competitive advantages. Holding the assumption that resources are uneven and stable distributed in different firms, Barney (1997) argues that valuable, rare, imitable and organizational (VRIO) resources can bring in competitive advantages for companies (Barney, 1997). This view

is regarded as the tool to analyze firm's internal resources and capabilities to find out if they can be a source of sustained competitive advantage. This process is illustrated in Figure 2. This way is manageable and economical to the companies as it is certainly based on internal capability (Burgelman & Doz, 2001). However, there is potential problem in this driven model. The separated supply-driven innovation approach may have the risk of estimating the market mistakenly as the company focuses more on internal resources and capabilities (Darroch, 2010). Crossan and Apaydin (2010) argue that the separated supply-driven innovation neglects the effect of market orientation (Crossan & Apaydin, 2010).

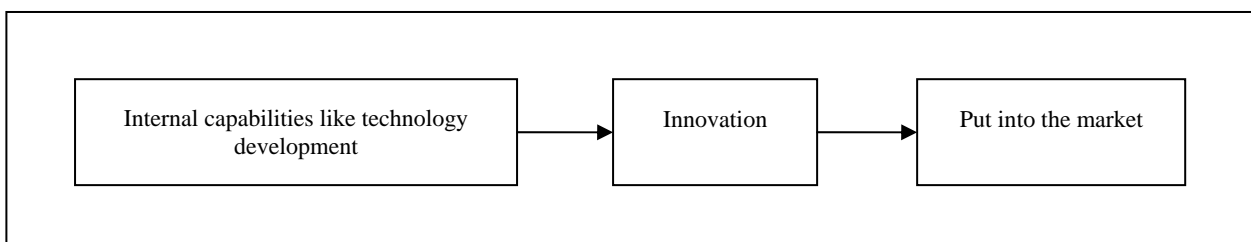


Figure 2. Overview of separated supply-driven innovation. Source: Burgelman and Doz (2001) and Darroch (2010).

The separated demand-driven innovation approach aims to identify and satisfy unmet needs of customers by new products (Darroch, 2010). According to the results of the third Community Innovation Survey (CIS-3), 26 percent of innovators chose their customers as an important source of innovation. It illuminates that the customers have significant role in improving the innovation process (Cleff et al., 2008). Strategically, this approach is closely related to the marketing management (Darroch, 2010), as the mission of marketing management is to find out the tastes and needs of customers (Kolter, 1973). Therefore, the market sensing capability of managers is significant to the innovation, as described in Figure 3. However, the customers often can't describe their preferences clearly, which increase difficulty for managers (Darroch, 2010).

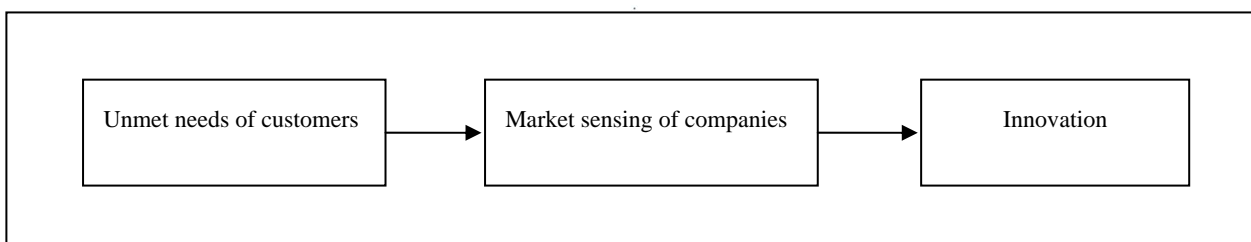


Figure 3. Overview of separated demand-driven innovation. Source: Kolter (1973), Cleff et al. (2008), and Darroch (2010).

Based on above two approaches, the integrated relationship between demand- and supply-driven innovation is put forward by Darroch and Miles (2010) and explained in detail in their research. Taking an integrated perspective, there is disequilibrium between demand and supply side in the market, so it usually starts from one side, demand side or supply side and then leads to another, step by step. As illustrated on the left hand of Figure 4, in some cases, demand exceeds supply at first. It means that the customers have unmet needs for the existing products. Then, based on the users' needs, the companies utilize the internal capability like technology or resources to meet these needs, so that innovation is generated. In some other cases, as shown on the right hand of Figure 4, innovation originates from supply side. The suppliers create the new products based on internal resources/capabilities and then develop and stimulate the customers' interests (Darroch, 2010).

