

LEARN FROM UBER:
A STUDY OF DYNAMIC CAPABILITY
IN CHINESE ONLINE PHARMACY INDUSTRY

Baoxian Feng

Dissertation submitted as partial requirement for the conferral of
Master in Business Administration

Supervisor:
Prof. Nelson António,
ISCTE Business School

June 2017

Learn from Uber: a study of Dynamic Capability in Chinese Online Pharmacy Industry

Baoxian Feng

- Spine -

ABSTRACT

The rapid development of e-commerce in China has resulted in strong competition in medical e-commerce industry, which has made online pharmacies struggling to maintain their competitive advantage. Dynamic capability is the change-oriented capability that can help online pharmacies keep pace with market development, technology development, and consumer demand changes to obtain sustainable competitive advantages thus to survive in the dynamic environment and access to market share.

This dissertation focused on the dynamic capability of Chinese online pharmacy industry. Firstly, we did the literature review of strategy schools and dynamic capability theory, analyzed and summarized the measurements of dynamic capability; secondly, we studied about Uber's dynamic capabilities; then, as for the field study, we adopted the quantitative method: we distributed questionnaires to investigate the dynamic capability application and importance in Chinese online pharmacy industry; finally, this dissertation drew the conclusion through comparison.

From the study we concluded that: dynamic capability is composed by adaptive capability, absorptive capability, and innovative capability; through data analysis we found that there were distance between current application and corresponding importance of dynamic capabilities in Chinese online pharmacies especially in sensitive observing the environment, accessible knowledge management database and knowledge sharing system, and applying new knowledge into innovation.

Keywords:

Dynamic capability, Absorptive Capability, Innovative Capability, Online Pharmacies.

JEL Classification:

M1, L1

RESUMO

O rápido desenvolvimento do comércio eletrônico na China provocou uma forte concorrência no comércio eletrônico da indústria médica, o que fez com que as farmácias on line tivessem dificuldade em manter as suas vantagens competitivas. A construção de capacidades dinâmicas, as capacidades que permitem reorganizar os recursos para fazer face às mudanças da envolvente, pode ajudar as farmácias a acompanhar as mudanças do mercado e da tecnologia.

Esta dissertação analisou as capacidades dinâmicas da indústria farmacêutica on-line chinesa. Primeiramente, fizemos a revisão de literatura das escolas de pensamento estratégico e das capacidades dinâmicas; depois estudamos as capacidades dinâmicas da empresa Uber e finalmente realizamos um estudo empírico. No estudo empírico adotamos o método quantitativo. Com base na revisão de literatura referente às capacidades dinâmicas, construímos um questionário que foi enviado a pessoas que trabalham nas farmácias.

Do estudo concluímos que as farmácias on line necessitam de melhorar as suas capacidades dinâmicas especialmente na observação da envolvente.

Palavras-Chave:

Capacidades Dinâmicas; Capacidade de Absorção, Capacidade de Inovação; Farmácias on line.

Classificação JEL:

M1, L1

Acknowledgments

I take this opportunity to express my appreciation to my supervisor Prof. Nelson António, for helping me, an original pharmaceutical student, to be able to complete the dissertation. He is always patient and generous to provide the guidance of my study.

I gratefully thank my parents, Weiye Feng and Guofang Pang who have provided me with financial and emotional support.

I want to express my sincere thanks to all friends who have directly or indirectly helped me during the preparation and writing of this dissertation.

Thank you all!

Index

1. Introduction.....	1
2. Literature Review.....	3
2.1. Ten schools of strategy.....	3
2.2 Resource-Based View and VRIO.....	8
2.3 Dynamic Capability.....	11
2.3.1 Definition.....	11
2.3.2 Key Components of Dynamic Capability.....	12
2.3.3 Dynamic Capability and Competitive Advantages.....	18
2.3.4 Application of Dynamic Capability.....	18
2.4 Sharing economy.....	19
3. Methodology.....	20
4. Field Study.....	22
4.1 Uber’s case.....	22
4.2 Macro Environment Analysis.....	25
4.3 Data Analysis.....	28
4.3.1 Questionnaire A for employees in online pharmacies in China.....	28
4.3.2 Questionnaire B for ordinary people.....	31
4.3.3 Data Analysis.....	34
5. Discussion and Conclusion.....	46
5.1 Conclusion.....	46
5.2 Strategic Suggestions for online pharmacies in China.....	47
5.3 Limitation of study.....	48
5.4 Suggestions for future study.....	49
Bibliography.....	50
Appendices.....	55
Appendix I: Questionnaire A.....	55
Appendix II: Questionnaire B.....	59
Appendix III: Validity test of Questionnaire B.....	63
Appendix IV: Descriptive Analysis Results.....	64

Index of Tables

Table 1	Source of Adaptive Capability Measurements.....	14
Table 2	Source of Absorptive Capability Measurements.....	16
Table 3	Source of Innovative Capability Measurements.....	17
Table 4	Dynamic capability of Uber.....	23
Table 5	Position in the company.....	28
Table 6	Nature of the work in the company.....	29
Table 7	Duration in years companies have been in operation.....	30
Table 8	Duration of respondents working in respective companies.....	31
Table 9	Demographic factors of the respondents.....	32
Table 10	Reliability Results.....	33
Table 11	KMO and Bartlett's Test.....	33
Table 12	Validity Results.....	34
Table 13	Sensitive observation of the environment.....	35
Table 14	Identification of consumer demand changes.....	37
Table 15	Arithmetic Means of Adaptive Capabilities factors.....	38
Table 16	Knowledge management database for access.....	39
Table 17	Arithmetic Means of Absorptive Capabilities factors.....	41
Table 18	Organization change and improve services based on new knowledge.....	42
Table 19	Organization often develop new products or services that are easily accepted by the market.....	44
Table 20	Arithmetic Means of Innovative Capabilities factors.....	45

Index of Graphs

Graph 1	GDP growth rate.....	26
Graph 2	Per capita expenditure on health care for urban households in China.....	26
Graph 3	Population structure.....	27
Graph 4	Population age structure of 2015.....	27
Graph 5	Position in the company.....	29
Graph 6	Nature of the work in the company.....	29
Graph 7	Duration in years companies have been in operation.....	30
Graph 8	Duration of respondents working in respective companies.....	31

List of Abbreviations

B2B	Business to Business
B2C	Business to Consumer
BCG	Boston Consulting Group
CBD	Central Business District
CFDA	China Food and Drug Administration
DTP	Direct-to patient
E-commerce	Electronic Commerce
GDP	Gross Domestic Product
O2O	Online to Offline
R&D	Research and development

1. Introduction

This study mainly researched about the dynamic capabilities in Chinese online pharmacy companies and how online pharmacies should cope with market changes on the perspective of dynamic capabilities.

With 710 million active Internet users, China's online shopping sales reached ¥5.16 trillion (equal to €688 billion) in 2016, accounting for 15.5% of total Chinese retail sales in the same period (Source: 中国互联网络信息中心, 2016; 网易财经, 2017; National Bureau of Statistics of China, 2016). Reflected on GDP (Gross Domestic Product), the economy in China shows a continuous rising trend and citizens' expenditure on health care also increased in the past 15 years, shows that people are increasingly concerned about their health. At the same time, with increasing number of chronic diseases patients and aging population, the problem of upgrading medical service is in urgent demand. With online business booming to bring changes in people's consumption concept, as well as policies encouragement to build the macro background, the medical e-commerce (Electronic Commerce) is now in a developing phase. (Source: National Bureau of Statistics of China, 2016)

Medical e-commerce is for providing comprehensive medicine information, medicine utilized instructions, disease inquiries, and trading service to users base on logistics, including wholesale B2B (Business to Business), platform B2C (Business to Consumer), self-operated B2C, and the newest one O2O (Online to Offline).

Red ocean is known as “(market) space gets increasingly crowded, profit and growth prospects shrink, products become commoditized (Kim and Mauborgne, 2004)”. The rapid development of China's e-commerce also drives the growth of Chinese medical e-commerce industry, with the Ministry of Commerce reported the total sales of medical e-commerce has exceeded ¥47.6 billion (equals €6.35 billion) in 2015 and expected the number would reach ¥40 trillion (equals €5.33 trillion) in 2020. (Source: ChinaByte, 2017) The drawbacks of rapid development are more and more market participants entering the online pharmacy industry, and turning the industry into “red ocean”, with immature market and brutal price war, which is not healthy for the industry and even fatal for some pharmacy companies without unique competencies. Until January 2017, 598 enterprises have got the certification to establish online pharmacies, which revealed how highly competitive the industry is. (Source: 托比网, 2017)

Dynamic capabilities are “the abilities to integrate, build, and reconfigure internal and external competences to address rapidly changing environments (Teece and Pisano, 1994)”. In this dissertation, started from Uber’s dynamic capabilities, we will try to figure out the current application and corresponding importance of dynamic capability approaches in online pharmacies in China, specifically to find out the distance in dynamic capability application in online pharmacies, so that to figure out the way to improve dynamic capability and establish competitive advantages.

There are four parts in this dissertation: the first part is a brief literature review about ten schools of strategy theory and dynamic capability theory; the second part is the illustration of methodology we used in this dissertation; the third part is the field analysis, consisted of Uber’s dynamic capability, macro environment analysis, and data analysis; the last part is about conclusion, strategic suggestions, limitations and further development.

With the critical analysis of online pharmacies from the perspective of dynamic capabilities, this research is based on professional business theory and literature review, and hope to achieve deeper understanding and some new insights on business strategy in Chinese online pharmacy industry.

2. Literature Review

2.1. Ten schools of strategy

Strategy is originated from military but widely used in business. As one of the most essential concepts in business field nowadays, the word “strategy” was defined by several scholars in different ways.

Peter Wright (1992) defined strategy as the “top management’s plans to attain outcomes consistent with the organization’s missions and goals”, which emphasized that strategy formulation is among the top managers. According to Andrews (1997), strategy is “the pattern of decisions in a company that determines and reveals its objectives, purposes, or goals...” Strategy is a decision-making process that towards the organizational goal. Porter (1996) argued that strategy is to be different, defined it as “the creation of a unique and valuable position”. Different from the previous definition which focuses on the decision or plan so that to achieve goals, Porter (1996)’s illustration was all about to be unique and to create differentiation, in another word, the competitive advantages.

For better illustration about the strategy formulation, Mintzberg (2005) categorized ten schools of strategy and put them into three different groups:

- a) Prescriptive schools: Design school, Planning school, Positioning school.
- b) Schools that consider specific aspects of strategy formulation process: Entrepreneurial school, Cognitive school, Learning school, Power school, Cultural school, Environmental school.
- c) School that integrates the other schools: Configuration school.

2.1.1 The design school started at 1950s, while the influential representatives were Selznick (1957) and Chandler (1962). But after a period of twists and turns, by the 1980s, the Harvard’s textbook (1969) with the unique “Harvard strategic thinking” was one of the few left that represented this school. Based on SWOT analysis and the motto of “Establish fit”, this school advocated fitting both internal and external environment. The Harvard’s *Business Policy* (1969) divided strategy into two parts, formulation and implementation respectively, and indicated that strategy formulation is developing core competency to balance and match external with internal situation. The SWOT analysis model considered the threats and opportunities (external elements) as well as the strengths and weaknesses (internal elements). The design school did a great development of strategy management, especially the SWOT

showed the importance of internal and external relationship in strategy making. But the limitation is that, the thought is separate from the action in this school, which means separation of formulation from implementation. Because this school only focuses on the strategy formulation process and lack of later learning and emergent strategies, thus it would ignore the strategic implementation and control. Furthermore, in different environment, different moments, or even different organizations, competitiveness is not always easy to define, so more practice about observation and improving is in need. The design school can be applied in the transformation period of an organization to achieve operating stability.

2.1.2 The planning school was developed from the middle of 1960s, represented by Ansoff (1965) who proposed that strategy should consist four elements: Product-market scope, Growth vector, Synergistic effect, and Competitive advantage. Based on the design school, the planning school is equipped with more mathematical and scientific methods, and brought up strategy planning model that are more complex. Different from the design school, this school is a more controlled, conscious and formal strategic formulation process, with well-designed steps. Similar to the design school, this school also separated formulation from implementation. The strategy implementation is too formalized, thus lack of randomness, dynamism, and flexibility. And the prediction mechanism is hard to be perfect all the time, while it relies too much on information collection, thus this school is somehow costly but gain little. The planning school can only be applied in stable, or at least predictable environment.

2.1.3 The positioning school development went through three different phases: military writings since 400 BC, consulting activities in 1960s, and empirical proposition after late 1970s. Since 1980s, the positioning school, represented by Porter (1980), made strategic analysis a simpler and more standardized process by creating analytical tools like Five forces of Porter. Porter (1980) indicated that, the core of corporate strategy is gaining advantages, which depends on two factors, industry attraction and the competitive position in the industry. Therefore, companies to obtain competitive advantages must select the attractive industry, which becomes the primary task of strategic management. Porter's five-force analysis is used for analyzing the situation of the industry. This school meets with the economy theory but ignores sociology and politics factors. It too much emphasizes on external environment analysis and research about mature industry, but sometimes ignores the

internal environment and the situation of immature industry, unstable industry, or relatively monopolistic industry. In another word, it tends to take conservative rather than action. The positioning school should be applied in sufficiently established and stable condition with enough information supported.

2.1.4 The entrepreneurial school grew out of economics since 1950s, where the entrepreneurs enjoy a prominent position. Joseph Schumpeter (1942), who praised the importance of entrepreneurs, fully developed the entrepreneurial school. Schumpeter (1947) indicated that the process of entrepreneurs creating capital is also the process of creative destruction, which refers to entrepreneurs doing new things or doing things in a new way. For him, the entrepreneurs should continuously provide business ideas, create new product portfolios and take the risk. From the perspective of this school, strategy is a concept about perception and direction, that leaders create vision as the future strategy of company. The advantage of this school is that it puts the entrepreneurs in the central of strategy making, which makes the company more flexible and adaptable. However, too much relying on individual leader may lead to potential risks, for example once the entrepreneur suffer from serious illness can set the company in trouble. While the rest are enthusiastically following and being subordinated to what the individual leader planned, this school would hinder the learning and innovation process. This school fits the start-up companies, small ongoing organizations, or organizations in trouble.

2.1.5 The cognitive school founded in the late 1940s from Herbert Simon (1947)'s research. This school contains two branches. One is positivism, sees the knowledge processing and structuring as the result of producing objective thinking of the world, which can be seen as recreation. The other is more subjective: strategy is the interpretation of the world, which is creation, the cognition creates the world. According to this school, strategy formulation is basically the strategist's cognitive process. But when the environment is complex, it might limit the strategist's cognitive ability. Not to mention the huge amount of information and limited time, the strategy process can be distorted. In addition, strategy formulation relies heavily on individual knowledge, but there are significant differences in strategic style among different strategists which may influence the strategy formulation. This school is a pretty good reference when researching psychology, but has limited contribution to strategic management. The cognitive school can only be applied in the initial stage, the strategic re-conception stage, or strategic stage when cognitive fixations happened.

