

**Synergetic Value-Driven Innovation in Business Model of Organic
Agriculture in China: a Case Study of IGARDEN**

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Thesis submitted as partial requirement for the conferral of

Doctor of Management

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July, 2018

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Abstract

The innovation of business model is an important way for enterprises to gain competitive advantages and achieve sustainable development. With the rapid development of organic agriculture, an increasing number of scholars started to pay more attention to the research on the business model innovation of organic agriculture in recent years. However, most of the studies took the western developed countries as research objects, while research on cases of China's local entrepreneurs are not often to be found. In order to develop Chinese organic agriculture's business model innovation theory and to guide the practice, this thesis selects IGARDEN as the research object, and with a value-created perspective we explore the innovation process, path and essential characteristics of its business model by a case study method. Through the case study of IGARDEN, the result shows that: (1) The business model of IGARDEN follows the evolution from product-based to platform-based; (2) IGARDEN's business model innovation follows the logic of value creation, and the core of value creation is the expression of product value, the increase of platform value and the accumulation of sustainable value; (3) The emergence of synergistic value expands the border of value creation activities, promoting the innovation process of business model. Driven by Synergetic Value, the value creation carrier of IGARDEN has thus facilitated the emergence of new business models; (4) The process of business model innovation in IGARDEN is essentially an iterative process based on value creation, value synergy and value upgrading. The research result has contributed to the potential enrichment of theories related to business model innovation through a specific scope of the business model innovation within the organic agriculture industry of China, and it can be a guide of forming business model innovation strategy for entrepreneurs facing similar business environment as described in the case.

Keywords: Business model innovation; Organic agriculture; Value creation; Synergetic value

JEL: M1; Q1

Resumo

A inovação do modelo de negócios é um método importante para as empresas obterem vantagens competitivas e alcançarem o desenvolvimento sustentável. Com o rápido desenvolvimento da agricultura orgânica, um número crescente de estudiosos começou a prestar mais atenção à pesquisa sobre o modelo de negócios da agricultura orgânica nos últimos anos. No entanto, a maioria dos estudos levaram esses países ocidentais desenvolvidos como objetos de pesquisa, enquanto a pesquisa sobre casos de empreendedores locais chineses não costuma ser encontrada. Para desenvolver a teoria da inovação do modelo de negócio da agricultura orgânica chinesa e orientar a prática, esta tese seleciona o IGARDEN como objeto de pesquisa e, com uma perspectiva de valor, exploramos o processo, o caminho de inovação e as características essenciais de seu modelo de negócio. Através do estudo de caso do IGARDEN, o resultado mostra que: (1) O modelo de negócio do IGARDEN segue a evolução de baseada em produto para baseada em plataforma; (2) A inovação do modelo de negócios do IGARDEN segue a lógica da criação de valor, e o núcleo da criação de valor é a expressão do valor do produto, o aumento do valor da plataforma e o acúmulo de valor sustentável; (3) O surgimento de valor sinérgico expande a fronteira das atividades de criação de valor, promovendo o processo de inovação do modelo de negócio. Impulsionado pelo Valor Sinérgico, o portador de criação de valor do IGARDEN facilitou o surgimento de novos modelos de negócios; (4) O processo de inovação do modelo de negócios no IGARDEN é essencialmente um processo iterativo baseado na criação de valor, na sinergia de valor e na atualização de valor. O resultado da pesquisa contribuiu para o potencial enriquecimento de teorias relacionadas à inovação do modelo de negócios através de um escopo específico da inovação do modelo de negócios dentro da agricultura orgânica da China, e pode ser um guia de formação de estratégia de inovação de modelo de negócios para empreendedores que enfrentam negócios semelhantes ambiente descrito neste caso.

Palavras-chave: Inovação de modelos de negócios; Agricultura orgânica; Criação de valor; Valor sinérgico

JEL: M1; Q1

Acknowledgements

While writing this dissertation, many teachers, classmates and friends gave me selfless care and help in my study. Under their support, the difficulty in my research translated into momentum pushing me forward.

Therefore, my deepest gratitude goes first and foremost to my tutors-professor Marjan Jalali and Jie Ma. When I was writing my academic dissertation, they gave me careful guidance. Their instructive advices and useful suggestions made me stay on the right track. I sincerely thank them for giving me opportunities to do research in the field of management, and I not only have learned a lot of advanced professional knowledge but also enjoyed the genius in the research of enterprise management.

I also want to express my heartfelt gratitude to my classmates who have supported and helped me during my DBA years. I thank them for giving me precious suggestion and technical support during my study. The time spent with them will be a happy memory of my life.

I am also particularly thankful about my colleagues of IGARDEN. They greatly support me with the data collection that is necessary for conducting my research.

Last but not least, I want to show my deepest respect and gratitude to all people who have helped me in my professional and academic career. Together I believe we can continuously make contribution to the development of organic agriculture.

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List of Abbreviations

Global Commodity Value Chain-----	GCVC
multinational corporation -----	MNCs
United Nations Industrial Development Organization -----	UNIDO
Global Value Chain -----	GVC
Service Profit Chain -----	SPC
U.S. Department of Agriculture -----	USDA
International Federal of Organic Agriculture Movement-----	IFOAM
Sunshine Earth Organic Standard -----	SES
Participatory Guarantee System -----	PGS
Community Supported Agriculture -----	CSA
Organic Trade Union of China -----	OTUC
Online to Offline-----	O2O
Social Network Service-----	SNS
Global Organic Market Access Project -----	GOMA
Sunshine Earth Organic Agriculture Development Institute -----	SEI

Chapter 1: Introduction

1.1 Research Background

With the improvement of production technology and industry operation, the agriculture industry has grown rapidly in the world in recent decades. However, in conventional agriculture production, the over-use of fertilizers and pesticides provides a lot of potential harm to mankind (Zhang & Dong,2018). In China, the food safety incidents, such as excessive chemical residues found in products, have brought new opportunities to organic agriculture. Compared with conventional agriculture, organic agriculture is a kind of production methods that maintains and stabilizes agricultural production system by using a series of sustainable technologies such as the use of organic fertilizer, organic feed (Li et al.,2013). It is aiming to solve a series of environmental problems arising from conventional farming production, such as soil erosion, decline in soil quality, pollution of pesticides, energy consumption and reduction of biodiversity. In short, organic agriculture is designated to people's needs in food safety, health and environmental protection.

‘The Institution of World Organic Agriculture’ shows that the global organic food market had exceeded 81.6 billion euro in 2015. The United States was the number one (market size) in the world with 35.8 billion euro, followed by Germany (8.6 billion euro), France (5.5 billion euro) and China (4.7 billion euro). Moreover, both the demand and supply of organic food is continuously growing in the developed countries. For example, in 2014, organic food consumption increased by more than 40% in Sweden and a gradual annual increase has been monitored in most of the developed countries since 2000 to 2017 (Sun & Yang, 2017). In China, entering the phase as a developed country, the demand of organic food is expected to show a significant growth with the growth of economy and living standard (Sun & Yang, 2017).

The optimistic prospect of organic agriculture in China has aroused great

attention and financial investment from related enterprises. A large number of enterprises have entered the organic agriculture industry in China in recent years. According to the Statistical data of National Bureau of China, since 2010, the development of organic agriculture in China has maintained a high growth rate. The sales of organic agricultural products in China have grown by more than 30% each year for the past 10 years. However, for the actual entrepreneurs in China's organic industry, the business situation is not very optimistic. Few enterprises, among which are both small in operation scale and unique in terms of relying on the non-duplicable environmental factors such as natural and geographical resources, have achieved sustainable operational profitability at the financial level (Wu, Zhang, Zheng, & Zhang, 2009). In general, the organic agribusinesses in China are mainly faced with the following problems (Wu et al., 2009):

(1) The organic agribusinesses are severely influenced by the availability of farmland resources. Due to large population in China, the per capita land resources are scarce. The data of Ministry of Land and Resources in 2015 shows that per capita land resources in China is only 29% of the world average, 1.8%, 2.4%, 7.0% and 21.0% of the per capita land area of Australia, Canada, Russia and the United States respectively. Per capita arable land is only 33% of the world average. In recent years, the government has implemented land supply control policies, which has made it more difficult for enterprises to obtain land resources.

(2) The inadequate supporting facilities and policies also hinder the development of organic agriculture. Organic agriculture is an industry requiring local government to supply land resources, supporting facilities and preferential investment policies. China is currently focusing on the issue of food security in terms of quantity instead of quality, and therefore the development of organic agriculture has been generally neglected in the present condition of the development. Due to the severe shortage of land per capita in China, the extensive use of pesticides and fertilizers has become a practical choice to guarantee crop yields. However, organic agriculture emphasizes the concept of eco-friendly and chemical-free method in food production, which may reduce crop yields and endangering food security in terms of ensuring sufficient

quantity of food supply, which disallow organic projects to gain sufficient policy and infrastructure supports from the government. In recent years, although organic agriculture develops quickly in the rural areas, the relevant policy support and investment incentives are insufficient in inspiring people to join. Compared with the development of rural tourism whose byproducts are real estate development and can potentially generate higher tax flow for the government, the local government is not willing to promote the development of organic agriculture because of its relatively low tax generation. This causes a phenomenon that organic agriculture is not a priority industry that can support heavily by local government.

(3) The consumers' attitude to the organic products does not encourage the development of organic agriculture(Wu et al.,2009). China has aimed to provide basic living standard to its people and was paying more attention to the growth of food in quantity since the reform and opening up in 1980s. In the 21st century, the growing living standard and income level started enabling consumers to pursue higher quality of food. However, at present, China's per capita living standard still falls far behind the developed countries and allocation of consumers' general expenses toward food consumption is still relatively low (Wu et al.,2009). In addition, Chinese consumers in general do not highly value organic products (Wu et al.,2009). Although consumers' awareness and demand are raised by various advertising efforts in recent years, it is still difficult for a majority of people to afford organic products at the present income level.

(4) It has been argued that the organic agriculture supply chain in China needs to be fully reformed and restructured (Liu, Yu, Li, & Jiang, 2016). At present, organic agriculture in China is in its infancy stage, and efficient supply-chain is yet to be in place to ensure each organic agriculture participant along the chain can fully focus its resources in what it does best, but instead, everyone is forced to play multiple roles in a supply chain to compensate for the lack of competent supply-chain services (Zhang, Zhao, & Wang, 2006). Therefore, each organic entrepreneur is expected to operate its own independent supply-chain instead of simply focusing on exercising their competitive strength and advantages. Organic agribusinesses in developed countries

can obtain development opportunities through deep plowing (e.g., technology-based, market-based or product-based) in one area. For the newly-emerged Chinese organic agribusiness, they need to carry out new development of different supply-chain models to fit different environmental constraints and market opportunities. For example, the operation of a typical organic farm in China not only needs to take care of its live stocks and vegetables but also to create its own brand and sales channel.

In short, organic agribusinesses in China are confronted with the constraints of land resources, the lack of government support, the lack of awareness and capability of organic consumption, and the imperfect supply-chain system. This set of problems is based on China's unique political, geographical and market conditions (Li, Wang, & Guo, 2013) and is significantly different from the problem set faced by organic enterprises in other developing and developed countries. Politically, agricultural businesses conducted in China rely heavily on the government's financial support, and therefore causing the investment decisions related to agriculture to be based on the project's validity with the latest government policies, which strategically updates annually (Wu, 2010). Geographically, the majority of the farmland in China is scattered in small pieces, which is favorable for family-based farming management instead of enterprise-level management, and the soil is mostly in contaminated condition by general organic standard because of the chemical farming production practices applied by most farmers in the past (Yi, 2010). Market-wise, Chinese consumers are mainly divided into two major groups, one with strong spending power and the other with very limited spending power, the development of middle-class families are on the rise but requires some time to mature to the level of developed countries (Zhang & Dong, 2018). Thus far, there is no ready-made guidelines or principles that allow China's organic agribusinesses to effectively recover their investment and achieve sustainable development through generating a proper business model. Based on the above conditions, there is logically a demand for a fundamental guideline for current and future organic entrepreneurs in China to innovate and generate a business model(according to the concept defined by Chesbrough and Rosenbloom (2002), business model innovation refers that the basic logic of business

value creation has changed) that can at least properly address the above conditions while forming their unique business model, creating competitive advantages and strengths, sustaining and thriving their business in China's organic industry.

Therefore, this thesis seeks to put forward a process of business model innovation specifically applied to China's organic business environment, based on a case study analysis of IGARDEN., a private organic agriculture enterprise in China (founded in 2010) with a complete self-developed supply chain from farming to sales.

1.2 Description of research problem

In recent years, with the rapid development of organic agriculture, an increasing number of scholars started to pay more attention to the research on the business model innovation of organic agriculture. The research results of these studies cover many aspects of organic agriculture, including the latest trends in the industry (Liu et al., 2016; Willer, Lernoud, Willer, & Lernoud, 2016), The Impact on food supply and ecology (Bengtsson, Ahnström, & Weibull, 2005; Badgley et al., 2007), The Production Gap between Traditional and Organic Agriculture (Ponti, Rijk, & Ittersum, 2012). However, most of the above studies took western developed countries as research objects, while research on cases of China's local entrepreneurs are not often to be found. Some China-related cases, such as Li (2017), Sun and Yang (2017) focused on the scope of innovation based on external factors (mainly political factors) and did not go into the scope of how internal factors interact with external ones to conduct the process of the business model innovation on all levels, such as from strategic level to operation level (compared to only on strategic level). The truth is that, Chinese organic agribusinesses are facing different set of economic situation, regulations, and markets, comparing to western enterprises.

Now we do not have much practical or academic information on the business model innovation process of Chinese organic agriculture companies. It has been argued that maybe we need an indigenous version of industry research as a new guidance of corporation operating for the organic industry (Xia & Lou,

2014). Therefore, this thesis attempts to explore the innovation process, path and driving factors of the business model innovation of organic agriculture in China, focusing on the following questions:

(1) How does China's organic agribusiness succeed in business model innovation? What is the process and path of this innovation? Due to its unique national conditions and market background, the business model innovation of Chinese organic agribusinesses has its own characteristics. Based on the case study of IGARDEN, this thesis will focus on IGARDEN's business model in each stage of its development, summarizing the features and developing propositions in how synergetic value-driven innovation could be conducted in the business model of organic agriculture in China.

(2) What are the driving factors in China's organic agriculture business model innovation? Business model innovation is driven by various factors inside and outside the enterprise. This thesis explores the driving factors through analyzing IGARDEN interviews and enterprise management data. On this basis, it constructs the relevant theoretical framework and puts forward propositions regarding to the mechanism behind innovation development and process within a company in similar situation.

(3) What are the essential characteristics of business model innovation of Chinese organic agriculture businesses? Due to the unique national context, the innovation process in China is somewhat different from the enterprises in developed countries. This thesis gives a detailed explanation from the perspective of value creation in terms of forming innovation activities based on generating value for both members within a company's supply chain and its customers. Simultaneously, exploring IGARDEN's essential characteristics is of great significance to uncover the logic behind its innovation process and construct theoretical framework of business model innovation in Chinese organic agribusinesses. Based on the summary of the IGARDEN business model innovation process, this thesis proposes a process model from the perspective of value creation.

Solving above questions, this thesis will be of theoretical and practical significance for both scholars and practitioners relating to China's organic agriculture

sector. In theory, the business model innovation of IGARDEN is the product of China's specific national characteristics and conditions. An important purpose of business model innovation is to improve the imperfect supply chain and expand the value of the supply chain, which in China is significantly different from that of the developed countries. Therefore, we need an exploratory study on an enterprise that operates in the actual situation in China. As a result, this thesis plans to summarize the innovation process and path characteristics of IGARDEN's business model innovation and enrich related theories of business model innovation in China, which can contribute some theoretical support for future research in the field of business innovation.

In practice, the current development of organic agribusinesses in China is full of opportunities and challenges. On one end, China's President Xi Jinping, speaking at the 19th National Congress, 2018 of the Chinese Government pointed out that the major contradictions in China are from "the people's growing material and cultural needs" to "the contradiction between the growing need for people's better life and the unbalanced development." This suggests that a large number of consumers will shift from "quantity demand" to "quality demand" in the near future (Liu et al.,2016). If this is the case, it seems likely that that the organic agriculture industry will reap significant dividends in China's economic development as a result. On the other end, lack of land resources per capita, unsupportive policies and supporting facilities, and imperfect supply chains all together likely hinder the development of organic agribusinesses in China. Therefore, taking IGARDEN as an example, this thesis will explore the process, path and driving mechanism behind the business model innovation of enterprises in the organic industry of China, which helps to assist managers and to guide the innovative practice of business model. Implications for practice and directions for future research will be provided to contribute to the development of a generic business model innovation process in organic industry of China.

In summary, the current rapid development of organic agriculture in China urgently needs the research results based on China-based organic enterprises. How

can Chinese organic agribusinesses succeed in business model innovation? What is the process, path, driving mechanism and essential characteristics in business model innovation of China's organic agriculture? These problems are relevant to the sustainable development of China's organic agriculture industry and the business opportunity exploration for all organic entrepreneurs in the future. Therefore, this thesis aims not only to enrich the relevant theories of organic agriculture business model innovation in China, but also to guide the practice of relevant enterprises to get out of the potential predicament caused by the unique set of businesses environment factors agribusiness in China are faced with. This research will be of theoretical and practical significance for both scholars and practitioners relating to China's organic agriculture sector.

1.3 Chapter Arrangements

By analyzing the current situation of organic agribusinesses in China, this chapter expounds the research background and research significance, putting forward the research purpose of this thesis. The next chapters arrangement as below:

Chapter 2: Literature Review. This chapter elaborates the theory involved in this study, including value chain, business model innovation and organic agriculture. These theories are the basis of this study, which provides the necessary support for problem analysis, case discussion and model construction.

Chapter 3: Research Design. This chapter mainly introduces the process of analyzing case materials and industry data, including methodology, data collection, data processing, and data analysis.

Chapter 4: Research Results. Based on the data, this chapter analyzes the innovation process and mechanism of the business model of Chinese organic agribusiness based on the case of IGARDEN.

Chapter 5: Discussion. Based on the results of Chapter 4, this chapter discusses the essential characteristics of the organic agribusiness model innovation in China from the perspective of value chain. This chapter also relates the content of the

research results to the theories and literatures listed in Chapter 2.

Chapter 6: Conclusions, Limitations and Further Research. This chapter summarizes the research process and conclusions, clarifying the theoretical contributions and research significance of this thesis. Meanwhile, this chapter demonstrates the limitations and prospects for future research.

Chapter 2: Literature Review

This chapter introduces concepts and theories involved in this thesis, including value chain theories, business model innovation theories and the theories related to organic agriculture. In addition, this chapter also analyzes the development trend of global organic agriculture and lays the foundation for the case study in this thesis.

2.1 Value Chain Theories

2.1.1 Concept

Porter (1985) proposes the concept of internal value chain of enterprises, defining that each manufacturing enterprise is an aggregation that assists the entire process of designing, producing, and selling products. The value chain is therefore seen as the process of making raw material into the products that customers demand. In other words, enterprises make profits through two main sections, one concludes general activities like producing, selling, shipping, providing logistics and after-sales services, and the other, is mainly assisting jobs including human resources, finance, planning, R&D. Those correlated value creation activities form a value chain.

In the meantime, Porter (1985) also argues that an enterprise can correctly determine its position in a certain value chain according to value-creating activities, such as internal operation, production, external operation, sales, marketing and customer service. However, his value chain theory is only concerning the analysis of a single company's value creation activities. Product manufacturing is the basis of his theory; in other words, the theory does not consider the consumer interest or the role he/she plays in creating profit, and the theory neglects potential impacts by the cooperation among industry rivals.

Later on, Kogut (1985) forwards the conception of value-added chain while

studying how a company integrates itself into the global economy. He claims that the value-added chain is the entire value adding process that companies integrate technology, raw material, and labor force to make and sell products. If one company joins one link of the industry chain and involves the entire value-added process into its operation system, the technologies and activities inside the company will have interactions with other links along the chain. Porter (1985) emphasizes more on value chain factors analysis that focuses on how the company operates and develops itself based on information within the scope of its position within its value chain, as Kogut (1985) has broken the limits within the managerial entity by discussing how a company can develop its operation by considering information of other links along its value chain, and thus Kogut's theory reflects a broader scope of value chain.

Gereffi (1994) proposes the concept of Global Commodity Value Chain (GCVC) on the basis of Porter's ideas. Global Commodity Chain suggests that enterprises all around the world should develop collaborations in a value chain consisting of product design, production and marketing. Simultaneously, he holds the view that GCVC is not merely a cross-border business operation, but also an integration of international production and trade forwarded by MNCs that makes global operation decisions. Kaplinsky and Morris (2016) think that part of an enterprise's internal value chain has transferred to the outside since the advent of labor division; accordingly they propose the concept of value system, which is also known as industry chain. Enterprises redesign and integrate all links from producing to marketing, in order to specialize certain core business by itself and transfer other peripheral ones to the outside, finally meeting the goal of forming comparative advantages.

In 2002, United Nations Industrial Development Organization (UNIDO) conceptualized Global Value Chain (GVC), which was widely recognized by scholars. GVC officially refers to a global enterprise network that connects producing, selling, and recycling so as to realize product value or service value. It involves the entire process from collecting and shipping raw material, producing, transferring, storing, and selling semi-finished products and finished products, to final purchasing and recycling.

2.1.2 Forms and Characteristics of Value Chains

Based on the literature, this thesis categorizes value chains into virtual value chain, value constellation, and value net according to their characteristics.

Virtual Value Chain. Initially, the concept of the value chain only covered the production of physical products, and it was commonly believed that added value could only be achieved with mass production. To verify the conception and to increase its definition, Rayport and Sviokla (1995) put forth the concept of Virtual Value Chain. They believed modern companies not only exist in a material world made up of all kinds of resources, also known as Market Place, but also operate in a virtual space composed by information, also known as Market Space. In Market Space, companies are able to operate in the network. While processing and utilizing information to provide invisible products and services with the market, companies automatically establish a Virtual Value Chain parallel to the physical one. Virtual Value Chains can generate more value for the physical value chains at each links. Therefore, every value-adding activity can be divided into two groups, one is based on material resources, and the other is achieved with the help of information resources (Yu, 2012), as shown in Figure 2-1.

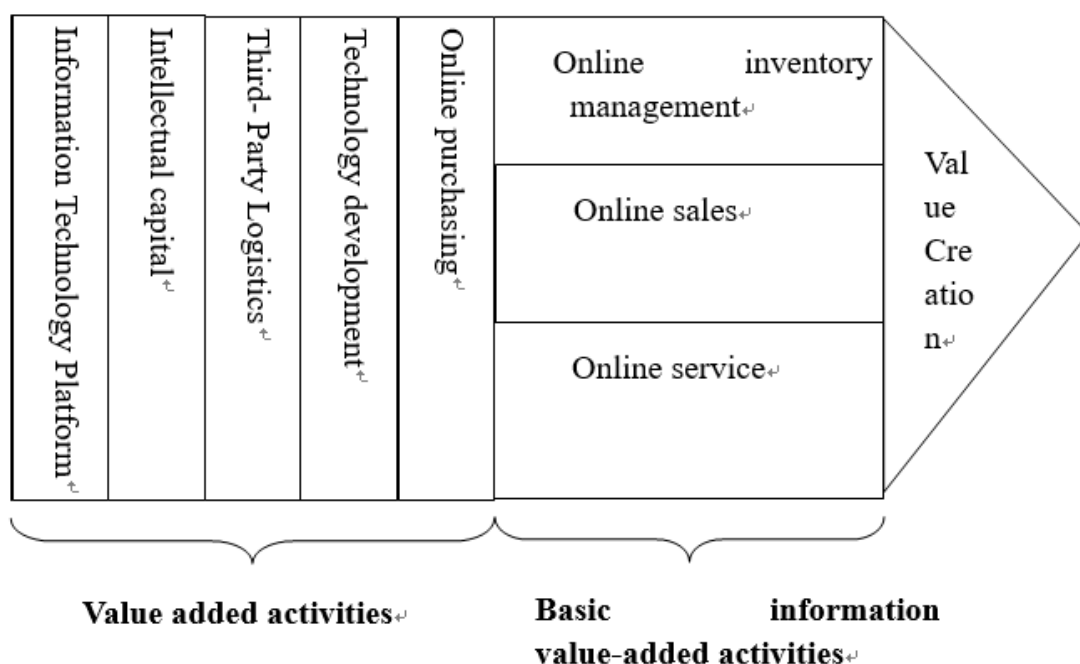


Figure 2-1 Virtual Value Chain Model

Value constellation. Based on value chain theories, Value constellation is an inter-firm organization combining constellation concept in analogy. Normann and Ramírez (1993) proposed value constellation theory. The authors claim that value constellation is created with joint efforts of all stakeholders including suppliers, competitors, business partners and consumers. These stakeholders reposition their roles and reshape their inter-relations in order to create synergetic value through new Value-Creating Constellations (Luo, 2006). Later on, Deise, Wright, and Nowikow (2000) put forward a business model of business process and information system that is formed by the modular organization of Value Constellations, which continuously connects value-creation oriented modules and thus generates synergistic value between the company and external resources centered around it.

From the standpoint of value constellation theories, both tangible products and intangible services are committed to the original intention of creating value for customers, which ensures they are recognized as parts of the enterprises' value creating process. Luo (2006;2009) insists that Value Constellation emphasizes that consumers are the originations as well as the destinations in value creating; and that facilitating suppliers, business partners, and consumers to create value together are the reason why the constellation is born. However, the output process of the value constellation becomes more complicated due to its increasing internal reactions, such as the necessity to reconstruct the operation process, cost structure and resource management, resulted from integration of external resources and information. In consequence, the enterprises are mandated to coordinate knowledge, optimize resources allocation, and reorganize abilities while dealing with enterprises.

Value Net. Slywotzky (2003) proposes the concept of Value Net. Value Net enables people to speedily ship products using digital information technology, which not only closely connects consumer need with effective, flexible, and low-cost production links, but also relates suppliers in cooperation all together. This kind of connection can adapt itself to the ever-changing external environment better than ever. Bovet (2001) writes that ,value net, a rapid-response system driven by consumers, also functions as a business model which improves consumer satisfaction and

operating profit margin through the digitized supply chain.

Kothandaraman and Wilson(2001) propose the Value Net Model, which includes three core concepts of value creation: interrelationship, superior customer value and core competencies. The model clearly reveals complicated interactions and internal relations among the three concepts, as interrelationship concentrates on the interactions within different departments within a company, while each department has different degree of relevancy regarding to the delivering of customer value and the formation and development of a company's core competencies.

Enterprise Value Network consists of the internal value network and the external value network (Yu & Rui, 2007). Above all, the internal network is essentially a core-capability-centered network made up of different internal value-creation modules, such as the departments of an enterprise that are directly responsible to operate its profit generation and form the enterprise's competitiveness (Yu & Rui, 2007). The external value of an enterprise mainly refers to a relationship network and structure of value-generation, value-distribution, value-transformation and value-utilization among the enterprise and its external resources (other enterprises), and the basis to trigger the formation of the external value is formed by related stakeholders' mutual benefits upon cooperation. Furthermore, different enterprises' value chains and value modules are interacted to form a value system as the external value network of enterprise (Yu & Rui, 2007).