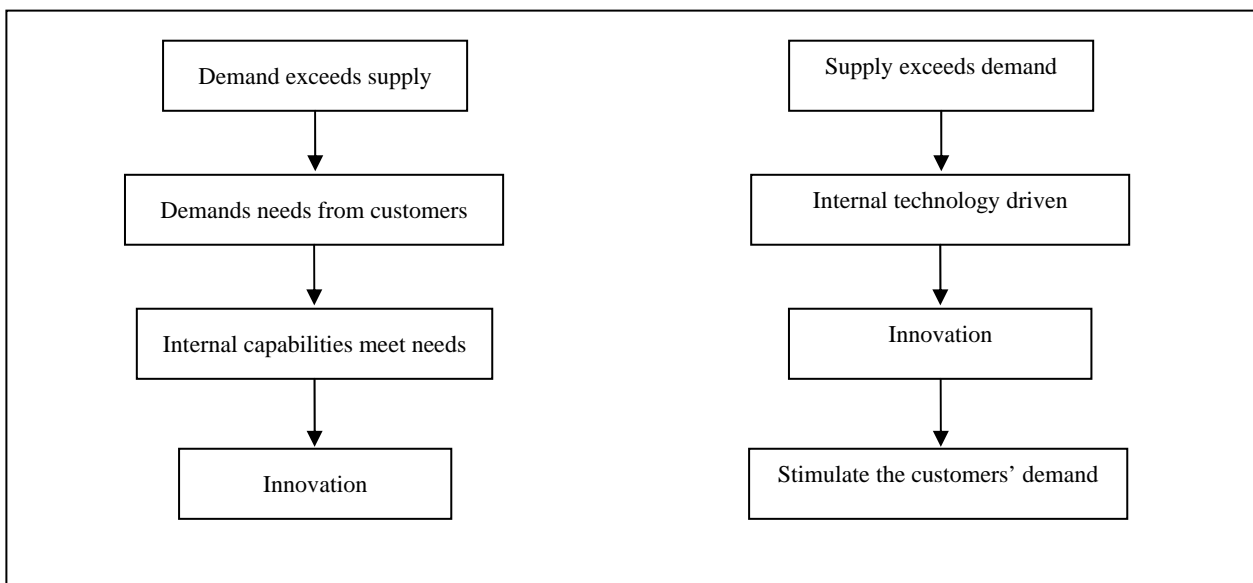


Figure 4. Integrated view of demand- and supply-driven innovation. Source: Darroch and Miles (2010). *Sources of Innovation*.

In general, the sources of innovation can be classified into two types, which are internal and external. According to Mary and Marina's research, the internal drivers of innovation are related with knowledge and resources, which are line with supply-side-driven innovation, while the external drivers are market opportunity and regulation issues, which are consistent with demand-side-driven innovation (Crossan & Apaydin, 2010).

Based on the existing literature, we find out that the innovation starts from one side, demand- or supply-driven separately or it starts from one side and then leads to another side. However, we argue that in practice and in most cases, some innovations start not only from one side, and there may be no obvious disequilibrium between demand and supply side as shown in our case study, which means two sides can contribute to the innovation simultaneously. It will be riskier if the firms focus on innovation from only one side, since uncertainty about the other side can be the risks for the companies. For example, if the innovation starts from supply side, the companies focus more on the internal technology operation, and take a risk of dissatisfying the market needs. If the innovation starts from demand side, the companies emphasize more finding out the customers' needs and preference and ignore the development of internal capabilities.