2.1.6 The learning school's founder was Charles Lindblom (1959). Due to the limitation of the planning school, many scholars had doubt about the feasibility of planning and turned to find out a school that would pay attention to the unpredictable environment. So it was James Brian Quinn(1980)'s book that signaled the milestone of the learning school, and further promote the development of the theory. Logical incrementalism is that top management team first settle the future develop direction, then constantly adjust their core business, to achieve the aim by controlling the growth of new business. Dynamic capability is one of the new directions of the learning school. The dynamic capabilities approaches of Prahalad and Hamel (1990) emphasized their development essentially through a process of strategic learning. However, the strategy of learning school is like non-strategy, that decentralized learning may lose viable strategy at the end. There might be some wrong strategies, and the step-by-step thinking pattern may lead the organization into out-of-control. The learning process is so complex that the cost can be expensive. Professional-type organizations, organization that faces a truly novel situation, as well as organizations in dynamic and unpredictable environment are suitable for using this learning school.

2.1.7 This power school is about power and policy, which regards strategy formulation as a negotiation process that influenced by the power. This school was established in early 1970s, emphasized negotiation through power and political method to gain profits. This school includes two branches, micro power and macro power respectively. Represented by Graham Allison (1971), micro power is about the interrelationships of individuals and groups within the organization, as it is used to deal with internal political issues. Macro power, represented by Pfeffer and Salancik (1978), on the contrary, reflects the codependency between organization and its environment, and concerns about the organization's application of power. As the power school focuses on power, it may ignore the influence of leaders, culture, or strategy concept. As the power school provides emergent strategy instead of deliberate strategy, this school can cause a great deal of wastage and distortion of energy and assets because it does not have a clear direction. This school can be applied in large and mature organizations or organizations in transformation stage.

2.1.8 The cultural school was developed by American scholars from the perspective of anthropology, because the Japanese concept "culture" appeared in management in the 1980s and attracted their attention. Actually, the development of the cultural school started in Sweden in late 1960s, represented by Eric Rhenman (1973) and

Richard Normann (1977). After 1990s, the resource-based theory (Barney, 1991, 1995) further enriched and developed the cultural school. Concerned with enterprise core values, national image, and social culture, the cultural school takes strategy formulation as a process that can be influenced by culture, based on the common beliefs and confidence from organization members. Strategy takes the form of concepts rather than positions, while concepts are rooted in the collective intentions and reflected in the organization with resources and potentials, to establish the competitive advantages. But the problems of this school are, the ambiguity of concept thus it discourages necessary changes, which may happen that stagnant strategic thoughts hinder the necessary strategic changing. This school can be used in large established organizations or missionary organizations.

2.1.9 The environmental school was established in late 1970s, and the representatives were Hannan and Freeman (1977). To a great extent, in this school the strategy formulation is influenced by external environment like markets or policies. For this school, enterprise would observe and try to understand the environment, and fully adapt to the environment. Compared with the other schools, this school focuses on the external environment of the organization to influence the strategy formulation process. During adapting to the environment, organizations can find the the exact way for survival and development. In the environmental school, the environment and leadership as well as organization become the three central forces in strategy formulating, and leadership as well as organization are subordinated to the external environment, thus the environment is in a dominant position. But the problem is, this school overstates the external environment. As the environment is so complex and unpredictable, that this school cannot always be easy in evaluating the external environment to make the right strategy decision. The environmental school can be applied in the mature stage of an organization.

2.1.10 The configuration school's origin can be traced back to Chandler's article (1962), then later Mintzberg and Miller (1983) engaged in this research field. The configuration school contains all the elements of the other schools, but with its own unique perspectives. This school, on the one hand, describes the organization and it is surrounding as configuration; and on the other hand, describes the process of strategy making as transformation. That reflects two aspects of all existing things: configuration and transformation. Organization can be described as some stable configuration, and this configuration can occasionally leap to another configuration,

which is called transformation process. The configuration school provides a method that integrates different schools, pulls together all of the schools and provides ways to see the best in each schools. “Selecting the right degree of configuration is a complex balancing act. Managers must avoid the blandness or chaos of too little configuration while skirting the obsessionality of too much (Miller, 1996a).” The configuration school brings order to the chaotic field of strategic formulation, but the organization may suffer from that, because it may lead to ignorance of small difference in the chaotic world and disability of uncovering the complex relationship between things. To sum up, this school provides a new insight of structuring strategy in harmonious balance and it fits for any environments.

All these ten schools are not just ten different strategy formulation process. Instead, they are ten different aspects of one process. They reveal some essential questions that need to be considered while making strategies, just like providing a checklist for strategist to double check any missing in the whole process of strategy formulation. With all these ten schools considered, the strategy formulation process will be more comprehensive.

2.2 Resource-Based View and VRIO

Since Andrews (1971) built up the SWOT analysis framework, external analysis (opportunities and threats) represented by Porter’s (1980, 1985) industry analysis gained improvement dramatically, which believed that industrial structure is the main determinant of corporate profitability. The resource-based view, on the contrary, pays more attention to internal resources and indicates that internal resource is the major factor that leads to core competency. The origin of the resource-based theory can be found in Penrose (1959)’s article, which emphasized the importance of corporate resources and consisted that resources were the main driving force of enterprise profitability and strategic formulation ability.

Barney (1991) was the first one who introduced the concept of resource-based view and indicated the link between the internal characteristics of a firm and its corporate performance. According to Barney’s (1991) theory, an organization can be regarded as “a bundle of resources” that are simultaneously Valuable, Rare, Imperfectly Imitable and Non-substitutable, which add up to be the VRIN conditions. Later Barney (1995) did adjustment to his theory and introduced the VRIO analysis

framework, which is Value, Rareness, Inimitability, and Organization. The core idea of this framework is that sustainable competitive advantages cannot be achieved by simply assessing environmental opportunities and threats and then to make strategy choice only based on good opportunities and low threats. Sustainable competitive advantages also depend on unique resources that companies can apply to the environmental competition. To discover these resources, managers must seek for valuable, rare, inimitable resources within the organization and then exploit these resources through their organization.

Fleisher and Bensoussan (2002) believed that, a few resources could pass the VRIO test, and only those passed each test can be considered as the competitive and valuable resources so that can help the organization gaining advantages. The VRIO analysis was developed by Barney (1995) as a way of accessing organizational resources from the micro aspect, including financial resources, human resources, material resources, and non-material resources (such as information and knowledge). VRIO is a tool for analyzing the competitive advantages and disadvantages of an organization in terms of internal resources and capabilities:

Valuable:

Defined by Barney (1991), valuable resource is those “enable a firm to conceive of or implement strategies that improve its efficiency and effectiveness”. Miller and Shamsie (1996b) indicated that valuable resources could generate profits and prevent losses. Valuable resources and capabilities can provide important competitive advantages in subsequent market competition (Barney and Zajac, 1994). Valuable resources are the fundamental of organization formulating and implementing strategies to improve efficiency and performance, and will finally turn into profits for the organization. The “value” here is not only the cost but also the potential competitive advantages and profits that managers should consider.

Rare:

“A firm enjoys a competitive advantage when it is implementing a value-creating strategy not simultaneously implemented by large numbers of other firms (Barney, 1991).” “If all other firms have similar resources, resources will be unable to contribute to superior returns because their general availability will neutralize any special advantage. And for the same reason, readily available resources are also valueless (Miller and Shamsie, 1996b).” Thus rare resources are valuable and contribute to the competitive advantages. Rare resources are the unique capabilities

and limited resources that only owned by a few companies. Once the resources become general they lose the rarity so they cannot lead to unique competitive advantages. Rare resources have to meet with consumer needs so that to be valuable, because there are rare resources in the world but only those meet with consumer needs can win the market.

Inimitable:

Imitation would happen in two ways: by directly imitating, such as duplicating, or by offering the similar products/services to substitute. Inimitability, which is difficult for competitors to duplicate or obtain, is the protection of rare resources and the way of maintaining the sustainable competitive advantages. The inimitable resources need to be hard to imitate, and there will be huge cost if a firm was trying to duplicate or obtain. When competitors can copy each other, the competitive advantages will not exist so that companies cannot obtain unusual returns (Miller and Shamsie, 1996b). The inimitable resources can be complicated enough, or hard to be duplicated due to some historic reasons, or due to causal ambiguity or social complexity (Barney, 1995).

Organization:

An organization enjoys the potential of obtaining competitive advantages if it has value, rare and inimitable resources and capabilities. But to fully realize this potential, the organization should organize to exploit the resources/capabilities and to capture value. The organization is a management framework that to create competitive advantages with resources and capabilities. A firm must organize its management systems, processes, policies, organizational structure and culture to be able to fully realize the potential of its valuable, rare and costly to imitate resources and capabilities (Source: Strategic Management Insight, 2013).

Through the analysis of the above VRIO framework we can find that, only the resources meet the valuable, rare, inimitable and fully exploited by the organization can be regarded as the core competencies, and only the core competencies can help enterprises to obtain sustainable competitive advantages. However, the shortcomings of the resource-based theory are:

First of all, it overstates the internal aspect but pays less attention to the external environment, which might happen that the corporate strategy cannot adapt to changes in the market environment. Secondly, the definition of each concept is relatively

vague and abstract, that may cause difficulty in testing VRIO resources. Moreover, the resource-based view is based on a static situation that it cannot fully explain the dynamic environment. And the resource-based view does not adequately illustrate how resources are transformed into competitive advantages. To solve the problem of resource-based view in a dynamic environment, the following comes the dynamic capabilities.

2.3 Dynamic Capability

2.3.1 Definition

Dynamic environment refers to the fast changing in the macroeconomic environment, industrial environment, social environment. Under the dynamic environment, enterprise's pattern of obtaining sustainable competitive advantages has been transformed from the continuous competitive advantages to continually obtaining a series of temporary competitive advantages. Within the market environment of hypercompetition, the competitive advantages that industry leaders accumulated through resource strength will be exceeded and eroded by the rapid technological innovation. Therefore the enterprise must quickly respond to the external demand and adjust the internal resource allocation in time to catch temporary competitive advantages (D'aveni, 2010).

Scholars like Teece (1997) extended resource-based view to dynamic markets because the resource-based view cannot adequately explain the situation of rapid and unpredictable change. Dynamic capability is a new strategic management theory established on the foundation of the core competencies theory since 1990s, and is still in constant development. It is linked with resource-based view, and all the study about this new theory are mostly within the framework of the resource-based view.

Since Teece and Pisano (1994) proposed the concept of dynamic capability, this theory got further development. They indicated that dynamic capabilities are the “abilities to integrate, build, and reconfigure internal and external competences to address rapidly changing environments (Teece and Pisano, 1997)”. Eisenhardt and Martin (2000) argued that they are “a set of specific and identifiable processes such as product development, strategic decision making, and strategic alliance, neither vague nor tautological”. Teece and Pisano (1997) more focused on the “processes-positions-paths” model, believed that external environment changes rapidly, and enterprises adapt to the external environment through continuously

dynamic adjustment. Eisenhardt and Martin (2000)'s interpretation of dynamic capability is more focus on the specific implementation process.

Defined by many scholars, the concept of dynamic capability has been interpreted in many different ways:

Winter (2003) stated that dynamic capabilities are “those that operate to extend, modify or create ordinary (substantive) capabilities”.

Dynamic capabilities enable firms to “create new products and processes and respond to changing market conditions (Helfat, 1997).”

Dynamic capabilities are “essentially change-oriented capabilities that help firms redeploy and reconfigure their resource base to meet evolving customer demands and competitor strategies (Zahra and George, 2002).”

In summary, dynamic capability is the change-oriented capability that organizations create new products/processes through resources reconfiguration and respond to changing market conditions.

Lee (2002) explained that dynamic capability is “a newer source of competitive advantage in conceptualizing how firms are able to cope with environmental changes”.

In this way, organizations can cope with environmental changes with dynamic capabilities, which is a “learned and stable pattern of collective activity”, to achieve more effective operating routines as well as obtain continually temporary competitive advantages (Zollo and Winter, 2002).

Regrettably, literature about dynamic capability is mostly about abstract concepts or discussion of the framework, but lack of systematic and deeper empirical research, which means it is only theoretic research that cannot guide enterprises implementation and may limit further development of dynamic capability.

2.3.2 Key Components of Dynamic Capability

Until today, the theory of dynamic capability is concerned by many scholars, and the viewpoints of dynamic capability components are becoming diversified.

Regarding the dimensions of dynamic capability, Teece (1997) divided the dynamic capability definition into integrating, building, and reconfiguration, which scholars have been followed for several decades. But there are significant differences in specific dimension division. Eisenhardt and Martin (2000) decomposed dynamic capability into four aspects of integrating, reconfiguration, gaining, and releasing resources respectively. Teece (2007) further indicated that dynamic capability could

be divided into “the ability of sensing (and shaping) opportunities and threats”, “the ability of seizing opportunity”, and “the ability of managing threats and reconfiguration” respectively. Wu (2007) indicated that dynamic capability could be further divided into perspectives of resource integration capability, resource reconfiguration capability, learning capability.

Based on the above points of view, we can sum up the consensus on the dimensions of dynamic capacity: The ultimate goal of dynamic capability is to enable enterprises to adapt to dynamic environment. Dynamic capability begins with changes in the external environment, while organization sense and access to opportunities, eventually seize opportunities (reconfiguring resources) through learning new knowledge. The output of dynamic capability is resources reconfiguration, and improving performance in short-term and sustainable competitive advantages in long-term. In summary, we can see that the dynamic capability dimensions include the sensation of the environment, learning and seizing the opportunity, as well as the finally resource reconfiguration and competitive advantages as output.

Wang and Ahmed (2007) identified three main component factors of dynamic capability, namely adaptive capability, absorptive capability and innovative capability. Here we take these three factors to be the measurements of dynamic capabilities in this research:

a) Adaptive Capability:

Adaptive capability is defined as a firm’s ability to identify and capitalize on emerging market opportunities (Miles and Snow, 1978; Chakravarthy, 1982). Market-oriented is an essential step for promoting the resource reconfiguration, through confirming and delivering market information and related knowledge. So that organizations can rapidly respond to market and demand changes, as they fully understand the needs of customers and market changes. The adaptive capability lies in quickly changing environment, to determine the direction and objectives of transformation. During the implementation process of strategic transformation, the organization needs to respond to challenges, seize the opportunities, integrate resources effectively so that the transformation can be completed in a trend consistent with the environmental development. Regarding the rapid developing online pharmacy industry, megatrends like aging population, chronic disease management and new IT technologies will provide new challenges for the market, which are the opportunities for managers to pay close attention.

