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Knowledge Transfer and Service Innovation Performance: the Case of Small and Medium Consulting Enterprises in China

WANG Chenguang

Doctor of Management

Supervisors:
PhD Nelson Antonio, Professor,
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I declare that this thesis does not incorporate without acknowledgment any material previously submitted for a degree or diploma in any university and that to the best of my knowledge it does not contain any material previously published or written by another person except where due reference is made in the text.

Signed:  Date: 29/05/2020

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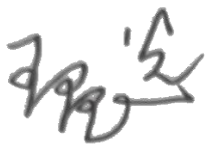
作者签名：  日期：2020 年 5 月 29 日

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Abstract

This thesis takes Chinese small and medium management consulting companies as the research object, and puts forward research questions on the relationship between knowledge transfer, absorptive capacity and service innovation performance. Through two rounds of questionnaire surveys, 688 valid data are obtained. The main research conclusions are:

(1) Construct a theoretical framework of the relationship between knowledge transfer, absorptive capacity and service innovation performance. The specific hypotheses proposed in this thesis are: the hypothesis of a positive relationship between knowledge transfer and service innovation performance; the hypothesis of a positive relationship between absorptive capacity and service innovation performance; the hypothesis of a positive relationship between knowledge transfer and absorptive capacity; the hypothesis of the mediating role of absorptive capacity between knowledge transfer and service innovation performance.

(2) The theoretical hypotheses proposed in this thesis are verified from the statistical analysis of large samples. This thesis mainly uses statistical software such as SPSS24.0 and AMOS24.0 to conduct empirical analysis on the data; it mainly uses descriptive statistical analysis, reliability and validity analysis, correlation analysis, analysis of variance and structural equation models to verify the hypotheses of the relationship between knowledge transfer, absorptive capacity and service innovation performance. It is found that 23 of the 28 research hypotheses in this thesis pass the significance test and the model has a high degree of fit, so the hypotheses are supported by the data.

(3) The theoretical hypotheses proposed in this thesis are supported from the case study. This thesis selects three small and medium management consulting companies of different business types as the analysis objects.

Keywords: China’s small and medium management consulting companies, knowledge transfer, absorptive capacity, service innovation performance

JEL: L22, M12

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Resumo

O objeto de pesquisa desta tese são as pequenas e médias empresas de consultadoria chinesas e estuda as relações entre a transferência de conhecimento, a capacidade de absorção e o desempenho de inovação em serviços. O questionário foi administrado em duas voltas e obtiveram-se 688 dados válidos. As principais conclusões da pesquisa são as seguintes:

(1) A construção de uma estrutura teórica das relações entre transferência de conhecimento, capacidade de absorção e desempenho de inovação em serviços. As hipóteses específicas propostas nesta tese foram as seguintes: (i) hipótese 1: existe uma relação positiva entre transferência de conhecimento e o desempenho da inovação em serviços; (ii) hipótese 2: existe uma relação positiva entre capacidade de absorção e desempenho da inovação em serviços, (iii) existe uma relação positiva entre transferência de conhecimento e capacidade de absorção e (iv) capacidade de absorção desempenha um papel mediador entre a transferência de conhecimento e o desempenho da inovação em serviços.

(2) As hipóteses teóricas propostas nesta tese foram verificadas a partir da análise estatística de grandes amostras. Esta tese utiliza principalmente software estatístico como o SPSS24.0 e o AMOS24.0 para realizar análises empíricas dos dados; utiliza principalmente análise estatística descritiva, análise de confiabilidade e validade, análise de correlação, análise de variância e modelos de equações estruturais para verificar as hipóteses das relações entre transferência de conhecimento, capacidade de absorção e desempenho da inovação em serviços. Verifica-se que 23 das 28 hipóteses de pesquisa nesta tese passam no teste de significância e o modelo possui um alto grau de ajustamento, isto é, as hipóteses não foram rejeitadas.

(3) As hipóteses teóricas propostas nesta tese foram validadas com um estudo de casos múltiplos. Esta tese selecionou três pequenas e médias empresas de consultoria em gestão, com diferentes tipos de negócios, como objeto de análise.

Palavras-chave: pequenas e médias empresas de consultoria em gestão da China, transferência de conhecimento, capacidade de absorção, desempenho em inovação de serviços

JEL: L22, M12

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摘要

本文以中国中小管理咨询企业为研究对象,提出知识转移、吸收能力与服务创新绩效之间关系的研究问题。基于理论研究与实证研究，通过两轮问卷调查,获得有效数据 688 份,最终验证了本文提出的概念模型与研究假设的合理性。主要研究结论是：

（1）构建知识转移、吸收能力与服务创新绩效三者之间关系的理论框架。本文提出的具体假设是：知识转移与服务创新绩效之间正向关系的假设；吸收能力与服务创新绩效之间正向关系的假设；知识转移与吸收能力之间正向关系的假设；吸收能力在知识转移与服务创新绩效之间中介作用的假设。

（2）从大样本统计分析上验证了本文提出的理论假设。本文主要使用 SPSS24.0 和 AMOS24.0 等统计软件对数据进行实证分析；主要采用描述性统计分析、信度和效度分析、相关分析、方差分析和结构方程模型等统计分析方法,验证了知识转移、吸收能力和服务创新绩效之间关系的假设。结果发现,本文的 28 个研究假设中,有 23 个通过显著性检验,模型的拟合度较高, 因此假设得到了数据支持。

（3）从案例研究上支持了本文提出的理论假设。本文选取三家不同业务类型的中小型管理咨询企业作为分析对象,采用案例研究的方法进一步为本文的理论框架提供了实践检验和实证支持。

本文的研究成果为中国中小管理咨询企业有效提升知识转移、吸收能力与服务创新绩效的水平提供了管理启示,包括决策参考与实践建议。

关键词：中国中小管理咨询企业，知识转移，吸收能力，服务创新绩效

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List of abbreviation

KT	Knowledge Transfer
KS	Knowledge Sharing
KI	Knowledge Integration
AC	Absorptive Capacity
EC_1	Exploratory Capacity
TC	Transformative Capacity
EC_2	Exploitative Capacity
SIP	Service Innovation Performance
FP	Financial Performance
NFP	Non-financial Performance
ANOVA	Analysis of variance
EN	Economic nature
ES	Enterprise size
EA	Enterprise age
BT	Business type
PE	Private enterprises
NPE	Non-private enterprises
SC	Strategic consulting
OC	Organizational consulting,
BPC	Business process consulting
MC	Marketing consulting
HRC	Human resources consulting
FC	Financial consulting
CCC	Corporate culture consulting
CC	Comprehensive consulting
APQC	The American Productivity and Quality Center
OECD	The Organization for Economic Cooperation and Development

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Chapter 1: Introduction

In this chapter, the realistic and theoretical background of the research are elaborated, research questions and research purposes are put forward. The author also introduces the research process, structure arrangement, research methods and main innovations.

1.1 Research background

In order to meet the needs of the transformation of the world economy from an industrial economy to a service economy, Chinese small and medium management consulting companies must accelerate knowledge transfer, develop absorptive capacity, and improve service innovation performance to achieve the strategic goal of innovation-driven development. This historical process provides a rare practical opportunity and practical basis for research in the fields related to knowledge transfer, absorptive capacity and service innovation performance.

1.1.1 Realistic background

In the era of service economy and knowledge economy, knowledge becomes the first factor of production. China's small and medium management consulting companies need to rely on knowledge transfer and absorptive capacity to accelerate service innovation and achieve sustainable development.

1.1.1.1 In the macro environment, the era of China's service economy has arrived

Since the 1960s, the global industrial structure has been continuously upgraded, showing a trend of transition from industrial economy to service economy. The service industry has become the leading industry of the national economy of the world's major countries. It is mainly manifested in that the service industry's output value and employment has increased significantly and the service industry has become an important driving force for economic growth and an important indicator of high-quality economic development. At present, the service industry of major developed countries has accounted for more than 70% of output value and employment, and a few developed countries have reached more than 80%. As a developing country with rapid economic growth, China's service industry has become the largest industry, with a GDP ratio of 51.6% in 2017. However, the gap between the per capita size and the development quality

of China's service industry and the developed countries' is still very large. Therefore, China's promotion of service industry development will accelerate the transformation of economic development mode, improve the quality of economic development, and achieve an industrial structure upgrade.

1.1.1.2 In the industry environment, service innovation has become the driving force for the development of management consulting industry

After more than 40 years of rapid development, China's management consulting industry has now become an important modern service industry. According to the research report of Beijing Zhenglue Consulting Company, there were about 44,000 enterprises in China's management consulting industry in 2017, most of which were small and medium management consulting companies. The market size was about 206.56 billion yuan, an increase of 19% year-on-year; the market was mainly distributed in the Yangtze River Delta, the Pearl River Delta and the Beijing-Tianjin-Hebei Economic Circle. Clients were mainly distributed in the manufacturing industry, which accounted for 42.5%. The other clients were from the service industry, TMT (Technology, Media, Telecom), and retail industry, which accounted for 19.7%, 12%, and 8.6% respectively.

Service innovation has become the main driving force for the development of management consulting industry. Service industry will gather more and more innovation resources, and the focus of competition will shift from technology and product innovation to service innovation (Gebauer, 2005). For a long time, occupying the high end of the industrial value chain, multinational companies have enjoyed comparative advantages in product development, design, brand, capital, channels and other links by virtue of service innovation, and they have earned high profits. If China is to vigorously develop the modern service industry, which is including the management consulting industry, it is necessary to make service innovation an important driver for the development of enterprises, and shift the management consulting industry from a rapid growth stage to a high-quality development stage.