In the following part, the answer about how to combine the demand and supply side collectively to contribute to the generation of innovation is investigated. In order to find out the answers theoretically, some literatures are reviewed. In this paper, we aim to analyze the innovation from organization or firm level to dig out the demand- or supply-driven mechanism for innovation. Therefore, in the review of organizational innovation literatures, the vital factor, management factor is uncovered, which influences the innovation emergence to a great extent (Crossan & Apaydin, 2010). According to Mumford and Licuanan (2004), the managers play two types of roles. On one hand, in the beginning stage of innovation, the managers provide strategic support and guidance for the different sources involvements to lay foundation for the emergence of innovation. Meanwhile, they also play the role of interacting with group members and assisting the understanding and promotion of innovation internally and externally (Mumford & Licuanan, 2004). It means that between the demand-side sources and supply-side sources, the leaders or managers work as the connectors to manage the two sides collectively. Based on Mary and Marina's research, the leaders in the innovation

process can be classified into individual like CEO and group like top management team. The former plays the direct role to lead and deliver innovation, and the latter plays an indirect role (Crossan & Apaydin, 2010). On the other hand, the leaders also help facilitate the innovation implementation after the emergence of innovation (Mumford & Licuanan, 2004).

Regarding the role of strategic management in driving innovation, the vital thing is to create and execute the proper company strategy to seize the market opportunities based on existing internal resources. Kim and Mauborgne in 2005 put forward “blue ocean theory” to manage innovation in both cost (supply side) and value (demand side) points, which provides the new perspective for company strategy to focus more on managing innovation rather than competition (Burke, Van Stel, & Thurik, 2009).

According to the definition by Kim and Mauborgne (2005), blue ocean means the potential and new market space. There are many profitable opportunities in it. Due to the rules of games haven't been set, the competition in blue ocean is little. Under the serious competitive condition in the existing market, the imperative of creating blue ocean is increasing. The central part of blue ocean strategy is to manage innovation to gain the unique competitive competence by adding to the values for customers and simultaneously lowering the cost for the company. Kim and Mauborgne (2005) put forward the analytical tool called Four Actions Framework. By asking four crucial questions, the new values can be created for the customers, and the existing business model and industry's strategic logic can be improved and updated. The four questions are as follows.

- (1) Which of the factors that the industry takes for granted should be eliminated?
- (2) Which factors should be reduced well below the industry standard?
- (3) Which factors should be raised well above the industry standard?
- (4) Which factors should be created that the industry has never offered?

Based on the understanding of four key questions, two goals are summarized. The first goal is to drop the cost by eliminating or reducing efforts on over-competitive factors, mentioned in the first two questions. The second goal of this analytical tool is to increase the buyer values by creating or raising new experience for customers (Kim & Mauborgne, 2005).