In conclusion, market changes give birth to Enterprise Value Network. During its establishment, it takes continuous effort to supplement essential network-forming factors that were previously isolated from one another and finalize the network structure by linking them. It is a long journey including internal value network structuring and integrating, external value network establishing and expanding, as well as the linkage and integration of internal and external value networks. Hence, enterprises should analyze their internal, external environment and existing resources while establishing value networks. Meanwhile, each member modules of value networks are connected out of interest and relevance, and are committed to creating value for customers. Therefore, a value conduction mechanism naturally emerges. As

member enterprises in the value network increases, components of this network have been diversified. There are not only suppliers, consumers on board now, competitors sign in as well (Ranjay, Nitin, & Akbar, 2000).

2.1.3 Synergistic Value Creation under the Service-oriented Logic

An important factor in the value chain is synergistic value creation. Synergetic value refers to the value created by the interactions and synergies between suppliers, customers and other elements of the industrial supply chain (Song & Song, 2012). The idea of synergetic value stems from the synergy of suppliers and customers under the service-led logic (service-led logic, which describes product and service providers of a particular value chain focus the optimization of their operations based on delivering optimized value through servicing their customers, advocates (Wang, 2017)), advocates shifting the focus of the value chain to the operation and use of resources, and emphasizes the interaction and synergy of all aspects of the value chain (Schilling & Steensma, 2001). Therefore, the synergetic value of a company is formed not only based on the synergy between the company and the members within the value chain it belongs to with the purpose of improving its own operation and business model, but also based on the mutual logic of achieving the goal of allowing each member to provide better value to its clients through the newly formed synergetic value. This thesis assumes the perspective that, through the creation of synergistic value, enterprises can coordinate all the elements in the supply (industrial) chain so as to promote a healthy, coordinated and win-win sustainable development of the entire supply (industrial) chain.

Synergistic value creation gives priority not only to service in value chain of an enterprise but also to the enhancing of its competitive advantages. Service Profit Chain (SPC), which describes the customer satisfaction-based profit generated by each linkage along a specific value chain, stems from Profit Impact of Market Strategies, and is supported by Sasser (1970) study on customer loyalty's impact on servicing companies' profits, Heskett (1990) study on strategic services. These studies suggest that: (1) company profit and prospect have direct influences on products and

services; (2) business growth significantly correlates with employee loyalty; (3) employee loyalty affects service capability and ability; (4) employee abilities affect service value directly; (5) service value affects customer satisfaction; (6) customer satisfaction significantly correlates with customer loyalty. In general, the key idea is that company profits are generated from the satisfying high quality service provided by them (Heskett & Sasser, 1997). Thus, managers are recommended to keep their eyes on the starting point: they should provide satisfactory services for employees so as to encourage their productivity and finally enhancing consumer satisfaction and loyalty (Heskett & Sasser, 1997). In the end, profits will fall into place.

As Chinese economy grows stronger, service industry has been taking the leading position in national economy's development direction. China's service-related industries' rapid development has rendered enterprises shift into service economy rather than traditional practices, by which they expect to generate a new value growth by means of providing high quality service (Song & Song, 2012). Vargo and Lusch (2004) propose a service-dominant market logic that gives a new definition to service. In their explanation, service refers to multi-behaviors and activities that meet others' or their own interest with self-abilities such as knowledge and skills.

The importance of service value implies that the current competition has not been limited to the rivalry of producing technologies, product qualities, and prices. The current competition compares the competence in resource integrating and coordinating while dealing with technologies, knowledge, and talents. Modern companies focus more on operating and applying resources than they did in their early years (Schilling & Steensma, 2001). Song and Song (2012) believe that a service-oriented market highlights value-co-creation, which requires that suppliers should obtain value-co-creation opportunities and then design and conduct the overall plan with customers. In addition, they should offer integrated solutions and a commonly recognized standard for opportunity-evaluation.

Unlike product-oriented market logic that emphasizes that product value is hidden in the production (Porter, 1985), supporters of value-co-creation hold that value is added to the product during the services that support the circulation of

commodities (Song & Song 2012). Thus, value-co-creation is reasonably based on service-dominant logics, and naturally realizes the value generation in interactions between service providers and its consumers.

Vargo and Lusch (2004) argue that synergetic value creation includes both co-production and co-creation of value. Co-production is a new mode of production that emerges through the sharing of commodity-related production and the sharing of inventory. Co-creation of value refers the establishment of a common interest between a product provider and a product consumer to create synergetic value. Kannan and Tan (2002) point out that in addition to paying attention to rigid targets such as commodity prices and delivery time, enterprises are paying more attention to such soft targets as innovation and joint development. Among the many components, product services and integration services that suppliers can provide are important aspects of synergetic value creation. Song and Chen (2009) point out that in business operations, service providers need to pay attention to the needs of customers and the needs of stakeholders and work together to create value. It is essentially different from the product supply chain that previously relied on one-way delivery of value. In the service supply chain, the upstream enterprises do not exist in isolation. These upstream enterprises form the value network together with the downstream enterprises and customers to realize the synergetic value creation. In this synergized value network, customers are largely viewed as a resource for creating value for the enterprise rather than the object of business services. Therefore, it is necessary for us to examine the production and service elements related to the enterprises in the value network so as to explore the process of synergistic value creation better.

In conclusion, the relevant theories of synergetic value creation emphasize that enterprises need to synergize and interact with each production and service link, including a series of value links such as product design, development, manufacturing, sales, consumption and after-sales service. This theory follows the service-oriented logic, which proposes an enterprise can continuously generate value through the process of servicing between internal and external functional modules of the enterprise, whose business model and its innovation ultimately center around

improving service-oriented logic throughout the company's overall operation.

2.2 The Theory of Business Model Innovation

2.2.1 Concepts

Each enterprise has its own unique business model (Komańda, 2014). The original concept of business model refers that the business model is a process of enriching and realizing business ideas. This concept includes a series of concepts such as product, service, market, supply chain, marketing and operations (Cardozo, 1996). Timmers (1998) points out that the business model consists of the following ingredients: (1) the construction of products, services and information flows, involving the producer, suppliers and customers; (2) the description of potential benefits of various business participants; (3) the description of sources of income. The enterprise strategy is the long-term and overall planning of the company's future development in order to achieve business goals (Diao, 2017; Fang & Zhang, 2017). Thus, the business model of a company is a concrete manifestation of its strategy, (Casadesus-Masanell & Ricart, 2010). A business model's development cannot be separated from value creation development. The business model therefore can be considered as the model and logic of value creation of enterprises. In general, it is a process of how enterprises make profits through the value creation (Timmers, 1998; Linder & Cantrell, 2000).

For the current concept of business model innovation, Chinese and Western scholars have given different definitions from different angles: Tidd, Bessant, and Pavitt (1997) explore the attributes of business model innovation from an innovation perspective: they believe that business model innovation is a non-continuous innovation. Business model innovation mainly comes from two kinds of innovation: micro-innovation that focuses on improvising existing products and services; and consolidation of innovation that attempts to integrate different entities to create new value, and their impact on the business to a certain extent can be called as business

model innovation (Siggelkow & Porter, 1999). Magretta (2002) defines the concept of business model innovation through the concept of value chain. He emphasizes that the so-called innovation of the business model is the adjustment of the company's existing value chain and the innovation of the various elements it covers. Chesbrough (2007) believes business model innovation is customer-oriented, imaginative, and service-oriented at an open setting constantly upgrading.

At present, domestic scholars generally believe that the business model innovation refers to the process of introducing new business model into the existing system, thereby enabling companies and customers to obtain greater value. Luo (2009) points out that the business model innovation is essentially an innovation in the operating model. He also proposes that the company should continue to strengthen its adaptation to the business environment, and constantly meet consumer demand, thus achieving economic growth. Jiang and Shen (2016) and Wu and Jiang (2018) explicitly consider business model innovation as a business innovation, and believe that the new concept (specifically, customer value proposition, which indicates that each operation plan and action shall consider the value of the target customer) is the source of business model innovation. Business model innovation comes not from technological invention itself, but from insight into customer needs and the redefinition of value propositions (i.e. value concepts).

Business model innovation forms a good communication between the company and consumer groups, and creates the highest value for the enterprise while creating value for customers. The business model is the result of an enterprise's selection based on its own strategic objectives and is a concrete manifestation of the corporate strategy (Casadesus-Masanell & Ricart, 2010). At the same time, no business model can be separated from value creation. Therefore, the business model innovation follows the logic of value creation, that is, how to provide products and services to customers in value chain or value network and make profits. In other word, business model innovation is the whole process of how an enterprise can make a profit by creating value (Timmers, 1998; Linder & Cantrell, 2000).

In summary, business model innovation within a company refers that its basic

logic of business value creation has changed in terms of the company's operation system, with the attempt to generate new value (Amit & Zott, 2001; Chesbrough & Rosenbloom, 2002). In practice, managers introduce new business model into the production system, adding new value to both consumers and themselves (Chesbrough & Rosenbloom, 2002). Tretheway (2004) and Qiao (2009) point out that, comparing with the traditional "new product", "new market" and other types of innovation, business model innovation has the following characteristics: (1) Business model innovation pays more attention to enterprise behavior and economic factors, from customers' perspective; (2) Business model innovation is more systematic and often involves multiple elements (key partners; key activities; key resources; value proposition; customer relationships; customer segments) changing simultaneously. Therefore, an enterprise needs to make significant strategic adjustments to adapt to the new situation; (3) Business model innovation can bring good performance and efficiency to the enterprises. If an enterprise creates new products or services through business model innovation and creates new value, it is likely to open up a new and profitable area in an industry. Generally, the enterprise can have lasting profits and greater competitive advantage through business model innovation (Gao & Guan, 2006)

2.2.2 The Business Model of Organic Agribusinesses

Dimitri and Oberholtzer (2010) argue that the roles of enterprises in organic produce producers and organic produce distributors are crucial, as organic agribusiness not only oversees the cultivation of organic produce but also engages in the processing and distribution. Gaur, Delios, and Singh (2007) propose that small organic farms need to be industrialized. They not only need to train relevant producers in organic agriculture, but also need to train them in farm management courses to improve their farming skills and their ability to manage their operations.

Xi and Qin(2005) suggests five basic business models for organic agribusiness in China: (1) state-owned farms, which heavily rely on policy's financial support and make business decision based on achieving political tasks such as guaranteeing food

security in quantity; (2) farmland leasing and operations of companies, which take over the farmland usage right completely and make business decisions purely on market demand; (3) business models of "company + farmland + farm-operator", which is similar to the second business model but allows the original farm-operators to pay for the farmland usage right, which is free if the operators are the original farmland's designated farmers by government regulations; (4) the development model led by local government, which is usually financially supported by local government's financial platform that focuses on improving local agriculture infrastructure with the goal of attracting enterprises with business models from type 1 to type 3; (5) organic agriculture association co-ordination model, which is usually led by non-profit organizations that assist local producers to form groups of appropriate sizes in order to achieve enough economy scale facing the market with profitable operation.

Gao, Wang, Li, and Chen (2011) investigate the business models of two organic agribusinesses in Xinjin: New Green Technology Development Co., Ltd. and Yuncheng Volkswagen Fertilizer Co., Ltd. After surveying the organic egg farm of New Green Technology Development Co., Ltd., they concluded that the farm mainly adopts the mode of "enterprise + cooperative + farmland + farm-operators". The company mainly takes on the role of the enterprise in the business model and achieves the growth of the value chain as the purpose to promote general development of farmers. In the process, the enterprise is responsible for the rational allocation of resources. On the basis of complementarities of strengths and resources of individual farm-operators and cooperatives and division of labor, such a business model that takes the enterprise as the core and collaborates with the surrounding industrial chains can effectively reduce costs and maximize common interests. In contrast, Yuncheng Volkswagen Fertilizer Co., Ltd. affiliated farms mainly adopt the model of "company + farmland". With strong financial strength and advanced production technology, the enterprise gained the advantages in terms of control of properties and resources as the company directly manage and operate the farmland. On this basis, the company is mainly responsible for product sales, hiring local farmers to carry out production activities. Such a "company + farmland" model allows enterprises to integrate

technology, production, sales and other links, and realize value creation successfully. At the same time, Gao et al. (2011) point out the shortcomings of the two business models of "enterprise + cooperative + farmland + farm-operators" and "company + farmland". For example, the dominance of enterprises is not significant, the control power is gradually weakened, the marketing network channels are not smooth, the supervision of cooperative farmers is not easy to carry out effectively by enterprises, and farmer's enthusiasm for the production of agricultural products is not enough.

Yang, Tu, Liu, Xiang, and Kuang (2007) argue that the business model of organic agriculture in Yunnan Province in China is mainly the model of "company + farm-operators + farmland". This model is widespread and effective (Yang et al., 2007), because it can solve the enterprises' funding problems (by reducing initial investment of farmland leasing and infrastructures) while the producers are formed together under the same operation system and goals. However, one key disadvantage is that the enthusiasm of the farmers under this business model is not high enough as their financial risks are minimized through the cooperatives.

Based on the comparison of organic agriculture in China and abroad, Li (2006) proposes the business model of enterprises functioning as the "leader" and advocating the development of organic agriculture through the construction of superior brands. Xing (2006) points out that the development of organic agriculture first requires industrialization, and he gives recommendations for the management model and operating model. In terms of management, he points out that the management model of "enterprise (local leading enterprise) + base (farmer or processing factory) + farmer (planting or breeding)" can promote industrialization and at the same time be conducive to the sustainable development of the enterprise. In terms of operations, he believes the current organic agriculture is more suitable for the chain management model, which is also consistent with the brand strategy proposed by Li (2006). Li (2011) suggests that, China, with less cultivated land, abundant agricultural work force, and scattered farmland characterize the status quo of Chinese agriculture. With these characteristics, it is difficult for individual farmers to engage in organic agriculture on their own, because they cannot alone sustain the works and investments

associated with organic certification-related works required by organic agriculture regulation imposed by China government. Therefore, the business model of "Leading Enterprise + Farmers", the inevitable trend of future organic agriculture development (Li, 2011), can combine the current status of land production in China and avoid the risk of corruption outbreak potential of the organic production certification process either by the fault of the inspectors or the dishonest activity intentionally conducted by the producers, as the cost of brand damage is too high and one single case can demolish the brand image of the entire industry. Simultaneously, Li (2011) also points out that there are currently three main business models for organic agriculture in China: (1) Organic agribusinesses contract with local farmers to produce and sell organic agricultural products. In the production process, the company provides the producers with the necessary means of production and is responsible for the production of technical guidance and training. After the output of the product, the company is responsible for purchasing the organic produce from the farmers at the agreed price; (2) Organic agribusinesses do not contract directly with the farmers but sign the production and sales contract with the local agricultural production cooperatives. The agricultural cooperative consists of various farmers. In this model, the resources are more concentrated and more efficient, which is also more conducive to the industrialization of organic agriculture. However, it needs the vigorous promotion and support of local governments. (3) The related organic agribusinesses lease the land of local farmers and then hire local farmers for land cultivation. Under this model, enterprises have a higher degree of resource integration and control over various factors of production more easily. The disadvantage is that they have to increase their investment, and additional management measures need to be taken to ensure the their employees can deliver the same effort to the farmland as farm owners who actually cares about the actual efficiency and results of the operation.

Based on the investigation of the environmental carrying capacity of Guizhou Province, seeking potential income generation of the farmland outside of production-based operation, Li (2010) points out four commercial models for the development of organic leisure agriculture (in China , organic leisure agriculture is a

kind of leisure farm where you can enjoy rural scenery and eat organic vegetables) in the suburbs of the city: (1) Organic leisure orchard model: fruit production and sales combine with local tourism and leisure. Under this business model, consumers can get safe, fresh organic fruits while enjoying the leisure of the rural life. Producers can gain direct sales revenue of organic fruits and at the same time obtain additional financial rewards from sightseeing tours and services. (2) Organic eco-tourism agriculture park model. Mainly through the provision of eco-tourism services, such as educational tours and activities in the actual farmland, popularizing the relevant knowledge of organic agriculture in order to enhance tourists' awareness of the industry. Under this model, the park can gain the trust of consumers and obtain the profit from sales of products and the benefits of tourism services. (3) Grassland organic leisure breeding base model. It is mainly to establish grassland leisure and breeding base, providing customers with sightseeing services, wild breeding animal meat and meat products. In this model, the base can obtain the proceeds of sightseeing service and the sales revenue of meat products; (4) "organic agriculture + boarding farm" model. The model is mainly to integrate diversified products and services such as organic agriculture sightseeing, leisure travel and breeding bases, and to develop local boarding houses for farmers so as to integrate customers into the local experience of farm life. Under this model, we need to comprehensively develop diversified ecological models, provide diversified products (such as rural tours, organic vegetarian dishes, and other organic food purchasing) and closely cooperate with local farmers.

In his study of Boshan District, with the attempt to investigate into a multi-dimensional business model that integrates functions from different industries in agriculture, Yi (2010) finds that Boshan District adopts the development model of "whole-built system", that is, organic agriculture is developed through the model of "whole-built village-whole-built town-whole built area", that extend organic agriculture business scope from production to other service-oriented products like tourism and real estate development that generates higher profit margins in the short term, while awaiting the production-based agriculture business to matures into

profitable operation. This model is conducive to the industrialization, scale and standardization of organic agriculture base, and also helps to support and form a cluster of local leading enterprises that complement each other with different competencies, rather than attempting to operate the entire business through a single company.

2.2.3 Business Model Innovation Based on Value Chain Theory

Value Chain Perspective of Business Model Innovation. From the value chain perspective, the business model mainly unfolds from the following three aspects.

First, the business model is a value creation system (Osterwalder, 2004; Liu, 2017; Wang, 2017). The business model is the beating heart of a firm's value proposition (Bock & George, 2011) and the key concept in understanding the creation of business value (Amit & Zott, 2001; Chesbrough & Rosenbloom, 2002). When an enterprise is established, a specific business model must be explicitly or implicitly identified to clarify the value creation, value delivery and capture mechanisms of the enterprise (Gambardella & Mcgahan, 2010). In fact, the essence of an organization's business model is to create value for its consumers, and exploit value to promote their consumption and turn it into enterprise's operating profit (Teece, 2010). If the business model has value-creating tools or ways, then companies can make effective choice and use of this tool, that is, in different market segments, different environments using different business models to create value. This is also the biggest strategic potential of the business model. Business model innovation enables enterprise to acquire new capabilities for value creation, each of which is different, so business model innovation is one of the key sources of enterprise gaining a competitive edge (Bohnsack, Pinkse, & Kolk, 2014).

It should be noted out that the value created by the business model comes from many aspects. First of all, there are five types of innovation in the concept of "technological innovation": new products, new processes, new sources of supply, new markets and new forms of organization (Schumpeter, 1934). Secondly, companies can create value through value chain repositioning to reach better efficiency in operation

results, strategic network formation to improve the company's overall costs and benefits resulting from the company's functional modules interacting with one another and also external nodes, and enterprise core competence development in terms of sustaining or improving its strength in market competition (Amit & Zott, 2011). At the same time, the value created by business models can be from transactional efficiencies that improve the service experiences, user utility differentiation that more accurately targets the actual demand, resource and capacity development that maximizes the potential to serve more customers, and composition, and the density and scale of business strategic networks that optimize the company's operation efficiency and risk control (Andries & Debackere, 2013). As value creation mechanism cannot fully explain the value creation process in business model innovation, this thesis only considers value creation as a basic perspective for analyzing the business model innovation.

Business model innovation embodies the basic logic of business value creation, and researchers often analyze the business model of the enterprise as a tool. Chesbrough and Rosenbloom (2002) take technical-related characteristics, such as a company's logic and standard in planning its targets and execution its actions, as an input to the business model, which is converted into output performance, such as delivered results in income generation and customer satisfaction, through business models. A business model is mediation between technology and business performance (Baden-Fuller & Haefliger, 2013). Different business models have significant differences in technology effectiveness and business performance. Therefore, the value embedded in technology is highly dependent on the business model (Björkdahl, 2009).

Business model is based on the value chain perspective, Chesbrough and Rosenbloom (2002) argue that the definition of business model includes value proposition that defines a company's positioning and designated operation outputs in its relative value and supply chain, value chain that defines how a company delivers its values, market segmentation that defines the target customers of a company, value network that a company's internal and external business environment, cost structure

that defines a company's profit margin, profit potential that defines the company financial prospect in terms of return of investments, and competitive strategy that defines a company's plan to survive and develop against the potential competition. As further research develops, other scholars refine the relevant modules in the value chain of the business model and divide them into three major modules: value proposition, value creation and value capture (Al-Debei & Avison, 2010; Wei, Liu, & Ying, 2012). However, the existing literature shows that the research on value proposition and value creation is obviously more than the research on value capturing. The main reason is that the value creation of business model process and the mechanism are very complex and diverse.

In summary, researchers with different subject backgrounds vary greatly in their understanding of the concepts and definition of business models as each research focuses on different scope and case background (Amit & Zott, 2011). They give a corresponding explanation of the business model from the perspective of their own research background that differs from one another (Amit & Zott, 2011).

Business Model Innovation Process and Path from the Perspective of Value Chain. According to Yu (2012), The path of business model innovation generally includes four basic steps: (1) environmental analysis, which analyzes the external factors and their major trends; (2) internal factors analysis, which analyzes the current Business status quo; (3) value enhancement. That is, according to the status of enterprise resource capabilities, design business models and re-define the role of the organization; (4) the implementation of changes. After the business model is changed, the organizational structure and functions are redefined by means of organizational changes and new business models can be implemented. The advantages of this approach are straightforward and easy to embrace (Yu, 2012). However, in many industries in reality, the organization is often in a discontinuous and uncertain external environment. If this method is adopted to implement business model changes, the new organization may not be able to adapt to the dynamic environment as the evolution of its business model is static with predetermined factors resulting from its original strategic planning (Wei et al., 2012).

From a value chain perspective, a path analysis of business model innovation will shift the business model innovation from an "intuition-oriented" process that indicates an innovation is initiated actively during the process of dealing with unforeseen opportunity or risks, to a "management-oriented process" that indicates an innovation is initiated during the internal operation process that affects the quality of operation results, which is an integration of creativity (intuition) and rationality (analysis) (Yu, 2012). The current business model innovation process and path research are mostly from this perspective. Scholars have diversified the types of processes and path analyses of business model innovation. As Steelers and Chris (2004) argue, business model innovation seeks inspiration from customer dissatisfaction, boredom and other feelings; it challenges established assumptions rather than adopting strategies that are similar to those of other competitors.

Gao and Guan (2006) analyze business model innovation from the perspective of value chain. They point out that under the premise of clear internal resources and capabilities and external environment, the company's business model innovation can be regarded as an innovative value-added activity in the organization of the value chain. It optimizes and integrates with all stakeholders, and arranges the appropriate system set, in order to achieve more profit for the organization. Other scholars (Fawcett & Blomfield-Brown, 1997; Gudmundsson, Asche, & Nielsen, 2006; Ju & Yu, 2014; Karju, Wiyoko, & Suyono, 2018) have also proposed the creation of special goods and services, the redefinition of customers, the diversification of their goods and services, the change of their customer support systems, the change of revenue model, and the development of a unique value network, as the value-added activities that drives the innovations of the business model for an enterprise. In essence, these business model innovations are based on the value chain perspective.

Systematic approaches to business model building include value chain decomposition that breaks down specific elements in the value chain structure and value chain restructuring that reorganizes how value chain elements are linked and interacted with one another (Wei et al., 2012). Typical business model building and implementation generally requires the identification of elements of the value chain

such as purchasing logistics, manufacturing, sales logistics, marketing, research and development, and human resource management. Interaction patterns and the latest developments in technology allow for the construction of many different business models while only a very small number of them are viable. However, this points out some ideas for innovation in the business model of the business so that we can try to mine and put into practice in implementing different methods of conducting innovation in business model through analyzing different individual elements.

2.2.4 Impacts of Business Model Innovation on Enterprise's Business

Performance

Business model innovation is a way to create sustainable value for an enterprise, which requires numerous alterations to how we understand and evaluate the business models (Aagaard & Ritzén, 2018). From a technological innovation perspective, business model innovation can be seen as not only an important tool for technology commercialization but also an important innovation path to improve business performance (Kim & Min, 2015). After enterprises implement technological innovations, patent owners often have to urgently seek patent protection (Arrow, 1972) in order to gain more innovative performance for themselves, or increase corporate profits by acquiring complementary assets (Chesbrough & Crowther, 2006). Based on a similar principle, Desyllas and Sako (2013) point out that companies can benefit from the business models innovation and obtain more profit by generating patents that have commercial application value desired by the market. At the same time, they can also protect the profit from these business models by controlling the purchasing logistics, special marketing tools and so on.

When business model innovate, enterprises often need to restructure their current resources or introduce new resources into the commercial value chain network (Zott & Amit, 2007; Denicolai, Ramirez, & Tidd, 2014; Aversa, Furnari, & Haefliger, 2015). In different business models, the location of enterprises in the value chain network and the scope of business activities that they match can change with the business model innovation (Zott & Amit, 2009). In order to alleviate the conflict

between the resources that enterprises currently rely on and the new business model they face, Kim & Min (2015) provide solutions from the perspective of timing and organizational structure. From a timing perspective, if an enterprise has more complementary assets (assets that optimize a firm's ability to achieve a specific task), which enable enterprises to quickly adapt to the new business model, business model innovation can be carried out as early as possible. From an organizational structure perspective, when enterprises have higher percentage of assets with conflicting natures as the existence of an asset having negative impact on another asset's value in terms of having difficulty to integrate or allocate the asset's related resources to generate positive value for an enterprise, they should try their best to disassemble and restructure existing business, and operate new business units.

Due to the high degree of uncertainty in the external markets, the difficulties of new business development, and the possible competitive disadvantage that new markets may face, efforts should be made to utilize external knowledge to avoid these "new entry" disadvantages during the business models innovation (Teece, 2010; Denicolai et al., 2014). In addition to external knowledge, competitors can also bring high-value information and resources to the enterprise. Enterprises can optimize their products and services in a targeted manner by providing products or services to competitors to obtain relevant product information (Denicolai et al., 2014; Aversa et al., 2015).

Efficiency is another important path of business model innovation that helps enterprise gain a competitive edge. Business model innovation in some areas can achieve economies of scale by reducing asymmetric information on both parties (Williamson, 1983), reducing the coordination time between both parties, enhancing the reliability of transactions, and expediting the transaction process (Amit & Zott, 2001). The benefits of these business model innovations can be used to help improve business performance. For example, some Internet companies can take advantage of new business models to reduce pre-transaction search costs and coordinate costs; using the platform as a middleman can increase the transaction reliability while reducing the cost of signing the contract; and by attracting more participants

(cooperation, Customers, suppliers, etc.) to join the network, companies take advantage of their position in the network to enhance their bargaining power (Zott & Amit, 2007). Take the giant Internet companies in China, such as Alibaba, JD and SUNING whose business models have placed them at the center of the network, for example. They reduce contract costs while ensuring their reliability by introducing a large number of sellers and buyers and matching quickly and cost-effectively in their transactions, resulting in more deals and profitability.