In the existing literature, measures for adaptive capability are multi-dimensional, including the ability to respond quickly to external opportunities; to scan the market, investigate customers and monitor competitors and allocate resources to marketing activities; and to respond to changing market conditions in a speedy manner (Wang and Ahmed, 2007; Oktemgil and Greenley, 1997; Gibson and Birkinshaw, 2004).

The adaptive capability is the main component of dynamic capabilities, as it mainly refers to the market-oriented adaptive capability. Measurements of adaptive capability are all about the organization' perception and analysis of the environment. Market-oriented adaptive capability is the capability that organization responding to environment and consumer demand changes. This capability can help to discover and identify opportunities and threats through observing and scanning the environment. In particular, the adaptive capability can be summarized as the sensitive observation of the environment, the discovery of market opportunities, the identification of changes in consumer demand, furthermore, the prediction of industry trends. Through adaptive capability, companies can recognize their shortcoming and take measures to avoid falling behind other competitors in the dynamic environment and avoid products/services being sifted out.

Table 1 Source of Adaptive Capability Measurements

Adaptive Capabilities	Source
1. Sensitive observation of the environment	Li and Liu, 2014; Wang and Li, 2013; 史蕾蕾, 2012
2. Identification of consumer demand changes	Chang and Kuo, 2013; Janssen et al, 2012; Li and Liu, 2014; Menguc and Auh, 2006; Osisoma et al, 2016; 史蕾蕾, 2012
3. Discovery of new opportunities for the market	Chang and Kuo, 2013; Li and Liu, 2014; Osisoma et al, 2016; 史蕾蕾, 2012
4. Accurate prediction of industry trends	史蕾蕾, 2012

b) Absorptive Capability:

Cohen and Levinthal (1990) define absorptive capability as “the ability of a firm to recognize the value of new, external information, assimilate it, and apply it to commercial ends”. Organizational learning can continuously generate economic value

through developing new ideas and renewing existing capabilities (Kogut and Zander, 1992). Similar to the learning school, the absorptive capability needs the organization to keep continuous learning within the complex and unpredictable environment. The dynamic capability approaches of Prahalad and Hamel (1990) emphasized development essentially comes from “collective learning”. With knowledge absorptive capability, the enterprise can complete the preparation of strategic transformation in cognitive perspective.

The prerequisite for absorptive capability is that enterprise acquires knowledge in advance so that to absorb and utilize. Absorptive capability, also known as learning capability, refers to the capability that learning from the useful technology then transforming it into internal resources. With rapid development of science and technology, organization that hopes to maintain competitive advantages needs to continue to absorb the new and unique knowledge and skills. Through understanding, digestion, learning, transformation and utilization, the knowledge acquisition process can help enterprises to absorb and transform external resources into internal resources, to strengthen the existing resources of organizations and establish competitive advantages. In the mean time, organizations can also absorb knowledge from different fields, integrate and reorganize for the specific needs. This absorptive capability shows that the organization is able to use external knowledge as the useful resource and effectively apply them in new products/services and new process development.

Absorptive capability is the ability that continuously transforms external knowledge and information into real organizational capabilities. Zahra and George (2002) divided the absorptive capability into two categories, one is the potential absorptive capacity (PACAP), which includes acquiring and assimilating external knowledge; the another one is realized absorptive capacity (RACAP), which reflects the firm’s capability to leverage the knowledge that has been absorbed.

In addition, Zahra and George (2002) proposed four factors of the absorptive capability: knowledge acquisition, assimilation, transformation and exploitation. Knowledge acquisition refers to identification and acquisition of the knowledge that generated external and be essential in organization. Assimilation emphasizes that external knowledge should be explained and understood effectively in organization, while those cannot be understood are difficult to utilize. Transformation is to effectively integrate new external knowledge with existing internal knowledge and

capabilities. Exploitation is developing new knowledge and innovating through the utilization of internal and external knowledge.

Table 2 Source of Absorptive Capability Measurements

Absorptive Capabilities	Source
1. Frequent employee training	Lin and Wu, 2014; Protogerou et al, 2012; 史蕾蕾, 2012
2. Ability of identifying and acquiring both internal and external knowledge	史蕾蕾, 2012
3. Organization can quickly provide new knowledge to staff in need	Wang and Li, 2013; 史蕾蕾, 2012
4. Organization with efficient process of identifying and inputting new information and knowledge	史蕾蕾, 2012
5. Organization establish to be a learning organization	Chang and Kuo, 2013; Lin and Wu, 2014; Protogerou et al, 2012; Wang and Li, 2013; 史蕾蕾, 2012
6. Frequent internal cross department learning program	Lin and Wu, 2014; Menguc and Auh, 2006;
7. Knowledge management database for access	Lin and Wu, 2014

c) **Innovative Capability:**

The innovative capability is the ability that enterprises adjust the strategy to innovation-oriented development and achieve strategic transformation through innovative activities. It is essentially the ultimate goal of adaptive capability and absorptive capability. Innovative capability refers to “a firm’s ability to develop new products and/or markets, through aligning strategic innovative orientation with innovative behaviors and processes (Wang and Ahmed, 2004)”. The innovative capability in here is not just mean the technology innovation (Ho & Tsai, 2006), but also the “changing leadership that promotes transformation through the transmission impact of planning and designing, transformation implementation, and transformation integration (唐孝文, 2015)”.

Dynamic innovation is a process that enterprises accumulate innovative resources, utilize innovative opportunities, achieve innovation and maintain innovation condition. And also it is a dynamic process that organization develops from one stage to another to keep continuously growing. The concept of dynamic innovation is made to deal with dynamic changes in the competitive environment so that to avoid competitors’ imitation and to establish unique competitive advantages.

Innovation can be summed up in two categories, sustaining innovation and disruptive innovation respectively (Christensen, 2013). Sustaining innovation is further improving the performance of existing products in order to better satisfy the existing customers. Disruptive innovation includes two target aspects, the low-end market and emerging market. The former refers to provide a group of different products with different performance to seize some of the existing over-served segments at low cost. The latter refers to develop new markets by producing cheaper, more convenient and easier-to-use new products to attract potential customers so that to earn market share. Innovative capability is mainly reflected in two aspects, respectively the managerial innovation and technological innovation. Managerial innovation refers to the innovation and reform in organizational operation and management, including performance management, leadership style, financial management and customer relationship. Technological innovation refers to innovation in the technical aspects, including service development, equipment development and product development. Furthermore, the organizational culture that encourages innovation would help to contribute the flexible strategy and lead to innovative advantages.

Table 3 Source of Innovative Capability Measurements

Innovative Capabilities	Source
1. Organization changes and improves services based on new knowledge	Chang and Kuo, 2013; Osisioma et al, 2016; 史蕾蕾, 2012
2. Ability of organizational technology innovation and process innovation	史蕾蕾, 2012
3. Organization often develop new products or services that are easily accepted by the market	史蕾蕾, 2012
4. Managerial environment for innovation	Menguc and Auh, 2006; 史蕾蕾, 2012
5. Organization encourages innovation	Menguc and Auh, 2006; Wang and Li, 2013

“Adaptive capability, absorptive capability and innovative capability are the most important component factors of dynamic capabilities and underpin a firm’s ability to integrate, reconfigure, renew and recreate its resources and capabilities in line with external changes (Wang and Ahmed, 2007).” Through adaptive capability, organization can sense the opportunities in macro environment and find out the

consumer demand changing to prepare for the corresponding strategies, moreover to predict the environmental trends. In order to adapt to the environmental changes, organization acquires, assimilates, transforms and exploits new knowledge with absorptive capability. The output of adaptive capability and absorptive capability is that organization applies new knowledge in innovation activity to cope with the dynamic environment, which is the innovative capability. These three dynamic capability components join together to be the capability that organization applies in dynamic market environment.

2.3.3 Dynamic Capability and Competitive Advantages

Cardeal and Antonio(2012) built a bridge for resource-based review and dynamic capability, indicated that resources are defined as inputs, and dynamic capabilities as the intermediate output between resources and competitive advantages, while dynamic capabilities as the way that the company integrates a bundle of resources. So this lead to one of the most basic questions about dynamic capability theory: how to establish sustainable competitive advantages in a dynamic market environment with dynamic capabilities?

With dynamic capability, organizations can integrate internal and external resources effectively, continuously put forward high-quality products/services that meet the market development needs so that to gain continuously competitive advantages. During the process of competitive advantages establishment, dynamic capability plays a role of engine that provides energy for innovation.

Dynamic environment is one of the decisive factors that influences the corporate management and strategy formulation. According to adaptive capability, the enterprise identifies external information, through absorbing and learning new knowledge, then transform and develop new products/services so that to obtain innovative capability and ultimately to enhance the competitive advantages.

For survival in a competitive industry, sustainable competitive advantages are the key while resources have to be maximally utilized in highly dynamic environment. Dynamic capability is the approach that addresses how organizations adapt to their external environment for keeping competitive advantages in strategic management.

2.3.4 Application of Dynamic Capability

“Dynamic capabilities determine the speed and degree to which a firm’s difficult-to-imitate resources can be deployed and re-deployed in line with the firm’s strategy and marketplace requirements. Strong dynamic capabilities enable firms to produce not only the best of their product type or service but something that is unique and exceptional in the value created (Pundziene and Teece, 2016).”

Dynamic capabilities could help organizations to identify new opportunities, reconfigure their resources and keep competitive advantages in a dynamic business environment. Rindova and Kotha (2001) found that dynamic capabilities which generate strategic flexibility could be regarded as a prerequisite for E-commerce companies competing in dynamic E-commerce environment. Similarly, the online pharmacy industry as a branch of the e-commerce industry, also faced with rapid dynamic changes in the market environment, can generate competitive dynamic capabilities as the unique advantage to obtain a more favorable strategic position in rapid changing environment.

2.4 Sharing economy

The prototype of the sharing economy should first be traced back to the concept of “Collaborative Consumption”, by economist Felson (1978).

Sharing economy refers to the economic model that sharing the idle resources of individual, collective or enterprise, including goods, services, knowledge and skills, through the Internet platform to achieve the sharing between different entities and then get the benefits from that. Naturally, it is based on the information technology, to achieve the sharing and benefiting from idle resources between owners and requesters. Its ultimate core is exchanging idle resources for economic benefits. Uber and Airbnb are the successful representatives of sharing economy.

For companies, the threshold for accessing sharing economy is low and easy, with lower cost and better flexibility in profitability. For consumers, sharing economy can help to save consuming costs and improve the consuming experience, so that makes consumption activities more convenient. For the society, sharing economy is conducive to improve resource utilization, while promoting employment rate and social equity.

3. Methodology

This dissertation is aimed to conduct the application of dynamic capability approaches in online pharmacies in China and the importance of each dynamic capability factors. Thus we choose descriptive survey in this research because it can help to investigate the situation and generate quantitative data. Data was collected using questionnaires in Appendix I and Appendix II respectively. We distributed and recovered the questionnaires through social media (such as Wechat and Weibo). Due to the distribution method we chose, we did not have an exact number of questionnaires issued, so we only calculate the effective rate.

We took two questionnaires for different target population.

The population for Questionnaire A comprised online pharmacy employees in China to investigate the dynamic capability application in their respective companies. Respondents with all different levels of positions were appropriate for this study because we believed that strategy formulation process is collective instead of only among the top managers. The questionnaire was composed by two parts: a) basic organizational background information; b) questions assessing dynamic capabilities of their respective companies. Questions of this questionnaire required respondents to give their ratings on a 5-point Likert Scale, 1 for Strongly Disagree, 2 for Disagree, 3 for Neutral, 4 for Agree, 5 for Strongly Agree. We took back 71 replies and 60 were effective so the effective rate was 84.5%. From the demographic information of the respondents, more than half of respondents (55%) were top managers or middle level managers, 75% of the respondents, were in the most value-added position (IT, Operation and Maintenance, and Marketing and Sales) in online pharmacy value chain. 69% of the respondents revealed that their respective companies have been in operation for more than 6 years, and majority (79%) of respondents have been work in their respective companies for 1 to 2 years or 3-5 years. This showed that the target population was diversified and resourceful for data collection of this research.

The Questionnaire B was for ordinary people to investigate the importance of each dynamic capability factors in online pharmacy industry. We investigated population with different backgrounds to have a result with diversified opinions. Similar to the Questionnaire A, this questionnaire was also composed by two parts: a) basic demographic information; b) questions assessing the importance of dynamic capabilities. The measurements of dynamic capabilities are the same as in Questionnaire A. Questions of this questionnaire required respondents to gave their

ratings on a 5-point Likert Scale, 1 for Very Unimportant, 2 for Unimportant, 3 for General, 4 for Important, 5 for Very Important. We took back 146 replies and 137 were effective so effective rate was 93.8%. From the demographic information of the respondents, the male to female ratio was almost 1:1, and respondents who were below 35 years old were accumulated to 92% of the total population. 83% of the respondents were high education degree holders (bachelor, master, or PhD degrees). We regarded the target population was from diversified background and highly educated to make an appropriate judgment

We used statistical software SPSS 22 for data analysis, to provide the statistical result of dynamic capability. We used Cronbach's α to evaluate questionnaire's reliability and factor analysis to assess validity. Regarding the data analysis, percentages, frequencies, standard deviation and arithmetic mean were used for data analysis and comparison. Tables and graphs were used in presentation of data findings.

4. Field Study

4.1 Uber's case

Uber, is the outstanding representative of sharing economy and creates business value with information technology to make better resources reconfiguration and solve the pain point of “difficulty and high cost of taking a taxi at peak time even with low-quality service”.

Born in Silicon Valley in 2009, the mobile application Uber hopes to provide the ride-sharing service. Uber drivers use their own cars when providing taxi service and Uber gets certain percentage of the fare. Without cars in this company, Uber as the platform is good at integrating various resources and providing better ride-sharing service. Through the powerful algorithm, it connects drivers with car and passengers, to achieve a balance of supply and demand, and makes the allocation of resources more reasonable. Uber's target customers are very clear, the white collar employees, with the needs of taking a taxi at peak time, which is the failing of traditional taxi industry and also the market pain point.

Unlike the traditional taxi drivers who are not willing to work in CBD (Central Business District) area at peak time because the traffic jam would waste time and oil but earn little, Uber's drivers usually prefer to work in that situation (according to Uber's algorithm, with longer distance or more passengers, the payment for Uber driver will be higher, and they can get extra bonus at peak time). Because Uber drivers do not participate in the price calculation process, so the situation that they ask for higher payment would not happen when the distance is too far or in late night. Moreover, most of the Uber cars are private cars, so the car condition would be better, and the drivers are also with good manner, that leads to better service and better user experience.