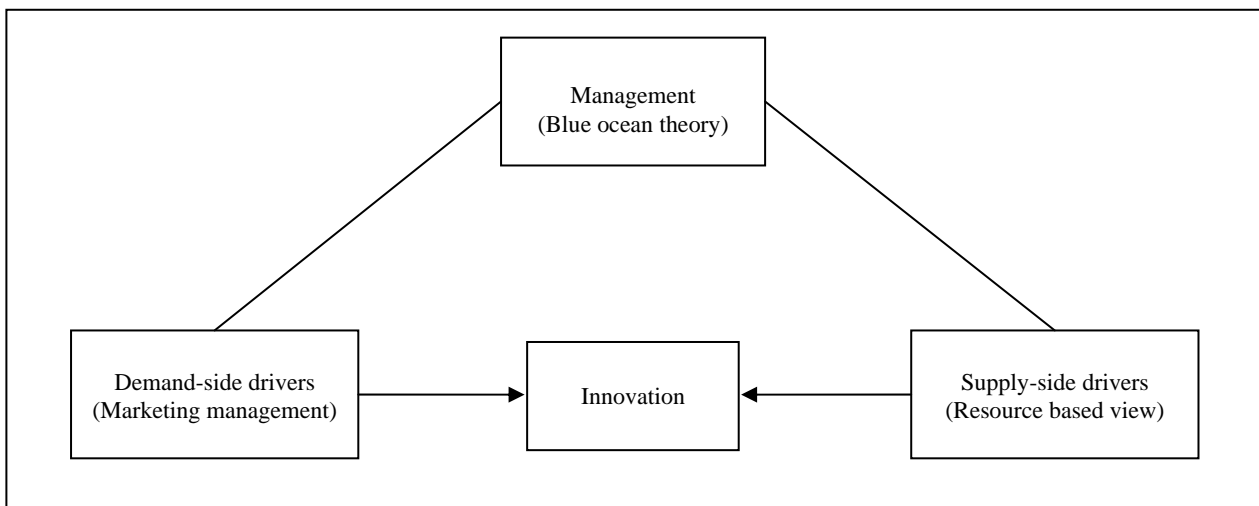


Figure 5. Overview of systematical innovation source model. Source: New creation (2018).

Based on blue ocean theory, the demand-side sources and supply-side sources are connected, which can be illustrated in Figure 5. On the demand side, there are unmet needs from customers, while many customers

cannot recognize and describe their underlying needs clearly. Therefore, the leaders or managers need to identify and seize such opportunities from demand side. On the supply side, the companies cannot work on every field. Based on internal resources or technology, the managers need to find out the efficient way to lower the cost by reducing or eliminating some over-designed or over-competitive factors. Then, the company is able to catch and/or develop innovation opportunities. Therefore, the innovation can be driven by demand- and supply-side sources under the leaders' management. Based on the above, it is thought both demand- and supply-side drivers can contribute to the innovation simultaneously and the blue ocean strategic approach is an important bridge, thus develop the following framework (Figure 5).

Research Design and Research Methods

Methodologically, we use a single case study design. One of the rationales for single case design as Yin mentioned in 2003 is that a single case is typical to test, challenge, or extend certain established theory. The contribution of a single case is to enrich the existing knowledge and develop/build the theory (Yin, 2003). Guided by the single case design, data are collected from both the lessors and lessees through online resources, focus group interview, and telephone interview.

The online resources include official documents, mass media outputs and reports about credit-based house renting market. At the beginning, the key words "Alipay credit renting" are chosen; some news from Xinhua, Netease, and Southern Weekly appear. In the process of viewing these materials, two categories are summarized, which are "credit" and "renting". These two categories can guide the collection of data for sources of Alipay credit renting form. Under the "credit" category, Chinese credit market report from Tian Jie is utilized. Combined with the news from Netease, the valuable data can be interpreted. Under the "renting" category, some renting reports are found out. 58 City published the reports called "2017 Graduated Renting Report" and "Renting Trend Report From 2012 to 2016". Sutu published the report called "2016 Online Renting Report" and 107 Room published the report called "Beijing Renting Report in 2016". All of these reports generate new categories like "policy change", "traditional renting market", "immigrant population" and "graduates", and so on. Under each new category, more data is collected to find out the sources behind Alipay credit renting form.

Regarding the focus group interview method, Bryman (2012) mentioned that the group interviews can help gather the information from the group discussion in certain context. It can save time and money by interviewing a group of persons at the same time. There are some types of group interviews. For example, taking a specific topic or issue, several participants who are familiar with the topic are gathered to form the focus group (Bryman, 2012). For the size of groups, Bryman proposes that the smaller groups are necessary. The reason is that the participants in the larger group will have little involvement, as a result, the discussion is difficult to form, which is a big challenge for the moderator (Bryman, 2012). Peek and Fothergill also believe the smaller group is better, which often contains three to five participants (Peek & Fothergill, 2009). For the size of group in this project, four master students from the same class in the university are invited to form the focus group since they are the potential lessees in the future and they have related renting experience. Their discussion reflects the lessees' opinions towards to Alipay credit renting platform. Besides, based on their renting experiences, their expectations and future improvements are also crucial to provide strategic suggestions for companies.

Considering the cost of data collection, telephone interview method is often used. According to Bryman (2012), this method is suitable for dispersed groups. We therefore use it to make supplementary answers from

lessor's side. As Alipay credit renting platform cooperates with intermediary agency now, the houses are managed by the middle man in the intermediary agency; it is difficult to contact with the lessor directly. As a result, the middle man is selected as the interviewee. An experienced renting agency listed in Alipay credit renting platform is interviewed. The interview questions are about the new credit renting form from agency's view. Through analyzing the telephone interview content, the challenges of Alipay credit renting platform from lessor or agency's side emerge.