1.1.1.3 From the perspective of micro-level of enterprises, knowledge transfer and absorptive capacity have become key success factors for improving service innovation performance

Knowledge transfer has become a key success factor for service innovation, which is a competitive advantage for enterprises (Van Kleef & Roome, 2007). Service innovation is not only the process of commercialization of new knowledge, but also the result of the integration and creation of internal and external knowledge resources. Through knowledge transfer,

enterprises collect advanced external knowledge and integrate it into the service innovation process, thereby developing products and services that meet clients' needs and winning market competition. In other words, as knowledge-based professional service enterprises, the operation process of small and medium management consulting companies is the process of knowledge movement. In order to adapt to changes in the environment, through the collection, production, storage, sharing, transfer, application and innovation of knowledge inside and outside the organization, management consulting companies have increased knowledge stock and knowledge increment spirally, thereby enhancing their innovation capacity and ultimately achieving sustained growth.

Absorptive capacity has become a key element of service innovation. It is the basic ability of an enterprise to learn new knowledge and create new services and has become a transformation platform between knowledge transfer and service innovation. Enterprises in the same environment may have very different performances. One of the important reasons is that their abilities to obtain knowledge from outside are very different. The more unstable the external environment is, the more rational use of external knowledge can become the main source of competitive advantage of enterprises (Laursen & Salter, 2006). In fact, in the era of knowledge economy, it is precisely because of the lack of absorptive capacity that some once glorious enterprises stayed in the past, failed to seize market opportunities and turn to new technologies in time, which ultimately led to their failure (Lane, Koka, & Pathak, 2006).

1.1.2 Theoretical background

Benefiting from the rapid rise of the service economy and the advent of the era of knowledge explosion, research on knowledge transfer, absorptive capacity, and service innovation performance and the relationship between them are increasing. The results of the existing literature provide a research basis and perspective for this thesis, and the existing problems and shortcomings provide further research opportunities and entry points for research innovation.

1.1.2.1 Research on service innovation is growing, but its research foundation is weak

Compared with in-depth research on manufacturing innovation behavior, research on service innovation is a relatively new research area. A large number of scholars from manufacturing innovation, service marketing and service management are engaged in research in this area. Because of the short research history and weak research foundation, the different knowledge structure, especially the imperfect knowledge system of the discipline of service innovation itself, the research results are systematically inadequate, and they are largely out of touch with

actual practice.

Therefore, it is necessary to closely link the actual development and future trends of the service industry, subdivide and focus on research areas, improve and innovate research methods, and strengthen industry application research to grasp the basic laws, industrial characteristics and development trend of service innovation and further improve and develop service innovation theories to better expand the research scope and depth on service innovation.

1.1.2.2 Theories on knowledge transfer and absorptive capacity are fruitful, but the research scope and depth are not enough

In the era of knowledge economy, knowledge management has become a new subject (Drucker, 1992). In recent years, scholars at home and abroad have conducted more research on knowledge transfer and absorptive capacity, and their research results have been very rich, mainly involving the concepts, types, influencing factors, processes and performance. The current research is no longer limited to basic concepts and connotations, but focuses on practical research, involving research within or between different levels of individuals, teams, organizations.

However, the biggest problem in most knowledge transfer and absorptive capacity research is that theory and practice are separated, and the theoretical development level cannot keep pace with the progress of business practice. It is mainly manifested in that the current knowledge transfer and absorptive capacity theories are often limited to the individual, team level or department level and those to the organizational level are still relatively rare. Therefore, we need to further integrate theory with practice, expand the research scope and depth to link knowledge transfer and absorptive capacity with strategic performance and business processes.

1.1.2.3 Knowledge transfer and absorptive capacity has become the key variables in service innovation research

The existing research has demonstrated the relationship between knowledge transfer and service innovation performance. Innovation is essentially a production function of various resources. In fact, from “exogenous theory” to “endogenous theory”, knowledge has become the most critical influencing factor of service innovation performance. Therefore, knowledge transfer has become a key variable in service innovation research. Especially in the research on knowledge-intensive service industry, knowledge transfer has become a key success factor for service innovation performance. Regarding the relationship between knowledge management and service innovation performance, scholars agree that the better the knowledge management capability is, the better the enterprise innovation capacity is (Therin, 2003).

The existing research has demonstrated the relationship between absorptive capacity and service innovation performance. Knowledge is an available external resource, and absorptive capacity is an internal ability to use knowledge. Therefore, the relevant theories on absorptive capacity explore how companies combine external knowledge resources with internal organizational capability to improve service innovation performance, which is a high contribution to the integrity of service innovation theory (Lavie, 2006).

However, existing research lacks the integration of knowledge transfer, absorptive capacity and service innovation performance into a whole framework. Strictly speaking, the current research on the relationship between knowledge transfer, absorptive capacity and service innovation performance is still in a fragmented state, and no systematic research conclusions have been formed. In most cases, it is only to study the relationship between knowledge transfer and service innovation, or the relationship between absorptive capacity and service innovation performance, or the relationship between knowledge transfer and absorptive capacity; but few studies regard absorptive capacity as the mediating variable between knowledge transfer and service innovation performance.

In short, for small and medium management consulting companies, integrating knowledge transfer, absorptive capacity and service innovation performance into one, to study the relationship between knowledge transfer, absorptive capacity and service innovation performance, that is, to explore the direct impact of knowledge transfer and absorptive capacity on service innovation performance and the mediating role of absorptive capacity between knowledge transfer and service innovation performance have important theoretical and practical significance for improving the level of service innovation.

1.2 Research questions and research purposes

1.2.1 Research questions

The existing research found that knowledge transfer and absorptive capacity are the key factors to improve service innovation performance. Regarding the relationship between knowledge transfer, absorptive capacity and service innovation performance, scholars agree that the better the knowledge management capability is, the better the enterprise innovation capacity is (Therin, 2003).

However, the obvious problems in the existing research are: the research literature stock and increment are too small, and many research results have the defects of being general and

extensive, and there is no in-depth discussion of the specific impact mechanism of knowledge transfer and absorptive capacity on service innovation performance; the focus of the research is limited to the theoretical discussion of knowledge transfer, absorptive capacity, and service innovation conceptual model, type division, but there are few studies on the key success factors that affect their performance in practice, such as knowledge transfer strategies and service innovation processes; in the research on the driving force of service innovation, most of them are studied from a comprehensive perspective, and there is little research on the specific impact mechanism of one of the elements on service innovation; the industry's empirical analysis is lacking, for example, there are few studies on the consulting service industry, which makes it difficult to comprehensively and deeply understand the application value and practical significance of knowledge transfer, absorptive capacity and service innovation theory. Therefore, the relationship between knowledge transfer, absorptive capacity and service innovation performance need to be thoroughly explored and refined.

Based on this, this thesis takes Chinese small and medium management consulting companies as the research object, and studies the driving factors of service innovation performance. It is planned to focus on the in-depth study of the relationship between knowledge transfer, absorptive capacity and service innovation performance. The basic questions to be explored are: driving knowledge transfer and absorptive capacity, whether and to what extent can service innovation performance be improved. On this basis, this thesis will analyze and answer the following questions:

Question 1: What are the concepts and dimensions of knowledge transfer, absorptive capacity, and service innovation performance? What are the relationship between knowledge transfer, absorptive capacity, and service innovation performance?

Compared with the in-depth research on manufacturing innovation behavior, related research on knowledge transfer, absorptive capacity and service innovation performance is a relatively new research field. The knowledge systems in the fields of knowledge management, organizational capability, service innovation is not yet perfect, resulting in a lack of basic and systematic research results, which is also largely out of touch with actual practice. Therefore, it is necessary to clearly define the concepts and dimensions of knowledge transfer, absorptive capacity and service innovation performance in combination with the reality of this research.

At the same time, a theoretical framework of the relationship between knowledge transfer, absorptive capacity and service innovation performance needs to be constructed. In general, various factors, such as the external environment of the organization, internal resources and capabilities, and its own activities of service innovation affect service innovation performance,

which in turn affects enterprise competitiveness. The existing research confirms that service innovation is usually a process of knowledge transfer and application of absorptive capacity. It needs to cross borders between different partners / departments to exchange information, develop knowledge and exert ability. Becker and Peters (2000)' research found that absorptive capacity plays a part of the mediating role between knowledge sources and innovation; Ramendra and Dena (2013) found in their empirical research on the service industry in the United States and India that knowledge resources are positively related to service innovation.

Based on the service innovation theory, knowledge management theory, and related research results on knowledge transfer, absorptive capacity and service innovation performance, this thesis regards service innovation as the competitive advantage of enterprises, takes knowledge transfer, absorptive capacity and service innovation performance as the basic research elements, and proposes a systematic conceptual model to discover and analyze the relationship between knowledge transfer, absorptive capacity and service innovation performance in small and medium management consulting enterprises, as shown in Figure 1.1. The specific questions are:

First, what is the relationship between knowledge transfer and service innovation performance?

Second, what is the relationship between absorptive capacity and service innovation performance?

Third, what is the relationship between knowledge transfer and absorptive capacity?

Fourth, what is the role of absorptive capacity between knowledge transfer and service innovation performance?

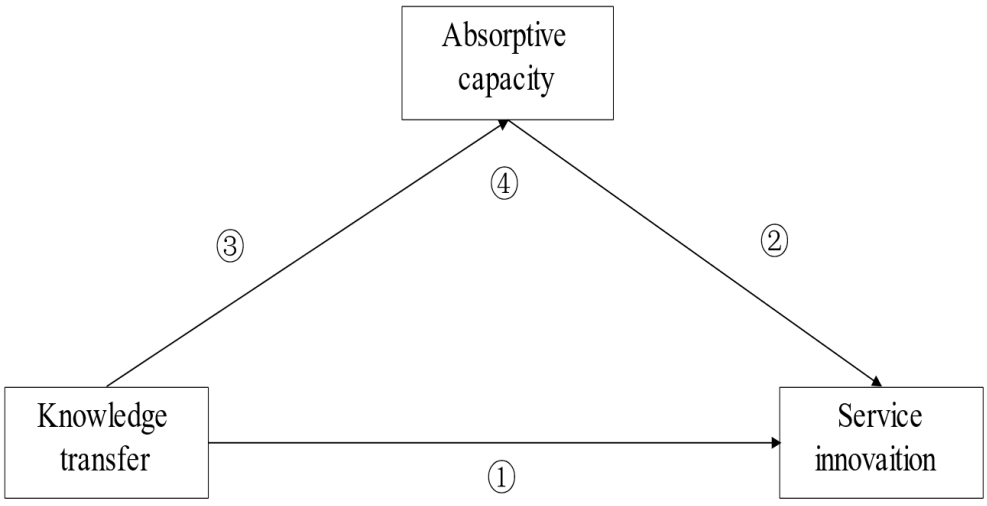

Figure 1.1 Framework of research questions

Question 2: How to verify the theoretical hypotheses proposed in this thesis from large sample statistical analysis?