Regarding the marketing, Uber adapts to the different characteristics of each city to do localization, and does partnership with map applications, uses lots of media marketing, event marketing, word of mouth marketing, including coupons and lots of roadshows to promote brand awareness.

Following are the examples of how Uber applied dynamic capabilities in corporate operation.

Dynamic Capability of Uber

Table 4 Dynamic capability of Uber

Adaptive Capabilities	
Sensitive observation of the environment	<p>Uber focus on two aspects while expending market in new cities: economic development situation, and ground transportation demand.</p> <p>For the developing countries, Uber carried out services with local demand, for example Uber Pakistan launched a rickshaw service called “UberAUTO”. For developed countries Uber carried out advanced services, such as “UberBLACK” in San Francisco. For countries with large population and relatively few cars, Uber focus on carpool services (Source: Uber Newsroom, 2016).</p> <p>Uber very valued Chinese market, so dedicated an engineering team in China to develop products specifically according to Chinese user experience, to fit the market culture. The other teams are supplement based on the core engineering team, which is a very professional team to build the core technology.</p> <p>In the legal perspective, Uber also adjust according to the provisions of different regions. For example, paying VAT in Europe is mandatory but in US it is unnecessary (Source: 腾讯科技, 2016).</p>
Identification of consumer demand changes	<p>In September 2014, Uber launched the “UberENGLISH” service (Uber driver with excellent English) in Shanghai, which aimed to solve the problem of language barrier for foreigners living in Shanghai. In January 2016, Uber China launched the Uberpool service during Spring Festival, to ease the pressure of traffic jam for users on the way home during Chinese New Year. In April 2016 Uber Canada launched the “UberCHINESE” service in Toronto ((Uber driver with excellent Chinese), to break the language barriers for Chinese living there (刘尊旒, 2017).</p>
Discovery of new opportunities for the market	<p>a) Idle resources: Uber provided efficient services by creating a sharing economic platform and using large data, cloud computing and other technical means to create value efficiently. Uber made the resources the most reasonable configuration and at the same time satisfied user’s demand.</p> <p>b) Personalized needs and social trust: According to PwC’s report in 2014, 57% of new generation consumers agreed with “sharing is owning”, believed that “experience” is much more valuable than “owning” (刘扬, 2016). So Uber as a sharing economy company, to a certain extent, reflects the society value, and tries to reshape the social trust relationship.</p>
Accurate prediction of industry trends	<p>With increasing vehicle maintenance costs and cities becoming more congested, people in the future would rely more on car services. This made self driving car as a tendency for Uber and the industry future. Uber CEO, Travis Kalanick, has indicated in a tweet that he expected Uber to be driverless by 2030. The service will be inexpensive and ubiquitous that car ownership will be obsolete (Source: Mobility Lab, 2015).</p>

Absorptive Capabilities	
Frequent employee training & Knowledge management database for access	<p>Every month, Uber would hold a three-day training session at “Ubersersity” that every new Uber employee (not drivers) around the world fly to San Francisco to learn about the company, and Uber CEO Travis Kalanick will attend to answer questions (Source: Business Insider, 2015).</p> <p>Regarding drivers, Uber has an online training course for instructing how to be a Uber driver step by step, including how to show good etiquette, how to introduce Uber to guests, how to use the Uber app to work and bonus issues (Source: Rideshare Academy, 2016).</p> <p>Uber launched a free mobile game “Uber Drive” in App Store to help Uber drivers learn the best route around the city. In the game, users are asked to drive a car to the assigned area on San Francisco virtual map provided by Google Maps, so users need to choose the fastest route based on their knowledge and familiarity of the city. Anyone can download “Uber Drive” and play for free (Source: 新浪科技, 2015).</p>
Ability of identifying and acquiring both internal and external knowledge	<p>a) Internal: After each campaign, Uber will collect successful experience in Play BOOK as internal knowledge sharing system. Uber summarized the experience of these activities into words and spread internally, made it as reference case while copying activities to other cities (Source: PMCAFF, 2016).</p> <p>b) External: Besides sensitive observation of the external environment, Uber acquires external resource through acquisition. For example, Uber launched an artificial intelligence lab and acquired Geometric Intelligence, an AI start-up, to improve its driverless technology (Source: BBC news, 2016).</p>
Organization establish to be a learning organization	<p>The Uber learning strategy is enabling employees to have more choices. It increases engagement, knowledge retention and ultimately encourages learning application while working. In the optional environment, the learning organization lets the employee/learner know what skills are in demand now and in the future. This culture motivates the employee/learner to acquire skills that best fit both them and the organization. The return is increased motivation, high priority skills development and more targeted human capital investment (Source: Chief Learning Officer, 2016).</p>
Frequent internal cross department learning program	<p>Uber’s “three-pronged leadership model” is entering a new city with only three employees: the marketing manager responsible for marketing, the operation manager responsible for recruiting drivers and managing driver-related matters, and the other person for other issues (Source: 果壳网, 2015). Because this human resource structure is simple and efficient, it is easy to achieve knowledge sharing within the organization.</p>
Innovative Capabilities	
Organization change and improve services based	<p>In the short history of Uber, employees have to establish self-initiative learning, although without any successful companies to learn from. Uber established to be learning organization and encouraged employees to learn, is because new knowledge they</p>

on new knowledge	learn can be used in output (better services) and lead to economic benefits. Based on new knowledge they learn, like consumer demand, local market, laws, regulations, and customs, Uber changes and improves services to better fit the local market (Source: The Performance Improvement Blog, 2014).
Ability of organizational technology innovation and process innovation	The most innovative system “Surge pricing” is, algorithms monitor traffic conditions and journey times in real time, that prices can be adjusted for the demand change. In this way, there will be more drivers to provide services when they are needed, and when demand falls, they will stay at home. It is an implementation of “dynamic pricing” which uses predictive modeling to estimate demand in real time. As Uber CEO said, this not only changed the way people book a taxi, but also reduced the traffic congestion problem (Source: Data Science Central, 2015).
Organization often develop new products or services that are easily accepted by the market	In October 2015 Uber launched city express service “UberRUSH”; in June 2016, Uber launched “Uber + TRAVEL” for travelers; in November 2016 Uber launched wedding cars service in India, and will soon launch food distribution service “UberEATS”; in January 2017, Uber launched driverless project; in the same month Uber China launched new features of blind support. As an Internet startup company, Uber keeps on innovating new services with the support of big data analysis technology. Uber is committed to creating independent and personalized services, providing highly specialized innovation services, and infiltrate the innovative services throughout the travel service (刘尊旒, 2017). Since Uber is still in developing, and the innovative activities help to win brand awareness and reputation, so we can see that Uber’s continuous innovative services are easily accepted by the market.
Organization encourages innovation	There is no specific and settled innovation procedure in Uber, but Uber gives the employee team 100% autonomy right in their base city, thus stimulating the team more on promoting good ideas of brand promotion , such as “Uber-boat”, “Uber-helicopter” and other new services. Therefore it can be seen as the relax innovative culture in Uber.

4.2 Macro Environment Analysis

Political:

Since the political issues are the main constraints in Chinese medical industry, what online pharmacies can do is just to comply with policies and regulations.

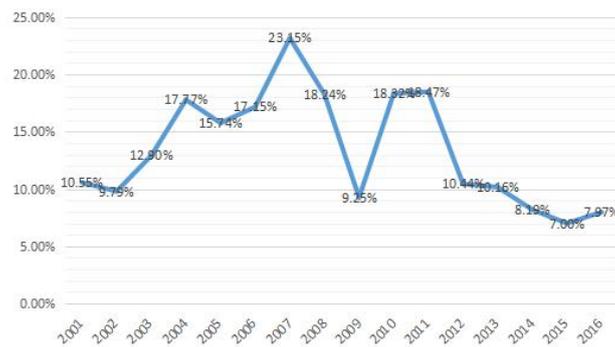
The policy *Measures for the Administration and Management of Internet Food and Drugs (Draft for Soliciting Opinions)* allowed Internet platform with legal qualification to sale medicine online and third-party logistics distribution platforms can do the distribution of medicine or medical devices. “Internet Plus” policy in 2015 further promoted medical e-commerce, and *Opinions of the State Council on*

accelerating the development of electronic commerce to speed up the development of new economic power in 2015 showed the political megatrends of government encouraged the development of pharmaceutical e-commerce.

Economic:

Chinese GDP continued to grow in the past 15 years, and also the national per capita income increased. At the same time, along with economic growth, the overall national awareness of health continued to increase.

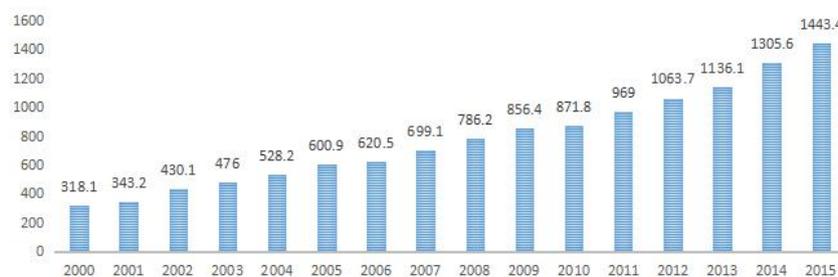
Graph 1 GDP growth rate



Source: National Bureau of Statistics of China, 2016

Per capita expenditure on health care for urban households in China (referring to the total cost of pharmaceuticals and health care products, medical devices and medical services) showed an increasing trend year by year. Among the past 15 years, this expenditure on health care increased 254%, and in 2015 it has reached the proportion of 6.75% of total expenditure per capita. The increasing of health care expenditure, on the one hand was due to rising health care costs, on the other hand it reflected that people were increasingly concerned about their own health (Source: National Bureau of Statistics of China, 2016).

Graph 2 Per capita expenditure on health care for urban households in China



Source: National Bureau of Statistics of China, 2016

China's e-commerce industry is accelerating expansion of market segments, so that the differentiation development towards consumer demand will become the core of product competition.

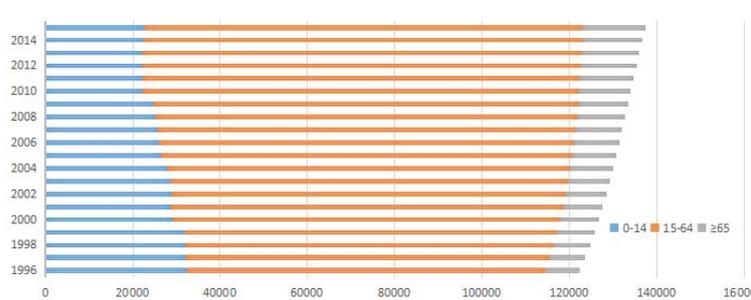
China's pharmaceutical e-commerce has great market potential. In 2016, China's pharmaceutical retail total sales have reached ¥1.4975 trillion (equals €199.67 billion), while the B2C medical e-commerce sales in 2016 is about ¥28.5 billion (equals €3.8 billion), only accounting for about 2% of the former, which indicated that the industry has huge market potential to be excavated (Source: 米内网, 2017).

Investment and financing on mobile health care dramatically increased in these years, capital markets will continue to heat up. Mobile health care field gained much more attention and resources than ever before.

Demographic:

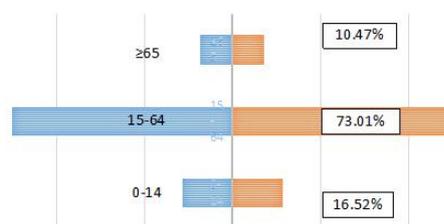
Aging trend in China is serious. International practice for defining aging population is the proportion of people over the age of 65 accounted for 7% of the total population. According to National Bureau of Statistics of China, the proportion of the population over the age of 65 of the total population continued to rise in the past 20 years, which shows the severity of the population aging problem. By 2015, this proportion has reached 10.47% (Source: National Bureau of Statistics of China, 2016). With this, the growing demand for health care and medicine for older people also increased.

Graph 3 Population structure



Source: National Bureau of Statistics of China, 2016

Graph 4 Population age structure of 2015



Source: National Bureau of Statistics of China, 2016

Many patients with chronic disease have great demand in pharmaceutical products. According to the data of National Health and Family Planning Commission of China, by the end of June 2015, there were more than 260 million people with chronic

disease (Source: 央视网新闻, 2015), and pharmaceutical treatment is still an important means of auxiliary treatment of chronic diseases.

Technical:

The basic service system of medical e-commerce has been gradually improved. The establishment of medical e-commerce platform, the popularity of smart phones, the mature development of mobile Internet, service system such as distribution service continued to improve, all promote the medical e-commerce to become a new pharmaceutical purchasing channel. Advanced logistics equipment and management software and tools were constantly applied to the pharmaceutical logistics industry.

4.3 Data Analysis

To do this research of dynamic capabilities in Chinese online pharmacies, we distributed two questionnaires for different target population. The Questionnaire A is for online pharmacy employees to investigate the dynamic capability application in their respective companies. The Questionnaire B is for ordinary people form diversified background to investigate the importance of each dynamic capability factors in online pharmacy industry.

4.3.1 Questionnaire A for employees in online pharmacies in China

As for this questionnaire, we took back 71 replies and 60 are effective respondents thus the effective rate was 84.5%. Because of the small sample size, we did not do the reliability and validity test.

Position in the company

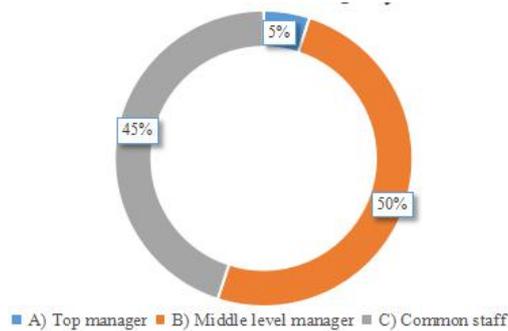
The respondents who work in online pharmacy industry were asked to describe their position in their respective companies. This was used to figure out which kind of management level they were in. The findings were displayed in Table 5.

Table 5 Position in the company

Position	Frequency	Percentage
A) Top manager	3	5%
B) Middle level manager	30	50%
C) Common staff	27	45%
D) Others	0	0%
Total	60	100%

Source: Research data

Graph 5 Position in the company



Source: Research data

The findings in Table 5 showed that more than half of respondents (55%) are top managers or middle level managers. Normally in one company, top managers and middle level managers are the ones who charge the decision making and lead the direction of corporate development, and know exactly the accurate situation of their respective company. So that it indicated the target population of this research was resourceful for data collection.