Based on the data from different sources, a thorough case analysis is made. Some key research results are discussed and summarized in the following section.

Analysis and Discussion

Data are analyzed through coding to make the final interpretation of our research questions. Coding of data can be divided into several stages. The first is open coding stage, which includes detailed and vivo information (Riviere, Suder, & Bass, 2018). The coding of second-hand data is explained in the previous chapter. Then, the open coding is conducted based on the first-hand data about telephone and focus group interview transcripts. The key open codes are identified for several problems and concerns in Alipay credit renting platform. Then, the similar codes founded are transferred to clustered categories. The same information among interviewees can be classified as shared understanding (Riviere et al., 2018). For example, in the focus group interview, several interviewees mentioned intermediary agency problems. These grouped codes are called axial codes, which are less than the open codes. At last, the central categories are selected, which will be explained in the following parts.

Guided by the systematic innovation resource model presented above, the Alipay credit renting platform is analyzed as following.

In general, our findings indicate that the innovation can be driven by demand- and supply-side sources collectively, whereas the bridging role of strategic management is missing, which result in a couple of challenges to this case.

On the supply side, the technology resources in Alipay's Zhima credit system enable the set-up of this new renting model. During these years, Alipay has spent a lot of efforts in big data technology, cloud computing, and many Internet technologies, which establishes the solid foundation for Zhima credit system (Tian, 2017). As the CEO of the Ant finance, Xiandong Jing mentions that the traditional credit system contains personal information and credit record, while the strength we have is the internet data, which contains the behavior information of Internet users. In consideration of more and more internet users in China, the Zhima credit system can play the additional role for the existing credit system. For the utilization of internet technology, Jing introduces the big data characters, and the capabilities of meeting obligations, behavior preferences, and interpersonal relationships are analyzed through the big data technology to create the personal real-time credit file. The vision of Zhima credit system is to make credit measurable (Wang, 2015). In this way, Zhima credit system collects numerous credit data from many channels like Taobao and Tmall. And Alipay thus has the idea to extent its usage and develop new business.

On the demand side, firstly, the renting market has undergone the changes during these years. Recently, Chinese government has paid much attention on the renting market. Several policies have targeted at the joint development of purchase and renting market since 2015. Under the policy changes in the renting market, the renting market has entered the prosperity period. In 2016, the state council issued the policy about accelerating

the development of house renting market. In May 2017, the regulation on house renting and sales management was put forward; it defines the rights and obligations of lessor and lessee, and sets up the supervisory mechanism as well. In July, nine departments in the government together issued the policy about accelerating the development of housing rental market in large and medium-sized cities with a net population inflow. Several big cities like Beijing, Shenzhen, and so on are selected to carry out this policy (Xia, 2017). These policies drive up the growing needs from lessors and lessees, providing this great innovation chance for Alipay.

Secondly, with more and more migrant population and graduates, the needs for house renting are increasing. The National Health and Family Planning Commission (NHFPS) issued “2017 Chinese Migrant Population Report” in November 2017. According to the report, the migrant population has a continuous increase from 2009 to 2014, with a bit drop in 2015. In 2016, it reaches 245 million. The report indicates that large-scale population migration is the important part in the population growth and society development. Besides, the report shows the new generation takes a big proportion in the migrant population. The migrant population within the working age group contains the people from 16 to 59 years old. Within this group, the proportion of “after 80s” increases from less than 50% in 2011 to 56.5% in 2016, and “after 90s” increases to 18.7% in 2016. The number of new generation performs the upward trend in the migrant population (NHFPS, 2017). Another demographic change is the increasing amount of graduates year by year. According to the data from Chinese Ministry of Education, since 2011, the graduates in China has increased by 2%-5%. In 2017, the number of graduates reaches to 7.95 million (Chinese Ministry of Education, 2017). In summary, more and more migrant population and graduates reflect the increasing demand for the renting market.