In the field of organic agriculture, providing more and better service value has become the key to leading the sustainable development of enterprises. Current research show that the provision of these value-added services, such as fast delivery of products, good customer service and satisfying after-sales service program, facilitate the sale of organic produce (Suarez, Cusumano, & Kahl, 2013). The profit margin of revenue from services is more stable comparing to the profit margin of the revenue from physical products as service value is generally not numerically quantifiable like physical product's value is (Quinn, 2005), thus the competition strength of an enterprise in a matured product market will usually be determined by its value-added services. At the same time, some studies also point out that there is not a linear relationship between the service and enterprise performance: the positive impact of providing value-added services on business performance is not significant when the proportion of service revenue to total revenue is low; only after the proportion of service revenue reaches a certain level, providing value-added services can bring more benefits to the enterprises (Suarez et al., 2013). In addition to the economic benefits, because the essence of business model innovation is to create value for participants in the value network, researchers also frequently study the social benefits brought by the business model innovations. For example, businesses use business model innovation to strike a balance between business interests and social responsibility (Moingeon et al., 2009; Thompson & Macmillan, 2010), and help low-income people achieve wealth growth (Sánchez & Ricart, 2010; Sinkovics, Sinkovics, & Mo, 2014).

In general, business model innovation has become an important way for organic

agribusinesses to improve their performance. Business model innovation can enable enterprises to seek new points of economic growth, avoid the risk of backward knowledge and technology, protect the legitimate benefits of technological innovation, help enterprises occupy a key position in the value chain, improve product and service value, maintain the balance between commercial interests and social responsibility, and help low-income people to achieve wealth growth (Cheng, Wang, Gao, & Zhang, 2014).

In the field of organic agriculture, the direction of business model innovation lies in enhancing the added value of products and enhancing the value creation ability of enterprises (Yu, 2012). The main measures are to introduce external resources, technologies and knowledge to coordinate and integrate the value chain network. Through the control of key resources in the value chain, enterprises have greater bargaining power to gain more financial benefits (Yu, 2012). Therefore, in the process of business model innovation of organic agribusinesses, the synergetic value creation of enterprises and other participants is the key factor. The ability to coordinate the integration of value chains and provide customers with valuable services through business model innovation determines whether organic agribusiness can win in future market competition (Wei et al., 2012). Understanding the process and drivers of the innovation helps to open the theoretical black box and guide the practice of organic agriculture enterprises in China. However, there is currently not much relevant research.

2.3 Organic Agriculture

2.3.1 History and Concepts

Origins of Organic Agriculture. The origin of modern organic agriculture can date back to 1909 (Shi, 2009). F.H. King, director of land administration of the U.S. Agriculture Department, wrote the book "*Farmers of Forty Centuries*" in 1911 after investigating some traditional agriculture techniques in China (Shi, 2009). The book

gives a detailed account of production experience from Chinese farmers, like how to make rational use of time and space and how to improve the productive capacity per unit area of land with the use of human and animal feces. Inspired by F. H. King, British plant pathologist Albert Howard completed the book "*The Agricultural Testament*" in the 1930s, summarizing the research about traditional agriculture in China and advocating ideas about Chinese traditional agriculture actively. In the same period, some scholars in Switzerland and Germany proposed the viewpoints of maintaining and protecting the ecological balance of current conventional agriculture. Though they shared common views with organic agriculture, they did not put the ideas into practice.

The earliest practice of agriculture related to organic agriculture traces back to the 1840s (Rodale, 1940). J. I. Rodale in the United States, inspired by the "The Agricultural Testament", founded the "Rodale farm" in Kuznets, Pennsylvania, in 1940. He also began organic agriculture-related research. However, since World War II resulted in a global food shortage for a long time, the concepts of organic agriculture did not attract universal attention. The American biologist and science writer Carson wrote the book "*Silent Spring*" in 1962. For the first time, this book described that the United States abused pesticides to increase crop yields, exacerbating the extinction crisis in a large number of species and worsening the living environment of humankind (Carson, 1997). The publication of "*Silent Spring*" was strongly attacked by traditionalists and supporters of conventional agriculture at that time, but it successfully aroused general public's attention to the protection of agro-ecology.

In the 1970s, general public gradually realized that the conventional agriculture had a certain degree of negative impact on the human ecological environment due to extensive use of pesticides, fertilizers, food additives, herbicides and plant growth promoters. For instance, plastic films remained in the soil hardly degraded, which hampered the development of crop roots; chemical fertilizers prevented the synthesis of organic compounds and changed the composition of local soil layers; the use of pesticide effectively controlled pests and diseases, but also killed a large number of

beneficial insects; growth agents, herbicides, pesticides, fertilizers polluted the water environment and exacerbated the eutrophication.

In order to reduce the damage to the ecological environment caused by conventional agriculture, to promote the sustainable development of agriculture and to provide human with health and safe food, alternative and sustainable agricultures became new options. Organic agriculture was one of them. As a result, some developed countries began to encourage (in policy, such as financial support in infrastructure investment and procurement pricing protection to ensure proper profit of produces produced) local farmers to transform from conventional agriculture to organic agriculture, and the sales market of organic crops began to sprout (Li, 2002). In short, after more than 60 years of development, organic agriculture finally gains some reputation in the developed countries and has been gradually accepted by both consumers and producers who have higher awareness in environmental protection (Wu, Zhang, Zheng, & Zhang, 2009).

Definition of Organic Agriculture. Although the organic agriculture has many definitions, it still cannot be explained by a universally standardized definition. In Europe, organic agriculture is defined as a system that adopts organic fertilizers and proper cultivating methods to achieve sustainable soil fertility (Ma, 2006). Certain minerals but no chemically synthesized fertilizers can still be used in organic agriculture. At the same time, organic agriculture emphasizes the control over weeds and pests should be realized through natural means rather than chemical synthesis.

In U.S., Organic agriculture is defined by the USDA (U.S. Department of Agriculture) as a farming system with little pesticides, fertilizers, plant growth agents and animal feed additives or without 100%-chemical synthesis. The system uses animal manure, waste straw, organic waste generated from green manure and farms to supply crop nutrients and control weeds and pests that ensures that the soil is productive and sustainably cultivated. Although the definition of organic agriculture by the USDA is not comprehensive, some important features of organic agriculture are well summarized. Overall, both USDA and EU organic standards are based on the IFOAM (International Federal of Organic Agriculture Movement) standard of organic

agriculture, USDA is geared toward certification of enterprise-level organic practices, while EU Organic Standard is more favorable to smaller-scale units and is a more generic system with the attempt to provide the basic framework to comply to different EU countries' own regional and private standards.

In China, with reference to China Organic Food Development Center, in organic agriculture, no chemical fertilizer, pesticide, plant hormone, and no animal feed additive is used throughout the whole process of animal feeding and plant growing; also, the final product cannot be produced by genetic engineering. It follows a principle of natural growth and ecology and adopts agricultural production technologies. As a result, the organic agriculture coordinates the ecological balance of farming and aquaculture and maintains the long-term and stable agricultural production in agro-ecosystems.

According to the definition of IFOAM, "Organic agriculture is a production system that sustains the health of soils, ecosystems and people. It relies on ecological processes, biodiversity and cycles adapted to local conditions, rather than the use of inputs with adverse effects. Organic agriculture combines tradition, innovation and science to benefit the environment and promote fair relationships and a good quality of life for all involved." This principle defines the basic logic of modern organic agriculture. In summary, although the actual regulation content of organic agriculture vary with countries, their fundamental logic remain the same (Li et al., 2013). According to the definition of Li (2004), organic agriculture is a kind of production methods that maintains and stabilizes agricultural production system by using a series of sustainable technologies (use of organic fertilizer, production without pesticides, etc.). To be more specific, it abandons genetic engineering and adjunctive products, and forbidden the use of chemical synthesis of pesticides, fertilizers, growth regulators, feed additives and other substances. It just follows the laws of nature and ecology to coordinate the balance of farming. This thesis uses the IFOAM's standard to broadly define organic agriculture as a sustainable production system that sustains the health of soils, ecosystems and people.

Definition of Organic Agribusinesses. According to the definition of Liu (2015),

the organic agribusinesses are defined as the ones who mainly engage in the production, operation and sales of organic agriculture. An organic agribusiness has following main features (Liu, 2015): (1) Organic agricultural products are the main targets of its production and sales; (2) It has permanent organic farms and capital for business management; (3) Sustainable agricultural technology is used to keep the balance between planting and aquaculture; (4) Its production process strictly obeys laws of nature as well as principles of ecology; (5) The enterprise has a complete organizational structure and employees; (6) The enterprise is registered in the Trade and Industry Bureau (Liu, 2015).

2.3.2 Organic Agriculture Industrialization Research

Industrialization is a very important way for organic agriculture to form economies of scale. The industrialization of organic agriculture is conducive to expanding the scale of production, driving the development of related industries upstream and downstream, and solving the problem of uneconomical scale.

The Status Quo of the Development in China. On the status quo of the trade development in organic agriculture in China, scholars have done a lot of research in aspects of local farmer organizations and regional development. Zhang et al. (2006) discuss the issues related to the industrialization of organic agriculture and the organization of small farmers. They think that organic agriculture's industrial chain should support the growing scale of production. Some other domestic scholars (Chen, 2005; Fang, 2006; Li, 2006) focus on the development of organic agriculture in Shanghai, Inner Mongolia, Xinjiang and Beijing, and study business and environmental issues, they pointed out that most of the Chinese organic agricultural enterprises are in the early stage of development and have a certain gap in business operation with similar enterprises in developed countries. In addition, these authors suggested that Chinese organic agricultural enterprises integrate upstream and downstream resources of the industrial chain, while optimize the internal operations of the company. Shen and Ding (2006) expound the status of organic agriculture in China, pointing out the necessity of developing organic agriculture and the problems

in practical executions. They think that organic agriculture should be in step with the scale of production and put forward some improvement measures, including:

- (1) Strengthen the construction of organic agricultural production system;
- (2) Regulate the current market access system of organic agricultural products;
- (3) Strengthen the construction of organic agricultural product certification system.

According to the actual development of organic agriculture in China, Ma (2006) analyzes the policy problems and technical problems encountered in the development of organic agriculture. He suggests that Chinese organic agriculture enterprises should utilize government's agriculture-related subsidy policy supports to minimize the investment risk as agriculture projects generally requires a long period for financial return, while developing long-term business model from both technical and market aspects.

The development of organic food is an important breakthrough in China's optimization of the export market structure (Lu, 2004). Li (2002) also points that, in China, as the growth of economy improves the income of the general public in recent years, China has the potential to develop its organic agricultural industry in terms of capitalizing on its market scale as the number of potential consumers with enough purchasing power develops. Simultaneously, the development of organic agriculture is an effective way to break through non-tariff barriers in international trade as conventional agricultural produce are usually protected by each country's importation policy with the attempt to ensure the pricing competitiveness of local conventional produces, while certified organic food is usually not under local protection if the imported organic food is also certified by local standard. It is also the key point for China's agricultural products to gain competitive advantage in exportation (Lu & Zhu, 2007). Therefore, China needs to enhance the export competitiveness of organic food by speeding up international cooperation, strengthening its certification system, enhancing its economies of scale, increasing R & D investment and building a market information platform (Sun, Liu, & Fang, 2007).

Comparison with Conventional Agriculture. About the advantages and

disadvantages of organic agriculture and conventional agriculture, scholars repeatedly compare their productive efficiency (Fang, 2006), economic benefits (Liu, 2015) and other aspects.

In terms of productivity, based on a 30-year farm practice study, Rodele (2012) finds that organic agriculture produces more efficiently than conventional agriculture, which saves about 45% of energy compared to conventional agriculture. It can repair the structure of soil nutrient structure and reduce greenhouse gas emissions such as carbon dioxide. The research team led by German organic agriculture experts (Mäderetal, 2002), based on long-term observations of organic farming operation in Germany, concludes that organic agriculture achieves 80 percent of the conventional agriculture's production output.

According to Wright (2008), organic agriculture has more advantages in terms of long-term development potential, since organic agriculture can not only bring suitable yields but also reduce the input of chemical products to ensure food safety. Lansink, Ierland, and Best (2002) find that due to the use of chemical fertilizers and plant growth promoters, the output of conventional agriculture is higher than that of organic agriculture, yet the figure of organic agriculture is also lower than that of conventional agriculture in terms of capital utilization, labor productivity and land resources. Therefore, as organic production's efficiency is scientifically realized to be close to that of conventional production, the bottleneck of organic agriculture's development does not lie in the technical level but managerial and operation management level, which are constrained by the operation and business model applied and the factors of business environment.

In terms of economic benefits, Offermann and Nieberg (2000) compare organic and conventional farms in different countries. They notice that conventional farm's crop yields are generally higher than that of organic farms, but prices of organic farm products are generally higher than that of conventional farm products. From the perspective of industrial value chain, the unit production cost of organic agriculture is lower than that of conventional agriculture. Lu and Zhu (2007) points that the actual production cost of organic agriculture is lower than that of conventional agriculture

through comparing two different industrialization modes, but he also finds it difficult to compare the ecological and social benefits directly against one another, as the scale and complexity basis of conventional and organic agriculture's industrial chain as a whole is not comparable. Conventional agriculture's industry chain is a more matured mix of public and private infrastructures that are generally large in scale and easier to measure their overall impact to ecological and social benefits. Organic agriculture's industrial chain is consisted of mainly individualized private businesses and entrepreneurs with much higher complexity when conducting overall measurement of potential impacts to ecological and social benefits (Lu & Zhu, 2007).

After five years of researching and practicing in organic farming, Shearer et al. (1981) obtains harvest and managerial data from organic and conventional farms in the same area and conducts a comparative analysis. He finds that organic farms' yields are lower than that of traditional farms, but the cost of organic farms are also lower than that of traditional farms. The final comprehensive calculation concludes that the economic benefit of the organic farm is basically the same as that of the conventional farm. Studies by Jager et al. (2001) also suggest that the economic benefits of organic agriculture are greater than or equal to those of conventional agriculture. Research data from the University of Minnesota Agricultural Economic Management Research Center (2010) shows that total organic agribusinesses in the Minnesota state had a better overall financial performance than conventional agribusinesses between 2006 and 2009.

Other studies give divergent conclusions from different perspectives. For example, Kasturi (2007) points out industrialization of organic agriculture are more complicated than conventional agriculture. In every aspect of organic agriculture, the available technologies, materials and related equipment are strictly restricted by the organic standard's regulation ensuring certification process' validity and risk control. At the same time, every link of the industrialization of organic agriculture requires the relevant staff to acquire professional knowledge. Klonsky and Tourte (1998) also believe that, within the constraints of industrial system, organic agricultural products should be operated by complying with industry standards, therefore organic

agriculture must face more constraints than traditional agriculture does.

Restrictive Factors of Organic Agriculture Development in China. According to Ma (2010), there are several constraints in the development of organic agriculture in China:

First, due to extremely scattered farmland, it is difficult to meet the requirements of large-scale and standardized production methods of organic farming. It is also not conducive to the implementation of internal quality control as well as external supervision.

Second, the lack of proper certification standards and supervision mechanisms has created grey areas for current organic agricultural practitioners, luring them to sell conventional products as organic agricultural products. Regulators turned to put the key efforts on the inspection of organic agriculture production but neglected the organic products' processing and sales. For the spot checks conducted by the inspection departments, the manufacturers are often able to prepare in advance to avoid exposition of malicious evidences that indicate the violation of organic standard, which seriously limits the supervision effect of the inspection departments.

Third, the lack of social responsibility and market integrity among some organic enterprises and individuals lead to information asymmetry between producers and consumers of organic agricultural products, acerbating the distrust of consumers toward organic product's authenticity, which is the primary basis of organic product price's premium over conventional products, therefore ultimately organic product is difficult to maintain its profit margin without its premium pricing.

Fourth, in the early stage, organic agricultural operation costs are generally higher than that of conventional agriculture as the organic standard generally requires newly organically-cultivated land a minimum one to three years of resting, which indicates that there will be limited income sources at the early stage of transition from conventional agriculture to organic agriculture. Due to the limited financial strength of farmers, it is difficult to make the decision to transit to standardized production of organic agriculture for conventional farmer.

According to Wu et al. (2009), he considered that China's organic agriculture is

subject to the following aspects and trend in terms of its development:

- (1) Few studies are focused on organic farming and research funding is scarce;
- (2) The level production technology of organic agriculture in China is relatively inferior comparing to the rest of the world.
- (3) Farmers, the main producers of organic agriculture in China, still do not have enough literacy and are in lack of professional qualifications. Most of them are not possible to accept modern organic farming techniques.
- (4) The existing standard system of organic agriculture in China is not perfect and it is difficult to meet the needs of domestic and international markets.

At the same time, Wu (2009) also point out that there are two main reasons for the relatively small market scale of Chinese organic agricultural products: firstly, the prices of organic agricultural products are much higher than those of conventional agricultural products; secondly, consumers find it hard to identify the authenticity of organic labeling. The reason is that Chinese organic food-related certification bodies have neither uniformed implementation standard nor standardized certification procedure norms, which creates the distrusts in organic agricultural products among the potential consumers. Therefore, the domestic consumers of organic agricultural products are usually dominated by those with higher than average income (Wu, 2009).

Wu (2010) compares the development of organic agriculture in Taiwan and the mainland. Besides the fundamental difference between the property ownership of the farmland (China's farmland belongs to the government while the production right belongs to the farmers, but Taiwan's farmland is completely privatized. This difference causes Chinese farmers to be less aware of the organic's merits in improving the soil quality, as the land is not their property.) The author points out that there are some common deterrents on the development of organic agriculture in China. First of all, the fragile ecological and production environment requires heavy initial investment to conduct organic transition. Secondly, the operation costs of producing and supplying organic agricultural products from farmland to consumers are high. Thirdly, consumers generally distrust organic agricultural products because of misunderstanding and distrust of the certification system. Lastly, organic

agricultural technology level is low compared to conventional agriculture, which accumulates a much larger data base and experiences (Wu, 2010).

In reply to whether organic agriculture can increase farmers' income and effectively improve regional poverty, a study by Zhang (2010) suggests that the development of organic agriculture in poor area is deterred because their producers are impacted by the following factors:

First, without a guarantee of short-term yield, organic agriculture demands more investment than the conventional one. Under this circumstance, farmers who expect a quick prosperity can become resistant to the organic transition;

Second, farmers commonly share a poor literacy and are over-dependent on technological guidance and professional training. On the contrary, trainings without a sound fundamental education level do not work as well as expected. In fact, after receiving general training, rural farmers still find it hard to closely integrate new technologies with the actual agriculture operation, let alone apply the newly learned technologies in the actual practices;

Third, Fundamental facilities in most rural area are usually underdeveloped. For instance, outdated telecommunication brings about poor information transactions along with higher communicating costs. Also, patchy transportation has prompted the cost of the logistics.

In summary, the development of Chinese organic agriculture is facing with all sorts of constraints. The specific solutions, correspondingly, vary as constraints vary, which depend on what difficulties are given priority to. The studies discussed imply that through industrialization, the industry can generate higher profits and better accelerate the development than merely expanding the producing scale, since organic agriculture industrialization can effectively upgrade the industry chain and strengthen the bonds that connect upstream industries and their downstream partners. For example, setting up standard system in transactions and product delivery so everyone in the chain understands the requirement of the quality expected from each other's work. On managerial level, continuously reinforcing internal relations between producing, processing, and selling, enables enterprises to form the basis to achieve

continuous development in business operation as a company.

2.3.3 The Status quo and Trend of The Organic Agricultural in the World

As one of the industries relating to sustainable development, organic agriculture began flourishing in the 21st century (Li et al., 2013). In 2015, the International Federation of Organic Agriculture Movement (IFOAM) and the Swiss Research Institute of Organic Agriculture (FiBL, Forschungsinstitut für biologischen Landbau) jointly released the report "The World of Organic Agriculture-Statistics and Emerging Trends 2015". The report, of which the subject is organic agriculture industries worldwide, is now one of the latest, most comprehensive and authoritative organic agriculture data report in the world. According to the report, by the end of 2015, the global organic agriculture cultivated area had reached 50.9 million hectares (including the land under transition), with 2.488 million employees in organic agriculture. Among them, 3.97 million hectares of organic crops had been cultivated in Asia, accounting for 7.8% of the global total; 12.71 million hectares in Europe, 24.97% of the global total; 2.97 million hectares in North America, 5.83% of the global total; 1.68 million hectares in Africa, 3.30% of the global total; 22.84 million hectares in Oceania, 44.86% of the global total; and, 6.74 million hectares in Latin America, 13.24% of the global total. Details are shown in Table 2-1 below:

Table 2-1 Global Organic Agriculture Cultivated Area and Employee Statistics

Area	2010			2015		
	Organic Crops Cultivated area (10,000 hectares)	Proportion	Number of Employees (thousand)	Organic Crops Cultivated area (10,000 hectares)	Proportion	Number of Employees (thousand)
Asia	278	7.50%	460.8	397	7.80%	851
Europe	1000	26.99%	277.4	1271	24.97%	349.3

North						
America	265	7.15%	16.9	297	5.83%	19.1
Africa	108	2.91%	539.4	168	3.30%	719.7
Oceania	1215	32.79%	8.5	2284	44.86%	22
Latin						
America	839	22.65%	272.2	674	13.24%	457.7
Total	3705	100.00%	1575.2	5091	100.00%	2418.8

Source: "The World of Organic Agriculture-Statistics and Emerging Trends 2015"

In comparison with data of 2010 released by IFOAM (Table 4-1), the area under cultivation of organic crops in Asia in 2015 was 3.97 million hectares, an increase of 43% over 2010 (2.78 million hectares). The remaining increments for each area are shown in Table 2-2 below.

Table 2-2 Five-year Global Growth Rate of Organic Farmland

Area	Organic farmland		Growth rate	Ranking of growth rates
	area in 2010 (10,000 hectares)	Organic farmland area in 2015 (10,000 hectares)		
Oceania	1215	2284	87.98%	1
Africa	108	168	55.56%	2
Asia	278	397	42.81%	3
Europe	1000	1271	27.10%	4
North America	265	297	12.08%	5
Latin America	839	674	-19.67%	6

According to Table 2-2, in 2010-2015, except for Latin America, rest regions of the world have seen an increase of organic farmland. Among them, Oceania has the highest growth rate that reaches 87.98%; Africa and Asia with 55.56% and 42.81% growth rate rank second and third.

According to report released by IFOAM, there are currently more than 72,000 organic food factories and over 4,000 importers in the world, involving about 2.4 million employees. From the perspective of the growth rate of the number of organic

agricultural producers, the number of employees in Oceania increased from 8,500 to 22,000, an increase of 158.62%, ranking first in the growth rate; followed by Asia, who has the second largest growth rate of 84.68%; the rate of Latin America is 68.15%, ranking the third place. The details are shown in Table 2-3 below.

Table 2-3 Organic Agricultural Producers' Five-Year Growth Rate

Area	Number of employees in 2010 (thousands)	Number of employees in 2015 (thousands)	The absolute value of growth	Growth rate
Oceania	8.5	22	13.5	158.82%
Asia	460.8	851	390.2	84.68%
Latin America	272.2	457.7	185.5	68.15%
Africa	539.4	719.7	180.3	33.43%
Europe	277.4	349.3	71.9	25.92%
North America	16.9	19.1	2.2	13.02%

From the trade data of 2015, the United States has the largest organic food market in the world with a value of about 35.8 billion euros, Germany ranks second with 8.6 billion euros, France with third place with 5.5 billion euros and China with fourth places with 4.7 billion euros. As shown in Figure 2-2 below.

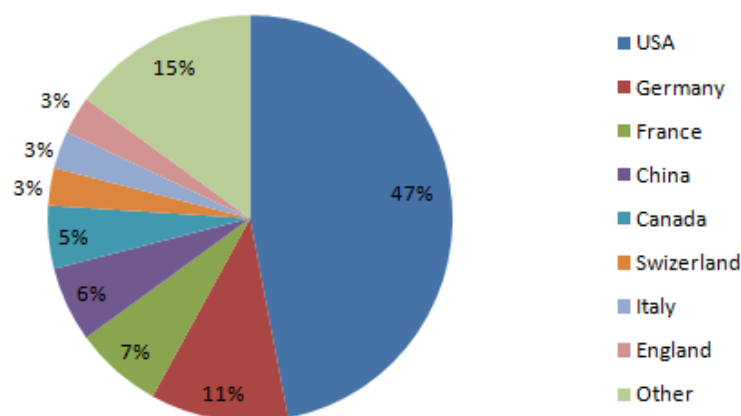


Figure 2-2 Organic Agricultural Products Sales by Countries

The data above has shown that organic agriculture has been enjoying rapid growth worldwide in recent years. Sales increased nearly 4 times from 18 billion euros in 2000 to 81.6 billion euros in 2015. In the Asian market, organic agriculture has witnessed a great progress with China, Japan and India as the center. According to the trend, the organic agriculture industry will maintain its rapid growth rate in the foreseeable future. In terms of industrial development, although China's population accounts for nearly a quarter of the world's total, the maturity level of organic agriculture business model development lags behind (Li et al., 2013). Therefore, Chinese organic agriculture enterprises should rejuvenate their business models and explore a suitable business path as soon as possible to contend for preliminary processing and deep-processing markets of organic food worldwide, which follows the trend of organic agriculture in the new era.

In summary, this chapter mainly introduces the concepts and theories involved in this thesis. The next chapters will analyze the research design of this thesis and explain the reasoning and method of why and how the thesis utilizes the case study of IGARDEN. The research of this thesis combines the innovation of organic agribusiness model and the value creation of the enterprise.

Chapter 3: Research Design

This chapter describes the research method and the data analysis process followed in detail, including methodologies, case selection, data collection, data coding and analysis. This chapter provides the methodological basis and data support for the later chapters.

3.1 Methodologies

The practical experience of organic agriculture enterprises in developed countries cannot be directly copied because of different background; similar research of a Chinese firm can bring theoretical and practical implications to the relevant enterprises. As case studies demands in-depth materials presented in the chosen subject, by which scholars can develop a more effective resolution based on real problems, case study better responses to questions that wonder how and why (Yin, 1994), which suits this thesis well as we have comprehensive information on the development experience of IGARDEN, whose experience of business model innovation in organic agribusiness is recorded from the establishment of the enterprise to the maturity stage of the enterprise's development, which aligns with all the questions raised in the thesis (Yin,1994). In addition to the richness of IGARDEN's data availability, as the research subject (synergy, business model and innovation in organic agriculture of China) is focused on an area that is relatively new and unexplored, case study research method is comparably better in digging out enough relevant data, which is previously not available on public or academic records, to not only be used by this thesis but also contribute to the future research purposes, as the significance of the case study is to develop the existing theory and to discover the contribution to theoretical innovation from the phenomenon (Yin, 1994). Finally, as a

modern start-up organic agriculture company develops and operates its business from scratch for nearly 8 years, IGARDEN has a relatively more comprehensive experience in all aspects of organic agriculture in China, IGARDEN can be a qualified case study object if its data can be academically dug out and analyzed. Therefore, this thesis studies the characteristics of a China-based organic agriculture enterprise's business model innovation process based on the development experience of IGARDEN and presents a comprehensive framework of its business model innovation process for further explanation. It is of significance to explore the characteristics and driving forces from the process of IGARDEN's business model innovation.