Empirical research mainly includes case studies, experiments, large sample statistical analysis and field research (Eisenhardt, 1989). Large sample statistical analysis follows the sampling logic. Through the study of the samples, the overall situation can be accurately inferred, so as to understand the laws of the overall. As a normative empirical study, this thesis proposes research hypotheses for research problems, collects data through a large-scale questionnaire survey, and uses statistical methods to conduct hypothesis testing. After obtaining the data through the questionnaire, this thesis uses the major statistical analysis methods of descriptive statistical analysis, reliability and validity analysis, correlation analysis, analysis of variance and structural equation models to verify the hypotheses of the relationship between knowledge transfer, absorptive capacity and service innovation performance.

Question 3: How to support the theoretical hypotheses proposed in this thesis from case study?

In empirical research, case study is a strong testing method. In general, large sample statistical analysis only explains whether the hypothesis is reliable, not why the hypothesis is reliable. In comparison, case study reveals the underlying reasons behind the phenomenon by describing the cases in detail; it shows more about why the hypothesis is reliable, that is, is the theory valid? How does it work? It is generally believed that if the research conclusions of multiple cases are consistent, then the conclusion is valid; further, even it is the single case study, the answer is also clear. However, among the relevant research results on knowledge transfer, absorptive capacity and service innovation performance, case studies are relatively lacking. Therefore, this thesis further validates the hypotheses of the relationship between the three by adopting case study to provide practical support for the theoretical research of this thesis.

1.2.2 Research purposes

In response to the above problems, combined with relevant research results and survey research, this thesis applies service innovation theory, knowledge transfer theory and absorptive capacity theory to determine the research purposes as follows:

Purpose 1: Connect knowledge transfer, absorptive capacity and service innovation performance to build a theoretical model of the relationship between knowledge transfer, absorptive capacity and service innovation performance;

Purpose 2: Use large sample statistical analysis to verify the theoretical hypotheses about

the relationship between knowledge transfer, absorptive capacity and service innovation performance;

Purpose 3: Use case study to provide practical support for further testing the theoretical hypotheses about the relationship between knowledge transfer, absorptive capacity and service innovation performance;

Purpose 4: Provide management enlightenment for Chinese small and medium management consulting companies to effectively improve knowledge transfer, absorptive capacity and service innovation performance, including providing theoretical basis and practical suggestions for them.

This thesis aims to improve the competitive advantage and strategic performance of enterprises. Through the analysis of the influence mechanism between knowledge transfer, absorptive capacity and service innovation performance, the author tries to deeply analyze the key success factors of service innovation, and open up the external promoters and internal black boxes that affect the service innovation of Chinese small and medium management consulting companies to make them combine with their own industry positions, continuously broaden the sources and paths of knowledge transfer, and continuously develop realistic and potential absorptive capacity, thereby comprehensively improving service innovation performance and ultimately promoting the development of China's high-end service industry .

1.3 Research process and structure arrangement

In view of the above research questions, the research process, including the research road map, and the structure of the main content of each chapter are determined around the research purposes.

1.3.1 Research process

Based on the framework of putting forward questions-analyzing questions-solving questions, this thesis studies the impact of knowledge transfer and absorptive capacity on service innovation performance of small and medium management consulting companies. It also proposes and examines the theoretical hypotheses of the relationship between knowledge transfer, absorptive capacity and service innovation performance.

As shown in Figure 1.2, the specific research process of this thesis is: firstly, on the basis of concept definition and dimension division of knowledge transfer, absorptive capacity, and service innovation performance of small and medium management consulting companies, the

theoretical model of the relationship between the three is constructed, the research hypotheses of the relationship between the three are proposed; secondly, use AMOS and SPSS software to conduct exploratory factor analysis, confirmatory factor analysis, and structural equation model statistical analysis of the two survey data of small and medium management consulting companies, and also use the method of case study to test the theoretical hypotheses and discuss the testing results; finally, draw the main conclusions and practical implications of the relationship between knowledge transfer, absorptive capacity and service innovation performance of small and medium management consulting companies.

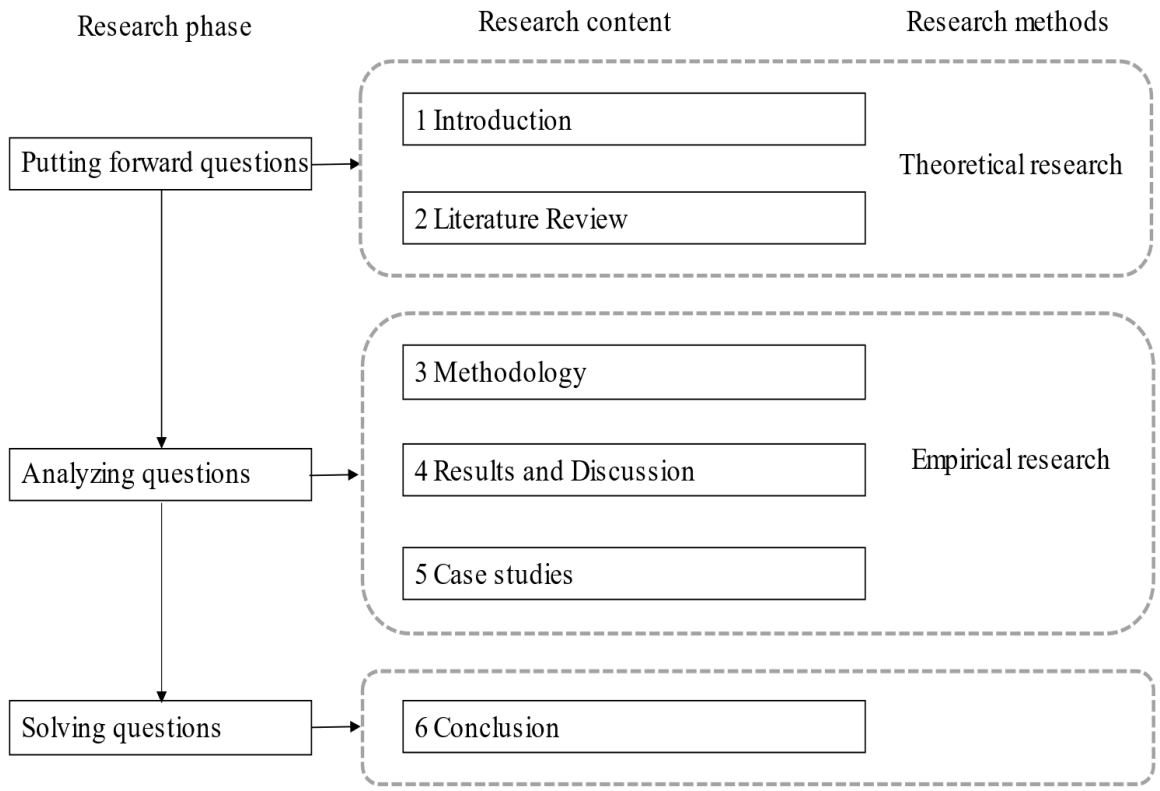

Figure 1.2 Research roadmap

1.3.2 Structure arrangement

According to the research roadmap, this thesis is divided into 6 chapters, the main content of each chapter is arranged as follows:

Chapter 1: Introduction. In this chapter, the author mainly elaborates the realistic and theoretical background of the research, puts forward research questions and research purposes, introduces the research process, structure arrangement, research methods and main innovations.

Chapter 2: Literature review. In this chapter, the author collects, classifies, compares, summarizes, and evaluates the theoretical basis and related literature of service innovation,

knowledge transfer, and absorptive capacity successively. Based on this, the author constructs a theoretical framework reflecting the relationship between the three, including a conceptual model and research hypotheses.

Chapter 3: Methodology. It mainly expounds the design of empirical research, including the design process of questionnaires, variable measurement, small sample testing, large sample data collection and statistical analysis methods. Structural equation modeling is the core method of hypothesis testing.

Chapter 4: Results and Discussion. Taking small and medium management consulting companies as effective sample companies, based on descriptive statistical analysis, reliability and validity analysis, and analysis of variance of large sample data, SEM is mainly used for hypothesis testing to test the variable relationship between the dimensions of knowledge transfer, absorptive capacity and service innovation performance. The results show that the research hypotheses are basically confirmed.

Chapter 5: Case study. Using the method of case study, three representative case companies are selected. After the stages of case selection, data collection and data analysis, the variable characteristics of each company are described in detail, which finally provide practice test and empirical support for the theoretical research in this thesis.

Chapter 6: Conclusion. In this chapter, the author summarizes research conclusions, discusses management implications, analyzes research limitations, and proposes future research prospects.

1.4 Research methods

In the research process, this thesis adopts two paradigms of theoretical research and empirical research, and combines qualitative research and quantitative research.

1.4.1 Theoretical research

Based on the existing theories and starting from the hypotheses, theoretical research takes the form of deductive thinking to form new knowledge through rigorous logical reasoning.

Knowledge transfer, absorptive capacity and service innovation performance involve the disciplines of knowledge management, supply chain, organizational capability, service management, innovation management. Based on a large amount of consulting, and summarizing relevant domestic and foreign literature, research questions, research purposes and research process of this thesis are determined. Further, the author connects knowledge

transfer, absorptive capacity and service innovation performance, defines their concepts and dimensions respectively, constructs a theoretical model of the relationship between knowledge transfer, absorptive capacity and service innovation performance, and proposes research hypotheses of the relationship between the three.