However, the potential problems of existing house renting market reflect the unmet needs for a new house-renting platform. In Chinese house renting market, the deposit mode is recognized. To protect the rights of lessors, the lessees are usually required to pay the deposit to the lessors before renting the house. Normally, they will pay a month’s deposit amount to three months’ rent (107 Room, 2016). However, one-time payment for three months is the huge burden for lessees, especially the new graduates. Another problem is the real estate agencies. The estate brokers chase for the volume of the transactions, and there are many fraudulent conducts. For lessors, the brokers often drive up the rent price without informing the lessors, in this way, they can earn the price difference. For lessees, the brokers conceal the important information like quality and risk of the house, which is unknown to lessees. As a result, the information asymmetry causes the lessors and lessees in the disadvantaged positions (Xiao, 2011). These existing problems reflect unmet needs in Chinese renting market, which becomes the innovation opportunity for Alipay.

Besides, Alipay has popularized in customers’ lives, According to BDR report about Chinese third-party mobile payment in the second quarter of 2017, Alipay has the largest market share 51.9%. More and more customers are accustomed to using Alipay for online shopping, offline consumption, money transfer, and so on (BDR, 2017). The acceptance and popularity of Alipay reflect the users’ trust and satisfaction, which lays the solid foundation for the introduction of Alipay credit renting platform.

The above factors from supply and demand-side result in the emergence of this innovation model—Alipay credit renting platform. That is to say, the supply-side technology, credit data system, and well-established customer base, as well as the demand-side unmet needs (i.e., the confronted renting problems) jointly contribute to the Alipay’s innovation in the house renting field.

Through analysis of the focus group interview data, all interviewees agree that no-deposit service is beneficial for them like capital liquidity, less money pressure. Besides, as the reliable platform, Alipay has built

the trust in the customer's mind. Therefore, Alipay credit renting platform can be attractive to customers (focus group interview transcript, 2017).

However, by studying the data collected from lessors/supply and lessees/demand, potential challenges are found out behind this innovation. Four challenges are found out from lessee's side. Firstly, the cooperation with the intermediary agency in the beginning stage increases the transaction cost as there is no direct house resources in the platform. Here, the transaction cost refers to the cost connecting the supply side and demand side, which has defined in Edelman and Geradin's (2015) paper. It means Alipay cannot deal with issues between lessees and lessors directly, which is increasing the cost. It is more complicated and costly than the traditional renting form, as the traditional intermediary agency has its own house resources directly. The uncertainty of cooperated intermediary agency can increase the transaction cost between different parties in Alipay credit renting platform. Many participants in the interviewee are worried about the cost for the middle man in Alipay credit renting platform (focus group interview transcript, 2017).

Secondly, this platform can't solve the information asymmetry problems in traditional renting form as mentioned by all the interviewees. This form can't fundamentally change the middle man problems in the traditional renting system. The existence of intermediary agency and middle man causes that the lessors and lessees can't gain the house renting information effectively. One of the interviewees put forward that some information in this platform is not accurate. For example, some houses in this platform mark no-deposit, but when communicating with middle man, you may find the house doesn't have no-deposit service (focus group interview transcript, 2017). This situation can be explained by no direct house resources in Alipay. Alipay promises no-deposit service for tenants, while in the operation by intermediary agency, the no-deposit service cannot be guaranteed. In this way, Alipay credit renting platform adds to more worries about information asymmetry for tenants.

Thirdly, there are more unmet requirements besides deposit factor, like location, quality, and price of the houses, which reflect the future directions of new renting form. The no-deposit factor is the basic selling point for Alipay credit renting platform, while, in the interview, the deposit factor is not the only factor the tenants care about. All interviewees mentioned location factor. Some of them care more about house quality and conditions. According to the discussion, they indicated that just no-deposit service is not attractive enough with quality and living conditions not ensured (focus group interview transcript, 2017). This may reflect the consumption perception of the "after 90s". They prefer to pay money for convenience and quality, but care less about money relatively. Therefore, it is crucial for Alipay credit renting form to think more about the multiple demands of lessees.

Moreover, Alipay credit renting platform cannot guarantee the real-time price, which causes the price inefficiency. The reason is that there is no online payment function in the platform. In addition, the price differences may exist in the online and offline renting process because of the intermediary agency, mentioned by interviewees (focus group interview transcript, 2017).