For the organic agribusinesses in China, industrialization of all components in the supply chain is more effective than simply expanding one's scale (Song, 2012). The key to industrialization lies in extending the organic agriculture industrial chain and strengthening its value creation ability through business model innovation (Song & Chen, 2009; Song & Song, 2012). Therefore, one of the generic development paths of organic agribusinesses in China lies in extending the value chain, innovating business models through value creation to increase the added value of agricultural products, and finally realizing the integration of organic agriculture and holding a favorable position in market competition (Song & Song, 2012). This thesis argues that the innovation of business model is the key to the development of organic agribusinesses in China. Exploring the process characteristics and driving forces behind an organic agribusiness's business model innovation is helpful to further reveal the logical links among them, so as to provide theoretical guidance and decision-making framework for the sustainable development of organic agribusinesses in China.

Firstly, how do organic agribusiness in China achieve business model innovation? What is the generic process and path? Current research suggests that business model innovation is the process of introducing new business practices into the current enterprise system, giving businesses and customers greater value. However, there are few research on the innovation process of organic agribusinesses business model in China. Based on the theory of value chain and business model, this

thesis analyzes the characteristics of business model innovation process and the main methods of its realization in the vase of IGARDEN.

Secondly, what is the driving mechanism for the business model innovation of China's organic agribusiness? Business model innovation is promoted by various factors within and outside of an organization. In a sense, business model innovation is an enterprise value-added activity based on the extension and expansion of the value chain. Therefore, from the perspective of the value chain, this thesis changes the business model innovation from the process of "intuition-based approach" and "management-based approach" to the combination of both in order to achieve both rationality and creativity in the innovation process (Yu, 2012). The thesis explores the driving mechanism behind IGARDEN by analyzing interviews, business data and historical records of IGARDEN, and summarizes the driving mechanism.

Lastly, what are the substantive characteristics of the business model innovation of Chinese organic agribusinesses? Compared with competitors in developed countries, under unique economic, political, and cultural background, organic agribusinesses in China possess significantly different market attributes and consumption structures. As a result, their business model innovation process certainly differs from that of their overseas rivals. So it becomes much more important to specify the substantive characteristics and differences among these market players.

To solve these problems, this thesis adopts case study as the main research methodology. This thesis outlines the development environment, current situation and trend of organic agribusinesses in China. The author recognized that case study is an effective method to solve these research problems. Case studies emphasize on empirical studies of real events, which enable to construct new theoretical models in a more realistic way (Eisenhardt, 1989). In addition, case study as a research methodology has a prominent status in formal academic and professional settings (Mills et al., 2010)

The author conducted in-depth interviews with the senior management of IGARDEN in order to collect first-hand data. The thesis had mainly considered the case of IGARDEN in search of Chinese organic agribusinesses' business model

innovation process, specific path, and the driving factors. Also, it uses a cross-validation method that utilizes information from multiple channels, such as managing in-depth interviews, developing history record and industry annals, thus improving the reliability and validity of the conclusions.

3.2 Case Selection: IGARDEN

This thesis needs to know more about the current situation of business model innovation in organic agriculture in China and explores its process and driving mechanisms. Thereby, in case selection, representativeness cannot be the only consideration, so are richness of materials and availability of data (Eisenhardt, 1989; Eisenhardt & Graebner, 2007). Therefore it is logical to choose IGARDEN, a typical Chinese organic agribusiness, based on both the richness of materials and the availability of data, as the research object.

In 2010, IGARDEN set up its office in mainland of China. After more than 5 years of development, catching up with the boom of organic industry in China at an early stage, with its pioneering business philosophies and practices, IGARDEN's development experience can bring us theoretical and practical enlightenment in terms of exploring into the actual detailed process of a modern day privatized Chinese organic agribusiness' development experience with unrestricted access to all materials (because of the author's executive position in the company). IGARDEN, which is large in investment scale and has been operating for an extensive number of years, can be considered as one of the exemplar entrepreneurial cases of organic agriculture in China.

IGARDEN, affiliated to Sunshine Group, was incorporated on Feb. 29th, 2010 at Chengdu, China. It mainly engages in organic agriculture business and the production and management of peripheral auxiliary products and services. Its business scope contains several aspects as listed on its company certificate:

- (1) Organic agricultural products cultivation
- (2) Agro-ecological park construction

- (3) Organic agriculture industrialization base establishment
- (4) Land consolidation and commercial street development
- (5) Environmental technology and related consulting services
- (6) Agricultural products wholesale and retail sales
- (7) Agricultural products deep-processing
- (8) Ecosystem engineering and services

Since October 2010, through the continuous extension of the industrial value chain, IGARDEN has developed modern organic agriculture and constructed agricultural knowledge creation industry cluster with a direct investment of 80 million Yuan (10 million USD). This measure boosted the adjustment of local industrial structure, thus directly increasing farmers' incomes by 2000 Yuan (250 USD) per year (Xinjin Government Public Record, 2010).

IGARDEN also has put efforts in ecological conservation. It has introduced high-end agriculture technologies from Taiwan to upgrade rural communities and rural fairs. These technologies also play important roles in the founding of organic hotels and ecological communities as Taiwan's agriculture practices are more market-driven than government-protected comparing to China's agriculture. Generally, an initial production and management system based on organic agricultural products gradually takes shape. Besides, IGARDEN keeps to the philosophy of improving living environment for all humankind by realizing a balance between human and nature.

The organic ecological farms IGARDEN possesses, of 280 acres of farmland with over 200 types of products, strictly adhered to organic cultivation techniques. As a platform, IGARDEN has two business entities, Sunshine Industry Co., Ltd. and Sunshine Earth Science and Technology Co., Ltd. The former takes responsibilities for financing and foreign investment business, while the latter is in charge of agricultural sector that contains the production of organic agricultural products, organic farm construction, catering chain industry and agro-ecological park sightseeing. Organizational relationships are shown in Figure 3-1.

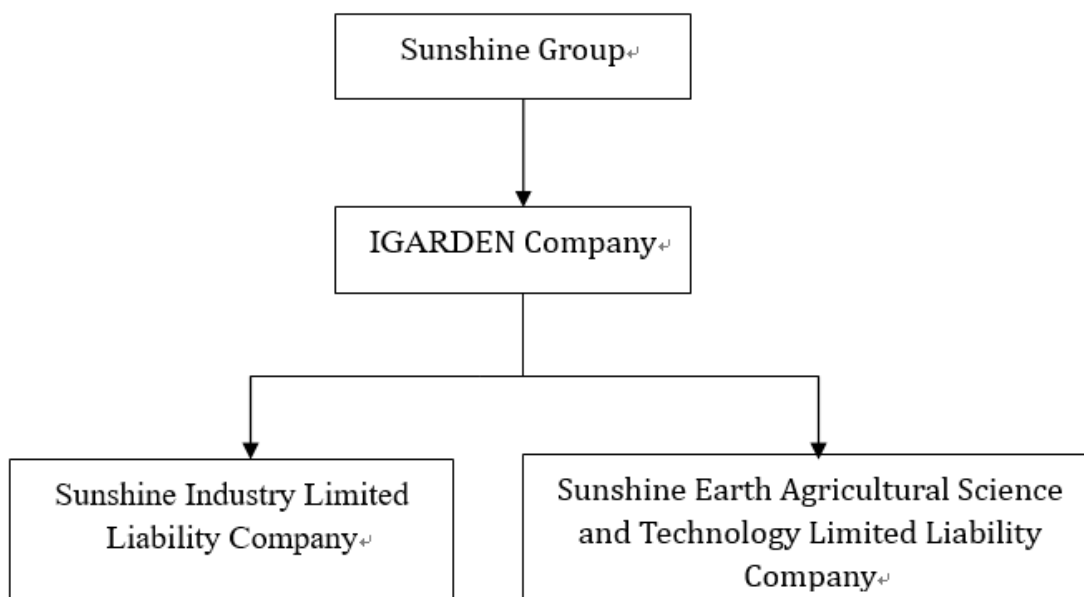


Figure 3-1 Sunshine Group

3.3 Data Collection

3.3.1 Data Sources

Yin (1994) points that four forms of data can be used in case studies, which are records, documents, tables and statements. Case studies require that the data is adequate and specific and can be verified from multiple sources and perspectives. Based on the research problem of this thesis, the main data are derived from:

(1) Industry information. The information, which shows the development trend of the external environment, is significant for studying the strategy and development trend of IGARDEN. Therefore, this thesis collected a large number of organic agriculture data, such as organic agriculture development reports, economic data reports and development trend research reports, through the National Bureau of Statistics website, economic and financial databases, industry consulting platform and other channels (The data resource shown in table 3-2). The information has important implications for further study on the development trend, innovation process and drivers of business models of Chinese organic agribusinesses.

(2) Internal management information of IGARDEN. This thesis collected a large

number of internal information from IGARDEN, including the history of enterprise development, annual reports, business plans and summary reports.

(3) Interviews with enterprise executives and internal discussion between the author and personnel related to the discussion subject with meeting arrangements. The author conducted in-depth interviews with top management of various departments in IGARDEN to obtain first-hand data. Meanwhile, the results of the interviews can be compared with data collected from other sources.

(4) Signed documents. IGARDEN signed many cooperation documents with local governments and other related enterprises. From these documents this thesis can summarize the important business management information, which also greatly supports the study of the hierarchical relationship of the enterprise value chain.

(5) The events announced by IGARDEN. In general, enterprises always disclose important information about the business to the public. Hence, this thesis collected business events announced by official websites and authoritative medium, in order to verify the data from multiple aspects.

3.3.2 Data collection Process

Among the data collection channels above, interviews with executives are the main sources of data in this thesis.

During the actual process of this thesis' research process, we constantly supplement the data (when the depth of the collected data appeared insufficient) by setting up purpose-oriented interviews and discussion meetings with relevant officials to improve data formulation ensuring the completion of data saturation and theoretical satisfaction. The interviewees of this thesis were mainly senior and mid-level executives in IGARDEN, whose positions are all above the department manager. The author conducted individual and unstructured interviews with 19 company staff (including 12 high-level managers and executives, & 7 front-line staffs), forming nearly 11 hours of interview recordings and organizing nearly 167,000 words of interviews record text. All the recordings are granted with each interviewee's consent to be put into the use for this thesis. In addition, the author also organized the

executives to discuss the research questions and conducted a total of 8 focus group sessions, forming about 5000 words of meeting minutes. The details of the interviews are shown in Table 3-1 below.

Table 3-1 Interview Process (Conducted and Transcribed by the Author)

Number	Interview date	Interview	Main Content related to research problems (Unstructured)	Recording time	Collated text (Number of characters)
1	April 8, 2016	Human Resources Manager and Supervisor; Marketing Manager and Supervisor; Deputy General Manager; 5 people in total.	<p>Related research problems:</p> <ul style="list-style-type: none"> ● What is the driving mechanism for the business model innovation of China's organic agribusiness? <p>The status quo of IGARDEN; the current development of organic agriculture; the major problems in production and operation.</p>	3 h7'	47,000
2	June 10, 2016	Production Manager and Supervisor; Operations Manager and Supervisor; Marketing Manager; researcher at IGARDEN's SEI; 6 people in total.	<p>Related research problems:</p> <ul style="list-style-type: none"> ● What is the driving mechanism for the business model innovation of China's organic agribusiness? <p>The main problems in production and operation; the development proposals from various departments; current business models of organic agriculture.</p>	1 h31'	23,000
3	December 29, 2016	Deputy Chief of IGARDEN Sunshine Earth Agricultural Science and Technology Limited Liability Company; 1 people in total.	<p>Related research problems:</p> <ul style="list-style-type: none"> ● How do organic agribusiness in China achieve business model innovation? ● What is the generic process and path? 	1 h52'	29,000

4	April 18, 2017	Deputy General Manager; Operations Manager and Supervisor; vice president of IGARDEN; Production Supervisor; Frontline Staff of Agricultural Production (5 people); 9 people in total	<p>The discussion about business model of global organic agriculture; development history and strategic planning of IGARDEN; characteristics of value creation from IGARDEN's various stages.</p> <p>Related research problems:</p> <ul style="list-style-type: none"> ● How do organic agribusiness in China achieve business model innovation? ● What is the generic process and path? ● What is the driving mechanism for the business model innovation of China's organic agribusiness? ● What are the substantive characteristics of the business model innovation of Chinese organic agribusinesses? 	2 h 5'	32,000
5	August 2, 2017	Marketing Supervisor; HR Supervisor; Deputy Chief of Sunshine Earth Agricultural Science and Technology Limited Liability Company; Production Manager and Supervisor; Frontline Staff of	<p>Current development trend of organic agriculture and IGARDEN's countermeasures; phased features and sustainability of IGARDEN's business model.</p> <p>Related research problems:</p> <ul style="list-style-type: none"> ● What are the substantive characteristics of the business model innovation of Chinese organic agribusinesses? <p>Synergy in the IGARDEN value chain; suggestions on IGARDEN's business model from</p>	2 h 27'	36,000

Synergetic Value-Driven Innovation in Business Model of Organic Agriculture in China

		Agricultural Production (2 respondents. persons); 7 people in total			
Total	-	28 times with 19 individuals	-	11 h05'	167,000

The data collection in this thesis began from April 2016 and ended in August 2017, which lasted for 1 year and 4 months. During this time, we obtained information, including a total of about 28 transcribed documents (Total of more than 60,000 characters) of internal information (see Table 3-2), such as financial data, production and sales plan; 173,000 characters of interviews and meeting minutes of group meetings in open discussion (see Table 3-3) and focus group formats (groups with 3 to 5 people), whose recording and topics were done and prepared by the author; 40,000 characters of internal contract information (signed documents between IGARDEN and local government); and 30,000 characters of corporate-related reports such as production management data, marketing and sales planning data, operation management data and other administration-related data. Shown in Table 3-2.

Besides, this thesis also collected a large number of industry information, including the authoritative Annual Research and Consultation Report of Panorama “Survey and Development Strategy on China Industry 2018-2022 ”, a total of about 350,000 characters. The data source and details are shown in Table 3-2 below.

Table 3-2 Data Sources

No.	Name	Source	Details	Character Count (/character)
1	IGARDEN`s internal management information	Own archives, Data provided by executives from various departments	Development history of IGARDEN, overview of the global organic industry platform, corporate culture, business indicators and plans, annual reports, summary reports.	About 60,000
2	Executive interviews and Meeting minutes	Records on interviews, Meeting minutes of IGARDEN.	Conducted 5 executive interviews and 8 internal discussions. See Table 3-1 for details	Interview information: about 167,000; Meeting Information: about 5,000
3	Industry information	National Bureau of Statistics website、Economic and financial database、Industry Consulting Platform (Industry Research and Industry Strategic Consulting: Investment Advisor)	Global Organic Agriculture Industry Development Report、Organic Agricultural Industry Economic Data Report、China's organic agriculture in-depth research and forecast the investment prospects 2018-2022 (up and down)、China Organic Agriculture Research Report , etc.	About 350,000
4	Signed documents and reports	Corporate archives	Xinjin Agricultural Expo Planning Report proposal、Comprehensive land remediation project contracts、an organic farming demonstration farm project agreement of	About 40,000

			Xingyi, Xinjin,、 Agricultural production contract、 Agro-ecological project subsidy contracts , etc.	
5	Corporate publicity	Corporate official website, media news	Corporate announcements and news reports	About 30,000

Table 3-3 shows the meeting minutes of IGARDEN:

Table 3-3 Meeting Minutes

NO.	Subject	Participants	Date (4-8 Hours/Day)
1	IGARDEN staff training related resolutions	Human Resources Manager and Supervisor; Marketing Manager and Supervisor; Deputy General Manager	2016.08.12
2	IGARDEN Partner Program	Human Resources Manager and Supervisor; Operations Manager and Supervisor; Marketing Manager;	2016.10.16
3	Discussion on the development and planning of organic farms	Deputy General Manager; Operations Manager and Supervisor; Marketing Manager and Supervisor;	2016.11.18
4	Relevant resolutions for cooperation with the government (1)	Human Resources Manager and Supervisor; Marketing Manager and Supervisor; Deputy General Manager; Operations Manager and Supervisor;	2017.04.09
5	Relevant resolutions for cooperation with the government (2)	Human Resources Manager and Supervisor; Marketing Manager and Supervisor; Deputy General Manager; Operations Manager and Supervisor;	2017.04.15
6	IGARDEN sales channel expansion problem	Marketing Manager and Supervisor; Deputy General Manager	2017.05.23
7	IGARDEN introduces advanced agricultural	Marketing Manager and Supervisor; Deputy General Manager; Operations Manager and Supervisor	2017.06.02

8	production problems IGARDEN new personnel training issues and improvement report	Human Resources Manager and Supervisor; Deputy General Manager	2017.06.10
9	SEI construction related issues	Human Resources Manager and Supervisor; Marketing Manager and Supervisor; Deputy General Manager; Operations Manager and Supervisor; Deputy General Manager	2017.07.27

3.4 Data Coding

The coding is to decompose and label corporate materials, and to conceptualize them as new concepts (Sun, 2004). It is important to encode and categorize textual data in social sciences, especially for case studies. One or more keywords in complex texts can be extracted by coding, which facilitates the association of text fragments or the confirmation of a certain viewpoint (Sun, Liu, & Fang, 2004). The main purpose of the thesis is to explore the characteristics and driving forces of the business models innovation of Chinese organic agriculture. To obtain such related data, the researcher is required to continuously summarize and abstract the core concepts from a large amount of qualitative materials. Therefore, this thesis identifies the core concepts through coding process. The author divided this process into the following four steps:

(1) First, standardizing data. In other words, the author re-organized the original texts that are in scattered forms. Then, the author paraphrased, with the purpose of minimizing the amount of data that is either outside of the research scope, repetitive or redundant in terms of having potential to cause unnecessary confusion, organized texts before coding the interview records (meeting minutes and transcribed data) until the data's formation and clarity level (as many interviewees mentioned similar information and their interview language is in Chinese) is optimized and logically shorten into precise sentences that is also unique. This process can be described as using a paraphrasing standard to optimize and re-organize transcribed information.

Take Event A for instance (actual transcribed record data from the interviews):

“In 2014, SEI was established out of the desire of cultivating Chinese organic agribusiness entrepreneurs. It is determined to closely collaborate with related international schools and disseminate rural knowledge. It believes that young farmers equipped with knowledge and skills can find more efficient business model if they successfully rejuvenate production and sales and connect them. Consequentially, the middle links of Chinese agriculture supply chain are to be subverted and optimized.

The establishment of SEI is conducive to the training, promoting, and practicing of IGARDEN Standardized System as well as the incubation of talents in Chinese organic agribusinesses.”

After adjustment based on this thesis’s paraphrasing standard the transcribed paragraph of Event A is paraphrased into:

“IGARDEN established Sunshine Earth Organic Agricultural Development Institute in 2014”

As explained above, some information are left out of the final version of the paraphrase, which appears to be abruptly shortened due to the paraphrasing standard procedure that removed repetitive (although important if we only look at this piece of the transcribed record) information, which appears elsewhere in other paraphrases.

(2) Second, completing the primary coding. The volume of these materials is huge, and their interior causal relationship is complicated. In order to sort out the main contents of the text, the author did the preliminary coding of these data. (see Table 3-3) In the process, we should try to keep the key information of the original text through coding.

For instance, Event A above mainly describes that IGARDEN tries to promote Sunshine Earth Organic Standard (SES) and to continuously incubate an infinite number of business models innovated by SEI-trained entrepreneurs to form a new supply chain that is more efficient in operating the entire service from the production to the sales of SES-certified organic products and services”, so its primary code is that the aim is to build IGARDEN knowledge management system and to achieve sustainable development. Therefore, Event A can code to “achieve sustainable development through the development of a knowledge management system”.

(3) The third step is about secondary coding. We refined the common features of text data, mainly extracting the concept and forming a secondary code. For example, in Event A, the motives of enterprise decisions are to achieve sustainable development, so its secondary code is “the accumulation of sustainable-value driven modules”

(4) The last step is the theoretical formulation of the code, it focuses on

extracting the common features of the textual data in the secondary codes to further organize the secondary coding results into more theoretically-organized forms. At this point, the thesis puts the summarized conceptualization data under a theoretical framework according to the research objectives. For example, the secondary coding in Event A, after the extraction of its common conceptual features with other events listed in Table 3-3, has a theoretical construction coding as “Value-Creation Driven.”

The above data encoding process is shown in Table 3-4 below.

Table 3-4 The Coding Examples

Event Examples	Events Standardization	Primary Coding (Strategic Aims)	Secondary Coding	Theoretical Construction Coding
<p>In November 2010, IGARDEN established Sunshine Earth organic farms of around 280 acres of self-operated land with various organic agricultural products such as rice and vegetables, as well as ornamental plants such as roses and chrysanthemum tea.</p>	<p>The building of Sunshine Earth organic farms</p>	<p>To build the value creation platform and carrier of organic agricultural products</p>	<p>The expression of product value</p>	<p>Value-Creation-Driven</p>
<p>IGARDEN became the first company in Chengdu to introduce a platform for participatory support (PGS) and community-supported agriculture (CSA). That was a binding mechanism connecting the interests of all producers together and then grows stronger together to share risks, benefits, and expected world-wide recognition.</p>	<p>The introduction of PGS and CSA platform systems</p>	<p>To build the value exchange channels of organic agricultural products</p>	<p>The expression of product value</p>	<p>Value-Creation-Driven</p>
<p>Since Chinese organic agricultural products market had not been perfected, IGARDEN decided to establish its own marketing channels of agricultural products for promotion usages. In early 2012, iGarden.cn, first O2O + SNS e-commerce platform in China, was launched. The platform drew on the O2O model of the existing large-scale e-commerce platforms such as Taobao and JD, and at the same time promoted the sales. Besides, it realized both the sales and promotion of products through the current WeChat social circle as an extension tool. Just a month after launching, IGarden.cn reached the registration of 10,000 organic gift cards and social gaming affiliates.</p>	<p>Creating e-commerce sales channels of organic agricultural products</p>	<p>To build the value exchange channels of organic agricultural products</p>	<p>The expression of product value</p>	<p>Value-Creation-Driven</p>
<p>In February 2013, IGARDEN established China version's Organic Valley. It was positioned as a wholesale platform (Online Pastoral Area) largely owned by</p>	<p>Creating promotion sales</p>	<p>To build the value exchange channels of organic agricultural products</p>	<p>The expression of product value</p>	<p>Value-Creation-Driven</p>

all small and medium sized organic producers. Its goal was to create a professional promotion and trading platform for China's largest carpets, organic and green products.

IGARDEN expanded its existing eco-farm area while creating an agro-ecological tourism park to attract consumers, which could improve the previous single business model that's was simply based on sales of agricultural products.

IGARDEN started building its own physical sales store. In June 2013, IGARDEN set up the 24 Solar Terms Restaurant Management Co., Ltd. as the first O2O organic retailing restaurant in China. The company's ingredients come from IGARDEN Organic Farms, along with plant walls and organic vegetable shelves at all of its restaurants, where diners can buy after their meal.

The long cycle of organic agricultural products obstructed the self-owned farms business model that can't meet the needs of market customers. In order to increase the efficiency of product supply, IGARDEN put forward new business operation mode based on the investigation and research: to build cell farms and satellite farms. Cell farms are certified farms that IGARDEN owns and manages certain shares of them, while satellite farms refer to IGARDEN's non-owned but certified farms. While investing in and supporting organic farming entrepreneurs to create cell farms, IGARDEN selected external affiliates and built them into IGARDEN's satellite farms. In this business model, its market achieved further expansion.

In order to strengthen the material procurement, sales, quality control and other aspects of management, in 2012, IGARDEN introduced the agricultural management ERP system, which turned the messy state of traditional agricultural

platforms of organic agricultural products

The expansion of farms area and development of the associated businesses

The establishment of organic catering enterprise

The building cell farms and satellite farms

The introduction of agriculture management ERP

To extend and to expand the current organic agricultural products value chain

To promote the value creation efficiency of the platform

The Increase of Platform Value

information featuring blocking data into visualization through the entirely system
transparent process of agricultural production and sales. It was widely applied the
entire process of information management from sales planning, planting plan
production management, plot division planting, material input, harvesting tips,
clearing shed, commodity inspection to consumers' food safety traceability.

Text n

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3.5 Reliability and External Validity

This thesis uses a variety of methods to ensure the reliability of the research. The research reliability refers to the concordance and reliability of conclusions of the research, which usually expresses the level of reliability by internal consistency measurement through validating the authenticity and the accuracy of the collected data (Merriam, 1995). This thesis ensures data reliability from two perspectives: firstly, the author can easily obtain internal data, ensuring authenticity of the data. Secondly, in data collection, this thesis compares the description of the incidents through different channels. The data from different channels form a triangular relationship, which can verify its authenticity.

The validity of measures refers to how well a measurement tool or method can accurately measure the desired measurement goals. The more consistent the measurement results with the contents of the investigation, the higher the validity; otherwise, the lower the validity. In practice, it is difficult to improve the external validity of single case studies because of the lack of comparison with the industry. However, this thesis attempts to optimize the stability of the research conclusion through the following aspects: during the research, the author proposed to the interviewees about the potential research conclusions of the study (shown in the conclusion chapter), which promoted timely feedback from the interviewees while ensuring the data extracted from these feedback to have optimized relevancy to the research conclusions.

This chapter clarifies the research ideas and methods of this thesis, and details the process of data acquisition, data collection, data processing and data analysis. The coding and analysis conclusions in this chapter provide the methodological basis and data support for the later chapters. In the next chapter, this thesis will analyze in detail the development process of IGARDEN's business model and summarize its stage characteristics in more details.

Chapter 4: Research Results

Organic agriculture in China developed relatively late and has not yet formed an effective business model itself (Wu et al., 2009; Wu, 2011) and it also finds it hard to simply take mature models from developed countries for its own use (Wei et al., 2012). Therefore, this chapter analyzes IGARDEN's business model innovation process and its driving mechanism. The analysis in this chapter is based on the previous chapter's data collected based on case study of IGARDEN, Through this chapter, it will lay the foundation for the discussion and theoretical construction of the next chapter.

4.1 The Business Model Evolution Process Analysis of IGARDEN

Currently, China's organic agriculture business model is still at its early development stage (Li et al., 2013). Describing a generic business model innovation process for China's organic agribusiness is crucial. Therefore, this thesis chooses IGARDEN as the research object and extracts the general process characteristics of its business model innovation through stage analysis.

This thesis is a single case study, where sorting out the time series of events is conducive to the analysis of the logical link. Stage division, mainly used as a node-based constraint in different time blocks of the enterprise, is the basis for timing analysis. Based on the data obtained, Table 4-1 demonstrates an example of the stage division this thesis divides the development process of IGARDEN into three stages according to the characteristic of business model. The stage division and related basis of this thesis are shown in Table 4-1.