Nature of the work in the company

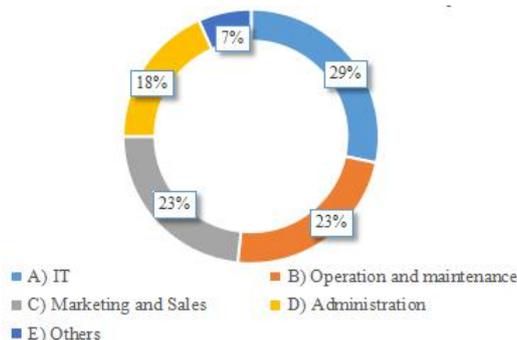
The respondents who work in online pharmacy industry were asked to describe their job type in their respective companies. They were asked to choose IT, Operation and Maintenance, Marketing and Sales, Administration, or Others. The findings were displayed in Table 6.

Table 6 Nature of the work in the company

Job Type	Frequency	Percentage
A) IT	17	29%
B) Operation and Maintenance	14	23%
C) Marketing and Sales	14	23%
D) Administration	11	18%
E) Others	4	7%
Total	60	100%

Source: Research data

Graph 6 Nature of the work in the company



Source: Research data

According to the findings, most of the respondents were from the core positions of online pharmacy industry, which are IT, Operation and Maintenance, and Marketing and Sales. These three types of job, occupied 75% of the respondents, are the most value-added positions in online pharmacy value chain. It indicated that our research was based on all job types in online pharmacy industry and covered the staff in the core positions that directly influence the company performance.

Duration in years companies have been in operation

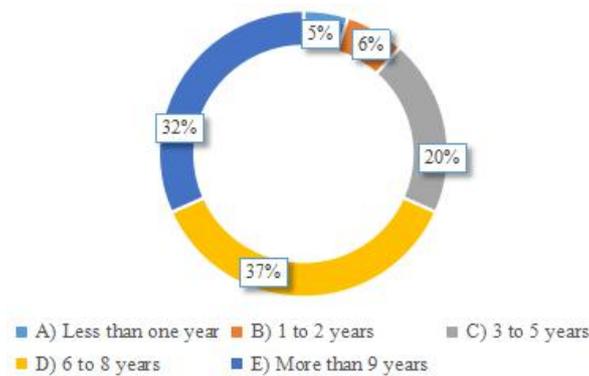
The respondents who work in online pharmacy industry were asked to describe the length of time their respective companies have been in operation. They were asked to choose Less than one year, 1 to 2 years, 3 to 5 years, 6 to 8 years, or More than 9 years. The findings were displayed in Table 7.

Table 7 Duration in years companies have been in operation

Duration in years companies have been in operation	Frequency	Percentage
A) Less than 1 year	3	5%
B) 1 to 2 years	4	6%
C) 3 to 5 years	12	20%
D) 6 to 8 years	22	37%
E) More than 9 years	19	32%
Total	60	100%

Source: Research data

Graph 7 Duration in years companies have been in operation



Source: Research data

This research tried to ensure that the involved companies have been in operation for a considerable length of time. Normally the longer time the companies have been in operation would have more experience in dynamic environment and better performance in strategy making. But considered the online pharmacy industry is an emerging industry with short history, we regarded those companies with more than 6

years as experienced companies, which occupied 69% of the total. So we regarded the target population mainly came from experienced and resourceful company when we study about dynamic capabilities.

Duration of respondents working in respective companies

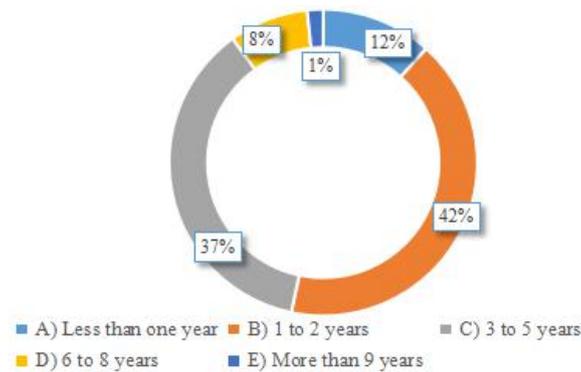
The respondents who work in online pharmacy industry were asked to describe the length of time they have been work in their respective companies. They were asked to choose Less than one year, 1 to 2 years, 3 to 5 years, 6 to 8 years, or More than 9 years . The findings were displayed in Table 8.

Table 8 Duration of respondents working in respective companies

Duration of respondents working in respective companies	Frequency	Percentage
A) Less than 1 year	7	12%
B) 1 to 2 years	25	42%
C) 3 to 5 years	22	37%
D) 6 to 8 years	5	8%
E) More than 9 years	1	1%
Total	60	100%

Source: Research data

Graph 8 Duration of respondents working in respective companies



Source: Research data

The finding showed that the majority (79%) of respondents had been work in their respective companies for 1 to 2 years or 3-5 years, which are the normal working length for Internet industry practitioners. The length of time they have been work in their respective companies enabled them to see clearly the company operating process and the dynamic capability application in their respective companies.

4.3.2 Questionnaire B for ordinary people

As for this questionnaire, we took back 146 replies. Excluded the invalid ones, we got 137 effective respondents and the effective rate is 93.8%.

Demographic factors of the respondents

Table 9 revealed the demographic factors of the respondents. According to the data, male and female population proportion were 47% and 53% respectively. Respondents below 25 years old were calculated at 43%, while those who were above 26 but below 35 years old were calculated as 49%, which accumulated to 92% of the total population. The table further revealed that 17% of the respondents were college or technical secondary school certificate holders, 68% of them were bachelor degree holders, and 14% were master degree holders, while a percentage of 1% hold a PhD degree. So 83% of the respondents were high education degree holders (bachelor, master, or PhD degrees). We regarded the target population was from diversified background and highly educated to make an appropriate judgment on the importance of dynamic capability in Chinese online pharmacies.

Table 9 Demographic factors of the respondents

		Frequency	Percent
Gender	A) Male	64	47%
	B) Female	73	53%
	C) Others	0	0%
	Total	137	100%
Age	A) Under 25	59	43%
	B) 26-35	67	49%
	C) 36-45	8	6%
	D) 46-55	3	2%
	E) Over 56	0	0%
	Total	137	100%
Educational Level	A) High school and below	0	0%
	B) College or Technical secondary school	23	17%
	C) Bachelor degree	94	68%
	D) Master degree	19	14%
	E) Doctoral degree	1	1%
	Total	137	100%

Source: Research data

Reliability

In this dissertation, the reliability of the questionnaire was tested by Cronbach's α . It is generally accepted that, if Cronbach's $\alpha > 0.9$, the reliability of the scale is high; if $0.6 < \text{Cronbach's } \alpha < 0.9$, the reliability of the scale can be accepted; if Cronbach's $\alpha < 0.6$, the questionnaire design has problems and needs to be modified. In this dissertation, we used statistical software SPSS to carry out reliability analysis, respectively, to calculate the Cronbach's α of Adaptive capability, Absorptive capability and Innovative capability as well as the whole questionnaire. The results were shown in the following Table 10:

Table 10 Reliability Results

Variables	Items	Cronbach' α
Adaptive capability	4	0.803
Absorptive capability	7	0.856
Innovative capability	5	0.850
Questionnaire B	16	0.920

Source: Research data

Through the above analysis results, the Cronbach' α of each variable was higher than 0.6, which indicated that the reliability of the scale was acceptable. At the same time, the overall reliability of the scale is 0.920, that showed the reliability of the scale was very high and acceptable.

Validity

The methods of measuring validity mainly include content-related validity, criterion-related validity and construct-related validity. In this dissertation, we tested the construct-related validity of the scale through factor analysis. At first we did the KMO and Bartlett's test, as shown in Table 11. It is generally accepted that, the scale can be used in factor analysis when the KMO value is higher than 0.6. As the KMO value is higher than 0.6 and the significance of Bartlett's Test is 0.00, we regarded the validity is acceptable.

Table 11 KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	0.906	
Bartlett's Test of Sphericity	Approx. Chi-Square	1057.080
	df	120
	Sig.	.000

Source: Research data

Then we got the factor loadings of each factors, which is generally accepted that the factor loadings greater than 0.50 is acceptable. Through using statistical software SPSS, all the factor loadings after Varimax Rotation were shown in Table 12:

Table 12 Validity Results
Rotated Component Matrix

	Component		
	1	2	3
Sensitive observation of the environment		.684	
Identification of consumer demand changes		.787	
Discovery of new opportunities for the market		.704	
Accurate prediction of industry trends		.560	
Frequent employee training	.622		
Ability of identifying and acquiring both internal and external knowledge	.640		
Organization can quickly provide new knowledge to staff in need	.675		
Organization with efficient process of identifying and inputting new information and knowledge	.691		
Organization establish to be a learning organization	.635		
Frequent internal cross department learning program	.625		
Knowledge management database for access	.678		
Organization change and improve services based on new knowledge			.572
Ability of organizational technology innovation and process innovation			.515
Organization often develop new products or services that are easily accepted by the market			.619
Managerial environment for innovation			.682
Organization encourages innovation			.822

Source: Research data

The result of factor analysis also verified that the measurements of adaptive capability, absorptive capability and innovative capability respectively were consistent with the above dynamic capability measurements in literature review.

4.3.3 Data Analysis

As for data analysis, we picked up some groups of data to compare the distance between dynamic capability factors application and their corresponding importance, while we mainly used percentages, frequencies, and arithmetic means for comparison.

Sensitive observation of the environment

The study sought to find out whether sensitive observation of the environment applied in online pharmacies and how is the importance of this dynamic capability factor affecting the online pharmacies. For both the two questionnaires, the strongest point had a score of 5 while the weakest point scored 2. The findings were displayed in Table 13.

Table 13 Sensitive observation of the environment

Sensitive observation of the environment		Frequency	Percent
Questionnaire A	Strongly Disagree	0	0%
	Disagree	5	8.3%
	Neutral	20	33.3%
	Agree	32	53.2%
	Strongly Agree	3	5.0%
	Total	60	100%
	Mean	3.55	
	Std. Deviation	0.723	
Questionnaire B	Very Unimportant	0	0%
	Unimportant	4	2.9%
	General	27	19.7%
	Important	66	48.2%
	Very Important	40	29.2%
	Total	137	100%
	Mean	4.04	
	Std. Deviation	0.78	

Source: Research data

From the findings in Table 13, 53.2% of the online pharmacy employees agreed with the sensitive observation of the environment applied in their respective companies and only 5% strongly agreed that. However, according to our survey, almost half of the respondents (48.2%) thought the sensitive observation of the environment of dynamic capability is important and 29.3% of them agreed that it is very important. This showed the distance that online pharmacy companies still need to achieve in this sensitive observing the environment.

Sensitive observation of the environment is the key component and also the prerequisite for dynamic capability. The orientation of online pharmacies is that, selling medication through Internet channel and with Internet thinking. Online pharmacies create a new purchasing channel for users to choose with lower price as well as provide pre-sale and after-sale customer service, to develop user consumption custom. After that, once users have medication purchase demand, they will think of online pharmacies.

The reason why there is such a positioning is that it is based on the successful development of online pharmacy industry in western countries, such as the famous online pharmacy Walgreens in US, which engaged in pharmaceutical retail industry and pharmaceutical-related derivative business. Regarding the successful cases, coupled with the rapid development of China's e-commerce industry, Chinese online

pharmacy industry is just started, with huge potential. a) Chinese policy encourages developing medical e-commerce; b) along with economic growth, people's consumption custom was changing, the awareness of health care, as well as the expenditure on medical health, have gradually increased; c) the large population of aging and chronic diseases patients bring the huge demand for medication. All revealed that the industry has huge market potential to be excavated.

Uber's sensitive observation of the environment came from the local management team in each region. The company headquarters gave the district team decision making power and management rights, so each local team had to do brand localization by understanding the local economic development situation and ground transportation demand, monitoring market competitors. Sensitive observation allowed them to critically think and analyze effective information in the process of marketing information collection and collation, so that to output the unique Uber service through subsequent absorptive capability and innovative capability. Uber brought new commuter traffic experience with localization. This unique Uber pattern as its competitive advantage, which made the company can always occupy a certain market share when entering different markets, came from their knowledge of the market.

The sensitive observation of environmental change is conducive to companies to quickly perceive and identify the nature and opportunities of market environment changes, so as to provide companies with potential competitive advantages. Through sensitive observation, companies can actively search for more relevant information, while absorbing multidimensional environmental information and then effectively digest and absorb, to accurately analyze information through multifaceted thinking thus to establish and maintain competitive advantages along with absorptive and innovative capability.

Identification of consumer demand changes

The study aimed to find out whether online pharmacies identified consumer demand changing and how is the importance of this dynamic capability factor affecting the online pharmacies. In dynamic environment, consumer demand changes a lot. It is the opportunity that company create value and keep up with consumer needs. The findings were displayed in Table 14.

Table 14 Identification of consumer demand changes

Identification of consumer demand changes		Frequency	Percent
Questionnaire A	Strongly Disagree	1	1.7%
	Disagree	3	5.0%
	Neutral	19	31.7%
	Agree	26	43.3%
	Strongly Agree	11	18.3%
	Total	60	100%
	Mean	3.72	
	Std. Deviation	0.885	
Questionnaire B	Very Unimportant	0	0%
	Unimportant	2	1.5%
	General	23	16.8%
	Important	55	40.1%
	Very Important	57	41.6%
	Total	137	100%
	Mean	4.22	
	Std. Deviation	0.774	

Source: Research data

From the findings in Table 14, only 18.3% online pharmacy employees strongly agreed that their respective companies applied identification of consumer demand changes. However, 41.6% respondents regarded the identification of consumer demand changes very important in online pharmacies. As the online pharmacy industry is one of Internet industries, there are so many options for consumers to choose so their conversion costs are low. And also the motivation of user purchasing behavior is for diseases treatment and health care needs. Besides the fixed repurchase of some medication (such as chronic disease medication), there are much diversity of human disease such as epidemic diseases change a lot, thus medication needs are constantly changing. The consumer demand changes may due to different acceptable price, or different indications, or different dose of the same medicine. Not only the product changes, the services (pre-sale disease consulting services and after-sale medication guidance services) also need to keep changing to cope with consumer satisfaction all the time.

For Uber, as we mentioned before, they identified users demand changes and made corresponding marketing campaigns to attract target customers. Through these campaigns, Uber showed its focus on users and took localization and humanity for the purpose. Uber identified different needs among user in different location, figured out the user's inner needs, to create diversified services according to local conditions.

To accurately identify the changes becomes one of the most essential factors that influence the market-oriented adaptive capability and it leads the strategy direction of the organization. So, as there is distance of application and expectation, to sense the consumer’s demand is still a long way for online pharmacies to go.