1.4.2 Empirical research

Based on observed facts and inductive logic, empirical research uses inductive thinking to summarize theoretical propositions through the description and explanation of the phenomena, and finally to verify them through actual cases.

In the empirical research in this thesis, the questionnaire survey method, statistical analysis method and case study method are mainly used.

The questionnaire survey method in this thesis selects 688 Chinese small and medium management consulting companies as effective samples, which are divided into three stages for investigation and research. The first stage is the design of the questionnaire: based on relevant literature at home and abroad, solicit expert opinions, define the concepts and dimensions of the research variables, clarify the variable measurement, and form the initial questionnaire. The second stage is pre-survey: through a small sample test, determine whether the variables and items in the questionnaire need to be deleted. The third stage is the formal investigation: through the analysis of large sample data, the reliability and validity of the large sample data and the fitting effect of the model and the sample enterprise data are tested.

After obtaining the data through questionnaire, this thesis mainly uses statistical software such as SPSS24.0 and AMOS24.0 to conduct empirical analysis of the data. The statistical analysis methods used in this thesis mainly include descriptive statistical analysis, reliability and validity analysis, correlation analysis, analysis of variance and structural equation model. Among them, the structural equation model is the core method of hypothesis testing, which verifies the hypotheses of the relationship between knowledge transfer, absorptive capacity and service innovation performance proposed in the theoretical research.

The case study method used in this thesis is a multi-case study. Three representative case companies are selected. After the stages of case selection, data collection and data analysis, the theory model and research hypotheses are provided with practical test and empirical support.

1.5 Main innovations

This thesis uses knowledge management theory, organizational capability theory and service

innovation theory to discuss the impact mechanism of knowledge transfer and absorptive capacity on service innovation performance. This research not only builds a bridge between knowledge transfer, absorptive capacity and service innovation performance, but also expands and deepens related theories. Its main innovations are:

(1) Concepts, dimensions of variables and the conceptual model

From the concepts of variables, the research scope of this thesis is enterprise-level, not process-level or function-level. For example, the research perspective of service innovation is gradually expanded from the product to the enterprise level and business ecological level, focusing on product innovation, process innovation and organizational innovation; at the same time, the concept of enterprise-level knowledge transfer is proposed, that is, knowledge transfer system consists of three parts: the external environment and organizational context of knowledge transfer, the strategic execution system to which knowledge transfer belongs, and the main part of knowledge transfer. From the perspective of variable dimensions, this thesis starts from the essential attributes of knowledge and divides knowledge transfer into two dimensions: knowledge sharing and knowledge integration, which respectively correspond to the two routes of tacit knowledge connect and explicit knowledge collect. From the conceptual model, integrate knowledge transfer, absorptive capacity and service innovation performance into a theoretical framework instead of splitting it, thus revealing the close relationship between service innovation and its value driving factors-knowledge transfer and absorptive capacity.

(2) Large sample statistical analysis

In the studies of the relationship between knowledge transfer and service innovation performance, most of them verified the direct effects of the two, and few took the absorptive capacity as a mediating role. This thesis takes small and medium management consulting companies as the research object, and proposes and verifies the mediating role of absorptive capacity between knowledge transfer and service innovation performance according to Baron and Kenny (1986)’s judgment principle of mediating role, thus providing a new perspective of the relationship between the three.

(3) Case study

Most relevant studies only conducted general sample statistical analysis, but no case analysis. Case study makes theoretical research more in-depth and solid, and can further analyze and test research propositions and conclusions. Therefore, the empirical research which combines sample statistical analysis and case analysis is more effective. Not only can it more fully verify the relationship between knowledge transfer, absorptive capacity and service innovation performance, but also provide management inspirations for the service innovation

of small and medium management consulting companies from the perspective of industry application.

Chapter 2: Literature Review

In this chapter, the author intends to sort out the theoretical basis of the research content and propose a theoretical framework for the research. Starting from the three aspects of service innovation, knowledge transfer, and absorptive capacity, the author inductively analyzes, summarizes and evaluates the relevant literature. Based on these, the author constructs a theoretical framework reflecting the relationship between the three, including conceptual models and research hypotheses.

2.1 Service innovation

The research of service innovation originates from the field of technological innovation in manufacturing industry. After decades of development, the theoretical system of service innovation has been initially formed. There are certain differences in perspectives on the research of service innovation at home and abroad. In general, foreign developed countries' research on service innovation started earlier, and the research content is relatively rich, while the domestic research is relatively late, and the research content is relatively small. In recent years, with the strengthening of the country's economic structure and industrial restructuring, research on service innovation has gradually enriched. The discussion and analysis of service innovation focuses on the concept, types, influencing factors, process and performance of service innovation, as well as the relationship between service innovation performance and its influencing factors.

2.1.1 The concept of service innovation

Schumpeter (1912) first proposed the "innovation" theory, which is regarded as the core theory of economic development. He pointed out that innovation activities are "recombination" of production factors such as products, processes, markets, suppliers, organizations. These new combinations include the introduction of new products, the adoption of new technologies, the opening of new markets, the control of new supply of raw materials and the introduction of new types of industrial organizations, and thus innovation is a collection of activities that are conducive to resource allocation and output efficiency. According to Gallouj and Weinstein

(1997), innovation is a process of flexible change within and outside the entire organizational system. It can be reflected in the entire production process of the product.

In the early days, the concept of service innovation was described from the perspective of products. Its essence was to adopt the original method of defining technological innovation. Betz (1987) first proposed the concept of service innovation. He emphasized that service innovation is different from the product innovation of new products and the process innovation of new technology production procedures, and introduced technology-oriented services into the market. The European Service Industry Innovation Systems Research Project, funded by the European Union's Socio-Economic Research Program, surveyed European service companies and concluded that service innovation is new or improved products and services, using new technologies in services, or new applications of existing technologies in services.

According to the scope of implementation, there are broad and narrow distinctions. Service innovation in a broad sense is all the innovative behaviors that are related to services or service-oriented in all industries, including service industry and manufacturing industry; the narrow concept of innovation is just an innovative activity in a service industry.

Service innovation in a broad sense refers to all the innovative processes and activities related to services, including service innovation in service industry, manufacturing industry and public sectors (Smith & Fischbacher, 2005; Lu, 2010; Kim et al., 2016). The narrow sense of service innovation refers to the innovative behaviors and activities generated in the service industry (Bohn, 1994; Ozyilmaz, 2001; Wei & Boden, 2004; Sundbo, 2008; Cheng, 2012).

According to the above definitions of service innovation and looking from the perspective of value creation, the author believes that service innovation is an organic combination of all kinds of ideas, knowledge, processes, activities, methods, and behaviors which are focused on the entire enterprise system, guided by client values and competitive strategies, and used by service companies in the process of operation and management and can create new values for the enterprises.

2.1.2 Types of service innovation

Schumpeter (1912) pointed out that innovation includes five aspects: introducing new products or new product quality (product innovation); introducing new production methods, including new methods for commercial processing of goods (process innovation); developing new markets (market innovation); discovering new raw materials or new sources of supply of raw materials (investment innovation); introducing new industrial organizations (organizational innovation).

The research on service innovation classification began with the reverse product life cycle model proposed by Barras (1986). Based on the analytical framework of technological innovation, Barns divided service innovation into product innovation and process innovation, but this classification method has obvious technical “branding”.

Sundbo and Gallouj (2000) divided service innovation into five categories: product innovation, process innovation, organizational innovation, market innovation, structural innovation.

In the evolution of this theory, Hipp, Thether, and Miles (2000) distinguished three different types of service innovations: service (product) innovation is the innovation of the service product itself, generally expressed as new service or significantly improved service; process innovation is the use of new or improved methods to improve the production process of a particular service; organizational innovation is not limited to a particular service production process, but rather a significant improvement in the organizational structure or business process. This classification method basically covers most of the differentiation methods related to service innovation involved in the literature.

Keeley (2013) divided innovation into three categories, 10 basic types, namely configuration (profit model, network, structure, process), products (product performance, product systems) and experience (services, channels, brand, client interaction). Obviously, innovation is no longer tied to products and technologies, but it runs through the whole process from business operation to client experience.

Of course, the above classification methods are based on the content of service innovation. There are other classification methods. According to the main body of innovation, it is divided into service-enterprise-oriented, client-oriented and supplier-oriented; according to the degree of innovation, it is divided into progressive innovation and subversive innovation; according to the relationship between innovation subject and external environment, it is divided into independent innovation and imitation innovation.

In short, service innovation starts from the product and gradually expands to the enterprise level and the business ecology level, embodying the innovative form based on non-technical factors, with emphasis on product, process and organizational innovation. This classification method comprehensively takes the part and the whole into consideration, that is, the innovation from the process of a specific service to the innovation carried out by the enterprise as a whole, which is also consistent with the research of most scholars.

2.1.3 Influencing factors of service innovation

Various factors, such as the organization's external environment, internal resources and capabilities and service innovation's own activities, affect the performance of service innovation, which in turn affects corporate competitiveness.

Cooper et al. (1994) believed that the influencing factors of service innovation include market factors, enterprise factors, product factors and service innovation processes. De Brentani (1995) pointed out that the factors influencing service innovation include clear and effective new service development strategies, new formal service development processes, unique service products, new efficient service development systems, and good or adaptable external environments. Yang (2008) further analyzed the influencing factors of service innovation and found out that there are mainly three factors: the characteristics of new services (intangibility of services, indivisibility of production and consumption, heterogeneity, perishability, quality and innovation), internal influencing factors of the organization (resource allocation, standardized new service development process, project integration, internal marketing, technical support, service innovation culture) and external influencing factors of the organization (clients, suppliers, competitors, agents, public sector).