Table 4-1 Stage Division and its Basis

Stage	Time	Main Features	Evidence Chain
I Product-based	2010.02-2011.12	As the self-operator of means of production, IGARDEN was mainly engaged in the production and sales of organic agricultural products and the construction of ecological farms.	<ul style="list-style-type: none"> ● Soon after IGARDEN was founded, it invested 80 million Yuan into organic agriculture. ● Sunshine Organic Ecological Farm was established in Xingyi Town, Xinjin County, Chengdu. ● Its cultivation system covered organic plant farms, organic Chinese herbal medicine parks, organic western herb garden, etc.. ● IGARDEN was mainly responsible for the organic agriculture operation platform and brand of Sunshine Group. ● In this stage, IGARDEN was the main creator of organic agriculture operation and production. ● IGARDEN was mainly engaged in the production and sales of organic agricultural products and the construction of ecological farms. ● IGARDEN planted more than 300 kinds of organic materials and Chinese herbal medicines. ● The staff expanded to more than 200 people. ● IGARDEN was mainly engaged in the production and sales of organic agricultural products. ● IGARDEN mainly engaged in the production and sales of organic agricultural products and the construction of ecological farms.

II	Channel Platform	+	2012.01-2013.12	IGARDEN changed its focus from products to building channels and the platform	<p>Channel building becomes much more important after production.</p> <ul style="list-style-type: none"> ● IGARDEN established production and marketing collaboration systems like PGS and CSA to ensure the integrity of the industry value chain. ● IGARDEN was hoping to run a platform rather than a simple self-operated farm. After all, the scale of farm was the biggest limit to its volume. The only way to grow the company was to make it a platform. ● IGARDEN was completing channels like O2O + SNS e-commerce platforms and Smart Service on Target System. ● IGARDEN needed to open up production and marketing channels. ● IGARDEN was heading to the goal. In other words, we were making long-term plans. ● Currently, the platform operators account for 20% -30% of the total number, and the rest are all partners.
III	Platform Standardized System	+	2014.01-Now	As a rule maker as well as the incubator of organic agriculture projects, IGARDEN has been investing and supporting business partners with a platform.	<ul style="list-style-type: none"> ● Sunshine Earth Standard System guarantees standardized profits of everyone in the industry chain. ● Many workers have become partners. ● The number of IGARDEN employees dropped from 200 to just over 50 since 2014. ● IGARDEN has changed from the main creator of organic agriculture production into a platform. ● IGARDEN is responsible for establishing trading system and cooperation rules. ● The partners must work with me (IGARDEN), and the project partners own the majority of shares. ● The partners is not necessarily only planting. They can do other businesses. ● Instead of raising a bunch of employees, we let them work directly as an entrepreneur

with the company to promote the company's business.

- In a project, the person with the greatest relative professional skill can take charge of the project.
 - Put one egg into one basket unless two items share supplementary advantages.
-

4.1.1 The First Stage: Product-based

(1) Ecological Farm Construction

Under the request of building Chengdu into a garden city , Xinjin County People's Government of Chengdu developed green-type enterprises through investment attraction in 2010. In February 2010, in this background, IGARDEN has settled their offices in Taiwanese Entrepreneurial Farmer Park in Xinjin County and participated in Xingyi Town's overall reconstruction as a satellite garden city to accommodate Chengdu's own development. Xinjin County is a county under the jurisdiction of Chengdu, located in the western part of the Sichuan Basin and south of Chengdu City. Xinjin covers an area of 330 square kilometers, administers 6 streets, 5 towns and 1 township, and has a total population of 315,300 people. According to the development plan, IGARDEN is going to invest up to 2 billion Yuan in consecutive ten years or more. During the decade, IGARDEN is committed to make Xingyi an ecological agriculture township whose economy is mainly based on organic agriculture. As a consequence, IGARDEN turns itself into the first private company in China to sign the contract to a whole-town development program since China opened its market in late 1970s.

In its early establishment, IGARDEN, as an organic agricultural product platform company, laid its focus on the development of an exemplary organic agriculture farm. It mainly involved investment, financing, project construction management and other business activities. In October 29th, 2010, in order to professionally operate the organic farms, it established Sunshine Earth Agricultural Science and Technology Limited Liability Company, a subsidiary that specializes in operation of organic farms, and the company takes charge of Sunshine Earth Organic Agriculture Park. In the following November, it turned to the construction of organic farms with the care and support from government at all levels.

(2) Building Initial Channels

IGARDEN split into two business sections in its early operation. First, they ran 100 acres of self-owned farmland and chose organic agricultural products like rice

and vegetables and ornamental plants like roses and white chrysanthemum as their major products. In this section, IGARDEN has provided local labor market with more than 230 types of different produces. The other core operation was mainly about selling franchises and its follow-up management. According to the internal data we collected, IGARDEN absorbed over 150 farmers in the adjacency into Sunshine Earth Production System and increased these members' annual income by 10000 Yuan in average.

After the construction, the focus of the operation was to be put on sale. The first problem the marketing department did run into is the trust issues: producers and consumers have not built confidence in each other. As the Deputy General Manager said in the interview (#4), *“When we started our farm in 2010 with a relatively small size at less than 150mu of farmland, the consumers did not have the intention to trust us, not only because we were just a start-up company back then, but also because of the previous certification-corruption related news that shocked the confidence of the customers in the integrity of organic food companies in general.”* It is mainly because of the lack of uniform quality and operation standards (there are some organic agricultural enterprises that consciously disobey the operating rules of organic regulation system in their actual production), which led to manipulation of organic certification's integrity by flowing unqualified products to the market that demolishes the good fame of organic agriculture in China. In the long term, consumers end up with losing trust in normal organic food provided by producers that are mixed up with good and bad ones. To enhance mutual trust between consumers and producers, IGARDEN later on (in 2011) came forward to become the first company that introduces Participatory Guarantee System (PGS) and Community Supported Agriculture (CSA) in Chengdu. (PGS and CSA are initiated and introduced in Stage I and matured into practices in Stage II)

PGS is an activity based on local stakeholders (participating farmers). It evaluates and empowers those farmers, while establishing mutual trust and knowledge-sharing system to provide consumers with organic food security. Unlike the current certification system that emphasizes standards and process review with

periodical checking, PGS is based on the premise of mutual trust between producers and consumers as well as the principle of continuously-optimizing the transparency and openness that allows consumers to actively participate in the checking of the integrity of the production process (in a Participatory Guarantee System, the consumers can actively engage in collecting all the information of product they have bought), which alleviates the farm's management burden in early stage as the company utilized its clients and members to engage in the checking of the field operation's authenticity.

Community Supported Agriculture, originated from Japan and Switzerland in 1960s, is a coordinating system that connects producers and consumers together to share risks and benefits during the production, on the basis of mutual commitment and production methods based on the producers' publicized planning materials detailing the production methods, production scheduling and production cost structure.

CSA requires community consumers to make a commitment to buy products from organic farm based on its annual planting schedule and therefore becomes a way of regional cooperation for the development of local production and local consumption. Through the construction of the system of PGS and CSA, IGARDEN built a preliminary sales channel, succeeding in accurately connecting producers, farmers and consumers with each other, so as to solve the fundamental trust issues between the producers and the consumers.

(3) The Construction of Platform System

Due to the imperfect market channel (due to the lack of a efficient industrial chain for organic products) for organic agricultural products in China, IGARDEN decided to build its own agricultural product sales platform. As IGARDEN Marketing Manager said in the interview (Interview #1):

“We had faced several troubles in terms of structuring a third-parties based sales channels for our products. Usually farming companies sell the majority of their products to government-operated channels at pricings that can at least cover their basic production and operation costs, while they also look for other special channels that provide better profit margin or brand establishment value to the company. We

cannot consider the government channel as their pricing is too low since it does not consider the rent of rent that we paid for the farmland. We spent a lot of effort trying to form partnership with third-party sales channels, but it was also proven to be ineffective as there was virtually no sales channels specifically focused on the sales of organic products, therefore we had to strategically put more of our business development resources in the development of our own sales and marketing channel.”

Early 2011, IGARDEN established the first community-supported agricultural platform in China, “CSA+ Platform for Shipping Vegetables directly from farm to home,” which opened up information channels connecting producers and consumers.

In January 2011, IGARDEN launched and registered the Organic Trade Union of China in order to gain a greater voice in the organic sector. This association is a non-profit farming and technology exchange organization combining organic agriculture practitioners and related supporting organizations, functioning as a platform for commercial trade, agricultural knowledge exchange and talent exchange for small and medium-sized enterprises in the organic industry worldwide. The association has held 8 consecutive organic agriculture international conference with scale of no less than 200 participants and hence become an organic agriculture professional association of international standing. The current president is Mr. Zhou Zejiang, a member of the IFOAM World Board and the president of IFOAM Asia. Until now, the association has more than 80 organic agricultural companies as permanent members, as well as individual farmers. IGARDEN is the initiator of this association and holds the dominant position in the association. Consequently, IGARDEN can better participate in government-led policy-making decisions through this association. As Yan Heping, vice president of IGARDEN, states:

“If the government does not understand organic agriculture, it will turn to associations and enterprises for suggestions. By that time, the association is equivalent to having a voice over the government.”

The establishment of the association can also help enterprises solve these problems, such as launching social welfare activities that is conducive to enhancing corporate image and therefore to gain supportive actions from the government. As

human resources manager of IGARDEN, said in the interview (Interview #5):

“In China, when an enterprise is doing something related to social welfare, people will question the sincerity of your intentions. But industry associations are neutral, so it seems more justifiable that they play as the initiators of such activities.”

Although PGS and CSA models support the basis of production and marketing systems, a real platform must develop a standard system as a foundation for service, management and brand building in the later stage of the development. IGARDEN found that other domestic enterprises had not established the corresponding organic certification technical standards. So it created Sunshine Earth Standard System (SES) in March 2011, and set up China's first organic ecological agriculture research institute (Institute of Ecological Agriculture) with Guanghua School of Management, Peking University, in order to realize the technological breakthrough and knowledge sharing. This institute is focused on the researches of solutions to practical problems occurred during IGARDEN's development, and the solutions are publicized on different information-sharing channels online and offline for sharing to the public.

The establishment of this standard system and institute is conducive to use advanced technologies to support the transformation of small and medium-sized farmers' production modes and to standardize the promotion of organic production modes and technology upgrades. Organic Trade Union of China (OTUC) is established to form a nationwide organic producer cooperative, whose basic admission requirement is to be SES-certified and membership status takes physical form in certificate that can add value to its members' brand.

In summary, IGARDEN, as a pioneer in the industry and promoter of various standards and platforms, mainly committed to organic farm construction, ecosystem construction and production and marketing platform set up at the first stage. At this stage, IGARDEN mainly took the construction of self-operated farms as its core. Meantime, it also started to expand product sales channels and build organic agriculture platform. Through the evolution of the above business model, a complete organic agriculture industry value chain has been constructed, covering from farming operation that focuses on the operation management of the company-hired farmers

and company-owned farms, production and marketing system that utilize information system to manage and develop all SES-certified organic farms and farmers whom are either directly employed or owned by the company, to platform construction which focuses on separating non-profit functions from the company and transformed them into external non-profit organizations that dedicate in raising brand image and value awareness in the public’s eye, including potential customers and government officials, as shown in Figure 4-1 below.

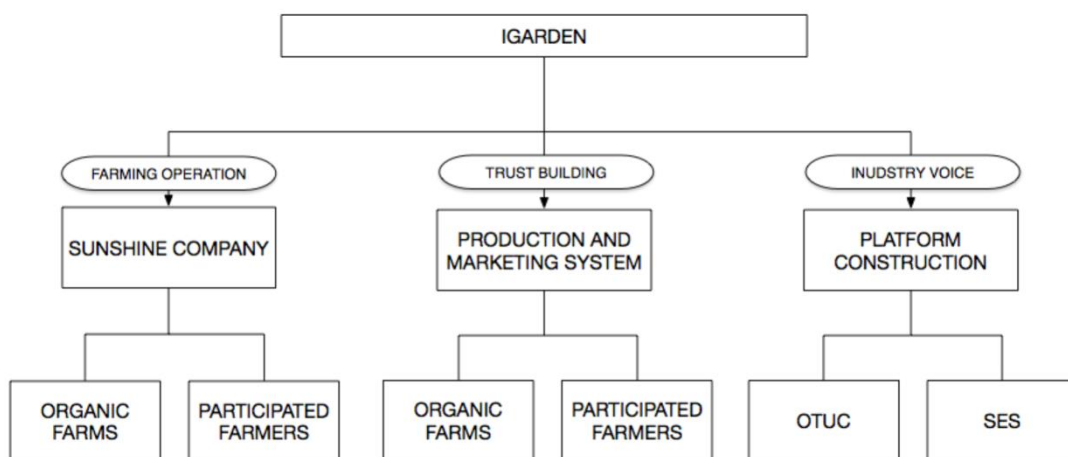


Figure 4-1 Evolution of the First Stage Business Model

4.1.2 The Second Stage: Channels + Platform

(1) Online Channel Development

At the first stage, IGARDEN mainly focused on the construction of self-operated farms. The core of its business model is the production of organic agricultural products. At the same time, it also built initial sales channels, such as the CSA+ platform for selling farm-direct vegetables and B2C e-commerce. However, consumer groups within the community or association are limited. In order to further expand the market, IGARDEN decided to build an online sales channel. In early 2012, iGarden.cn, China's first O2O (Online to Offline) + SNS (Social Network Service) e-commerce channel was launched. The channel draws on the O2O model of the existing large-scale e-commerce platforms such as Taobao and JD, promoting the

sales and promotion of products through WeChat social circle. Just a month after its launch, iGarden.cn hit 10,000 registered members on its e-commerce site.

Based on the construction of iGarden.cn sales channels, IGARDEN continued its expanding in the field of e-commerce. In February 2013, China version of Organic Valley was established. This is a wholesale and acquisition platform of agricultural products (online pastoral), largely owned by all small and medium-sized organic producers. Yan Heping, IGARDEN's vice president, spoke highly of these e-commerce sales channels of IGARDEN. He said in the interview:

“IGARDEN's product sales channel has formed a diversified online commerce brand and a functional web platform that innovatively integrates sales management of modern agriculture into a lifestyle-oriented lifestyle module. IGARDEN promotes its brand with the idea of health and safety, thereby deepening its product value and increasing market competitiveness. This unique model has attracted more people to participate in agricultural production and operation. In the future, IGARDEN will build itself into the largest professional promoting and trading platform of low carbon, organic and green products in China.”

After vigorous platform construction, IGARDEN has shown superiority of its brand marketing capabilities. The unique concept of combining agriculture with e-commerce has brought opportunities for the construction of agricultural information, helping IGARDEN achieve the integration of online and offline (O2O), agricultural brand promotion (SNS) and marketing (E-Commerce).

(2) Offline Channel Development

As the cost for companies to execute online promotion activities increased, some physical stores, such as 7-11 supermarkets and others, began countering attack in Chinese market, in terms of trying to compete with online marketing with more innovative and cost-effective offline marketing services, since 2013. Senior executives of IGARDEN believed that for a good brand, it is not enough to build a strong online platform only, and it must combine the platform with powerful offline operations entities. So IGARDEN began to strengthen its offline sales channels.

Firstly, IGARDEN expanded eco-farm area and created an agro-ecological park

to attract consumers to improve the single business model mainly selling farm produces. On this basis, IGARDEN started building its own offline sales stores. In June 2013, IGARDEN established China's first O2O platform for organic food, as the organic food products can be bought either online (delivery to the customers in take-out or packaged forms) or offline at the restaurant where a retail space is designed within the restaurant (24-Tastes Organic Restaurant Management Co., Ltd). This company, whose main business is the operation, sale and promotion of organic agricultural products through restaurant service combing with retail, is owned by IGARDEN. It uses home-style kitchens rather than professional ones in traditional restaurants, dedicating to propagating a point that ordinary cooking methods can make delicious dishes of the same flavor as high-end restaurants as well. Ingredients in this company are all from IGARDEN's organic farms and SES-certified products. All the ingredients used in the 24-Tastes's kitchens are placed at the shelves for purchases in all locations of the restaurant so that diners can buy after enjoying the meals. In short, the main purpose of 24-Tastes Restaurant Management Co., Ltd. is to enhance the brand influence of IGARDEN by promoting traditional and organic concepts to customers.

Second, with the expansion of market channels, IGARDEN gradually found that current self-operated farms cannot meet the market demand in quantity. Moreover, with the long cycle of developing organic production, IGARDEN found it hard to grow quickly in supply. In order to speed up production breakthroughs, IGARDEN proposed a new business model: building cell farms and satellite farms. While defining Cell Farm and Satellite Farm, Yan Heping, vice president of IGARDEN puts it this way:

“Cell Farm, is a totally self-rent or self-owned producing base of our company. In a sense, I could use it as a sub lessor, because I borrowed it from other farmers or the country. In other words, I borrowed an empty house from whomever, then lent to others after simple decoration. Maybe I borrow it today, decorate it tomorrow, and then sign leases with five other men. That is how I make a profit. Today, Cell Farm refers to the farm that has direct financial relationships with me. We call it Cell Farm.

On the otherwise, if a farm has no financial relationship with me, and, of course, it accepts my certification or has procurement deals with me, then it is a Satellite Farm. Up to now, we have transferred over half of my production bases into Cell Farms, which means that the land we directly work on only takes up 50 percent of total. The rest 50 percent of farms are operated by SEI's incubating entrepreneurs. Guess what, I have a school full of students. I gather them into one team and then distribute them to different Cell Farms—which used to be my own production bases. So, now I have a bunch of Cell Farms and self-owned farms. Also, there are two SES-certified Satellite Farms outside the company.”

As described above, a Cell Farm is a farm that has been certified and financially supported by IGARDEN. Satellite Farm, however, is certified by IGARDEN but has not given up any of its shares to the latter. IGARDEN expands its market share by incubating new entrepreneurs to start Cell Farms and certifying more Satellite Farms.

(3) Internal Control

With the advent of Cell Farms and Satellite Farms, IGARDEN expanded its market promptly. Some managerial issues in procuring of raw materials, selling of products, and quality control of production also started to emerge and required to be addressed. As Production Manager described in the interview (Interview #2): *“As we started to decentralize production operation by empowering individual cell and satellite farms to make their daily operation decisions on their own, operation pressure on top was lessen but it left a greater room for mistakes and missing key data in the fields. We felt that empowerment of operation management to the front-line personnel should come with a stronger data recording system that minimize the gray area while standardizing as much of their action and decision-making logic as possible.”*

To solve this emerging issue, IGARDEN introduced an agricultural management system. It is a specially designed information management tool (developed in-house) for IGARDEN to manage agricultural products producing and selling. As the producing and selling process turns transparent, the agriculture information data is no longer blocked and scattered, it is open and visualization-friendly. This ERP system

can be applied to daily management consultancy of agriculture production bases, meta-analysis of agriculture marketing data and purchase-sale-stock systems for agriculture only. Agriculture ERP system has a potential value for application and extension in modern farm resources integration management and connection of sales.

IGARDEN's agricultural management system has gone through in-depth development, being divided into eight main modules: New Product Development Management, Marketing and Planting Program Management, Raw Material Purchasing Management, Raw Material Storage Management, Planting and Nursery Management, Product Procurement and Quality Management, Logistics Distribution Management and Traceability Management. It covers the entire process of information management from sales plan, planting plan and production management, farmland planting, material input, harvest tips, shed clearing, quality inspection, to consumer food safety traceability, which is of great significance to the internal management of IGARDEN .

To sum up, at the second stage, IGARDEN is transitioned from producer and operator to platform service provider, focusing on online channel expansion, offline product and brand promotion and internal control. Through the evolution of business model above, IGARDEN has built up an online and offline product and sales service system, gradually improving IGARDEN's own organic agriculture industrial chain. Altogether, the second stage of the business model has three key modules which closely function together with the purpose of developing the company's own sales channels in online and offline formats, forming cooperative-based platforms between producers themselves (PGS) and between producers and consumers (both PGS and CSA, initiated in Stage I and took form in Stage II), and continuing to develop non-profit-driven modules into organization and system that can be better trusted by external resources. See Figure 4-2 below:

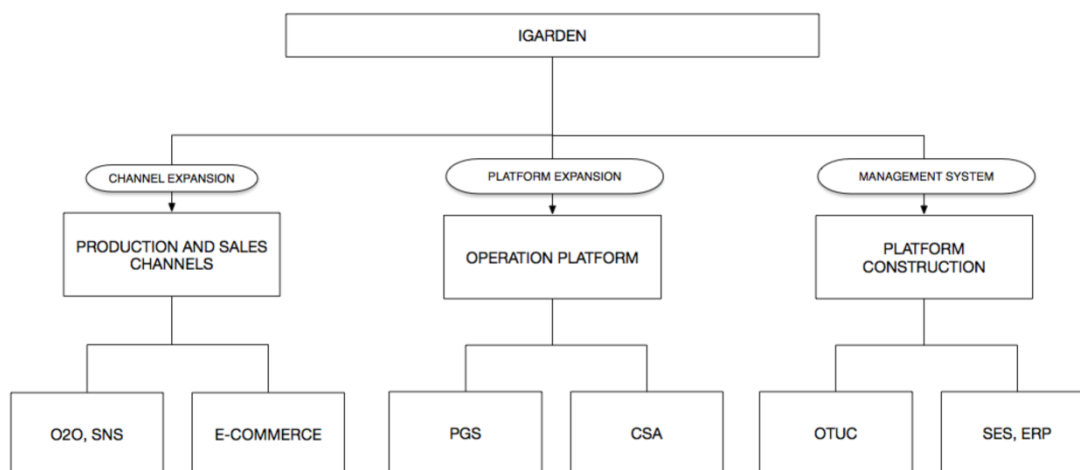


Figure 4-2 Evolution of the second Stage Business Model

4.1.3 The Third Stage: Platform + Standard

(1) Platform Reinforcement

After the second stage of development, IGARDEN has become a comprehensive platform enterprise of organic agriculture production, sales and certification. With a powerful online and offline brand, in February 2014, 24-Taste Organic Restaurant Management Co., Ltd., IGARDEN's affiliated company, opened its first O2O organic physical living experiencing hall -IGARDEN City Hall at Far East Department Store Tianfu Square store in Chengdu. The experiencing hall, occupying more than 300 square meters, covers organic food and dishes, farmer's market, urban farming, membership center of “CSA + for sending vegetables to home”, O2O platform and other services, becoming a dialog window between gourmet Chengdu and IGARDEN's farm.

While promoting and strengthening the platform through the offline experience center, IGARDEN also organized a series of activities to narrow the gap between enterprises and their consumers. In 2014, based on the resources of organic agriculture eco-park, IGARDEN city hall functioned as the carrier, e-commerce platform and new media network. IGARDEN held nearly 100 consumer education activities around the theme of "health, environmental protection and happy life", such

as culinary competitions, cooking classes, urban farming lectures, garbage classification lectures, pastoral reading club, lawn concerts, and so on. These activities gathered more consumers who love and advocate nature, so as to expand the target group of organic products. In addition, the enterprise actively participated in agricultural exhibitions like the Urban Modern Agriculture Expo in Chengdu, effectively expanding the scope of current marketing.

On this basis, IGARDEN realized the common growth of brand value and service capability, integrated the e-commerce website (iGarden.cn e-commerce service platform), CSA (Community Supported Agriculture) home delivery, 24-Taste City Hall (IGARDEN City Hall), and formed a three-dimensional sales network platform combining wholesalers and corporate clients.

(2) Standard System Construction

On the basis of strengthening the platform, IGARDEN began to pay attention to participation in domestic and international business activities and the construction of own knowledge system. In business activities, IGARDEN established CSA + Community Support Agricultural Platform Consumers Union in Xingyi Town in November 2014, which further laid the market, channel and knowledge base for the development of the industrial chain. IFOAM Asia, representatives of CSA supporters in Chengdu, Organic Producers' Representatives, Organic Trade Union China(OTUC), Sunshine Earth Organic Standard System Organic Agriculture Park and other compliance organizations all witnessed the movement, At the end of 2014, IGARDEN successfully held the first Xingyi Forum of China Organic Agriculture Industry Summit. For the forum, IGARDEN Marketing Manager, said in the interview (Interview #1):

“The forum achieved great success. National ministries and commissions, the International Federation of Organic Agriculture Movements (IFOAM), the Global Organic Market Access Project (GOMA) and other international organizations, representatives of ecological towns in various countries in the world, well-known enterprises in the organic industry, academic institutions and trade agencies gathered in Xingyi. In particular, follow-up activities like the selection of 'Top 10 Organic

Leaders in China' and 'Top Ten Organic Rice in Asia' have effectively promoted the development of the organic industry in China.”

In the meantime, IGARDEN's business model gradually shifted from production and operation to a platform-based player after the promotion of Cell Farms and Satellite Farms. Its main business is divided into three sections:

(1) Self-employed farms. The module gradually became the IGARDEN Tourist Park Center and Organic Agricultural Production Technology R & D Center after 2014;

(2) Cell Farms. It consists of two parts. One is the transformation of former self-operated farms. IGARDEN invested and convened entrepreneurs to develop Cell Farms. The other part is the member farmers; they are integrated into cell farms, provided by IGARDEN technical standards and part of the funds, operating in a unified production and sales platform;

(3) Satellite Farms. Other enterprises or large-scale farmers requested to join the IGARDEN platform and obtaining the organic authorization after being certified by IGARDEN through its SES system. The third stage of development trend was that IGARDEN gradually reduced self-employed agricultural practices and developed into a business platform, which mainly work on absorbing and certifying partners.

The latest change made in IGARDEN's business model brought some problems such as poor understanding and enforcement of standards, certification process and supervision issues of satellite farms and the training of franchisees. As the SES-certified producers only comprehend the technical side of SES but not the operation side of it. The operation side of SES focuses on optimizing the efficiency level of daily management by conducting innovative and entrepreneurial methodologies when dealing with challenges emerged in daily operation with the attempt to minimize overall cost of management, which directly affects the profit margin. To solve these problems, in 2014, witnessed by the history of IFOAM Asia, IGARDEN founded Sunshine Earth Organic Agriculture Development Institute (SEI), which focuses on nurturing entrepreneurs that cultivate organic agriculture industry in China in a new era. SEI provides strong support in IGARDEN standard formulation

and supervision, qualification certification, and executive training, solving the new problems brought about by the evolution of IGARDEN business model.

In order to better gather young entrepreneurs on the platform, IGARDEN set up a Youth Business Park based on SES. It also integrates the Youth Business Park and SEI in order to actively strengthen the cooperation and exploration among entrepreneurs and international institutes, while strengthening international exchange of knowledge on agriculture, rural development. IGARDEN deepened innovation and entrepreneurship of young farmers at both ends of production and sales and guided them to explore the development spirit and more efficient modes of organic agriculture, transforming and connecting both ends of the production and marketing. Consequentially, China's organic agriculture supply chain can be constantly optimized with an innovative attitude.

In this process, the producers inspired the participation of SEI-trained new-generation farmers in platform construction of agriculture. The establishment of Organic Agriculture School facilitates not only the training, popularization and implementation of IGARDEN's standard system, but also the incubation of professionals in Chinese organic agriculture s. As vice president of IGARDEN said in the interview (Interview #5):

“The school, a hatchery operator, does more than educating people on how to farm. Although we teach them how to farm, their purpose is not just for farming. Labor-wise, China has enough farmers. People who can create value at every stage from Farm to Table are needed indeed. So, we incubate entrepreneurial farmers and let them create value while optimize the whole supply chain along the way.”