From lessor's perspective, the main challenge is the difficulty to promote credit-renting concept to lessors. The existence of intermediary agency causes that Alipay can't contact lessors directly, which increases the difficulty of promoting credit renting concept. As mentioned by the interviewees, the reason behind this is that the intermediary agency does not want to take the risks of no deposit, and they prevent the promotion of credit renting to lessors (telephone interview transcript, 2017).

These challenges reveal that although there are adequate drivers from both supply side and demand side for innovation, the demand-side real needs have not been fully investigated and considered, which result in

immature innovation product with many challenges. In order for this new house renting model to be successful, these problems have to be solved.

As discussed in the theoretical section, blue ocean theory provides a strategic framework to facilitate innovation by considering both demand and supply side. Referring to this model, we make some suggestions as below to deal with the above issues. On the supply side, eliminating the cooperation with intermediary agencies can reduce the indirect connection of lessors and lessees. According to blue ocean strategy, Alipay needs to jump out of the existing market boundary. In the existing model, Alipay credit renting platform serves as the intermediary platform for intermediary agencies. The two-tier intermediary role causes Alipay isolated with the lessors and lessees. The cooperated intermediary agencies have the decisive effect in Alipay credit renting platform. Their reluctant attitude towards no-deposit service directly affects lessors, as a result, the lessees are difficult to enjoy the no-deposit service. As the core value, the credit renting and no-deposit service are hard to promote in the future. More importantly, this renting platform in the long term can affect the customers' trust on Alipay itself. In the whole process, high cost is doubtless; meanwhile more investments are necessary in the future. In a word, according to blue ocean strategy, these problems and factors need to be eliminated. Alipay should turn to a new direction and eliminate cooperation with intermediary agencies.

On the demand side, creation of Alipay's own credit renting agency can solve several problems. It means that Alipay has the direct house resources and connects lessors and lessees directly. The transaction cost and information asymmetry problems can be solved to a large extent for customers. In line with blue ocean strategy, the creation of Alipay credit renting agency combines lessors and lessees in the reliable credit renting system, and brings in many values to each party. Compared with existing intermediary agency, the credit-based Alipay agency is rare in the market. The new market place means great opportunities. Combined with the creation of Alipay credit renting agency, the future can be inferred.

Meanwhile, more selling points can be added to Alipay's own credit renting agency, like house quality and location, which can add more values for customers. In the blue ocean strategy, the unmet demands mean great opportunities for companies, which should be raised. In Alipay credit renting platform, one of unmet demands from customers is house conditions and location requirements mentioned by interviewees in the focus group. Meanwhile, in the above part, the creation of Alipay own credit renting agency can raise and meet these requirements. Another problem for customer's demand is price inefficiency. Without the online payment function in existing Alipay credit renting platform, the customers often have the price difference problems between online and offline way. Alipay needs to utilize its powerful payment function to raise this demand.

These suggestions are summarized in Table 1. Based on these suggestions for Alipay credit renting platform, some implications are also helpful to manage the innovation in the new relationship.

Table 1

Blue Ocean Strategy for Alipay Credit Renting Platform

-Costs (supply side)	+Values (demand side)
(1) Eliminating the cooperation with intermediary agencies	(1) Creation of Alipay's own credit renting agency (2) Addition of more selling points (3) Developing the payment system in new platform

Source: New creation (2018).

In summary, based on analysis of Alipay credit renting platform, the demand and supply sources are analyzed. On the supply side, the technology resources in Alipay support the emergence of new credit renting platform. On the demand side, policy changes in the renting market, increasing migrant population and graduates, potential problems of existing house, the customer acceptance, and popularity of Alipay contribute to the emergence of Alipay credit renting platform as well. However, some challenges are founded from the lessors and lessees. The challenges from lessee's side include high transaction cost, information asymmetry, more unmet requirements, and price inefficiency. The challenge from lessor's side is the difficulty to promote credit-renting concept to lessees. These challenges reflect the immaturity of this innovative platform, Therefore, the strategic management is necessary to improve it. Supported by blue ocean theory, eliminating the cooperation with intermediary agencies can decrease the cost in supply side. Meanwhile, through creation of Alipay own credit renting agency, adding more selling point and raising the payment system in new platform can add values to demand side, which can be summarized in Figure 6.