The SPORT model is a common service enterprise management framework model (Tidd, 2003). Its five dimensions — strategy, process, organization, tools, and system — reflect the factors that influence the performance of service innovation. Strategy is to adapt to external changes to create internal changes to achieve shareholder value; process is flexible and controllable, rather than rigid and unshakable structuralized activities; organization is a way in which employees actively participate in cross-functional teams rather than a laissez-faire way after eliminating bureaucratic shackles, hoping that employees are properly connected to each other; tools include programmable software instead of fixed, inflexible automation; system is a set of horizontally aligned, interdependent reciprocal relationship, but not a series of integrated forms.

The key promoting factors of service innovation: clients (Alam, 2002; Kandampully, 2002; Chapman, Soosay & Kandampully, 2003; Berry, Shankar & Parish, 2006; Godin, 2006; Cheng, 2012; Kim et al., 2016), competition (Love & Roper, 2001; Grawe, Chen, & Daugherty, 2009; Cheng, 2012), strategic management (Sundbo & Gallouj, 2000; Cooper, 2009; Li, 2013), employees (Hidalgo & D' Alvano, 2014) and knowledge (Smith & McKeen, 2005; Zhang & Lu, 2012; Ramendra & Dena, 2013).

Knowledge factor. Service innovation is often a process of knowledge movement that

requires crossing boundaries between different partners/sectors to exchange information and develop knowledge. Knowledge is the basic resource for the competitive advantage of service industry, and client knowledge management becomes more and more important. Through empirical analysis, Smith and McKeen (2005) found that client knowledge management consists of four dimensions: management of knowledge about clients, management of client-owned knowledge, management of knowledge required by clients, and management of knowledge co-created with clients. In China, Zhang and Lu (2012) empirically study whether the above four dimensions have an impact on service innovation capacity. As a result, it is found that management of knowledge about clients and management of knowledge co-created with clients have a significantly positive impact on service innovation capacity. Similarly, Ramendra and Dena (2013) found in their empirical research on the US and Indian service industries that knowledge network resources are positively related to service innovation.

Employees' factors. Employees are an important promoter of service innovation. Human capital is the carrier of corporate capital. Even in the service innovation with high knowledge and skill requirements, human capital is still regarded as the core resource of innovation activities. The quality of human capital is extremely important for service innovation. Employees with creativity and innovation are the core resource for service innovation. Hidalgo and D' Alvano (2014) believed that the main driving force of innovation is the qualification and professionalism of the workforce. A large number of individual innovation behaviors are the cornerstone of service innovation. Different initiatives strengthen the relationship within the organization and the relationship between organization and the environment, enabling organizations to create value through various relationship. In the Internet and information age, employees are still the mainstay of knowledge management and service innovation. On the one hand, knowledge that exists in the minds of employees is most useful. On the other hand, information existing in information systems requires employees to receive, deliver and create.

Client factor. The essence of the market-driven innovation theory is that service companies need to respond promptly and quickly in order to meet the needs of clients to develop new services(Alam, 2002). Also based on the market-driven models, the stimulus for innovation comes from the needs of society or a particular part of the market (Godin, 2006). In fact, the core of service management theory is that to succeed, companies should listen to the voice of clients' needs to predict, develop innovation and provide value-added services (Kandampully, 2002; Chapman, Soosay, & Kandampully, 2003). Berry, Shankar, and Parish (2006) argued that an enterprise's understanding of clients' needs helps provide a comprehensive client experience associated with innovative services. Cheng (2012) found through a large number of

investigations that there is a significantly positive relationship between client- orientation and incremental service innovation, and therefore clients become a key success factor in service innovation. To conclude, the interaction between service companies and clients is the source of service innovation (Kim et al., 2016), thus making sustainable development of service innovation possible.

To sum up, the main factors influencing the performance of service innovation include: external environment, service innovation strategy, service innovation process, differentiated service, knowledge management, organization and human resource factors.

2.1.4 Process of service innovation

The service innovation process is a key business process, so it originates from the value chain, first and foremost as part of the service enterprise value chain. In the research about the formation and development of the global service value chain, Yuan (2016) pointed out that the basic value chain of the service industry mainly consists of three parts: upstream (demand analysis, service research and development, process design, module decomposition), midstream (service factor production, service production and delivery) and downstream (after-sales service). From the perspective of added value, the added value of the service industry value chain tends to decrease from upstream to downstream, which is significantly different from the smile curve presented by the manufacturing industry.

Through the combing of the service innovation process theory, we can find that its evolution track goes through three stages: the simple Stage-Gate system (Cooper et al., 1994), the complex integrating service development process (Johnson et al., 2000) and the focused client-oriented service development process (Ian & Chad, 2002).

In short, regardless of the type of service innovation process, we can divide it into three phases: the project initiation phase, the development phase, and the launching phase. The project initiation phase is to stimulate and define various inspirations, ideas and opportunities, and finally transform them into R&D projects that meet strategic boundaries and clients' needs. The development phase is to conduct more detailed market research, technical research and financial analysis, design and develop new services and conduct simple testing; the launching phase is to develop and implement production and operation plans and marketing plans, and evaluate the overall effect of the new services after the launch.

2.1.5 Performance of service innovation

Compared with product innovation performance, service innovation performance is difficult to measure due to the intangibility, non-replicability and non-storability of services. Hipp and Grupp (2005) pointed out that the main factors that make measuring service outputs extremely difficult are the intangibility of innovation, the close relationship between product innovation and process innovation. In studying the impact of network capabilities on service innovation performance, Sun (2010) believed that service innovation performance is the ability and degree of enterprises to develop new services or improve existing services to improve their own competitive position and realize the needs of target clients, employees, shareholders and society.

In terms of time, there is an evolution in the measurement of service innovation performance. In the comparison between process performance and result performance, Voss (1992), Cooper (2009) and (Hsueh, 2010) believed that they have significant differences: process performance is centered on efficiency, focuses on the implementation of development activities, and its measurement indicators include discriminating cost, effectiveness and speed; result performance is centered on results and focuses on the achievement of development activities. Its measurement indicators include financial indicators, competitive indicators and quality indicators. Avlonitis, Papastathopoulou, and Gounaris (2001), Storey and Kelly (2001), Ramendra and Dena (2013) studied the differences between financial performance and non-financial performance in measuring service innovation performance.

To sum up, with a single dimension indicator, it is difficult to measure service innovation performance, which can only be measured by multi-dimensional indicators. Because service innovation arises from the interaction between tacit knowledge and explicit knowledge, it is characterized by intangibility, diversity, progressiveness, complexity and client orientation. It can be seen that scholars have two types of opinions on the measurement of service innovation performance: one is divided into process performance and result performance; the other is divided into financial performance and non-financial performance.

In this study, based on the previous research results, combined with the author's best practical research on the corporate world, the financial performance and non-financial performance framework is adopted as a measure of service innovation performance. In fact, the framework of financial performance and non-financial performance can balance the relationship between financial performance and non-financial performance, process performance and results performance, long-term performance and short-term performance, strategic performance and operational performance, and has become an internationally used

enterprise performance management tool.

2.1.6 Relationship between service innovation performance and its influencing factors

The influencing factors of service innovation performance include the external environment, service innovation strategy, service innovation process, differentiated service, knowledge management, organization and human resource factors mentioned above. From the research results of previous scholars, the research on the relationship between service innovation performance and its influencing factors mainly focuses on external network, organizational capability and knowledge management.

2.1.6.1 The relationship between the external network and service innovation performance is positive

Enterprise service innovation is not an isolated internal activity, but is embedded into a specific organizational network. Embedding refers to the association of companies with other organizations through social networks (Zukin & DiMaggio, 1990; Dyer & Singh, 1998; Nohria & Zaheer, 2000; Rowley, Behrens, & Krackhardt, 2000; Gnyawali & Madhavan, 2001). According to the results of the 2005 National Innovation Survey of the United States, 78% of the innovative ideas of the companies surveyed come from the process of communication with their clients and suppliers. Council on Competitiveness confirms that the main source of knowledge for service innovation is clients and suppliers.

In short, the external network is seen as an important strategic resource that will affect future service innovation capacity and service innovation performance. At the same time, the external network, as a continuous variable, is not only related to the individual relationship of the enterprise, that is, the relationship embedding, but also related to its position in the network, that is, the structure embedding. Therefore, in order to improve service innovation performance, enterprises must establish and maintain a good external network. On the other hand, they must make full use of the knowledge and resources of external partners (Powell, 1990; Gulati & Gargiulo, 1999; Hsueh, 2010).

2.1.6.2 The relationship between organization competence and service innovation performance is positive

The theory of enterprise competence is the further deepening and development of the theory of enterprise resources. It believes that enterprise competence is the key to its acquisition and maintenance of its competitive advantage. It will continuously change with a series of changing

processes of knowledge, such as its development, application and abandonment. Because resources are usually limited and depreciate over time, they are shrinking with sharing with other groups (Gregori, 1987). But organization competence is a dynamic, infinite process that promotes resource accumulation and development and application (Teece, 1990). It will continuously grow and appreciate over time, application and sharing.

Competence is a combination of required talent, processes, technology, and organizational structure. It is the ability to accomplish a task or activity of many resources in an integrated manner. It is intangible, knowledge-based, through which the company achieves its desired results (Glynn, 1996; Arora, 2002). There are two main types of enterprise competence theory: core competence theory (Hamel & Prahalad, 1990)and dynamic competence theory (Teece, Pisano, & Shuen, 1997).

Both of the above viewpoints believe that the establishment and maintenance of competitive advantage lies in the cultivation and construction ability, but the former emphasizes market competition and takes competitors as a benchmark to strengthen advantages and make up for the shortages; while the latter emphasizes the interaction between internal ability and external opportunities and values the movement of enterprise competence and sustainable development.