(3) Business Adjustment and Organizational Change

As the IGARDEN business model developed, its business and organizational structure inevitably changed. In order to adapt to the platform-based business model of cell farms and satellite farms, IGARDEN conducted a series of business adjustments and organizational changes.

Firstly, between 2010 to 2011, IGARDEN carries out large-scale cultivation on its own farms. Between 2011 to 2012, the concept of cell farm is introduced to

upgrade the operation management efficiency, great progress has been made in the operation of IGARDEN, which has greatly enhanced the brand's influence. As IGARDEN marketing manager said in the interview (Interview #1):

“In general, an organic farm with the scale between one to two hundred acres, in addition to production, it also works on processing business and sightseeing tourism. The cell farm I hatched, basically, combines the primary sector, the secondary sector and the tertiary sector. This is the only way for a small to medium-scale organic farm to survive independently. If you just plant and sell vegetables, a thousand acres can never be profiteering not to mention the a hundred acres only. Cell farm is a very distinctive business model and product portfolio, which is suitable for independent operators, not for enterprise-level operation. It becomes less distinctive when it comes to making a distinctive thing widely available. If there is only one business leader in personnel, then what he does is basically of the same style. So, today I have a hundred cell farms, a hundred styles, a hundred products, and a hundred people thinking about this thing. That is to say, the farms that we run work on simple agriculture, dealing with raw materials, processing, and mass products.”

Secondly, in order to match IGARDEN's incubator-based business model, The new organizational structure has become more flattened during 2012 to 2014. In the period of early management, there were many levels of organizational structure. However, once the business entity becomes the Cell Farm and SEI, the organizational structure is relatively flat. As described by the vice president of IGARDEN in the interview (Interview #4):

“I partition resources to these small business-owners and incubate their business. That is to say, instead of hierarchal management, I am responsible for direct management. So I set up a strong supporting operation team to manage resources, make strategic plans, do graphic designs, and take charge of finance and procurement. All in all, I back them up if it is related to administrative issues. All they have to do is producing at the highest efficiency level, because I will take care of the followed-up matters. In a word, it is an internal transition of organizational framework.”

In summary, at the third stage, as a platform provider, IGARDEN hammers at brand reinforcement, cooperation activities participation, knowledge system construction, and business optimization and integration. By doing so, IGARDEN has formed a flat organizational framework, determined a business model of which the core is consisted of knowledge system (ERP and SEI), standard setting and operating (SES), direct-sales platform operation (24-Tastes). Collectively, IGARDEN optimized its business and operation modules into its own China-specific Farm-to-Table organic agriculture industry chain. The scale of the IGARDEN industry chain organically expands as more SEI-trained producers and organic entrepreneurs joins the platform and ultimately become financially involved in the ownership of the entire industry chain. However, to ensure the entire IGARDEN industry chain is always regulated by SES, IGARDEN will at least possess over 20% of the share and is designed to always have the ultimate decision-making authority. See Figure 4-3 below.

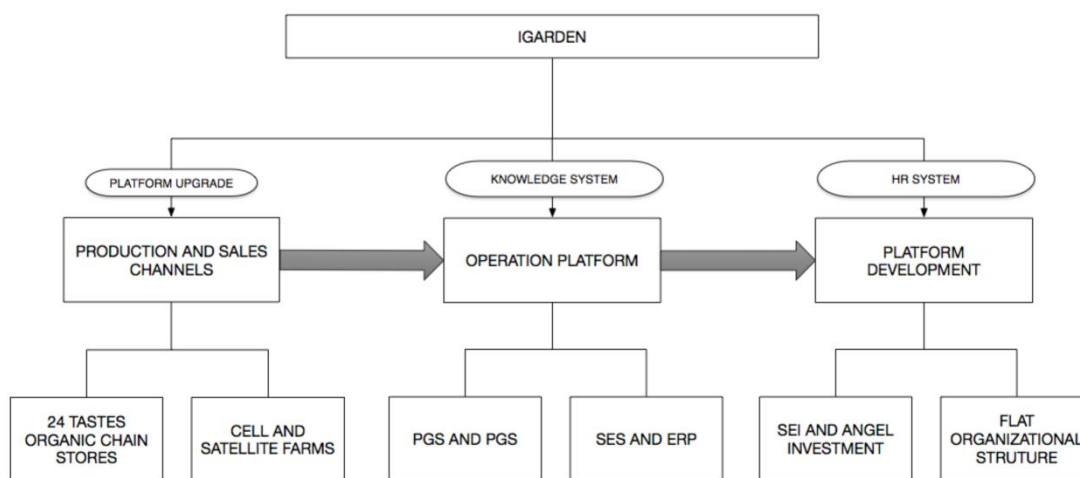


Figure 4-3 Evolution of the third Stage Business Model

4.2 The Driving Mechanism of IGARDEN’s Business Model Innovation

The business model is the operating system established by enterprises to deliver

value and create value to stakeholders, such as customers and partners. Business model innovation becomes the new logic of business behavior that companies follow to better serve customer value propositions. The data shows that IGARDEN's business model innovation, which is driven by value creation, is a reformation of the operating system that better meets the customer's value proposition. In order to realize the value-added products and service, IGARDEN continues to cross the traditional business boundaries, expanding its product value chain in all stages of enterprise development. In the meantime, synergetic value arises from IGARDEN value creation, which further enhances the pace of innovation in its business model. In order to capture this synergetic value, IGARDEN continues to innovate its business model by integrating internal and external channels and resources to expand its product value chain.

4.2.1 Driving Logic Based on Value Creation

Since its establishment, IGARDEN has undergone several business model innovations to meet the needs of sustainable development of enterprises, including establishing Sunshine Earth organic farms, constructing the production and marketing platform and the e-commerce sales channels, expanding organic agriculture related businesses in organic agriculture, building trade associations and the organic agriculture school. The data (shown in tables 4-1, 4-2, and 4-3) shows that the drivers for innovation in IGARDEN's business model can be divided into three categories from the perspective of value creation: the expression of product value, the increase of platform value, the accumulation of sustainable value.

(1) Expressions of Product Value

From the perspective of value creation, one of the important goals of business model innovation is to enhance the value of its products. The data in table 4-1 shows that IGARDEN has built a platform of product value creation through the construction of organic farms and the introduction of PGS and CSA systems. At the same time, through the establishment of agricultural products sales channels (such as iGarden.cn) and the related trading and promotion platform (such as Organic Valley Company of

USA), it has opened the IGARDEN product value exchange channels. In terms of driving factor, the construction of value creation platform and carrier, the building of value exchange channels, can all be summarized as the product value expression of the enterprise. As shown in Table 4-2:

Table 4-2 Coding Examples of Product Value Expression

Examples of Business Model Innovation	Events Standardization	Strategic Aims	Value creation logic
<p>In November 2010, IGARDEN established Sunshine Earth organic farms of around 280 acres of self-operated land with various organic agricultural products such as rice and vegetables, as well as ornamental plants such as roses, chrysanthemum tea.</p>	<p>The building of Sunshine Earth organic farms</p>	<p>To build the value creation platform and carrier of organic agricultural products</p>	<p>The expression of product value</p>
<p>IGARDEN became the first company in Chengdu to introduce a platform for participatory support (PGS) and community-supported agriculture (CSA). That was a binding mechanism connecting the interests of all producers together and then grows stronger together to share risks, benefits, and expected worldwide recognition.</p>	<p>The introduction of PGS and CSA platform systems</p>		
<p>Since Chinese organic agricultural products market had not been perfected, IGARDEN decided to establish its own marketing channels of agricultural products for promotion usages. In early 2012, iGarden.cn, first O2O + SNS e-commerce platform in China, was launched. The platform drew on the O2O model of the existing large-scale e-commerce platforms such as Taobao and JD, and at the same time promoted the sales. Besides, it realized both the sales and promotion of products through the current WeChat social circle as an extension tool. Just a month after launching, IGarden.cn reached the registration of 10,000 organic gift cards and social gaming affiliates.</p>	<p>Creating e-commerce sales channels of organic agricultural products</p>	<p>To build the value exchange channels of organic agricultural products</p>	
<p>In February 2013, IGARDEN established China version's Organic Valley. It was positioned as a wholesale platform (Online Pastoral Area) largely owned by all small and medium sized organic producers. Its goal was to create a professional promotion and trading platform for China's largest carpets, organic and green products.</p>	<p>Creating promotion sales platforms of organic agricultural products</p>		

In summary, boosted by product value expression, IGARDEN builds organic farms to realize the production of organic agricultural products on one hand, and expands sales channels by establishing e-commerce platform on the other hand. In the end, it has realized the combination of products and channels completing the innovation of business models from "creating product value" to "being a value exchange platform."

(2) The Increase of Platform Value

Product value expression mainly promotes business innovation activities on the product level. After entering the stage of "channel + platform", the value proposition of the enterprise on products was weakened as additional value outside of product itself were needed to create greater profit margin by delivering service-oriented revenue-generation modules, and the strategic center had gradually gravitated to the platform of value creation as to conduct the sales of third party products (certified by SES). This thesis shows that IGARDEN extended and expanded the value chain of organic agricultural products by expanding the scale of self-operated farms and establishing physical sales stores. Simultaneously, despite of the limitation of self-operated farmland scale, in order to further expand the production scale, IGARDEN established cell farms and satellite farms to increase the value creation efficiency of its platform by optimizing the utilization of SES's certification program in integrating external products and services into IGARDEN's direct sales platform., As shown in Table 4-3, the increase of platform value in IGARDEN was driven by the continued development of individual modules structured in the company operation. Each "development event" is a reaction to the challenge IGARDEN faced in each step of its operation process, but the logic behind each proposed solution is similar as it focuses on "platform thinking" as to leverage on scale of both revenue generation and total profit in order to optimize risk control and standardization of profit distribution among members within the platform for the purpose of continuous development and survival of the company.

Table 4-3 Coding Examples of Platform Value Increase

Examples of Business Model Innovation	Events Standardization	Strategic Aims	Value creation logic
<p>IGARDEN expanded its existing eco-farm area while creating an agro-ecological tourism park to attract consumers, which could improve the previous single business model that's was simply based on sales of agricultural products.</p>	<p>The expansion of farms area and development of the associated businesses</p>	<p>To extend and to expand the current organic agricultural products value chain</p>	
<p>IGARDEN started building its own physical sales store. In June 2013, IGARDEN set up the 24 Solar Terms Restaurant Management Co., Ltd. as the first O2O organic retailing restaurant in China. The company's ingredients come from IGARDEN Organic Farms, along with plant walls and organic vegetable shelves at all of its restaurants, where diners can buy after their meal.</p>	<p>The establishment of organic catering enterprise</p>		
<p>The long cycle of organic agricultural products obstructed the self-owned farms business model that can't meet the needs of market customers. In order to increase the efficiency of product supply, IGARDEN put forward new business operation mode based on the investigation and research: to build cell farms and satellite farms. Cell farms are certified farms that IGARDEN owns and manages certain shares of them, while satellite farms refer to IGARDEN's non-owned but certified farms. While investing in and supporting organic farming entrepreneurs to create cell farms, IGARDEN selected external affiliates and built them into IGARDEN's satellite farms. In this business model, its market achieved further expansion</p>	<p>The building cell farms and satellite farms</p>	<p>To promote the value creation efficiency of the platform</p>	<p>The Increase of Platform Value</p>
<p>In order to strengthen the material procurement, sales, quality control and other aspects of management, in 2012, IGARDEN introduced the agricultural management ERP system, which turned the messy state of traditional agricultural information featuring blocking data into visualization through the entirely transparent process of agricultural</p>	<p>The introduction of agriculture management ERP system</p>		

production and sales. It was widely applied the entire process of information management from sales planning, planting plan production management, plot division planting, material input, harvesting tips, clearing shed, commodity inspection to consumers' food safety traceability.

In conclusion, the added platform value gives a major push to the process. On one hand, IGARDEN has extended the organic agricultural product value chain throughout business development activities such as scaling up self-owned farms and starting organic-based catering companies. On the other hand, the company has built cell farms, certificated satellite farms and introduced agriculture production management ERP system. In general, IGARDEN has been branching out to managerial platform construction and operation, which increases the value creation efficiency of the Organic Agricultural Production and Management Platform (ERP).

(3)The Accumulation of Sustainable Value

The increase of platform value is realized due to business model innovation on company operation level. After its own platform is constructed, IGARDEN has shifted the strategic pivot toward knowledge creation and system maintenance. For instance, it has established institutions in partnership with prestigious colleges and has built organic agriculture institution by itself. The data of annual increase in operation efficiency level reveals that IGARDEN has built its own Knowledge Management System to achieve sustainable development. As SEI researcher commented, *“Agriculture, especially in the area of commercial farming, the two basic efficiency measurement units are production value (RMB) per area [Mu, in this case, which is approximately 666 square meter] and cost (RMB) per area. The results of these two efficiency measurements is fairly stable after we implement the knowledge management system, this is quite amazing as the operation team members are mostly young and inexperienced trainees of SEI. These trainees, although inexperienced and weak in technical knowledge, relied on the system to assist and guide their daily actions in the operation.”* Meanwhile, IGARDEN has constituted a standard system (SES) that is highly admitted by the industry and led the construction of industry association so as to grab a bigger discourse power and decision-making power. The driving factors activating these operational activities enable the development of sustainable value such as continues expansion in operation scale with constantly-improving unit cost of production and sales. See table 4-4:

Table 4-4 Examples of Coding-Sustainable Value Accumulation

Examples of Business Model Innovation	Events Standardization	Strategic Aims	Value creation logic
<p>IGARDEN has established the first organic agriculture institution in China in partnership with Peking University Guanghua School of Management, which helps to utilize modern technology to support small and medium sized farmers' transition, and thus promote the standardization and technology of organic production model.</p>	<p>The establishment of Research Institute of Eco Agriculture at Peking University</p>	<p>To build IGARDEN Knowledge Management System and to realize</p>	<p>The accumulation of sustainable value</p>
<p>In 2014, IGARDEN established SEI, a specialized training institution for Chinese organic agriculture practitioners. The school strengthened exchanges and cooperation with global partners, absorbing overseas experience and disseminating three agriculture issues to the outside. Throughout knowledge and skill training, the school aims at cultivating new farmers that extend their tentacles into both ends of producing and selling, in other words, rebuild and connect producing and selling links. These new farmers are pursuing a more efficient business model with a subverted version of previous supply chain that contains less intermediate links. Generally, the establishment of organic agriculture school not only facilitates the operation and promotion of IGARDEN's standardized system but also accelerates the incubation of new talents of the industry.</p>	<p>The construction of SEI</p>	<p>sustainable development</p>	<p>The accumulation of sustainable value</p>
<p>Noticing that there're no organic certification standards, IGARDEN set its own SES in March 2011. In February 2014, after passing audits of IFOAM, SES became the first privately operated standard formulating and verifying platform under IFOAM. Based on that, IGARDEN held the first Chinese Organic Agriculture Summit Xingyi Forum at the end of 2014.</p>	<p>The construction of SES</p>	<p>To have a bigger discourse power in the industry and to get included in government decision-making</p>	<p>The accumulation of sustainable value</p>
<p>In January 2011, IGARDEN set up the Organic Agriculture Union. Till now, Organic Agriculture Union has held three membership meetings, becoming a specialized organic agriculture association with international influence. It has acquired over 80 agriculture</p>	<p>Leading the founding of Organic Agriculture Union</p>	<p>To have a bigger discourse power in the industry and to get included in government decision-making</p>	<p>The accumulation of sustainable value</p>

companies and several individual farm-owners until June 2017. IGARDEN can get itself better involved in government policy-making with the help of the association.

To summarize, driven by the accumulation of sustainable value, IGARDEN has constructed its Knowledge Management System by business development moves like cooperating with universities and constituting SEI, which is beneficial to latter's sustainable development. On the other side, the construction of SES and Organic Trade Union has won a bigger discourse power in the industry for IGARDEN. Therefore, a business model innovation is completed as the focus has shifted away from channel-platform towards platform-standardized system.

(4) IGARDEN's Value-Creation Driven Logic in Business Model Innovation

As shown in Table 4-5, the value creation activities by IGARDEN on behalf of Chinese organic agriculture companies has driven the business model innovation.

Take the expanding of farm as example. The farm has little capacity to satisfy the consumer need in the early days. Therefore, IGARDEN signed the Organic Agricultural Farm Demonstration Agreement with Xingyi Town government so as to meet the uprising need of organic agricultural products and create more product value. The agreement dictates that the long-term goal is to manage 2471 acres of farmland. It has also provided that IGARDEN is entitled to increase the construction land with the permission of Party A (the town government) in response to the situation. Before that project, IGARDEN only wishes for more available farmland and bigger capacity. Afterward, IGARDEN realigns its strategy the moment it realizes that the current scale advantage can be used to increase farmers' revenue and to boost rural tourism. It has changed its business model from organic agricultural products supply to world-class eco-farm community construction. Also, the industry chain has been extended into the field of farmland's comprehensive improvement, ecological communities, organic hotels, and ecological tourism. As described in the following parts of the Organic Agricultural Farm Demonstration Agreement:

“Learning from the lessons of advanced development philosophy and completion experience at home and abroad, both parties decided to coordinate and integrate all projects related to urban-rural development in town after comprehensive investigation, research, and negotiation. These projects cover from farm land comprehensive improvement, organic agriculture, ecological communities, organic

hotels and ecological tourism. The renewed program, centered on organic agriculture, develops its main business in organic agricultural products producing, processing, and selling. More farmers are enticed to get engaged in the reconstruction of the community by IGARDEN. As a consequence, they can expect higher revenue, more favorable policies, and more support from the program, as the matured ecological community can inspire the development of the service industry like rural tourism.”

Table 4-5 Examples of Coding (Value-Creation-Driven)

Examples of Business Model Innovation	Events Standardization	Strategic Aims	Value creation logic
The establishment of the Sunshine Earth Organic Farm	To establish a value creation platform and carrier of organic agricultural products	Driven by the expression of product value	Value-Creation-Driven
The introduction of PGS and CSA			
The development of agricultural products online sales channel	To establish a value exchange channel of agricultural products		
The development of Organic Union			
Expanding farms and developing peripheral business	To extend the existing organic agricultural products value chain	Driven by the increase of platform value	
Registering an organic catering company			
The establishment of cell farms and satellite farms	To improve the efficiency of platform value creation		
Introducing Agriculture Management ERP System			
Forming Research Institute of Eco Agriculture at Peking University	To create IGARDEN knowledge management system and achieve sustainable development	Driven by the accumulation of sustainable value	
The construction of SEI			
The establishment of SES	To gain discourse power in the industry and have influence in government decisions		
Leading the construction of Organic Union			

The conclusion can be driven that the business model innovation of IGARDEN’s

organic agribusinesses originates from the value creation process of the enterprise itself. In other words, it is logically value-creation driven. The core of this logic is how an enterprise provides its resources and then creates customer value. Meanwhile, the organization should adapt itself to the value creation activities. Therefore, seen from the perspective of value chain, one of the generic business model innovation methods of an organic agribusiness facing similar external environmental factors as IGARDEN faced in China's organic agriculture business environment is its adjustment of organizational strategy and operational system while adapting to the value creation. As shown in Table 4-5, for IGARDEN, the value creation mainly consists of the expression of product value, the increase of platform value, and the accumulation of sustainable value. The expression of product value promotes the establishment of a value creation platform and a value exchange channel; the increase of platform value accelerates the extension of the value chain and the improvement of value creation efficiency; the accumulation of sustainable value, however, facilitates the construction of IGARDEN's knowledge management system and helps the company to win a bigger discourse power in the industry. The operational system based on product value, platform value, and sustainable value reflects business model innovations of Chinese organic agribusinesses that are driven by value creation process (as table 4-5 shown). Based on the above evidences, we have plotted Figure 4-4:

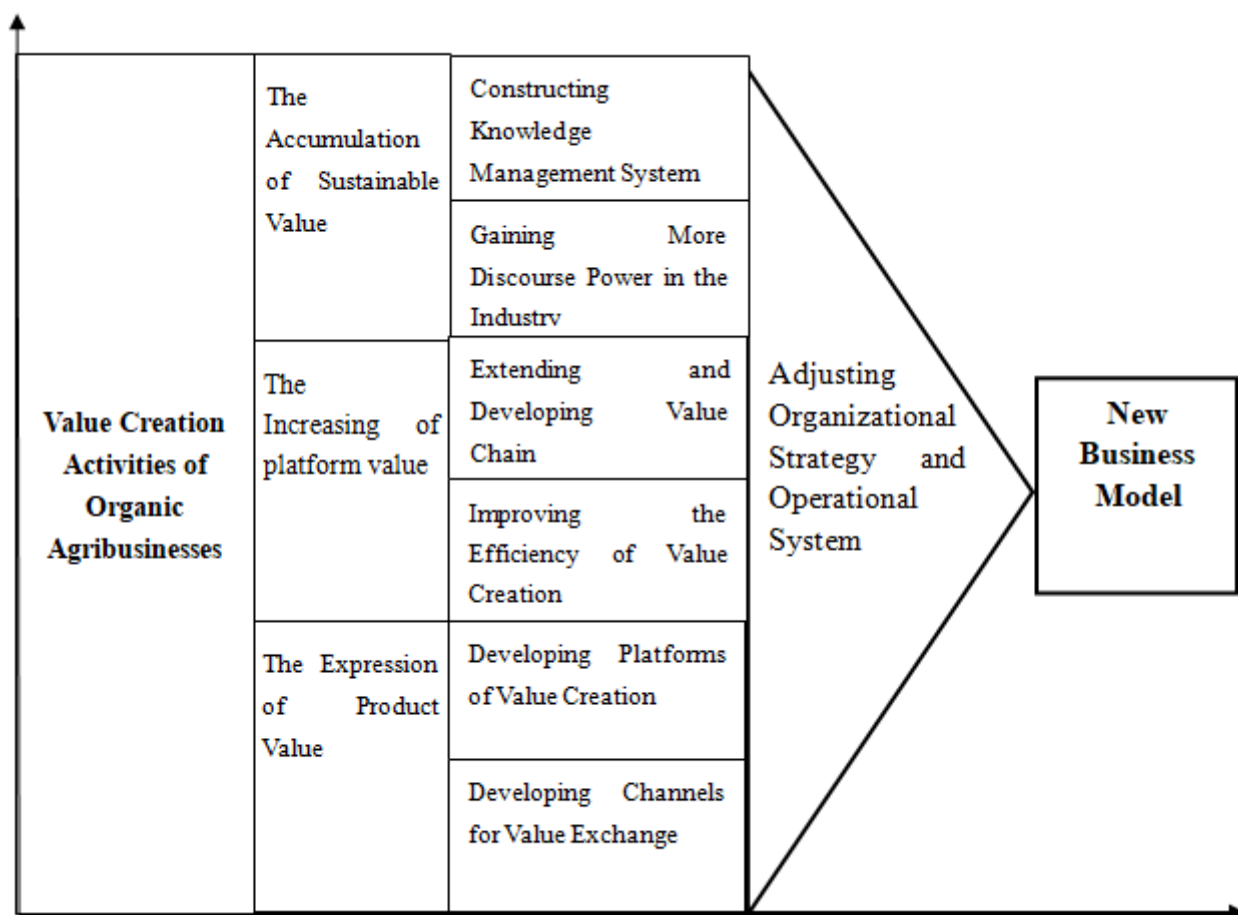


Figure 4-4 The Value-Creation-Driven Business Model Innovation of Organic Agricultural Enterprises

4.1.2 The Business Model Innovation of Organic Agriculture Driven by Synergetic Value Creation

Modern companies pay increasing attention towards the utilization of resources inside and outside themselves. Placing more related production factors and service factors inside the value network is one of the distinct characteristics, which is expected to create synergetic value. During the value creating process, companies continuously interact with consumers and other companies; also, inside the companies, the mutual interaction among internal business sectors continues. These interactions generate synergetic value by restructuring the operation modules within each interaction and accelerate the expansion of product value chain by linking each operation module with external modules to expand operation resources and service

capacity, thereby facilitate the business model innovation. The data shows that synergetic value of IGARDEN comes from customer, inter-companies, and internal operation sectors.

(1) Customer Level

The value chain suggests that while constructing business model, the company should act in the best interest of customers, as customers are always the major concern. As shown in Table 4-6, IGARDEN realized the synergy between the company and customers by providing satisfying products and services, holding theme activities, and offering interaction channels. For instance, although existing e-commerce channels can meet the purchasing need, IGARDEN introduced WeChat service as it find out that domestic customers appear stickier to WeChat during shopping, chatting, and sharing. Believing that what customers need is the top priority, IGARDEN introduced Smart Service on Target system in favor of WeChat users. Obviously, IGARDEN keeps to a customer-oriented business model that emphasizes the synergies with customers during value creation process.

Table 4-6 Synergetic Value Creation on Customer Level

Examples of Business Synergies in Business Model Innovation	Events Standardization	Primary Coding (Customer Level)
<p><i>IGARDEN has introduced Smart Service on Target System, a newly emerging platform under the great context of online payment. It was initially a cashier system accepting online payment, however, as time ticks in, it finally become an online shopping mall. Business owners that claim to make it easier for consumers to make more orders are usually willing to pay for this. Besides, the system can be embedded to WeChat, making customer information more accessible to us. As a result, we are able to integrate customer resources with this production and marketing system. Lastly, as the system has its own loyalty system, stored-value system, and WeChat interface system, our company found it feasible to set offline cashier systems.(data from the interview with Yang Peng)</i></p>	<p>To Introduce the online payment platform of Smart Service on Target system for the convenience of customers</p>	<p>Satisfying customers' need</p>
<p><i>In fact, customers will come to know that we are building an organic agriculture ecology park with Chinese characteristics once they get there. They think we are promoting a green and healthy rural lifestyle and would like to have a try. So we are doing this for their needs. We are determined to satisfy them. IGARDEN is leading a pesticide-free campaign. Although not every acre of farmland in town is safe from pesticides, land owners here are essentially practicing an organic producing style. The government decides to make the town one of the high-end ecological towns in China, so basically no pesticides and fertilizers are used any more. As a consequence, in Xingyi, all the agricultural products are producing organically by default.(data from the interview with Yan Heping)</i></p>	<p>To establish an organic ecology community</p>	
<p><i>IGARDEN gives priority to the interactions with consumers, as we believe they are always the cores of business operation. Apart from listening to consumers and taking their opinions seriously, we arrange many interaction activities to get us closer. In 2014, we held cooking competitions and lawn concerts, gave city farming lectures, and set up rural book clubs. All in all, these activities are highly bond with our major business. We hope to draw more customers to our target group and improve our influences.(data from the interview with Li Yuxia)</i></p>	<p>To carry out communication events and drawing customers</p>	<p>Interactions with customers</p>

Social activities that help marketing and promotion are important as well. In fact, some of our orders and sales channels are settled at industrial exhibitions like Agricultural Exposition. We attend and undertake similar exhibitions every year so as to communicate with peers and expand our own influences. Sales promotion and marketing events are necessary, but IGARDEN have different PR approaches from competitors. Organic agricultural products are naturally pitched in high-end market, thus attracting out of target customers for the philosophy of green and healthy. Therefore, instead of offering strong promotions, IGARDEN lays its publicity focus on the product concepts and lifestyles, in order to impact underlying customers. (Data from the interview with Chen Tao)

To Hold theme activities
and promoting business
philosophies

(2) On Inter-Companies Level

On the basis of synergetic interactions with customers, IGARDEN focuses on synergy with companies alongside the supply chain. For example, IGARDEN has established an organic agriculture data base to strengthen the information exchange in its internal operation, provided supporting services with related companies to form industrial chain synergistic effect, set up incubation fund to support small and micro enterprises, and integrated satellite farms into its self-owned business system. In conclusion, IGARDEN's business model focuses on synergies with other companies on the supply chain. See Table 4-7.