Summary of Adaptive Capability

Table 15 Arithmetic Means of Adaptive Capabilities factors

Adaptive Capabilities	Questionnaire A	Questionnaire B
Sensitive observation of the environment	3.55	4.04
Identification of consumer demand changes	3.72	4.22
Discovery of new opportunities for the market	3.93	4.20
Accurate prediction of industry trends	3.78	4.23

Source: Research data

From our research result in Table 15, the application of adaptive capability factors in Chinese online pharmacies was far behind their respective importance, especially in the perspectives of sensitive observation and consumer demand changes identification. According to the survey, the arithmetic means of application and importance of sensitive observation are 3.55 and 4.04 respectively. And the arithmetic means for consumer demand changes identification are 3.72 and 4.22 respectively. At the same time, we also found that the difference between application and importance of corporate new opportunities discovery ability is quite small, only accounted 0.27 in average, which indicated that Chinese online pharmacies did well in new opportunities discovery, relatively speaking.

Reflected on the result, there was a gap between the application and importance of adaptive capabilities, thus there may be several weak points in adaptive capabilities application of Chinese online pharmacies. For example, strategy making team was not clearly realizing and understanding the external environment (such as economic conditions, consumption custom, demography, epidemiological profiles) to have an insight of current situation and better predict the future tendency. Or marketing and sales team lacked of perception and feedback on changes in market and consumer demand, and rarely monitored competitors. Technology team did not make timely reaction towards environment changes. One thing that is easy to ignore is that, sometimes companies paid attention to the one-sided environment but ignored information from suppliers and consumer feedback.

Knowledge management database for access

The study aimed to find out whether there was a knowledge database for employees to access in online pharmacies and how is the importance of accessible knowledge database. Knowledge management database is the media links external knowledge and organization. It can store knowledge and also provide knowledge to employees who need it thus it plays an indispensable role in knowledge absorption process. The findings of knowledge management database were displayed in Table 16.

Table 16 Knowledge management database for access

Knowledge management database for access		Frequency	Percent
Questionnaire A	Strongly Disagree	3	5.0%
	Disagree	13	21.7%
	Neutral	12	20.0%
	Agree	24	40.0%
	Strongly Agree	8	13.3%
	Total	60	100%
	Mean	3.35	
	Std. Deviation	1.117	
Questionnaire B	Very Unimportant	0	0%
	Unimportant	3	5.0%
	General	29	21.7%
	Important	55	20.0%
	Very Important	50	40.0%
	Total	137	100%
	Mean	4.11	
	Std. Deviation	0.811	

Source: Research data

From the findings in Table 16, 5% of the online pharmacy employees strongly disagreed and 21.7% disagreed that accessible knowledge management database applied in their respective companies. Normally in online pharmacy companies, new corporate employees would receive orientation training and some unscheduled staff training sessions. But for some companies which only pursuit the profit, they might not pay enough attention to long-term learning and knowledge accumulation so they would ignore establishment and maintenance of knowledge management database. In our survey, 20% respondents agreed that accessible knowledge database is important, and even 40% agreed that very important, which accumulated to 60% of the total population. The mean score of knowledge database application and importance are 3.35 and 4.11 respectively, which showed a huge gap.

For Uber, they had “Uberiversity” training session in San Francisco for new corporate employees, while Uber CEO Travis Kalanick would be there to help new employees learn about the company. There were online and offline training courses for Uber drivers about how to work with Uber. In addition, Uber developed a game to help drivers learn the best route around the city. Furthermore, for long-term learning, Uber had the Play BOOK as internal knowledge sharing system that summarized the experience of global business campaigns. As a start-up Internet company with short history, Uber did employee training and summarizing of successful experiences, although the staff lifelong learning was incomplete compared with leading companies in other traditional industry. Online pharmacies can learn from Uber of marketing experience summarizing and also the systematic and diversified training courses of professional skills.

As a ride-sharing service provider, Uber’s product is relatively simple. Different from Uber, online pharmacy is the platform that contains huge amounts of medications and requires cross-department teamwork like IT development, warehouse, procurement, logistic, and finance. What online pharmacy industry needs for knowledge management are much more than Uber, especially a perfect and systematic knowledge management database is desperately in need.

Learning is the process that helps company to operate more efficient through knowledge absorption and exploitation. For products/services development, learning allows companies to avoid repetitive mistakes according to the past experience and also enables them to explore new knowledge and develop new products. On the other hand, learning is also a prerequisite for innovation that companies can acquire or discard resources to modify their strategic direction through learning. Organizational learning can be achieved through staff training, knowledge database and knowledge sharing programs. As our survey uncovered, the knowledge database application in online pharmacies was far less than expected importance. It also indicated the way that online pharmacies need to improve, not only the database aspect but also the whole knowledge absorption process.

Summary of Absorptive Capability

As Zahra and George (2002) introduced, absorptive capability included four components, knowledge acquisition, assimilation, transformation and exploitation respectively. It can be seen as four steps of one full knowledge absorption process.

Table 17 Arithmetic Means of Absorptive Capabilities factors

Absorptive Capabilities	Questionnaire A	Questionnaire B
Frequent employee training	3.67	3.92
Ability of identifying and acquiring both internal and external knowledge	3.67	4.01
Organization can quickly provide new knowledge to staff in need	3.53	4.18
Organization with efficient process of identifying and inputting new information and knowledge	3.60	4.11
Organization establish to be a learning organization	3.48	4.02
Frequent internal cross department learning program	3.30	3.74
Knowledge management database for access	3.35	4.11

Source: Research data

From analysis result we got, the lowest mean score of absorptive capability application was 3.30, which referred to cross department learning. But organizational training enjoyed a relatively high mean score in application. It revealed that although online pharmacies paid attention in employee training and acquire external knowledge for employee training, they lacked of cross-department communication and knowledge sharing. To some extent, employees just get knowledge of what exactly position should have but no more than that, which might limit the long-term learning for employees and staff multi-skills development for companies.

And there was a huge gap between application and importance of accessible knowledge database, which was 0.76. Knowledge management database is the media that stores external knowledge and links it with internal employees. But the low score of application showed that, online pharmacies might not pay enough attention to long-term learning and knowledge accumulation.

The application and importance of whether organization can quickly provide new knowledge to staff in need also showed a difference in mean score, accounted 0.64. The reason of this score is connected with the score of accessible knowledge database. Due to the lack of knowledge database for employees to absorb knowledge, and also few cross department knowledge sharing, companies do not have enough knowledge reserves thus can not quickly provide new knowledge once staff in need.

To improve the capability of knowledge absorption and exploitation, organizations need to continuously promote internal communication and knowledge sharing among employees and departments, for example, to establish knowledge management

database for employees to access, and to establish staff training system. To enhance the ability of knowledge transformation and exploitation, organizations must invest a lot in R&D (research and development), so that can fully integrate new digested knowledge and existing resources, and then develop new products/services.

Organization change and improve services based on new knowledge

The study aimed to find out whether online pharmacies changed and improved services based on new knowledge and how is the importance of this dynamic capability factor affecting the online pharmacies. The findings were displayed in Table 18.

Table 18 Organization change and improve services based on new knowledge

Organization change and improve services based on new knowledge		Frequency	Percent
Questionnaire A	Strongly Disagree	2	3.3%
	Disagree	1	1.7%
	Neutral	22	36.7%
	Agree	29	48.3%
	Strongly Agree	6	10.0%
	Total	60	100%
	Mean	3.60	
	Std. Deviation	0.827	
Questionnaire B	Very Unimportant	0	0%
	Unimportant	1	0.7%
	General	18	13.1%
	Important	69	50.4%
	Very Important	49	35.8%
	Total	137	100%
	Mean	4.21	
	Std. Deviation	0.691	

Source: Research data

According to the questionnaire results in Table 18, it is gratifying that 58.3% of online pharmacy employees agreed or strongly agreed that this dynamic capability factor applied to their respective companies, and only 5% showed their disagreement. This reflected that most of the online pharmacies would use new knowledge to improve service. For example, the new knowledge of O2O pattern (Online-to-offline, customer orders online, takes medicine offline in physical pharmacy or choose delivery-to-door service) and DTP pattern (Direct-to-patient, designed to reduce the middle channels while customer purchasing medication) allowed some of the online pharmacies started to establish O2O pharmacies or DTP pharmacies instead of only be an online

medication purchasing platform. Nowadays, online pharmacies are preparing to explore the Internet hospital model. These words were new concepts several years ago, online pharmacies transformed them into innovative reality through adaptive capability and absorptive capability. Using new knowledge to improve services, reflected that the knowledge is useful after identification and analysis as well as the company could innovate while utilizing useful knowledge in the innovation process.

As Uber experienced rapid growth within a short history, we can see that Uber is the company with great passion and full of energy to innovate. The core for Internet company is to be new and unique, otherwise it would be exceeded by competitors. In order to innovate, they were willing to learn new technology and get to understand about market and customers. And they made it to be the Uber rapid growing culture and spread to other teams globally. What we learn from Uber is that, online pharmacies should continue to focus on new technology and new business pattern that help to improve performance so that to gain competitive advantages.

Half of the respondents (50.4%) agreed that organization changing and improving services based on new knowledge is important and 35.8% agreed that it is very important. The mean value of the importance of this dynamic capability factor reached 4.21 on the scale of 1 to 5, which showed that this factor is quite important for online pharmacies. And the difference of application and importance accounted for 0.61 of the mean score, reflected that online pharmacies should continue to apply new knowledge into innovation activities.

Organization often develop new products or services that are easily accepted by the market

The study aimed to find out new products/services market acceptance of online pharmacies and how is the importance of this dynamic capability factor affecting the companies. The findings were displayed in Table 19.

Table 19 Organization often develop new products or services that are easily accepted by the market

Organization often develop new products or services that are easily accepted by the market		Frequency	Percent
Questionnaire A	Strongly Disagree	1	1.7%
	Disagree	8	13.3%
	Neutral	13	21.7%
	Agree	24	40.0%
	Strongly Agree	14	23.3%
	Total	60	100%
	Mean	3.70	
	Std. Deviation	1.030	
Questionnaire B	Very Unimportant	0	0%
	Unimportant	2	1.5%
	General	19	13.9%
	Important	55	40.1%
	Very Important	61	44.5%
	Total	137	100%
	Mean	4.28	
	Std. Deviation	0.755	

Source: Research data

Market acceptance is the only indicator of whether the innovative activities successful or not. They have to go through the test of the market, and ultimately reflect the products/services value in the market. The market acceptance of online pharmacies can be uncovered in total sales volume, promotional product sales volume, reading volume of promotion website, social network discussion volume, brand reputation, and customer feedback.

From the findings in Table 19, 40.0% of online pharmacy employees agreed and 23.3% strongly agreed that their respective companies often develop new products or services that were easily accepted by the market, and 15% showed their disagreement. The mean value of this dynamic capability factor application reached 3.70 while the mean value of importance is 4.28. 40.1% of respondents agreed and 44.5% strongly agreed the importance of this dynamic capability factor, which accumulated to 84.6% of the total population.

Summary of Innovative Capability

Innovative capability is mainly reflected in two aspects, respectively the managerial innovation and technological innovation. Technological innovation, obviously, is

about innovating new products/services, as the first three questions involved. Managerial innovation is reflected on operation and management perspectives, to some extent, it is for the whole company instead of only the technology and marketing team. The fourth question was about operation and management innovation, and the fifth one was about corporate culture issues.

Table 20 Arithmetic Means of Innovative Capabilities factors

Innovative Capabilities	Questionnaire A	Questionnaire B
Organization change and improve services based on new knowledge	3.60	4.21
Ability of organizational technology innovation and process innovation	3.85	4.28
Organization often develop new products or services that are easily accepted by the market	3.70	4.28
Managerial environment for innovation	3.58	4.07
Organization encourages innovation	4.05	4.36

Source: Research data

From the result of Table 20, we can find that there was a huge distance in application and importance of whether organization innovate based on new knowledge, accounted for 0.61 of the mean score. Although the mean score, 3.60, of this dynamic capability factor applied in Chinese online pharmacies is not very low compared with the other factors, it revealed that this factor could be better in learning new knowledge and knowledge transformation and exploitation.

The mean score of technology innovation and process innovation ability reached 3.85, which is a relatively high value in dynamic capabilities application. It reflected that online pharmacies have enough R&D personnel, sufficient R&D budget, and perfect R&D system to support technology innovation.

Regarding the market acceptance of new products or services, the difference between application and importance showed that online pharmacies need to improve identification of customer need and enhance knowledge transformation and exploitation. Organizations should establish a market-oriented innovation system, attach importance to the economic value of innovation, emphasize the optimization of existing products/services to improve corporate competitive advantages.

The highest mean scores of the two questionnaires were both referred to organization encouragement, which proved the impact of corporate culture for employees on the spiritual level.

5. Discussion and Conclusion

5.1 Conclusion

Under the dynamic changing environment, companies would establish dynamic capabilities to cope with the environment and keep continuous competitive advantages. In this dissertation, we studied about dynamic capabilities of Chinese online pharmacies, mainly from the perspective of three components of dynamic capability.

First of all, the adaptive capability is the primary condition in companies and the prerequisite for taking corresponding strategies, while it can sense the opportunities in macro environment and find out the consumer demand changes, and even predict the environmental changes. Next, in order to adapt to the environmental changes, companies take appropriate measures to carry out the knowledge acquisition, assimilation, transformation and exploitation. Then organization applies new knowledge in innovation activity to cope with the dynamic environment and establish competitive advantages, which is the innovative capability. In general, the components of the dynamic capabilities is like factors in a gradual process, while all the components are interacted with each other and closely connected.

A quantitative research was conducted to figure out the application and importance of dynamic capability approaches in Chinese online pharmacies, specially to find out the distance between them, so that to figure out the way to improve the dynamic capabilities and obtain competitive advantages.

Based on our research, the application of adaptive capability factors in online pharmacies in China was far behind their corresponding importance, especially in the perspectives of sensitive observation. In order to adapt to changes in the environment and establish corporate dynamic capacities, online pharmacies must enhance the market-oriented sensing capability to gather more useful knowledge and information.

During the process of knowledge absorption, online pharmacies were generally weak in knowledge acquisition and assimilation. In online pharmacies, it was reflected as knowledge sharing and management. From our research, knowledge sharing within organization and accessible knowledge database were the pain points for most of the online pharmacies. It revealed that although online pharmacies paid attention in employee professional skills training, they, to some extent, lacked of long-term and multi-dimensional training of personnel.

Regarding the innovative capability, our research further showed that online pharmacies have enough R&D personnel, sufficient R&D budget, and perfect R&D system to support technology innovation. However, there was a huge gap in application and importance of whether organization innovate based on new knowledge which was because of the weakness in knowledge absorption. Online pharmacies need to establish a market-oriented innovation system and enhance the knowledge sharing and management.

To sum up, dynamic capabilities applied in Chinese online pharmacies but there were still some weak points need to improve compared with their respective importance. Online pharmacies lacked of sensitive observation, thus affected the new knowledge and information inputting. Internally, companies were insufficient in organizational learning system which was not conducive to long-term talent development, and also affected knowledge transforming into innovation.