2.1.6.3 The relationship between knowledge management and service innovation performance is positive

Knowledge is the root of competitive advantage. Based on resource-based theory and enterprise competence theory, knowledge-based theory holds that an enterprise is a heterogeneous collections of knowledge, and its competitive advantage stems from the creation and application of knowledge (Conner & Prahalad, 1996). Because of its characteristics of universal applicability and difficult mobility (McEvily & Chakravarthy, 2002), and contextual embedding (Bessant & Tidd, 2007), knowledge becomes the core strategic resource of the enterprise (Pavlou & Sawy, 2004). Knowledge is the source of innovation (Nonaka & Takeuchi, 1995; Madhavan & Grower, 1998). It is also the root for an enterprise to maintain its competitive advantage (Hitt, lreland, & Hoskisson, 2012).□

Knowledge transfer promotes service innovation. The mission and basic function of an enterprise is to create, transfer and apply knowledge (Nonaka, 1991; Spender & Grant, 1996). The search, sharing, transfer and integration of knowledge between organizations can effectively improve service performance. The process of service innovation is the process of knowledge transformation. At the same time, knowledge transfer can capture more new ideas

for new service development. In terms of the relationship between knowledge management and service innovation performance, scholars agree that the better the knowledge management ability is, the better the ability of enterprise innovation is (Therin, 2003).

Based on the above analysis, the service innovation performance theory combines service innovation with the external environment and internal conditions. Simmonin (2004) summarized the evolution of the role of knowledge in t competitive strategies, which is also equivalent to clarifying the development logic of the influencing factors of service innovation performance. The main points are: (1) the resource-based view — the differences in performance between different enterprises are mainly due to their unique resources; (2) the view of enterprise competence—competitive advantages come from an enterprise's ability to allocate, develop and protect resources; and (3) the knowledge-based view— the root cause of differences between enterprises lies in the differences in knowledge. This thesis deepens the correlation effect between knowledge transfer and service innovation performance, which will help the service industry to make full use of the important driving force of knowledge transfer to improve service innovation capacity.

2.2 Knowledge transfer

In the era of knowledge economy, knowledge management has become a new subject (Drucker, 1992). The science of knowledge management is interdisciplinary, and its subject bases involve philosophy, psychology, strategy, management science, human resource management, information science, and anthropology. If we can say that knowledge management includes the acquisition, storage, organization, transfer and innovation of knowledge, then knowledge transfer plays a role of connecting the former and the latter. Research on knowledge transfer at home and abroad has been very rich, mainly involving its concept, types, influencing factors, process and performance.

2.2.1 The concept of knowledge transfer

The object of knowledge transfer is knowledge, and its extension or background is knowledge management. Therefore, the following introduces the concept and classification of knowledge, the concept of knowledge management, and the broad and narrow concepts of knowledge transfer.

2.2.1.1 The concept of knowledge

Some scholars (Tenkasi & Boland, 1996; Vance, 1997; Zack, 1999) see knowledge as an object that can be stored and copied. If it can be proved that the information is true under certain circumstances, then we can turn it into knowledge and store it, so we need an efficient system/technology to encode, store, and decompose knowledge. Some scholars (Kogut & Zander, 1992; Bohn, 1994; Zack, 1999) define knowledge as an application process, which relies on the user's specific explanatory power and requires a connection to the source of knowledge and the recipient and systems/technologies that support strategic knowledge management. Some scholars (Nonaka, 1991; Nonaka & Takeuchi, 1995; Spender & Grant, 1996) see knowledge as a belief in mind, such as a personalized message, or a cognition state, therefore it requires an infrastructure that promotes individual access to knowledge and information.

In general, the relationship between data, information, and knowledge is a hierarchical relationship : data is assumed to be simple, isolated facts which do not exist in specific situations, and have no direct meaning; when these facts are placed into a situation and organization, the data is transformed into information; when the information is given the established meaning, the beliefs and the values, it is transformed into knowledge (Nonaka & Takeuchi, 1995; Davenport & Prusak, 1998; Zack, 1999; American Productivity and Quality Center [APQC], 2016; Milton & Lambe, 2016).

Based on the above research, the author believes that knowledge is a valuable understanding based on the flow of information. It is the most important resource for an enterprise and the most important source of its competitive advantages. From the source of knowledge, an enterprise acquires new knowledge, either through internal/joint research and development, or by transferring from other external entities.

2.2.1.2 Classification of knowledge

Knowledge has different attributes based on different classification criteria. Generally, it is divided into two types: tacit knowledge and explicit knowledge, so knowledge has implicit attributes and explicit attributes. For the first time, Polanyi (1967) divided knowledge into explicit knowledge and tacit knowledge. Explicit knowledge is structured and objective tangible knowledge, including words, images, symbols, usually expressed in the form of documents, databases, instructions, formulas, computer programs, methods and skills, principles and laws, regulations and rules. Explicit knowledge can be stored in books, the press, or electronic databases, and can be delivered in certain form and system language. Contrary to

explicit knowledge, tacit knowledge is implicit, sticky, complex, and difficult to compile, including beliefs, metaphors, intuition, mode of thinking, and "technical know-how". The typical characteristic of tacit knowledge is that it is something beyond our description, that is, it is difficult to record and formalize. Therefore, it can only be transferred through a relatively large cost.

Although knowledge is classified in many ways, from the perspective of epistemology, it can basically be classified as tacit knowledge or explicit knowledge. At the same time, if a continuum is used to describe knowledge, then most of the knowledge is between the two poles (completely implicit and fully explicit) and thus is a continuous process (Nonaka, 1991; Spender & Grant, 1996; Leonard & Sensiper, 1998). The author also divides knowledge into two categories: tacit knowledge and explicit knowledge. Therefore, knowledge has implicit attributes and explicit attributes.

2.2.1.3 The concept of knowledge transfer

Teece (1977) first proposed the concept of knowledge transfer. Knowledge transfer and knowledge management are inseparable, so it is necessary to define the concept of knowledge management (Carla & Cindy, 2016). In the context of knowledge management, there is a differentiation between a narrow concept and a broad concept of knowledge transfer. Narrow knowledge transfer refers to a link element of knowledge flow, or part of the knowledge management system (Huber, 1991; Grant, 1996; Szulanski, 1996; Wiig, 1997; Davenport & Prusak, 1998; Hansen, 1999; Gupta & Govindarajan, 2000).

Broad knowledge transfer refers to the whole process of knowledge flow or the entire system of knowledge management. The SECI model proposed by Nonaka and Takeuchi (1995) describes four modes of tacit knowledge and explicit knowledge transformation—socialization, externalization, combination and internalization. And they pointed out that there is a ba at each stage of the spiral rise, which are Originating Ba, Interacting/Dialoguing Ba, Cyber/Systemizing Ba, Exercising Ba respectively, as shown in Figure 2.1. Further, Milton and Lambe (2016) proposed another broad concept of knowledge transfer—the knowledge transfer supply chain model. The knowledge transfer supply chain model parallels the human dialogue with the content of technology and indicates what kind of knowledge needs to flow on different routes, and how the knowledge flows. It is in line with the actual needs of the enterprise and reflects the best practices in the industry.

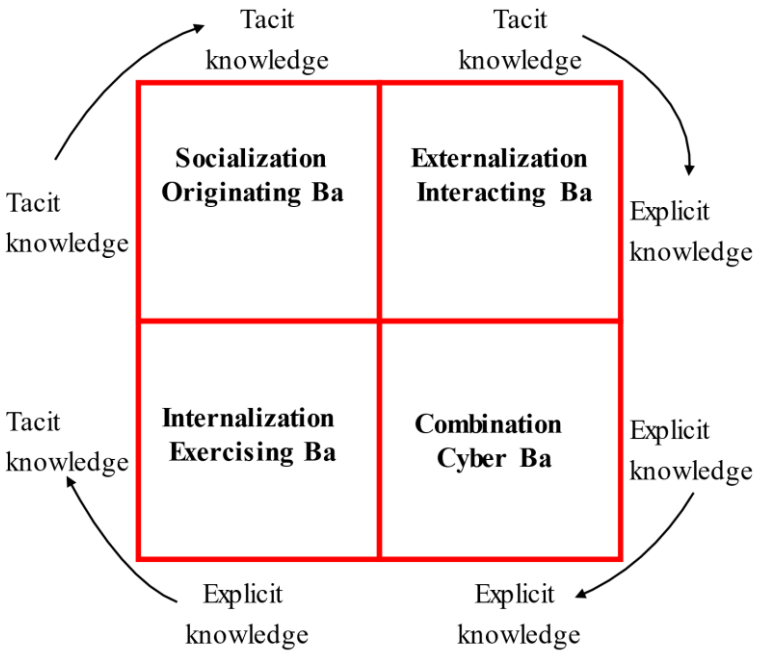

Figure 2.1 SECI transformation model of explicit knowledge and tacit knowledge

Source: Nonaka and Takeuchi (1995)

The author believes that it is better to understand knowledge as a kind of "flow" for the concept of "knowledge transfer". Knowledge transfer is knowledge movement, which is highly dynamic, non-linear, difficult to measure, and even difficult to manage. Although there are a lot of concepts of knowledge transfer, from the perspective of knowledge flow, knowledge transfer does run through the knowledge management process or is a level of knowledge management. Therefore, the author adopts the concept of knowledge transfer in a broad sense.

2.2.2 Types of knowledge transfer

Based on different research perspectives, the classification of the types of knowledge transfer differs from each other (Dixon, 2000; Minbaeva & Michailova, 2004; Li & Mao, 2013).

According to the core activities of knowledge transfer, Nohria and Eccles (1992) divided knowledge transfer into knowledge sharing and knowledge integration. Knowledge sharing is an activity where knowledge exporters and importers jointly create new knowledge (Hooff & Ridder, 2004). Knowledge integration is the process of converting component knowledge into structural knowledge (Bhandar, 2007). Sarin and McDermott (2003) emphasized that only by synergizing can the two not only increase the market response speed in terms of explicit knowledge integration, speed up the process of new service development, shorten the knowledge creation cycle, but also accelerate decision-making and judgment and reduce wrong behavior in tacit knowledge sharing, thus reducing development costs, improving development quality and reducing development time.