Table 4-7 The Synergetic Value on Inter-company Level

Examples of Business Synergism in Business Model Innovation	Data Standardization	Primary Coding (Inter-company Level)
<p><i>Farms can use the Certification Mark at their over packages if they receive my certification and naturally become satellite farms. Conditionally, they have to sign a production and marketing procurement contract as if they plan to receive the certification. The contract stipulates that we only buy products certificated by Sunshine Earth Standard System. Once they join us, we will integrate their product information into our data base and get products to the market. Besides, we will take the responsibility of promotion for common profits. (Data from the interview with Yan Heping)</i></p>	<p>To conduct information exchange and product integration of satellite farms</p>	<p>Information exchange of supply chain</p>
<p><i>Why would I establish an eco-town of organic agriculture? Actually with it I want to frame an information and database of IGARDEN and integrate the demanding information from other enterprises into the platform. So we can build links with other companies for smooth information exchange. Other enterprises can also get valuable information from our platform and cooperate with us. Especially against the background that China has not offered unified and fine standards and policies related to organic farms industries, as integrated enterprises net, the eco-town we build can help us and our partners confront the development problems together. (Data from the interview with Chen Tao)</i></p>	<p>To frame an information and data base by building eco-town of organic agriculture</p>	<p>Information exchange of supply chain</p>
<p><i>The core business model innovation of IGARDEN is that we create a business platform, which boasts some differences from Alibaba. The latter gives birth to a serving platform and then allows many existing businesses to run on it. While there is none of them running on our built platform. Consequently, we are supposed to carry out projects incubation besides the platform building, so that the incubated ones can be put on the platform to run. To meet this, we have established a fund and a college responsible for the projects incubation, the fund on supporting projects while the college on cultivating competent persons. The integration of projects and talented persons is where our innovative ideas lie. As a result. IGARDEN's idea is to create the various contents and product combinations demanded by the platform by self-provided resources. (Data from the interview with Li Yuxia)</i></p>	<p>To speed up the creation of organic products by establishing the platform and incubators</p>	<p>Higher efficiency of the supply chain</p>

We are mainly engaging in the resource integration for the purpose to step up the whole efficiency of IGARDEN and the partners. As you know, our cell farms are operated by farmers. IGARDEN holds a certain shares of them, but never intervenes in their production and running. Of my two duties, one is to offer them technical guidance, which means that the cell farms must produce according to Sunshine Earth Standard System to guarantee the product quality. The other is that we don't use hierarchy to manage. IGARDEN mainly provides logistic services for them, such as original resource purchase, financial accounts and products planning. With the help of our supporting service, the cell farm owners can concentrate on the production while we occupy other sections. In this way, the synergistic effect can be at play. (Data from the interview with Chen Tao)

To develop the industrial chain Synergistic effect by offering supportive service

(3) Business within the Enterprise

From the internal perspective of the enterprise, the development of IGARDEN's new business highly aligns with its core business. For instance, IGARDEN's original core business was organic farm. The business model was large-scale production which, however, it made difficult to fulfill product diversification and unique eco-parks development. Therefore, IGARDEN has established the model of cell farms that, namely, operates through companies' investment plus farmers' contracting. In this way, the cell farm serves as a complement to the original organic farm by providing high-volume products and distinctive production theme parks. *As VP of IGARDEN, YAN said, "With a hundred cell farms, I also hold the same number of styles, product combinations and business minds thinking about the detail of the original farmland."* Hence, currently IGARDEN is paying attention to the coordination of traditional and new businesses in its commercial pattern innovation, emphasizing the trans-business mutual supports and cooperation with the view to create value. Table 4-8 shows the related sample codes.

Table 4-8 The Synergetic Value Creation within IGARDEN

Examples of Business Synergism in Business Model Innovation	Data Standardization	Primary Coding (within IGARDEN)
<p>The cell farms incubated by us blend the primary, secondary and tertiary industries together; for only this way can they develop independently. Why would IGARDEN involve cell farms? Because we can earn little money from even ten acres (around 666.67 hectares) of land if we are solely engrossed in planting and selling vegetables. Let alone the several thousand self-run farms owned by us, making it more difficult to achieve profitability. That is why our organic farms need to be distinctive. Independent people or business operators are ideal for the production of featured products. Because a company will spoil its characters if it carries out a large scale of the same featured objects. Besides, the feature comes from the enterprise leader. Supposed the leader were one, its products would basically keep the same style. Otherwise, our cell farms can realize the product features, for every cell farm has different charger. As IGARDEN has one hundred cell farms, there will come out one hundred various products, when a hundred leaders consider the related questions, there will be differences in the styles and products combinations. Therefore, what IGARDEN takes charge with is original resource, the processing of farm products and common agricultural products. Therefore, the development of cell farms is the source of IGARDEN's core competency in terms of achieving a more diversified products and services combination with same investment as the competitors.</p>	<p>To increase the product features lacked by large-scale planting through developing cell farms</p>	<p>Synergy in the development direction</p>
<p>We have set up a 24 Solar Terms Restaurant Management Co., Ltd. It is specialized in catering and retail, and is a platform for IGARDEN to showcase its products to consumers. The main business is the sale of organic agricultural products including fresh food, processed products, condiments, as well as some daily necessities such as sauces, spices, beverages, and some kinds of grains, etc.; organic household products cover non-added toothpastes, toilet paper and so on. In all, IGARDEN's products are mainly highly related to organic products. The catering chain aims to combine the supermarket and the restaurant together. All of the things we sell in supermarkets are the ingredients of our restaurants. Organic food restaurants and organic produce supermarket are interoperable. If you eat something in our restaurant today and think it is</p>	<p>To synergize the businesses through cooperating with dairy companies and organic supermarket</p>	

delicious, you can buy it right away in our supermarket.

The associated utilities of the IGARDEN's organic agriculture academy will be great. Because, in order to do this, one may extend a very wide resources network. We now set up our own college, carry out our own training programs and verification and work at the incubator projects. In terms of the establishment of the college, its value is magnified across the entire IGARDEN business network because of its synergies with other businesses, which are more valuable than prices.

To support other businesses by improving Agricultural Colleges

The increase of certification system can help us to build cell farms and satellite farms and make them develop smoothly. Internally, this is an organizational change. And externally, it should mainly be the change of our overall image. In the past, people might think that we were an organic farming management company that they did not understand and felt too worried to cooperate with at the beginning because the platform was not for selling. Later the platform will translate to a social enterprise. The previous company was a farm one based on purchase and sale. However, the transmitted one is basically a social enterprise with businesses ranging from talents cultivation, *technology and projects to investment*, fund-raising and certification. What we do now involves much extra social value in it. So our external image and realistic businesses both belong to social-oriented company.

To certain the operation of satellite farms and cell farms by increasing certification system

The mutual support among businesses

In summary, the business model innovation of IGARDEN's organic agribusiness in China is the result of the synergetic value creation of enterprises. Synergetic value arises from the value creation process of an enterprise, but it focuses more on the synergy of various production factors inside and outside the enterprise. In a sense, the generation of synergetic value expands the value creation boundary of the organization. Therefore, based on the perspective of value creation, this thesis argues that the innovation of business model of IGARDEN is the adjustment of organizational strategy and Operational System in order to adapt to the synergetic value creation. The data in this thesis (see Table 4-9 for coding examples) shows that IGARDEN's synergetic value includes three levels: business-customer synergy, supply chain synergy, and the enterprise value creation and innovation.

Table 4-9 The Coding Examples of Business Synergism in Business Model Innovation

Data Standardization	Primary Coding	Secondary Coding	Theory Structure Coding
Increased the product features lacked by large-scale planting through developing cell farms	Synergy in the development of businesses	Synergy within the enterprise	Synergetic value driving
Integrated the businesses by arranging the catering companies and organic supermarkets at the same time			
Supported other businesses by improving Agricultural College	The mutual supports among businesses		
Ensured the operation of satellite farms and cell farms by increasing certification system	The information exchange among supply chain	Synergy among the supply chain companies	
Integrated with the produce from satellite farms and exchange information			
Framed information and data base by building an eco-town of organic agriculture	The higher efficiency of supply chain	Company-customer synergy	
Speeded up the creation of organic products by establishing the platform and incubators			
Developed synergistic effect of the industry chain by offering supportive services	Satisfaction of customers' demanding	Exchange with customers	
Made the transaction easier for customers by introducing the online payment platform of Smart Service on Target system			
Created the organic eco-parks as customers expected			
Unfolded exchange activities and draw customers			
Advocated operation ideas to customers by holding theme activities.			

According to the table 4-9, company-customers synergy improves support for satisfying customer demands; supply-chain synergy promotes its information exchange and efficiency; the synergy from inter-company businesses value creation facilitates the mutual support among businesses. The comprehensive synergy effect, based on customers, intra-companies and inter-company businesses, exhibits the business model innovation of organic agribusiness underpinned by synergetic value creation.

The synergy effect is produced in the process of value creation when the company constantly carries out value exchange with customers, external technology providers (such as the collaboration between IGAERDEN and research institutions), organic agriculture college, organic agriculture union and other partners among the supply chain (such as cell farms and satellite farms) (As shown in Figure 4-5). Due to this synergistic effect, IGARDEN internalized its external businesses: IGARDEN expands the company’s value creation boundary by absorbing some factors involved in the value creation into the internal management. Therefore, the generation of synergistic value expands the border of the value creation activities of IGARDEN and thus promotes the innovation process of its business model.

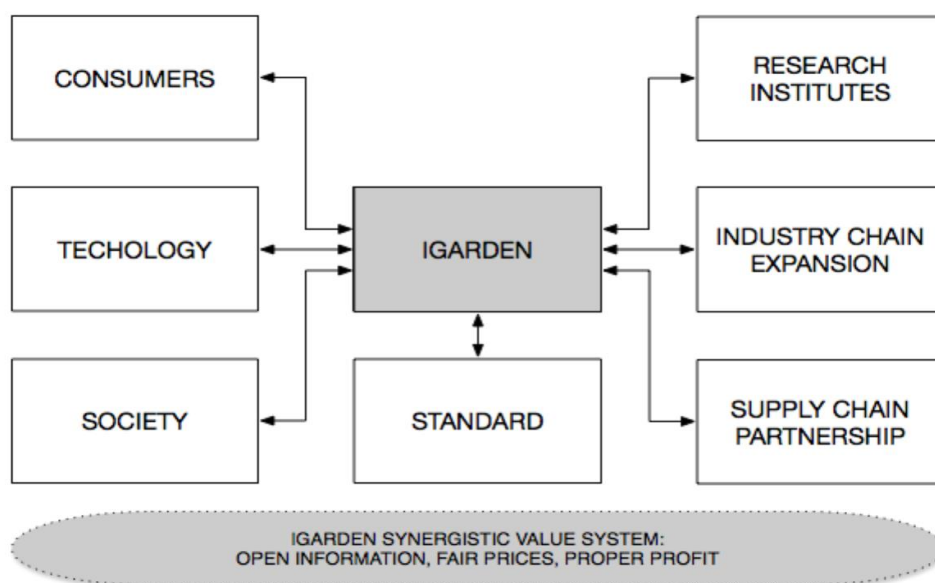


Figure 4-5 IGARDEN’s Synergetic Value Creation and The Expansion of its Border

Chapter 5: Discussion

Chapter 4 takes IGARDEN as a case to analyze the process and its driving mechanism of business model innovation of IGARDEN. However, what are the typical features of IGARDEN's business model innovation? What are the driving factors behind the innovation? The existing theories regarding to business model innovation do not reach a unified understanding of the above questions regarding to the case of IGARDEN. This thesis argues that the perspective of the value chain can shed light on the essential characteristics of the driving mechanism of business model innovation in the case of IGARDEN within China's organic industry. Therefore, by analyzing the data of IGARDEN and relating it with theories, this chapter reveals the essential characteristics of IGARDEN's business model innovation from the perspective of value creation and the propositions are proposed.

5.1 The Innovation Path of IGARDEN Business Model

The process analyses in chapter 4 suggest that IGARDEN's business model has experienced a transition from self-management to platform business. This thesis summarizes the business model innovation features in each stage and draws the business model canvas (according to Wei et al (2012), business model canvas integrates 9 key modules designed by business model into a canvas, which can flexibly depict or design business models) as below:

At the first stage, IGARDEN started its production centering on organic agricultural products. It formed an organic produce creation carrier with independently operated organic farms at its first place and alliance farms as supplements. Due to the late development of organic agriculture in China and the incomplete organic agriculture industrial chain, IGARDEN's products were facing sales problems at the first stage. To tackle this problem, IGARDEN began to build

sales channels, such as the introduction of CSA platform and PGS platform. Therefore, at this stage, IGARDEN took self-owned products as its main business. And gradually, the main business shifted to the sales channels. The business model at this stage is shown in Figure 5-1 below.

KP: collaborated production with alliance farmers	KA: the production and management of organic farms	VP: satisfying consumers' demands for green and healthy consumption	CR: providing products	CS: the organic agricultural products consumers as the main body
	KR: farms		CH: delivering values propositions to customers through	
CS: farms rentals + operating cost			PS: revenues from products sales	

KP: key partners; KA: key activities; KR: key resources; VP: value proposition; CR: customer relationships; CS: customer segments; CH: channels; C\$: cost structure; RS: revenue streams

Figure 5-1 The Business Model at the First Stage of Business Model Innovation

From the 9 elements of the business model canvas (Figure 5-1) at the first stage: the key partner of IGARDEN is alliance farmers. The key activity is to manage its organic farms. The key resource is the organic farms. The value proposition is to satisfy the consumers' demands for green and healthy consumption. The customer relationship is to provide products. The customer segment is the consumers of organic agricultural products. The channel is the connection with customers. The cost structure is farms rentals and operating cost. The revenue stream is to get the revenues from the products sales.

At the second stage, IGARDEN made significant progress, based on the establishment of production and sales channels. However, the self-operated organic farms could not meet market demands. IGARDEN began shifting its business focus to engaging farmers in the industry chain. As a result, IGARDEN invested in the farmers

and guided their production and management, and finally helped with their setting up cell farms. The agricultural ERP system is also introduced to strengthen the internal control of various producing processes for a better internal management. Apart from improving the production chain, IGARDEN also paid attention to expanding sales channels: First, it established SNS + O2O e-commerce platform; second, it set up a 24-Tastes restaurant chain to build offline channels. Therefore, at this stage, IGARDEN mainly transited from a product core company to a platform of production and sales channels. The business focus gradually moved from the internal self-operation to investing and guiding the joined farmers, cell farms and satellite farms. As a carrier of organic agribusiness value chain, IGARDEN continued to expand its business boundary and gradually arose from the bottom of the value chain (the production link) to the upper level (investment and incubation) by relying on the extension of sales channels. The business model at this stage is shown in Figure 5-2 below:

KP: alliance farmers, cell farms and satellite farms	KA: production control and sale channels management	VP: satisfying the customers' demand for organic food; guiding the alliance producers to practice the value creation activities	CR: providing products; investing in incubation	CS: consumers and producers of organic agricultural products
	KR: self-owned farms, certified alliance farms and channels		CH: providing organic products and value creation platform	
C\$: operating cost + management cost		PS: revenues from products sale + franchise fee + revenues from investment and incubation		

KP: key partners; **KA:** key activities; **KR:** key resources; **VP:** value proposition; **CR:** customer relationships; **CS:** customer segments; **CH:** channels; **C\$:** cost structure; **RS:** revenue streams

Figure 5-2 The Business Model at the Second Stage

From the 9 elements of the business model canvas at the second stage: The key partner of IGARDEN is alliance farmers, cell farms and satellite farms. The key activity is to manage its sales channels and control the production. The key resource is

self-owned organic farms, certified alliance farms and channels. The value proposition is to satisfy the consumers' demands for green and healthy consumption and to guide the alliance producers to practice the value creation activities. The customer relationship is to provide products and to invest in incubation. The customer segments are the consumers and producers of organic agricultural products. The channel is its own organic products and value creation platform. The cost structure is operating cost and management cost. The revenue stream is to get the revenues from the products sales, franchise fee, investment and incubation.

At the third stage, on the basis of expanding production and sales channels, IGARDEN gradually shifted its business focus to platform management. In the production sector, IGARDEN further reduced the proportion of self-operated farms. Its farm production staff gradually reduced to 50 people from the previous group of more than 200, as the staff became IGARDEN's operation partners instead of its employees. In the sales channels, IGARDEN integrated the online and offline channels to combine production, sales and users closely. In the business operations, IGARDEN became a comprehensive platform for the production, sales and management of organic agricultural products. The platform served as the primary vehicle of value creation for other participants (including consumers, producers, franchisees and channel operators). At the same time, in order to better control all production elements and all business processes on the platform, IGARDEN ensured the integrity of organic produce through Sunshine Earth Standard System. It also established an organic agricultural institution to train the franchisees and determine the distribution of profits. As a result, IGARDEN gradually evolved from a distribution channel developer to a platform operator of organic agribusiness. The business model at this stage is shown in Figure 5-3.

KP: all participants on the platform	KA: the platform management and operation	VP: appropriating responsibilities and interests of consumers, producers and operators	CR: providing platforms and standards	CS: consumers, producers and operators
	KR: the platform + standard systems		CH: providing the platform for organic products production and	
C\$: operation cost+ management cost		PS: revenues from platform management		

KP: key partners; KA: key activities; KR: key resources; VP: value proposition; CR: customer relationships; CS: customer segments; CH: channels; C\$: cost structure; RS: revenue streams

Figure 5-3 The Business Model at the Third Stage

From the 9 elements of the business model canvas at the third stage: The key partners of IGARDEN are all participants on IGARDEN’s platform. The key activity is to manage and operate its platform. The key resources are the platform and standard systems. The value proposition is to give the appropriate responsibilities and interests to consumers, producers and operators. The customer relationship is to provide platforms and standards. The customer segment is the consumers, producers and operators. The channel is IGARDEN’s platform. The cost structure is operating cost and management cost. The revenue stream is to get the revenues from the platform management.

According to the above discussion, IGARDEN's business model has gone through the transformation from the products phase, channels + platforms phase to platforms + standards phase. The important elements in the three business models vary along with the development of the enterprise. Its revenue has climbed up to the income of the platform operating from product sales. The innovation path of

IGARDEN's business models is shown in Figure 5-4.

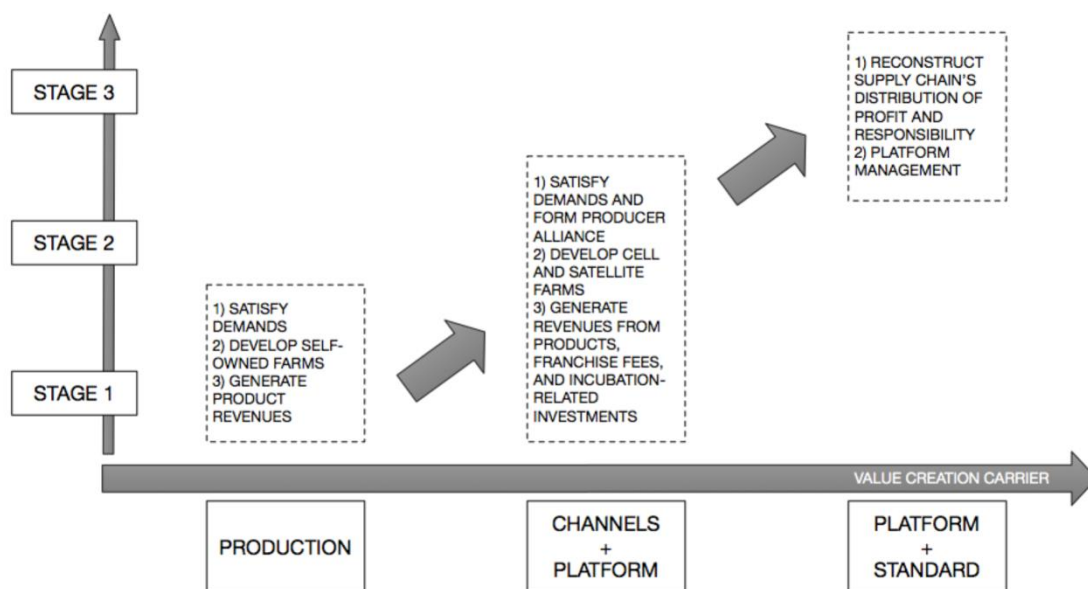


Figure 5-4 The innovation path of IGARDEN's business models

5.2 Characteristics of IGARDEN's business Model Innovation

5.2.1 The Upgrading of Value Creation Carrier under the Synergetic System

The foregoing discussion shows that IGARDEN has different value propositions in each stage, but its business model innovations are all center around the creation of synergetic value. IGARDEN has erected a complete value chain of organic agriculture industry by establishing cooperative relations with alliance farmers, cell farms, satellite farms, operators from various channels and self-employed producers. IGARDEN's management believes that platform companies should establish a reasonable mechanism of commitment and revenue sharing to ensure the long-term common interests of participants. The main participants are producers, small farmers, distributors, retailers, catering agencies and related organic agriculture agencies, covering all links of the organic agriculture industry value chain IGARDEN involves. Relying on the SES, IGARDEN is committed to providing reliable organic products and services by upholding the fair interests of every link in the value chain. As shown

in Figure 5-5:

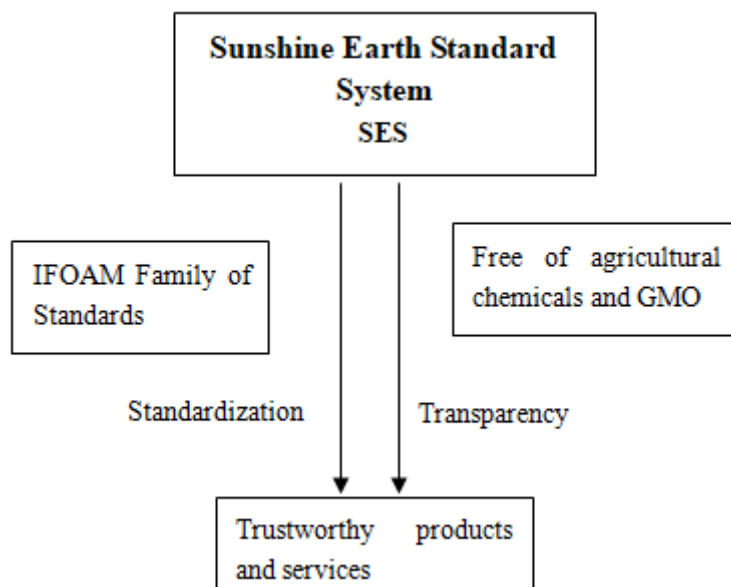


Figure 5-5 Sunshine Earth Standard System

As above, SES mainly solves the problem of fair trade and information disclosure between consumers and producers. In the operation of platform, to ensure the common interests of consumers, alliance farmers, cell farms, satellite farms, catering establishments and other trade associations, IGARDEN organic agriculture synergetic Value System has been shaped based on the organic agriculture institution and SES. It consists of three core concepts: open production, fair purchase and fair profits.

(1) Open Production

IGARDEN's open production system (ERP and SES jointly create the monitoring system) not only includes the production process, but also refers to the supervision of the whole process covering organic agricultural raw materials procurement, production, product harvesting, product sales and other aspects. In recent years, since food safety incidents have occurred from time to time, food safety is becoming the most urgent need of the industry. Chinese government and individuals gradually shifted the demand for satisfying the people's food supply to meeting the requirements of food quality. As a result, in the future, companies must be able to track all agricultural produces in the production and sales of organic agricultural products. Meanwhile, IGARDEN is also able to reclaim defective organic agricultural produce.