5.2 Strategic Suggestions for online pharmacies in China

Combined with the previously mentioned Uber's dynamic capability, since there are weaknesses in dynamic capability application in Chinese online pharmacies, we have some suggestions for online pharmacies as below:

a) As strategy is a collective activity, all departments should work together to improve the adaptive capability: strategy making team should strengthen the sensation and have better insight into the external environment (such as economic conditions, consumption custom, demography, epidemiological profiles); marketing and sales team should focus on the market and consumer demand changing, as well as monitor marketing activities of competitors; the operations team should strengthen the relationship with suppliers to obtain the supplier information and industry trends; customer service team should strengthen communication with consumers and pay attention to consumer feedback and product reviews, in order to make adjustment in time; the technical team should make timely reaction towards the external changes.

b) Online pharmacies need to establish knowledge management database for employees to access, and to improve and perfect the staff training system, so that the knowledge can be effectively absorbed and utilized. Regarding the staff training system, human resource team can work with technology team to develop online training courses for employees can access at any time. Like Uber, online pharmacies can also develop some smart phone games to help to understand basic medicine

knowledge, which can be used for employees to have better memory and can help to general medical education for ordinary consumers. Furthermore, it can be used as marketing method in business campaigns.

c) Regarding the online pharmacies, innovation refers to website page optimization, introducing new products/services, upgrading brand image, exploring new medical services fields. In addition to improving adaptive capability and absorptive capability, online pharmacies also need to pay attention to R&D where the innovation lies for, such as introduce R&D talents and increase investment in R&D. Online pharmacies can set up a team and appropriately allocate R&D personnel, increase research funding and encourage with bonus. At the same time, online pharmacies can establish performance appraisal mechanism to promote R&D personnel to innovate.

5.3 Limitation of study

Although this study is based on the previous research and theories to make the study more convincing, there are still some limitations in this dissertation, which were summarized as following points:

a) In this dissertation, the selection of dynamic capability measurements is based on the previous literature. As the limitation of literature reading quantity, there might be some limitations that made the selection of measurements not accurate and comprehensive enough, thus might affect the study results.

b) In this dissertation, we collected limited replies due to the limited ability and time. Since the number of respondents was not large enough, the data analysis samples were not very huge. As the number of samples is very important to the empirical research, it might affect the effectiveness of empirical analysis.

c) Regarding the dynamic capability of Uber, we collected most of the information from the Internet because by now there is no any scientific article that studied about Uber's dynamic capability. The reliability of the online information might not always be good. And sometimes the information the company revealed to the public might hide important information instead of fully disclosed.

d) Regarding the policy changing, the Chinese medical industry is strictly controlled by CFDA (China Food and Drug Administration). Our research was based on the current policy but we cannot predict whether it still work if the policy changes, thus we can take this as one of the limitations.

5.4 Suggestions for future study

Regarding the limitations we mentioned above, we have some suggestion for future research:

- a) The dynamic capability measurements can be further refined and improved to reach a more comprehensive result.
- b) Other information collecting methods can be used in data collection, such as observation and interview to enhance the depth and abundance of research.

Bibliography

- Allison, G. T. 1971. *Essence of decision: Explaining the Cuban missile crisis*. Boston: Little, Brown & Co.
- Andrews, K. R. 1971. *The Concept of Corporate Strategy*. Homewood: Richard D Irwin.
- Ansoff, H. I. 1965. *Corporate strategy: An analytic approach to business policy for growth and expansion*. New York: McGraw-Hill Inc.
- Barney, J. B. 1991. Firm resources and sustained competitive advantage. *Journal of management*, 17(1): 99-120.
- Barney, J. B., & Zajac, E. J. 1994. Competitive organizational behavior: toward an organizationally-based theory of competitive advantage. *Strategic Management Journal*, 15(S1): 5-9.
- Barney, J. B. 1995. Looking inside for competitive advantage. *The Academy of Management Executive*, 9(4): 49-61.
- Cardeal, N., & Antonio, N. S. 2012. Valuable, rare, inimitable resources and organization (VRIO) resources or valuable, rare, inimitable resources (VRI) capabilities: What leads to competitive advantage? *African Journal of Business Management*, 6(37): 10159-10170
- Chakravarthy, B. S. 1982. Adaptation: A promising metaphor for strategic management. *Academy of management review*, 7(1): 35-44.
- Chandler, Jr. A. D. 1962. *Strategy and Structure: Chapters in the History of the Industrial Enterprise*. Frederick: Beard Books.
- Chang, C. C., & Kuo, C. G. 2013. Exploring dynamic capabilities of executives for core strategy. *African Journal of Business Management*, 7(40): 4188.
- Christensen, C. M. 2013. *The innovator's dilemma: when new technologies cause great firms to fail*. Cambridge: Harvard Business Review Press.
- Cohen, W. M., & Levinthal, D. A. 1990. Absorptive capacity: A new perspective on learning and innovation. *Administrative science quarterly*, 35 (1990): 128-152.
- D'aveni, R. A. 2010. *Hypercompetition*. New York: Simon and Schuster.
- Eisenhardt, K. M., & Martin, J. A. 2000. Dynamic capabilities: what are they? *Strategic management journal*, 21: 1105-1121.
- Felson, M., & Spaeth, J. L. 1978. Community structure and collaborative consumption: A routine activity approach. *American Behavioral Scientist*, 21(4): 614-624.
- Fleisher, C. S., & Bensoussan, B. E. 2002. *Strategic and competitive analysis: methods and techniques for analyzing business competition*. Upper Saddle River: Pearson.
- Gibson, C. B., & Birkinshaw, J. 2004. The antecedents, consequences, and mediating role of organizational ambidexterity. *Academy of management Journal*, 47(2): 209-226.
- Hannan, M. T., & Freeman, J. 1977. The population ecology of organizations. *American journal of sociology*, 82(5): 929-964.
- Helfat, C. E. 1997. Know-how and asset complementarity and dynamic capability accumulation: The case of R&D. *Strategic management journal*, 1997: 339-360.
- Ho, Y. C., & Tsai, T. H. 2006. The Impact of Dynamic Capabilities with Market Orientation and Resourcebased Approaches on NPD Project Performance. *Journal of American Academy of Business*, 8(1).
- Janssen, M., Alexiev, A., Hertog, P. D., & Castaldi, C. 2012. *A multi-level multidimensional approach for measuring dynamic capabilities in service*

- innovation management.** Paper presented at the meeting of Druid conference, Copenhagen.
- Kim, W. C., & Mauborgne, R. 2004. Blue ocean strategy. In *HBR's 10 Must Reads on Strategy*: 123-142. Cambridge: Harvard Business Review Press.
- Kogut, B., & Zander, U. 1992. Knowledge of the firm, combinative capabilities, and the replication of technology. *Organization science*, 3(3): 383-397.
- Learned, E. P. 1969. *Business policy: Text and cases*. Homewood: RD Irwin.
- Li, D., & Liu, J. 2014. Dynamic capabilities, environmental dynamism, and competitive advantage: Evidence from China. *Journal of Business Research*, 67(1): 2793-2799.
- Lin, Y., & Wu, L. Y. 2014. Exploring the role of dynamic capabilities in firm performance under the resource-based view framework. *Journal of business research*, 67(3): 407-413.
- Lindblom, C. E. 1959. The science of "muddling through". *Public administration review*, 79-88.
- Menguc, B., & Auh, S. 2006. Creating a firm-level dynamic capability through capitalizing on market orientation and innovativeness. *Journal of the academy of marketing science*, 34(1): 63-73.
- Miles, R. E., Snow, C. C., & Meyer, A. D., et al. 1978. Organizational strategy, structure, and process. *Academy of management review*, 3(3): 546-562.
- Miller, D., & Mintzberg, H. 1983. The Case for Configuration. In Morgan, G. (Eds.), *Beyond Method*: 57-73. Beverly Hills: Sage.
- Miller, D. 1996a. Configurations revisited. *Strategic management journal*, 505-512.
- Miller, D., & Shamsie, J. 1996b. The resource-based view of the firm in two environments: The Hollywood film studios from 1936 to 1965. *Academy of management journal*, 39(3): 519-543.
- Mintzberg, H. 1973. Strategy-making in three modes. *California management review*, 16(2): 44-53.
- Mintzberg, H., Ahlstrand, B., & Lampel, J. 2005. *Strategy Safari: A Guided Tour Through The Wilds of Strategic Mangament*. New York: Simon and Schuster.
- Normann, R. 1977. *Management for growth*. Hoboken: John Wiley & Sons.
- Oktemgil, M., & Greenley G. 1997. Consequences of high and low adaptive capability in UK companies. *European Journal of Marketing*, 31(7): 445-466.
- Osisioma, H. E., Nzewi, H. N., & Mgbemena, I. C. 2016. Dynamic Capabilities and Performance of Selected Commercial Banks in Awka, Anambra State, Nigeria. *European Journal of Business and Social Sciences*, 4(10): 98-110.
- Penrose, E. T. 1959. *The Theory of the Growth of the Firm*. Oxford: Oxford University Press.
- Wright, P. L., Pringle, C., & Kroll, M. 1992. *Strategic Management, Text and Cases*. Boston: Pearson Allyn and Bacon.
- Pfeffer, J., & Salancik, G. R. 1978. *The external control of organizations: A resource dependence perspective*. New York: Harper & Row.
- Porter, M. E. 1980. *Competitive Strategy: Techniques for Analyzing Industries and Competitors*. New York: Free Press.
- Porter, M. E. 1996. What is strategy? In *HBR's 10 Must Reads on Strategy*: 1-38. Cambridge: Harvard Business Review Press.
- Prahalad, C. K., & Hamel, G. 1990. The Core Competence of the Corporation. *Harvard Business Review*, May-June 1990:79-91.

- Protogerou, A., Caloghirou, Y., & Lioukas, S. 2012. Dynamic capabilities and their indirect impact on firm performance. *Industrial and Corporate Change*, 21(3): 615-647.
- Quinn, J. B. 1980. *Strategies for change: Logical incrementalism*. Homewood: RD Irwin.
- Rhenman, E. 1973. *Organization theory for long-range planning*. Hoboken: John Wiley & Sons.
- Rindova, V. P., & Kotha, S. 2001. Continuous “morphing”: Competing through dynamic capabilities, form, and function. *Academy of Management Journal*, 44(6): 1263-1280.
- Schumpeter, J. A. 1942. *Capitalism, Socialism, and Democracy*. New York: Harper.
- Schumpeter, J. A. 1947. The creative response in economic history. *The journal of economic history*, 7(02): 149-159.
- Simon, H. A. 1947. *Administrative Behavior*. New York: Macmillan.
- Teece, D., & Pisano, G. 1994. The dynamic capabilities of firms: an introduction. *Industrial and corporate change*, 3(3): 537-556.
- Teece, D. J., Pisano, G., & Shuen, A. 1997. Dynamic capabilities and strategic management. *Strategic management journal*, 18(7): 509-533.
- Teece, D. J. 2007. Explicating dynamic capabilities: the nature and microfoundations of (sustainable) enterprise performance. *Strategic management journal*, 28(13): 1319-1350.
- Tsai, W. 2001. Knowledge transfer in intraorganizational networks: Effects of network position and absorptive capacity on business unit innovation and performance. *Academy of management journal*, 44(5): 996-1004.
- Wang, C. L., & Ahmed, P. K. 2004. The development and validation of the organisational innovativeness construct using confirmatory factor analysis. *European journal of innovation management*, 7(4): 303-313.
- Wang, C. L., & Ahmed, P. K. 2007. Dynamic capabilities: A review and research agenda. *International journal of management reviews*, 9(1): 31-51.
- Wang, M., & Li, R. 2013. *The study on the dimensions of dynamic capability of enterprises*. Paper presented at the annual meeting of the International Conference on Advanced ICT and Education, Sanya.
- Winter, S. G. 2003. Understanding dynamic capabilities. *Strategic management journal*, 24(10): 991-995.
- Wu, L. Y. 2007. Entrepreneurial resources, dynamic capabilities and start-up performance of Taiwan's high-tech firms. *Journal of Business research*, 60(5): 549-555.
- Zahra, S. A., & George, G. 2002. Absorptive capacity: A review, reconceptualization, and extension. *Academy of management review*, 27(2): 185-203.
- Zollo, M., & Winter, S. G. 2002. Deliberate learning and the evolution of dynamic capabilities. *Organization science*, 13(3): 339-351.
- 刘扬. 2016. 共享经济下的机遇与挑战——以 Uber 为例. *现代国企研究*, (14): 119.
- 刘尊旒, & 姜楠. 2017. 基于共享经济背景下企业的经营管理模式研究——以 Uber 公司为例. *商场现代化*, (3): 85-86.
- 史蕾蕾. 2012. *企业动态能力与竞争优势的关系研究*. Unpublished master dissertation, Northwest University, Xi'an.
- 唐孝文, 刘敦虎, & 肖进. 2015. 动态能力视角下的战略转型过程机理研究. *科研管理*, (1): 90-96.

Electronic documents

- BBC news. Uber launches artificial intelligence lab. [ONLINE] Available at: <http://www.bbc.com/news/technology-38207291>. [Posted 5 December 2016].
- Business Insider. Life is one big party at ‘Uberiversity,’ the monthly training program in San Francisco that Uber pays for new employees to attend. [ONLINE] Available at: <http://uk.businessinsider.com/inside-uberversity-uber-staff-training-program-2015-3>. [Posted 17 May 2015].
- Chief Learning Officer. Learning in an Uber Economy. [ONLINE] Available at: <http://www.clomedia.com/2016/09/29/learning-uber-economy/>. [Posted 29 September 2016].
- Data Science Central. The Amazing Ways Uber Is Using Big Data. [ONLINE] Available at: <http://www.datasciencecentral.com/profiles/blogs/the-amazing-ways-uber-is-using-big-data>. [Posted 7 May 2015].
- Mobility Lab. Uber’s plan for self-driving cars bigger than its taxi disruption. [ONLINE] Available at: <http://mobilitylab.org/2015/08/18/ubers-plan-for-self-driving-cars-bigger-than-its-taxi-disruption/>. [Posted 18 August 2015].
- National Bureau of Statistics of China. China Statistical Yearbooks 2016. [ONLINE] Available at: <http://www.stats.gov.cn/tjsj/ndsj/2016/indexeh.htm>. [Posted 12 October 2016].
- Rideshare Academy. Uber Driver Training. [ONLINE] Available at: <http://rideshareacademy.com/uber-driver-training/>. [Posted 6 July 2016].
- Strategic Management Insight. VRIO Framework explained. [ONLINE] Available at: <https://www.strategicmanagementinsight.com/tools/vrio.html>. [Posted 21 October 2013].
- The Performance Improvement Blog. Why Your Organization Needs a Learning Culture. [ONLINE] Available at: http://stephenjgill.typepad.com/performance_improvement_b/2014/12/why-your-organization-needs-a-learning-culture.html. [Posted 8 December 2014].
- Uber Newsroom. Lahore, Your uberAUTO is Arriving Now!. [ONLINE] Available at: <https://newsroom.uber.com/pakistan/uberautolahore/>. [Posted 17 October 2016].
- ChinaByte. 电子商务“十三五”规划：中国医药转型机遇. [ONLINE] Available at: <http://news.chinabyte.com/338/14079338.shtml>. [Posted 28 February 2017].
- PMCAFF. Uber 是如何做市场活动的？ [ONLINE] Available at: http://www.pmcaff.com/article/index/309808395687040?from=label&pmc_param%5Blabel_name%5D=Uber. [Posted 14 July 2016].
- 果壳网. 解读独角兽的“自组织”：Uber 及 Kakao 的“3 人模式”. [ONLINE] Available at: <http://www.guokr.com/post/692985/>. [Posted 28 July 2015].
- 米内网. 医药电商二次革命，引爆四大突围路径！ [ONLINE] Available at: http://www.menet.com.cn/info/201704/201704190918551855_134476.shtml. [Posted 19 April 2017].
- 生物谷. BCG：传统购药模式正在改变 医药电商将迎来爆发式增长. [ONLINE] Available at: <http://news.bioon.com/article/6681975.html>. [Posted 28 April 2016].
- 腾讯科技. Uber 是如何进行本土化运营的？ Uber CTO 告诉你. [ONLINE] Available at: <http://tech.qq.com/a/20160308/071172.htm>. [Posted 8 March 2016].