According to the routes of knowledge transfer, knowledge transfer is divided into connect and collect(Milton & Lambe, 2016). The two operate side by side and complement each other. Among them, the connect route is mainly to transfer knowledge through human dialogue, which is particularly conducive to tacit knowledge sharing. The collect route is mainly to transfer knowledge through coding knowledge content, which is especially conducive to explicit knowledge integration.

According to the methods of knowledge transfer, knowledge transfer is divided into questioning, telling, searching and releasing (Barnes & Milton, 2015). They are in different positions in the four quadrants. Viewed longitudinally, knowledge transfer activities are divided into two levels: knowledge sharing and knowledge integration. Viewed horizontally, knowledge transfer activities are divided into two ends: the pull end and the push end. Pull is driven by demand, including asking at the knowledge sharing level and searching at the knowledge integration level; push is driven by supply, including telling at the knowledge sharing level and releasing at the knowledge integration level. Therefore, knowledge sharing is subdivided into questioning and telling; knowledge integration is subdivided into searching and releasing. In the same way, APQC (2016) divides the methods of knowledge transfer into self-service, summing up experience and lessons, practice community and best practice transformation.

In the final analysis, epistemology basically divides knowledge into tacit knowledge and explicit knowledge. Corresponding to this, the routes of knowledge transfer are also divided into connect and collect; on their respective routes, the activities of knowledge transfer are correspondingly divided into knowledge sharing and knowledge integration. Based on this, this thesis divides knowledge transfer into two dimensions: knowledge sharing and knowledge integration. From outside to inside, knowledge sharing and knowledge integration transform external knowledge into internal knowledge, and ultimately transform knowledge resources into innovation capacity and new service results.

2.2.3 Influencing factors of knowledge transfer

Enterprise is a collection of knowledge, and its competitive advantage stems from the creation and application of knowledge. Knowledge transfer is a process of cognitive movement. It flows from the knowledge exporter to the knowledge recipient, who gradually understands, masters and finally acquires the same knowledge as the exporter. According to the system theory, the existing research on the influencing factors of knowledge transfer mainly includes the subject of knowledge transfer—knowledge exporter and recipient, the factor of knowledge itself, contextual factor, and the medium of knowledge transfer. The following summarizes the

common factor models of knowledge transfer to analyze its specific influencing factors.

The factor models are research models based on the elements of knowledge transfer process (Dixon, 2000; Jensen & Szulanski, 2004; Simmonin, 2004). The typical ones include the knowledge transfer analysis framework proposed by Albino, Garavelli, and Schiuma (1999), and the four-factor model proposed by Cummings and Teng (2003).

From the above factor models of knowledge transfer, it can be concluded that although the elements of knowledge transfer are different, their connotations are basically similar and compatible. Their commonness is greater than their individuality.

The main factors affecting the performance of knowledge transfer include: the factors of knowledge itself (Polanyi, 1967; Szulanski, 1996; Alavi & Leidner, 2001; Simmonin, 2004), the factors of knowledge exporter (Davenport & Prusak, 1998; Szulanski, 2000; Cross, 2004; Bedman, 2008), the factors of knowledge recipient (Gupta & Govindarajan, 2000; Aladwani, 2002; Wang, 2004; Duanmu & Fai, 2007; Yakhlef, 2007), the factors of transfer context (Hansen, 1999; Hendriks, 1999; Andrews & Delahay, 2000; Argote & Ingram, 2000; Gupta & Govindarajan, 2000; Holtham & Courtney, 2001; Sayed, 2002; Lee & Suh, 2003), and the factors of transfer media (Sveiby, 1997; Davenport & Prusak, 1998; Holtham & Courtney, 2001). Among them, the factors of transfer context include knowledge management strategy, organization, process, human resources, culture and leadership, governance structure; the factors of knowledge transfer media mainly include advanced channels—direct communication between people, and low-level channels — the file exchange supported by information technology.

The factors of knowledge itself. Polanyi (1967) divided knowledge into explicit knowledge and tacit knowledge. Explicit knowledge is observable and easy to express, relatively easy to transfer. Tacit knowledge is mainly manifested in corporate culture, organizational practices or production capacity. It's difficult to code, resulting in excessive transfer costs. Szulanski (1996) confirmed that the differences between explicit knowledge and tacit knowledge themselves determine the differences in the degree of difficulty in knowledge transfer. The more ambiguous the causal relationship and effect of knowledge, the more difficult it is for knowledge to complete the transfer. Simmonin (2004) pointed out that factors such as complexity, implicitness, particularity, existing experience, degree of protection, cultural distance, and organizational distance all have important influences on technical knowledge transfer. The higher the degree of knowledge ambiguity is, the worse the knowledge transfer effect is. Alavi and Leidner (2001) found in their research that the characteristics of viscosity, concealment,

transferability and integrity of knowledge have important influence on the efficiency of knowledge transfer. Cummings and Teng (2003) introduced embedding into the description of knowledge characteristics and proved in their empirical research that the embedding of transferred knowledge is positively related to the difficulty of transfer.

The factors of knowledge exporter. Gupta and Govindarajan (2000) argued that the cognitive ability of both knowledge providers and knowledge recipients are key factors influencing knowledge transfer. According to Szulanski (2000), different stages of knowledge transfer have different main factors: at the beginning stage, the expected barriers to knowledge transfer and the level of trustworthiness of knowledge are the main factors affecting the efficiency of knowledge transfer; at the implementation stage, the absorptive capacity of recipients is the main factor affecting the efficiency of knowledge transfer. Cross (2004)'s research shows that common goals and mutual trust are positively related to knowledge transfer: both parties having common project goals will promote mutual trust, thereby reducing knowledge sharing costs and facilitating effective knowledge transfer. An empirical study by Davenport and Prusak (1998) shows that the ability of knowledge exporters is positively related to the occurrence of knowledge transfer, so it's much easier for the experts to transfer knowledge.

Duanmu and Fai (2007) argue that the main factors that have a significant impact on the quality and effectiveness of knowledge transfer include subjective willingness to transfer knowledge, self-awareness and protection consciousness, transfer motivation and the motivation level, coding ability and language expression ability of the knowledge exporter, as well as the cost and benefit of knowledge transfer. Bedman (2008) divided the knowledge of the knowledge exporter into personal embedded knowledge and organizational embedded knowledge. Among them, personal embedded knowledge includes not only tacit knowledge, such as human ideology, learning ability, experience, but also explicit knowledge, such as professional knowledge and professional skills; organizational embedded knowledge involves organizational structure, business process, operational norms, and corporate culture, corporate systems, teamwork and other internal aspects of the organization.

The factors of knowledge recipient. Szulanski (1996) found in his research that the absorptive capacity and knowledge retention ability of knowledge recipients are at the center of the context of knowledge transfer. Gupta and Govindarajan (2000) found that the stronger the absorptive capacity of the knowledge recipient is, the greater the potential value of knowledge is, and the more likely the knowledge recipient would accept and use that knowledge. Taking the knowledge recipients of the information industry as the research object, Aladwani

(2002) studied their knowledge absorptive capacity' influence on the results of information projects. The conclusions show that there is a significantly positive correlation between the two. Wang (2004)'s research shows that the knowledge recipients' trust in knowledge exporters, subjective willingness to accept knowledge, and the overall quality of their own emotions and IQs significantly affect the effect of knowledge transfer. Duanmu and Fai (2007) have shown that there are two factors directly affecting the effect of knowledge transfer of the knowledge recipient. One is the knowledge recipient's levels of IQ and EQ, including the ability to judge the value of knowledge, the ability to perceive, the ability to learn new knowledge, the level of intelligence, social ability, and the second is the amount of his own original knowledge.

The comprehensive gap of the knowledge volume and the knowledge type between the knowledge recipient and the knowledge exporter is called the "knowledge distance" or the "knowledge potential difference". Yakhlef (2007) went one step further on Nanaka's SECI model, and refered to the four fields in the model as four gaps, namely, spatial location gap, organizational culture gap, organizational system gap and knowledge resource gap. It has an important impact on knowledge transfer.

2.2.4 Process of knowledge transfer

For the general process of knowledge transfer between different subjects, scholars have proposed a number of different viewpoints and theoretical models, of which the four-stage process model and the five-stage process model of knowledge transfer are more representative.

In the study of the transfer of best practices within the organization, Szulanski (2000) divided the development process of knowledge transfer into four phases based on the observation of the transfer process of tacit knowledge: initial phase, implementation phase, promotion phase and integration phase. Gilbert and Hayes (1996) proposed five stages of knowledge transfer in order to solve the knowledge gap between organizations: knowledge acquisition, knowledge exchange, knowledge application, knowledge reception and knowledge assimilation.

The above theoretical models are all based on the general process concept of knowledge transfer, but there are some differences between them. For example, both Szulanski and Gilbert's knowledge transfer process models divide the development process of knowledge transfer into several different stages from start to finish; however, Gilbert's model focuses on knowledge transfer between organizations, and Szulanski's knowledge transfer model is mainly on the knowledge transfer within the organization. Therefore, the former is more macroscopic, and the latter is more microscopic.

2.2.5 Performance of knowledge transfer

The goal of knowledge transfer is that knowledge is digested, absorbed and reused by the recipient. Therefore, the performance of knowledge transfer is not only the transfer of knowledge from one subject to another, but also the application of knowledge by the recipient to practice, forming a convention and producing results. Research at home and abroad has generally confirmed that knowledge transfer has a significantly positive relationship with business process improvement, innovation capacity and organizational performance. For example, by connecting employees and knowledge, organizations can get better sales and sales methods, or avoid waste, mistakes, and rework.

2.2.5.1 Comprehensive measurement of knowledge transfer performance

Cummings and Teng (2003) summarized the four measures of knowledge transfer performance: (1) the most basic method is to measure the amount of knowledge transferred in a certain period of time; (2) from the perspective of input and output; (3) from the perspective of technology transfer and innovation; (4) from the perspective of institutional theory.