In order to ensure open production, the SES system is embedded in an ERP system solution. This way it can meet the food safety and traceability needs of the industry and significantly reduce operational risk. As human resources manager of IGARDEN said in the interview (Interview #1):

"IGARDEN really care about our customers' concerns about increasing food safety incidents. At present, the focus of the organic agriculture is whether it can effectively and wholly track organic agricultural products. Many similar enterprises are making similar attempts, but IGARDEN has long been the industry leader. Our standard certification system is not only IFOAM certified, but also fully compliant with Chinese food regulations. We can supervise the production, sales, distribution, of raw materials, minimizing the risk of substandard agricultural products to avoid losing customers' trust. "

(2) Fair Purchase

IGARDEN's concept of fair purchase, based on proposing a solution to narrow the gap among organic food value, actual costs, and prices in China, insists that consumers buy corresponding organic produce at a reasonable price while presenting appropriate profit margin to all links through the industry chain. Unlike other industries allowing the utilization of price wars and unconventional promotional practices in their marketing activities, IGARDEN's SES seeks to protect the rights of both producers and consumers. Among IGARDEN certified organic agricultural products, customers only need to purchase products based on their actual need and not to worry about the matching between the price and value because SES has an open evaluation system to pick the best combination of price and quality for its customers and its own operation needs through regulating and standardizing the operation cost and profit margins of each link within the IGARDEN industry chain, thus minimizing the cost of making a purchasing choice for the consumers. Therefore, under the current imperfect standards and systems of Chinese organic agricultural products, IGARDEN's synergetic value system is a label that protects consumers' vital interests. As the researcher at IGARDEN's SEI, stated in the interview (Interview #2):

"IGARDEN's consumers do not need to think about issues of food safety or

cost-effectiveness, because we have already provided consumers with cost-effective products. Although we do not offer the cheapest products, they must be reasonably priced. SES certified products in our supermarkets and on our platforms are definitely goods of reasonable price matching its value. Sunshine Earth's standard system not only concerns products quality, but also ensures the fair production cost and purchase rights of consumers. "

(3) Fair Profit

Besides safeguarding consumers' rights of transparent consumption and fair purchases, IGARDEN also devotes itself to ensuring the fair profits(IGARDEN's self introduction materials on its official website shows this conception and it means that IGARDEN rationally divides revenue based on individual contributions) of all links in the industrial value chain. Only in this way can its coordinated development be realized. IGARDEN developed a detailed organizational structure, cost system, pricing system, etc. to see to the fair interests of all participants. For example, IGARDEN arranges its manpower, material resources, time and money rationally to speed up the completion of production planning by Program Evaluation and Review Technique. This is an important means of modern management methods that can greatly coordinate all aspects of the production and sales to ensure production efficiency, reliability and cost-effectiveness. On the basis of a precise plan, IGARDEN has laid down a risk-taking and profit sharing mechanism. As a platform, IGARDEN makes a reasonable allocation considering the interests of all participants (including consumers, producers, suppliers, restaurant chains, platforms, etc.). As the vice president of IGARDEN said in the interview (Interview #4):

"To conclude my talking about synergetic value, I would like to share my key goal of conducting synergetic value. What is the core objective in my business model? I hope that all members in IGARDEN Organics' industry chain, supply chain, value chain, all the internal members, external members, and I as an investor can keep an equitable relationship. Thus no one can claim the absolute discourses power because of larger investment that protects everyone's fundamental benefit. Nor can anyone squeeze or gain more benefit because of one's own core competencies within one's

particular professional scope. Everyone is ensured to be offered a reasonable interest within IGARDEN, but no one's benefit can exceed what IGARDEN regulates based on the survival and development as a whole. "

With the three core concepts described above, IGARDEN's synergetic value system attempts to optimize the processes and results of its ongoing synergetic value creation activities. The system emphasizes fair, just and open access to appropriate benefits from IGARDEN's organic agriculture industry chain, which further promotes the synergetic value creation activities. On the basis of synergetic value creation, new elements continue to expand the business boundaries of the enterprise. From the perspective of value creation, synergetic value stimulates the continuous upgrading of the enterprise's value creation carrier. For instance, from its establishment in 2010 to the present, IGARDEN's enterprise boundaries have been continuously expanded on the basis of continuous synergetic value creation. The carrier of value creation has been upgraded from "organic agricultural product manufacturing enterprise" to "organic agricultural operation standard and platform enterprise". As shown in Figure 5-6 below:

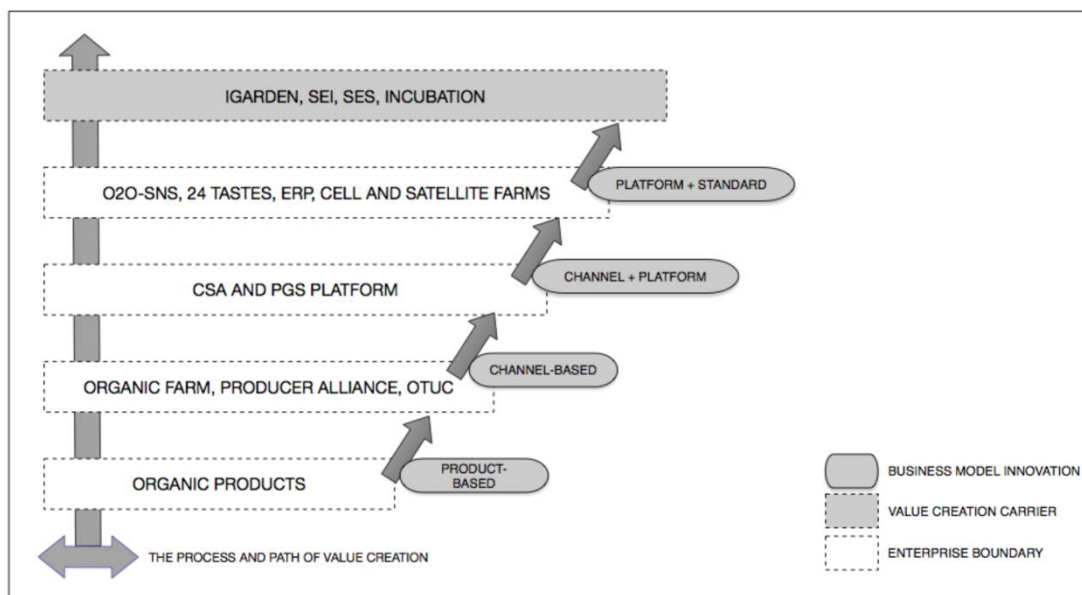


Figure 5-6 Evolutionary Process of IGARDEN Value Creation Carrier Under Synergetic Value System

5.2.2 Value Creation Carrier Upgrade and Business Model Reconstruction

The view of value creation argues that business model describes the value creation logic of a business system, the logic that stands behind the actual business process, rather than the complex social system, its participants, relationships, and the complete process (Wang, 2017). Therefore, the business model of an enterprise can be seen as a reasonable revenue structure established to obtain value from technology or operations.

However, unlike other industrial enterprises that rely on technological breakthroughs and obtain the maximum profit through building of business models rationally, the development of organic agriculture industry in China is not perfect and it is very difficult to realize the development through the traditional business model innovation. In fact, many organic agribusinesses in China realize the sustainable development through the peripheral businesses rather than the breakthroughs in technology or marketing.

For example, Beijing Organic and Beyond Corporation and Tony's Farm, both are well-known organic agribusinesses in China. Their business models over time shifted from selling agricultural products to the integration of organic farms and the peripheral businesses (organic food production, home delivery, etc.). One of the most important reasons for this is that the organic agriculture industry in China is still in the early stages. It is difficult for relevant enterprises to obtain supporting operational channels and technical support. As the vice president of IGARDEN said in the interview (Interview #4):

"The organic farming industry is still lacking in influence, and consumers are barely aware of it. We are responsible for production, sales and quick deliveries. We even need to educate consumers on why they eat organic food, and how to cook them."

Against this backdrop, organic agribusinesses in China rely on organic farms to continuously expand their industrial value chains. Due to its unique synergetic value system, the innovation process of organic enterprises has essential differences with

other industries. The data suggests that the organic agribusinesses in China, when facing similar internal and external factors as those of IGARDEN, should consider upgrading the value-creating carriers through the integration of internal and external production factors and design appropriate business models to match them.

As shown in Figure 5-7, this thesis treats the enterprise as a vehicle for continuous value creation. The business model innovation can be regarded as a process of value creation carrier upgrade (shown in figure 5-4) and business model reconstruction. Stage A shows that at a certain stable stage, the enterprise's value creation carrier 1 matches its business model 1. Due to the synergistic value generated in the process of value creation, the value creation carrier 1 is upgraded to the value creation carrier 2. At this point, the original business model 1 does not match with the upgraded value creation carrier 2, resulting in the restructuring of the business model. Finally the enterprise eventually forms a business model 2:

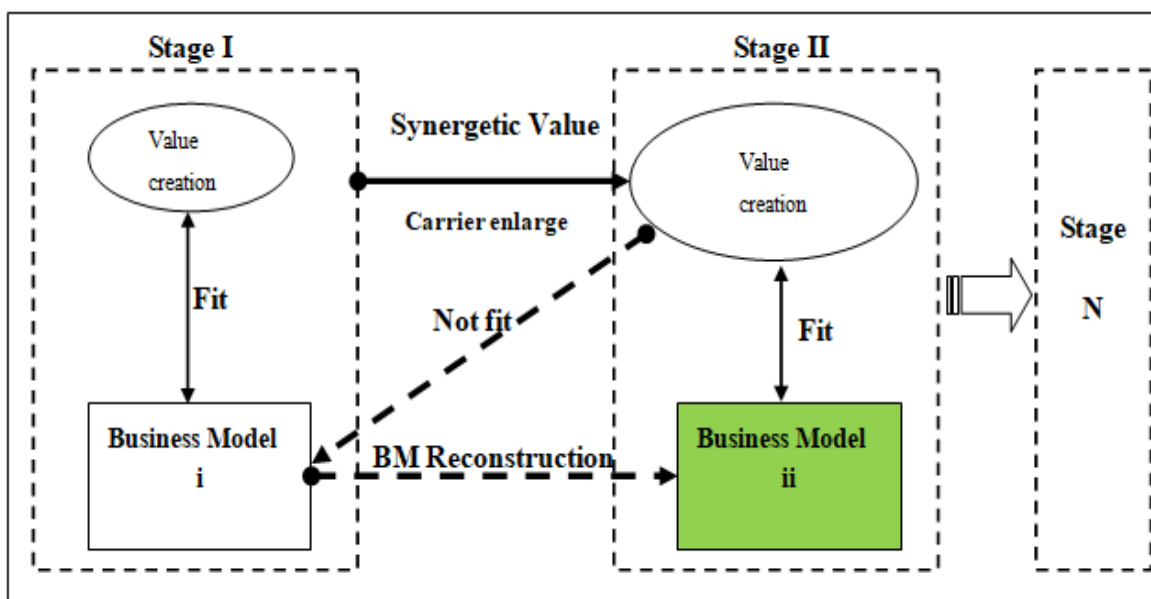


Figure 5-7 Business model innovation process of IGARDEN

In conclusion, throughout its innovation, the business model continuously matches the enterprise value creation carrier. Driven by the synergetic value, the value creation carrier of IGARDEN has changed, and the operational model must be re-designed to keep in line with it. Thus, a new business model is to emerge.

5.3 Propositions and Discussion

5.3.1 The Discussion of Business Model Evolution Path

In recent years, business model innovation has played an important role in the growth of start-up enterprises and the transformation of traditional enterprises, attracting wide attention from domestic and foreign scholars (Wang & Chang, 2013). Especially, for the organic agriculture in China, the business model innovation is the key for enterprises to overcome the innate industrial disadvantages such as the imperfect industrial chain and the limited production factors (Li & Huang, 2017; Li, 2017). In IGARDEN's case, there are different value propositions and core resources in every stage. Its business model underwent constant changes in accordance with the development of the enterprise.

At the first stage, IGARDEN's motivation for its expansion was to meet customers' demands. This thesis summarizes the process logic of IGARDEN as below:

At the first stage, IGARDEN's core resource is self-owned farms and its value proposition is to cater for the customers who favor green food and healthy lifestyles. At the second stage, IGARDEN's core resources are self-operated farms, certified farms and production and sales channels; its value proposition is to satisfy the supply needs of customers and guide the alliance farmers to create value. At the third stage, IGARDEN's core resource is the platform + standard system; its value proposition is the reasonable obligation-bearing and interest-sharing.

In summary, IGARDEN's development process is a business model evolution. Its core resources and value propositions change as its business model evolves. At the first stage, IGARDEN focused on the self-operated agricultural products. At the second stage, IGARDEN focused on channel + platform. At the third stage, IGARDEN focused on platform + standard system. This thesis summarizes the following process rules of IGARDEN in proposition 1:

Proposition 1: The business model of an organic agriculture enterprise in

China follows the evolution from product-based to platform-based.

5.3.2 The Driving Mechanism and Process Characteristics of Business Model Innovation

In recent years, there are more and more theoretical papers and practical applications about business model innovation (Casadesus-Masanell & Ricart, 2010). Some studies suggest that the replacement of old business models by the new one tends to take full advantage of technology and organizational innovation (Shirky, 2008). At the same time, enterprises can find new needs in the process of business model innovation, which in turn facilitates the improvement and promotion of technology (Hart & Christensen, 2002). Therefore, the current theory mainly holds that there are mainly two driving mechanisms for business model innovation: technology-driven business model innovation and demand-driven business model innovation (Li, Liu, Zhang, & Kokko., 2018; Sun, Chen, Song, 2018; Tian, Zhang, & Yang, 2018; Wu, Yi, Zhang, & Wu, 2018). However, at present, most organic agribusinesses in China are in their infancy. The data shows that IGARDEN's business model innovation is an operational system reformation process, which addresses the customer's value proposition better. In summary, IGARDEN's business model innovation is driven by value creation.

First, from the perspective of value creation, IGARDEN promotes the value expression of its products through the establishment of organic farms, channels and organic agricultural platforms. It also increases the platform value through the expansion of self-operated farms, the establishment of offline restaurant chains, cell farms and satellite farms, as well as the introduction of agricultural production management systems. Furthermore, the sustainable development of the value system is ensured through the establishment of research institutes in cooperation with universities, organic agricultural institution, industry associations, and the standard system of Sunshine Earth. Therefore, the business model innovation is a value creation process. In summary, this thesis propose the following proposition:

Proposition 2: Business model innovation of an organic agriculture enterprise

in China follows the logic of value creation.

Proposition 2-1: The core of value creation is the expression of product value, the increase of platform value and the accumulation of sustainable value.

In the process of value creation, all the production factors are guided by the enterprise platform, resulting in the generation of synergetic value. The value created by the enterprise is the synergistic value (Song & Song, 2012). For example, IGARDEN generated synergies through collaborations with customers and other businesses. The data shows that this synergetic value arises from the creation of an enterprise value. It encourages IGARDEN to continuously expand their business, with the aim of improving and supplementing the imperfect industrial value chain. In summary, this thesis proposes the following proposition:

Proposition 3: The emergence of synergistic value expands the border of value creation activities, promoting the innovation process of business model.

Second, the data shows that the organic agribusiness platform needs to establish a reasonable mechanism of obligation-bearing and interest-sharing. The Sunshine Earth Standard System (SES) includes all participants in value creation activities such as customers, channels, and platforms. The synergetic value system is not simply to optimize and integrate resources, but to allocate responsibilities and benefits (Li et al., 2017). It ensures the interests of consumers, producers and suppliers on the platform through transparent production and fair trade. Under this system, external participants are attracted to the IGARDEN platform continuously, thus accelerating the expansion of the enterprise's value creation activities. In this process, as the platforms and carriers of value creation, enterprises are constantly upgrading and developing themselves. This thesis proposes the following proposition:

Proposition 4: Synergetic value system ensures the reasonable interests of participants and promotes the continuous upgrading of their value creation carriers.

Driven by the synergetic value, the value creation carrier of IGARDEN has been constantly enlarged, which leads to the mismatch between the original business model and the new value-creating carrier. Under these conditions, firms need to redesign

suitable business models to match the current value creation vehicle (Wu et al.,2018). The data in this thesis shows that IGARDEN realizes the match between the business model and value creation carriers by rebuilding business model. In summary, this thesis proposes the following proposition:

Proposition 5: Driven by Synergetic Value, the value creation carrier has thus facilitated the emergence of new business models.

5.3.3 A Process Model for IGARDEN's Business Models Innovation

Business model innovation is essentially an innovation in the operating model (Luo, 2009; Tian et al., 2018), and it is the whole process of how an enterprise can make a profit by creating value (Timmers, 1998; Linder & Cantrell, 2000). From the value created perspective, the data in this thesis shows that the innovation of IGRADEN's business model mainly includes three processes: value creation, value synergy and value upgrading.

The first is value creation. The development of an enterprise is a continuous process of value creation (Linder & Cantrell, 2000). In value creation activities, enterprises develop new businesses conducive for further enhancing of value creation activities, followed by value synergy (Song & Song, 2012). That is, in the value creation activities, due to the development of new businesses of organic agribusinesses, the interaction with the previous businesses has produced synergies. The data in this thesis shows that value synergies and value creation promote mutually: Value creation brings synergies and synergies further the value creation of enterprises. For instance, IGARDEN build organic agricultural products sales channels. The construction of a channel is a kind of value creation activity of an enterprise. However, the channel has a synergistic effect (Wei, 2016) with the current production process of agricultural products and further promotes the value creation activities in the production process. Finally, the value upgrades. The value upgrading is based on value creation and value synergy. Due to the synergies generated in the value creation (Li et al.,2018), business boundaries of enterprises are expanded and the existing carriers of value creation are upgraded. The escalation of the value

creation vehicle compels the organizational design to match the business model. This "from old to new" business model changes can be seen as a value-upgrading process. At the same time, based on the new business model, enterprises will carry out the next value creation activities.

To sum up, the process of business model innovation in IGARDEN is essentially an iterative process based on value creation-value synergy -value upgrading, as shown in Figure 5-8.

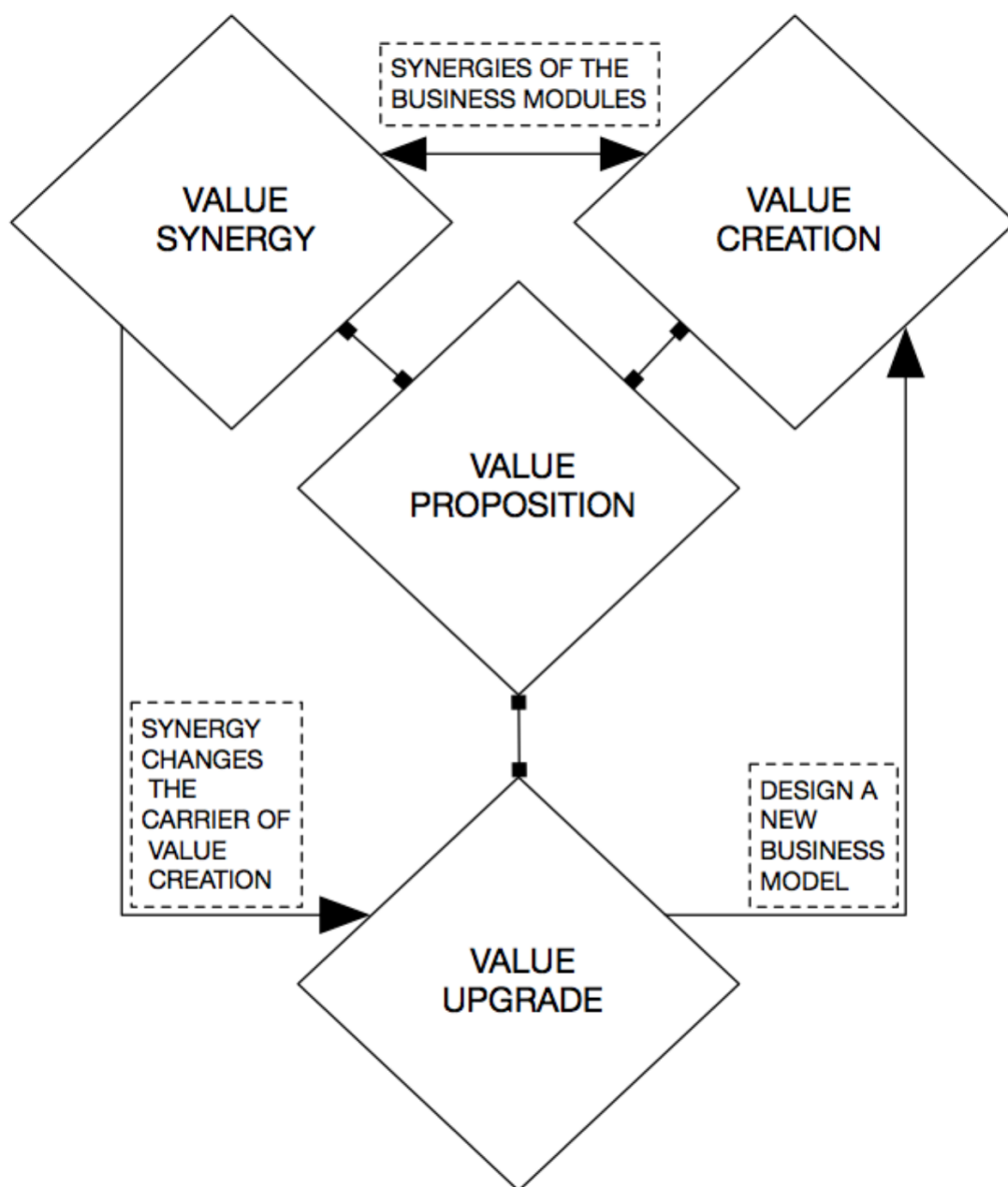


Figure 5-8 A Process Model of IGARDEN's Business Model Innovation

Chapter 6: Conclusions

Through the discussion in the previous five chapters, this thesis has studied in detail the evolution process, path, driving mechanism and the essential characteristics of business models of IGARDEN. This chapter will further demonstrate the future prospects and shortcomings of this thesis.

6.1 Main Conclusions

Since organic agriculture in China is in its infancy at present, the innovation of business model is an important way for enterprises to gain competitive advantages and achieve sustainable development. At the same time, according to value creation theories, the innovation of business model is also altering process of enterprise value creation activities. Based on this logic, through the case of IGARDEN, this thesis studies the evolution process of business model, deeply digging the driving mechanism and finally revealing its essence of the business model innovation.

Through the analysis and discussion of the entire content, this thesis forms the following conclusions:

The first part is a summary of the evolutionary path of the business model of IGARDEN: (1) At the first stage, IGARDEN's core resources are self-operated farms; its value proposition is to satisfy the customers' demand for green food and healthy consumption notions; (2) At the second stage, IGARDEN's core resources are self-operated farms, certified farms and related channels; its value proposition is to fulfill the supplemental demands of organic food, to guide the franchisee to undergo the activities related to value creation; (3) At the third stage, IGARDEN's core resources is the platform + standard system; its value proposition is the reasonableness of undertaking obligation and the distribution of interests among the consumers, producers and operators in the organization platform; (4) The business model of IGARDEN accords with the evolutionary process of product-channel + platform -platform + standard system.

Second, based on the value creation perspective, this thesis finds the driving mechanism of the innovation of business model of IGARDEN: (1) The innovation of business model of IGARDEN is a logic of value creation; (2) The generation of synergistic value expands the

boundary of IGARDEN, hence accelerating the process of the innovation of business model;

(3) Through the construction of synergistic value system, IGARDEN ensures the proper interests of participants and promotes the continuous upgrading of its value creation carrier;

(4) Driven by the synergistic value, the value-creating carriers of IGARDEN have changed and its operation methods need to be re-designed to match with them, thus promoting the emergence of new business models.

On this basis, the thesis summarizes and reveals the nature of the process of business model innovation of IGARDEN. The essence of the business model innovation of IGARDEN is an iterative process based on value creation, value synergy and value upgrading.

6.2 Theoretical Contribution and Practical Enlightenment

6.2.1 Theoretical Contributions

Since studies of the organic agribusiness model innovation in China is still in its early stage, there is significant meaning in this exploratory study.

First of all, this thesis starts studying the driving mechanism of the innovation from the incentive of value creation. Scholars agree that the business model innovation is how enterprises create more values for all stakeholders by expanding markets or utilizing technologies. Their related research focuses whether business model innovations can boost technology commercialization (Chesbrough & Rosenbloom, 2002; Doganova & Eyquem-Renault, 2009; Lehoux, Daudelin, Williams-Jones, Denis, & Longo, 2014). The above theories are popular among most of scholars. However, these theories do not seem applicable for some Chinese organic agribusiness companies represented by IGARDEN. These young companies in infancy have not formed efficient business models, so it is difficult to amplify its driven mechanism by technology-driven results or market-driven theories. This thesis is the exploratory study of IGARDEN from the perspective of value creation. Its result suggests that the core driving force of some organic agribusiness model innovation in China is to optimize the synergetic value rather than to fully utilize technological and market advantages, which is supported by the theory that synergetic values expand the boundary of industry value creation activities and thus promote its business model innovation process. The introduction of value creation standpoint in this thesis makes up the present theory and better explains the business model innovation mechanism of some young organic agribusiness in China.

Secondly, this thesis proposes a summary structure to explain the substantive characteristics of IGARDEN's business model innovation. Current studies suggest that business model innovation is based on system creating system (Osterwalder, 2004) . Some also argue that business model innovation is a key concept while understanding enterprise value creation (Amit & Zott, 2011; Chesbrough & Rosenbloom, 2002) . Whether in a direct way or not, a company usually adopts a certain business model since its establishment, so as to specify the value creation system, value delivery mechanism, and value capture mechanism. In other words, business model innovation is the result of the company's strategic goal as well as the embodiment of corporate strategies (Casadesus-Masanell & Ricart, 2010). However, this thesis has come to the conclusion that the organic agribusiness model innovation has another different meaning. It is a special industry under the situation of China. An important purpose of the innovation of business model of some Chinese organic agribusinesses (such as IGARDEN) is to solve the problem of imperfect industry chain, the process of which is inevitably accompanied by the expansion of industry value chain and the generation of synergetic value. It leads to significant differences in the innovation process and path of business models between Chinese organic agribusinesses and similar enterprises in developed countries. This thesis is rooted in China's indigenous context and explores the essential characteristics of the business model innovation process in organic agriculture through the case study of IGARDEN. The results show that the innovation of business models of IGARDEN is different from that of similar enterprises in developed countries. It arises from the value creation process of the enterprise, which is conducted passively under the coordination value. That is, the business model innovation of IGARDEN is not only the result designed or planned solely and intuitively by the managers of an enterprise, but also the reaction results from the organization attempts to sustain the demand of value creation driven by the collaborative value generated through interaction with other enterprises and their managers. Based on the unique situation in China, the research in this thesis has refined the essence of the business model innovation process of some organic agribusinesses in China and enriched the definition of the current business model innovation.

6.2.2 Contributions to managerial practice

Taking IGARDEN as an example, this study explores the innovation process, path and driving mechanism of business models of IGARDEN. The conclusion can provide guidance for the design of business model of the other organic agriculture enterprises in China. From

the perspective of management, this thesis argues that managers of Chinese organic agribusinesses should draw attention from:

(1) The focus of business model innovation of some Chinese organic agribusinesses is to create synergetic value.

Business model innovation is an important means for enterprises to grasp business opportunities and create more value. Business managers always want to find a business model innovation. It is generally believed that managers should pay more attention to the external environment. The wider the scope of their concerns, the more they can find out external business opportunities and design suitable business models for value creation. This view is not entirely applicable to organic farming enterprises. The research results of this thesis show that the innovation of business models of IGARDEN largely comes from the creation of synergy value of enterprises. Therefore, managers should pay more attention to the value creation activities of enterprises themselves.

(2) From product to platform, standardization is a typical path for the innovation of some organic agriculture business model in China.

What path should business model innovation follow? Different businesses have different answers. For organic agribusinesses in China, their growth and development need to improve the industrial chain. The conclusion of this thesis shows the necessity of the platformization of organic agribusinesses in China. Because of the need to gain policy support and achieve real operational efficiencies, it must be scalable and replicable. Being constrained by the rigid conditions of resources such as land, platformization is inevitably an option for enterprises to expand their scale. At the same time, reproducibility involves standardization. In business practices, other similar businesses can try this from product to platform and standardized development path.

(3) Develop a reasonable synergetic value system to ensure the sustainable development of organic agribusinesses.

The reasonable synergetic value system is the key to the sustainable development of platform enterprises. About the collaborative value system, different companies have different understandings. Like South Korea Hanshalin model, it follows "the platform to stay 20% profit" + "80% left to the producer" logic. In fact, 80% is not actually allocated to farmland. Instead, it integrates farmland, packaging, logistics, processing and other sectors with cooperative organizations such as cooperatives to integrate these transactions and interfaces into one session and interface. The 80% actually goes to the "supply chain links" whose majority shareholders are the cooperatives of producers. In contrast, IGARDEN's

collaborative value system focuses on "cost control", shortening the distance from FARM to TABLE and improving the efficiency of the entire supply chain. On the other hand, IGARDEN dedicates in paying attention to the distribution of benefits and advocate reasonable obligations and the distribution of benefits. At the same time, the case of this thesis shows that IGARDEN's synergetic value system puts consumers in place and ensures the true interests of all the participants through open production, fair purchase and fair benefits so as to achieve true value synergy. Although there will be differences among enterprises, the synergies value system advocated in this thesis can bring about the true synergy of industrial chains and can be used as reference for similar enterprises.

6.3 Limitations and Future Research

The first limitation is the single case study method. This method can deepen the study of typical cases, but the lack of a horizontal comparison inevitably results in a lack of universality. Following-up studies can expand the case samples for further explorations. Second, the conclusions of this thesis have limitation in term of timeliness (IGARDEN's history is not very long) . The research in this thesis is based on the circumstance that IGARDEN is in its infancy, and its conclusion will still evolve as the industry develops. For example, changes and development in political factors and innovations in e-commerce industry in China are two of the most impactful environmental factors that can affect almost all industries in China, and these factors are undergoing rapid changes every year in agriculture industry in recent years. Follow-up studies can keep tracking and further examine the validity of the conclusions of this thesis to reflect the changes in the business environment.

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