- 托比网. 2017 年医药电商格局研究. [ONLINE] Available at:
<http://www.2b.cn/all/2017-02-27/41944.html>. [Posted 27 February 2017].
- 网易财经. 商务部: 去年网络零售交易额 5.16 万亿元 增长 26.2%. [ONLINE]
Available at: <http://money.163.com/17/0210/09/CCTG9K95002580S6.html>.
[Posted 10 February 2017].
- 新浪科技. Uber 推出移动游戏 培训司机路线选择能力. [ONLINE] Available at:
<http://tech.sina.com.cn/2015-06-12/doc-ifxczqar0737854.shtml>. [Posted 12 June
2015].
- 央视网新闻. 我国慢性病患者超 2.6 亿 死亡率逐年攀升. [ONLINE] Available at:
<http://m.news.cntv.cn/2015/06/11/ARTI1433989036029735.shtml>. [Posted 11
June 2015].
- 中国互联网络信息中心. 第 38 次中国互联网络发展状况统计报告. [ONLINE]
Available at:
http://www.cnnic.net.cn/hlwfzyj/hlwxzbg/hlwtjbg/201608/t20160803_54392.htm. [Posted 3 August 2016].

Appendices

Appendix I: Questionnaire A

In English

Dear Mr / Ms:

Hello!

I sincerely thank you for participating in the survey.

I am a master student in ISCTE in Portugal. This questionnaire is a part of my dissertation, which is about the dynamic capabilities of Chinese online pharmacy industry. Please answer these questions to the best of your knowledge. Write your response in the space provided. Please put a tick (√) where appropriate. Questionnaires were used as anonymous, and the questionnaire data was used only as academic research.

Thank you for your participation!

Best Regards.

PART A: Demographic Information

1. Can you please describe your position in the company?

A) Top manager B) Middle level manager C) Common staff D) Others

2. Can you please describe your work in company?

A) IT B) Operation and Maintenance C) Marketing and Sales
D) Administration E) Others

3. How long has your company been in operation?

A) Less than 1 year B) 1 to 2 years C) 3 to 5 years
D) 6 to 8 years E) More than 9 years

4. How long have you worked for the company?

A) Less than 1 year B) 1 to 2 years C) 3 to 5 years
D) 6 to 8 years E) More than 9 year

PART B: Dynamic Capability Measurements

5. Dynamic capabilities consist of the following factors. How do these factors apply to your company? Rate these factors on a scale of 1-5 (1-Strongly Disagree, 2-Disagree, 3-Neutral, 4-Agree, 5-Strongly Agree)

Adaptive Capabilities	1	2	3	4	5
5.1 Sensitive observation of the environment					
5.2 Identification of consumer demand changes					
5.3 Discovery of new opportunities for the market					
5.4 Accurate prediction of industry trends					

Absorptive Capabilities	1	2	3	4	5
5.5 Frequent employee training					
5.6 Ability of identifying and acquiring both internal and external knowledge					
5.7 Organization can quickly provide new knowledge to staff in need					
5.8 Organization with efficient process of identifying and inputting new information and knowledge					
5.9 Organization establish to be a learning organization					
5.10 Frequent internal cross department learning program					
5.11 Knowledge management database for access					

Innovative Capabilities	1	2	3	4	5
5.12 Organization change and improve services based on new knowledge					
5.13 Ability of organizational technology innovation and process innovation					
5.14 Organization often develop new products or services that are easily accepted by the market					
5.15 Managerial environment for innovation					
5.16 Organization encourages innovation					

In Chinese

尊敬的女士/先生：

您好！

我真诚地感谢您参与此项调查。

我是葡萄牙 ISCTE 学校的硕士研究生，本调查属于本人的毕业设计课题，这是一份关于网上药店动态能力的调查问卷。请您认真回答以下内容，问卷的答案没有对错之分，只要反映您的真实意向即可。问卷采用无记名方式，问卷数据仅作为本人学术研究使用。

十分感谢您的积极参与！

祝您工作顺利！生活愉快！

第一部分：基本信息

1. 请问您在公司的职务类型是？

A) 高层 B) 中层 C) 基层员工 D) 其他

2. 请问您的工作性质是？

A) IT B) 运营管理 C) 市场（销售） D) 行政后勤
E) 其他

3. 请问您所在的公司营业多少年了？

A) 少于 1 年 B) 1 到 2 年 C) 3 到 5 年
D) 6 到 8 年 E) 超过 9 年

4. 请问您在贵司工作多少年了？

A) 少于 1 年 B) 1 到 2 年 C) 3 到 5 年
D) 6 到 8 年 E) 超过 9 年

第二部分：关于网上药店企业动态能力的调查

5. 以下是关于贵司动态能力的一些描述，请根据您所在公司的实际情况选择最符合的项：1-十分不赞同，2-不赞同，3-中立，4-赞同，5 十分赞同。

适应能力	1	2	3	4	5
5.1 贵司对环境变化灵敏观察					
5.2 贵司鉴别消费需求变动					
5.3 贵司善于发现市场新机遇					
5.4 贵司准确预测行业发展趋势					

吸收能力	1	2	3	4	5
5.5 贵司频繁对员工进行培训					
5.6 贵司识别和获取内部和外部知识					
5.7 贵司能较快地将新知识有效提供给需要的员工					
5.8 贵司具有识别、输入新的信息和知识的高效流程					
5.9 贵司建立学习型组织					
5.10 贵司建立频繁的内部跨部门学习计划					
5.11 贵司具有可访问的知识管理数据库					

创新能力	1	2	3	4	5
5.12 贵司会依据新知识改变服务项目及改善服务方式					
5.13 贵司技术创新和流程创新的能力					
5.14 贵司经常性开发易被市场接受的新产品或服务					
5.15 贵司提供创新管理环境					
5.16 贵司鼓励创新					

Appendix II: Questionnaire B

In English

Dear Mr / Ms:

Hello!

I sincerely thank you for participating in the survey.

I am a master student in ISCTE in Portugal. This questionnaire is a part of my dissertation, which is about the dynamic capabilities of Chinese online pharmacy industry. Please answer these questions to the best of your knowledge. Write your response in the space provided. Please put a tick (✓) where appropriate. Questionnaires were used as anonymous, and the questionnaire data was used only as academic research.

Thank you for your participation!

Best Regards.

PART A: Demographic Information

1. Can you please describe your gender?

A) Male B) Female C) Others

2. Can you please describe your age?

A) Under 25 B) 26-35 C) 36-45 D) 46-55 E) Over 56

3. Can you please describe your education level?

A) High school and below B) College or Technical secondary school

C) Bachelor degree D) Master degree E) Doctoral degree

PART B: Dynamic Capability Measurements

4. Dynamic capabilities consist of the following factors. What do you think of the following factors for the importance of the online pharmacy industry? Rate these factors on a scale of 1-5 (1-Very Unimportant, 2-Unimportant, 3-General, 4-Important, 5-Very Important).

Adaptive Capabilities	1	2	3	4	5
4.1 Sensitive observation of the environment					
4.2 Identification of consumer demand changes					
4.3 Discovery of new opportunities for the market					
4.4 Accurate prediction of industry trends					

Absorptive Capabilities	1	2	3	4	5
4.5 Frequent employee training					
4.6 Ability of identifying and acquiring both internal and external knowledge					
4.7 Organization can quickly provide new knowledge to staff in need					
4.8 Organization with efficient process of identifying and inputting new information and knowledge					
4.9 Organization establish to be a learning organization					
4.10 Frequent internal cross department learning program					
4.11 Knowledge management database for access					

Innovative Capabilities	1	2	3	4	5
4.12 Organization change and improve services based on new knowledge					
4.13 Ability of organizational technology innovation and process innovation					
4.14 Organization often develop new products or services that are easily accepted by the market					
4.15 Managerial environment for innovation					
4.16 Organization encourages innovation					

In Chinese

尊敬的女士/先生：

您好！

我真诚地感谢您参与此项调查。

我是葡萄牙 ISCTE 学校的硕士研究生，本调查属于本人的毕业设计课题，这是一份关于网上药店动态能力的调查问卷。请您认真回答以下内容，问卷的答案没有对错之分，只要反映您的真实意向即可。问卷采用无记名方式，问卷数据仅作为本人学术研究使用。

十分感谢您的积极参与！

祝您工作顺利！生活愉快！

第一部分：基本信息

1. 请问您的性别是？

A) 男性 B) 女性 C) 其他

2. 请问您的年龄是？

A) 25 岁以下 B) 26-35 岁 C) 36-45 岁

D) 46-55 岁 E) 56 岁以上

3. 请问您的受教育程度是？

A) 高中以下 B) 中专或大专 C) 本科 D) 硕士 E) 博士

第二部分：关于网上药店企业动态能力的调查

4. 您认为下列动态能力的子因素对于医药电商（网上药店）行业的重要性如何？

1-5 重要性递增，1-十分不重要，2-不重要，3-一般，4-重要，5 十分重要。

适应能力	1	2	3	4	5
4.1 网上药店企业对环境变化的灵敏观察力					
4.2 网上药店对消费需求变动的鉴别力					
4.3 网上药店对市场新机遇的发现力					
4.4 网上药店准确预测行业发展趋势					

吸收能力	1	2	3	4	5
4.5 网上药店企业频繁对员工进行培训					
4.6 网上药店企业识别和获取内部和外部知识的能力					
4.7 网上药店企业能较快地将新知识有效提供给需要的员工					
4.8 网上药店企业具有识别、输入新的信息和知识的高效流程					
4.9 网上药店企业建立学习型组织					
4.10 网上药店企业建立频繁的内部跨部门学习计划					
4.11 网上药店企业具有可访问的知识管理数据库					

创新能力	1	2	3	4	5
4.12 网上药店企业会依据新知识改变服务项目及改善服务方式					
4.13 网上药店企业技术创新和流程创新的能力					
4.14 网上药店企业经常性开发易被市场接受的新产品或服务					
4.15 网上药店企业提供创新管理环境					
4.16 网上药店企业鼓励创新					

Appendix III: Validity test of Questionnaire B

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.371	46.069	46.069	7.371	46.069	46.069	3.634	22.715	22.715
2	1.278	7.988	54.057	1.278	7.988	54.057	3.077	19.233	41.948
3	1.034	6.461	60.518	1.034	6.461	60.518	2.971	18.571	60.518
4	.868	5.425	65.943						
5	.736	4.601	70.544						
6	.672	4.199	74.744						
7	.607	3.792	78.536						
8	.572	3.573	82.109						
9	.494	3.089	85.198						
10	.456	2.853	88.051						
11	.429	2.683	90.733						
12	.373	2.330	93.064						
13	.337	2.106	95.170						
14	.306	1.914	97.084						
15	.257	1.605	98.689						
16	.210	1.311	100.000						

Extraction Method: Principal Component Analysis.

Appendix IV: Descriptive Analysis Results**Descriptive Analysis Results for Questionnaire A****Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
Sensitive observation of the environment	60	2	5	3.55	.723
Identification of consumer demand changes	60	1	5	3.72	.885
Discovery of new opportunities for the market	60	2	5	3.93	.821
Accurate prediction of industry trends	60	2	5	3.78	.783
Frequent employee training	60	1	5	3.67	.968
Ability of identifying and acquiring both internal and external knowledge	60	1	5	3.67	.795
Organization can quickly provide new knowledge to staff in need	60	1	5	3.53	1.033
Organization with efficient process of identifying and inputting new information and knowledge	60	1	5	3.60	.960
Organization establish to be a learning organization	60	1	5	3.48	1.228
Frequent internal cross department learning program	60	1	5	3.30	1.109
Knowledge management database for access	60	1	5	3.35	1.117
Organization change and improve services based on new knowledge	60	1	5	3.60	.827
Ability of organizational technology innovation and process innovation	60	1	5	3.85	.860
Organization often develop new products or services that are easily accepted by the market	60	1	5	3.70	1.030
Managerial environment for innovation	60	1	5	3.58	.944
Organization encourages innovation	60	2	5	4.05	.982
Valid N (listwise)	60				

Descriptive Analysis Results for Questionnaire B**Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
Sensitive observation of the environment	137	2	5	4.04	.780
Identification of consumer demand changes	137	2	5	4.22	.774
Discovery of new opportunities for the market	137	2	5	4.20	.759
Accurate prediction of industry trends	137	2	5	4.23	.760
Frequent employee training	137	2	5	3.92	.796
Ability of identifying and acquiring both internal and external knowledge	137	2	5	4.01	.772
Organization can quickly provide new knowledge to staff in need	137	2	5	4.18	.737
Organization with efficient process of identifying and inputting new information and knowledge	137	2	5	4.11	.783
Organization establish to be a learning organization	137	2	5	4.02	.800
Frequent internal cross department learning program	137	2	5	3.74	.805
Knowledge management database for access	137	2	5	4.11	.811
Organization change and improve services based on new knowledge	137	2	5	4.21	.691
Ability of organizational technology innovation and process innovation	137	2	5	4.28	.715
Organization often develop new products or services that are easily accepted by the market	137	2	5	4.28	.755
Managerial environment for innovation	137	2	5	4.07	.763
Organization encourages innovation	137	2	5	4.36	.745
Valid N (listwise)	137				