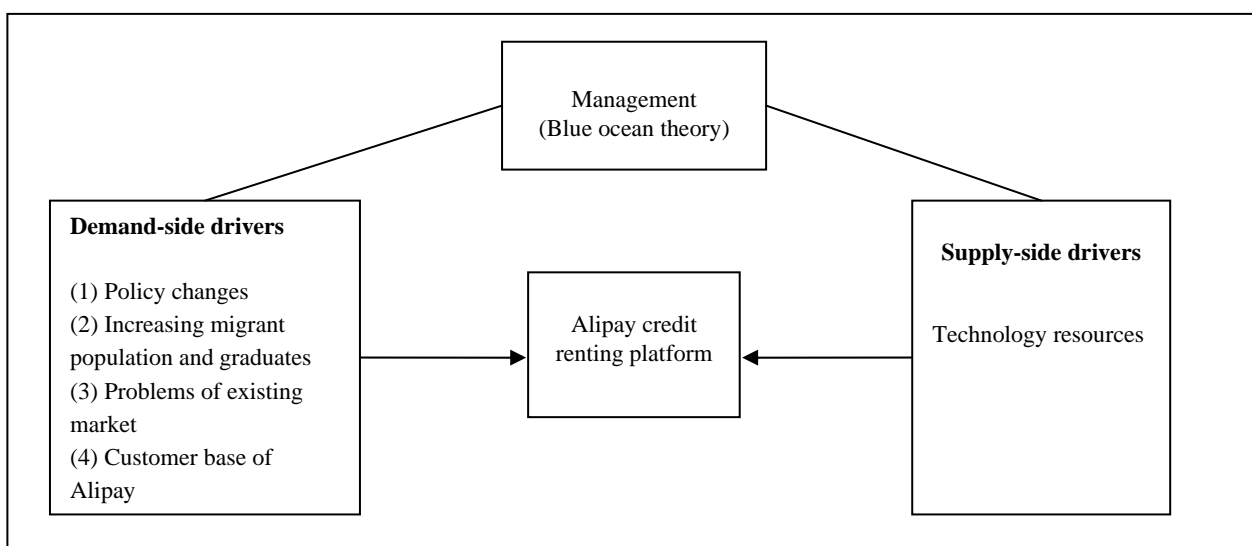


Figure 6. Innovation sources analysis and management of Alipay credit renting platform. Source: New creation (2018).

Research Contributions

By studying this fresh case of Alipay credit renting platform case based on the theories of innovation sources and blue ocean theory, this research makes both theoretical and managerial contributions. Theoretically, the combinations between demand drivers and supply drivers under the strategic management identified in this study are supplements to the existing theories of source of innovation. Instead of following the existing discussion that innovation is driven either by demand side or by supply side, we argue and find that innovation is driven by both sides. Overlooking or inadequate consideration of one side will result in immature innovation as found in this case study. Besides, market management and resource based view are added to analyze the demand and supply-side drivers systematically. With the strategic management, the demand and supply drivers can be connected collectively. The blue ocean theory is selected to analyze the innovation from supply (cost) and demand (value) sides. These findings can form the systematic innovation source model thus fill in the research gap about the relationships between demand- and supply-driven innovation, and provide updated perspective to understand and explain innovation emergence and development. Based on the new theoretical

model, the systematic analysis of this case is exhibited from source of innovation to the management of innovation, and some suggestions are proposed to the innovation managers from supply- and demand-driven innovation perspectives. Moreover, the findings from the Alipay credit renting case also set up the foundation for the future credit renting research. Through the Alipay case, transformation of our findings to further qualitative and quantitative research can investigate the innovation sources deeply and enhance the understanding of credit renting market in depth. In the future research, the multiple case study is suggested to find out replicable findings and explore, compare different innovation sources development. Besides, some quantitative studies will also be helpful.

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