Best practice research from APQC (2016) confirms that knowledge transfer can bring a 200% return on investment to an organization. APQC provides an organization-level measurement method of knowledge transfer performance: input and output measurement model to illustrate how knowledge management behavior drives organizational performance.

2.2.5.2 Process measurement of knowledge transfer performance

Hakanson and Nobel (2000) used the times of knowledge transfer over a period of time, that is, the frequency of transfer, to measure knowledge transfer performance. De Long and Fahey (2000) adopted the two indicators of knowledge transfer quality and knowledge transfer quantity. Cross (2004) used production efficiency, market expansion efficiency and technical capability efficiency as indicators to measure the effect of knowledge transfer.

2.2.5.3 Measurement of results of knowledge transfer performance

From the perspective of innovation, knowledge transfer enhances the innovation capacity by integrating existing knowledge and new knowledge to enhance the organization’s technological innovation capacity and service innovation performance. In terms of organizational performance, there is a significantly positive relationship between organizational knowledge transfer and organizational performance. From the perspective of knowledge recipients, Argote and Ingram (2000) pointed out that one is to measure the knowledge change of knowledge

recipients brought by knowledge transfer, and the other is to measure the performance change of knowledge recipients brought by knowledge transfer.

To sum up, the measurement of knowledge transfer performance is to form a complete and feasible methodology, and integrate knowledge management performance indicators into the organization's performance scorecard. Knowledge transfer performance should reflect the process performance of knowledge transfer and the result performance of knowledge transfer; it should measure the performance of knowledge management itself, and also directly link knowledge transfer performance with organizational strategic goals, so that knowledge management methods can match organizational goals and strategies.

2.3 Absorptive capacity

In the research on knowledge-intensive service industry, such as management consulting, knowledge transfer has become a key success factor for service innovation performance and a key antecedent variable for service innovation research. However, many studies have found that companies with the same external knowledge and similar knowledge transfer status have very different service innovation performances. Therefore, there must be an intermediate variable between knowledge transfer and service innovation performance.

Some scholars point out that under the premise of the same external knowledge environment and knowledge transfer level, the stronger the absorptive capacity is, the higher the service innovation performance is. Therefore, absorptive capacity is an important mediating variable between knowledge transfer and service innovation. The research on absorptive capacity at home and abroad mainly involves the related research on the concept of absorptive capacity, types of absorptive capacity, influencing factors of absorptive capacity and absorptive capacity as mediating variable.

2.3.1 The concept of absorptive capacity

Although "absorptive capacity" is an important concept in management, it first appeared in economics (Adler, 1965; Tilton, 1971; Cohen & Levinthal, 1989). Since then, scholars have further expanded and improved the concept of absorptive capacity from the perspectives of cognitive behavior (Cohen & Levinthal, 1990; 1994), dynamic ability (Zahra & George, 2002), and organizational learning (Lane, Koka, & Pathak, 2006; Lichtenthaler, 2009). According to the "endogenism" and "resource-based view" of the source of competitive advantage, absorptive capacity can effectively support the "knowledge-based view", so absorptive capacity

has become an important source of competitive advantage. At the same time, an enterprise's own prior knowledge, R & D investment, and other organizational capability determine its absorptive capacity.

In short, absorptive capacity is a behavioral process in which an enterprise acquires, assimilates, transforms, and applies external knowledge; it is also an internal dynamic capability of an enterprise to transform external knowledge into business output and innovation performance.

2.3.2 Types of absorptive capacity

Most scholars believe that absorptive capacity is a multi-dimensional variable, not a single-dimensional one because in this way it can reflect the complex and dynamic characteristics of absorptive capacity. Generally, the research on the classification of absorptive capacity can be divided into the process view and the structure view.

The process view reveals the mechanism of the transformation of external knowledge into internal capacity, which is consistent with the essential characteristics of absorptive capacity (Cohen & Levinthal, 1990; Zahra & George, 2002; Liao, Welsch, & Stoica, 2003; Lane, Koka, & Pathak, 2006; Lichtenthaler, 2009). Lichtenthaler (2009) divides absorptive capacity into exploratory capacity, transformative capacity and exploitative capacity.

The structure view combines external environmental factors with internal organizational factors, and reflects the key elements and antecedents and consequences of absorptive capacity (Van den Bosch, 1999; Murovec & Prodan, 2009). Murovec and Prodan (2009) believe that different external knowledge requires different absorptive capacity, therefore, absorptive capacity is divided into science-push absorptive capacity and demand-pull absorptive capacity.

From the research in recent years, the process view is in the mainstream, such as the three-dimension model of Cohen & Levinthal, the four-dimension model of Zahra & George and the three-dimension division of Lichtenthaler.

However, in cognitive theory, Zahra & George's four-dimension model has a certain degree of complexity and contradiction: after people's searching for and identifying new external knowledge, the process of assimilation and transformation of knowledge is continuous. They will usually interpret it according to their own mental model and existing knowledge and effectively merge, reconstruct and integrate new and old knowledge. In other words, knowledge assimilation is only a part of the knowledge transformation process, and only the combination of the two is more in line with the "input-transformation-output" (I-P-O) systemic thinking framework, and more in line with simple, effective and fact-based cognitive features.

Based on this, this thesis divides absorptive capacity into three dimensions: exploratory capacity, transformative capacity, exploitative capacity.

2.3.3 Influencing factors of absorptive capacity

According to the results of the existing research, the influencing factors of absorptive capacity can be analyzed from two aspects: external factors and internal factors. The external influencing factors of absorptive capacity are mainly the institutional environment, the competitive environment, the external knowledge environment, the characteristics of external knowledge, and the characteristics of the learning relationship between enterprises. The internal influencing factors of absorptive capacity are mainly enterprise R & D activities, organizational knowledge, organizational structure, and organizational capability.

The following summarizes the specific influencing factors of absorptive capacity: external knowledge environment (Van den Bosch, 1999), knowledge transfer (Leonard & Sensiper, 1998; Lane, Koka, & Pathak, 2006; Todorova & Durisin, 2007), the learning relationship between enterprises (Lane & Lubatkin, 1998), enterprise R & D activities (Vinding, 2000), organizational knowledge (Cohen & Levinthal, 1990; Narasimhan, 2006; Fosfuri & Tribo, 2009), and organizational capability (Zahra & George, 2002). ·

Knowledge transfer. Knowledge transfer is a prerequisite for absorptive capacity. Zahra and George (2002), Lane, Koka, and Pathak (2006), Todorova and Durisin (2007) have proposed different structure models of absorptive capacity. In these structure models, knowledge transfer and its related influencing factors are used as input variables or influencing factors of absorptive capacity. It can be seen that knowledge transfer becomes a resource condition and path dependency of absorptive capacity to influence its effectiveness.

The object of knowledge transfer, that is, the attribute of external knowledge affects the effect of absorptive capacity. Lane, Koka, and Pathak (2006) emphasized that enterprise absorptive capacity is based on individual absorptive capacity and is affected by the interaction between an enterprise and its external environment, the cross-department knowledge transfer of an enterprise, and the nature of external knowledge. Explicit knowledge is often displayed in the form of structured text, symbols, charts. (Leonard & Sensiper, 1998). Based on the standardization of documents, it is easier for enterprises to absorb explicit knowledge, therefore more external explicit knowledge promotes the absorptive capacity of an enterprise. On the contrary, tacit knowledge is difficult to formalize and it is almost “impossible to express in words” because it is rooted in the brain or exists in actions or thoughts (Drucker, 1999). Because

of the uncodeability and ambiguity of tacit knowledge, it is more difficult for enterprises to absorb. Therefore, more external tacit knowledge can hinder the absorptive capacity of an enterprise.

R & D activities. The relationship between enterprise R & D activities and absorptive capacity is the relationship between action and reaction, that is, they circulate positively, promote and reinforce mutually. In the past, absorptive capacity was a by-product of previous R & D activities—the accumulated knowledge and experience of R & D activities is conducive to improving the current absorptive capacity. At present, in the face of the needs of new innovation, enterprises rely on the sources of knowledge, the accumulation of individual prior knowledge and the sharing and communication of organizational knowledge to enable their exploitation of knowledge to continue R & D activities through the process of absorptive capacity. In the future, enterprises can accurately predict the industry and technology development trends and prepare in advance for medium and long-term R & D activities with their absorptive capacity (Cohen & Levinthal, 1990, 1994). That is to say, the R & D activities of enterprises will drive the behavior of acquiring external knowledge to increase their absorptive capacity. Conversely, increasing the absorptive capacity will acquire more external knowledge, which will affect the intensity and direction of R & D activities (Vinding, 2000).

It can be seen from the above studies that from outside to inside, the influencing factors of absorptive capacity include external knowledge environment, knowledge transfer, the learning relationship between enterprises, enterprise R & D activities, organizational knowledge, and organizational capability. In most cases, the stable knowledge environment, more explicit knowledge transfer, the learning relationship between enterprises, enterprise R & D activities, organizational knowledge and appropriate organizational capability are positive factors; unstable knowledge environment, more tacit knowledge transfer and excessive system ability are negative factors.

2.3.4 Absorptive capacity as a mediating variable

In the existing research on knowledge transfer, absorptive capacity and service innovation performance are taken as mediating variable and outcome variable respectively. APQC (2016) proposed an input-output measurement model to reflect the trajectory of business value creation from knowledge transfer inputs (inputs), absorptive capacity operations (processes) to service innovation performance outputs (outputs).

In the existing research on absorptive capacity, knowledge transfer and service innovation

performance are regarded as antecedent variable and outcome variable respectively. In the structure models of absorptive capacity proposed by Zahra and George (2002), Lane, Koka, and Pathak (2006), Todorova and Durisin (2007), factors related to knowledge transfer, such as knowledge source and knowledge base are generally regarded as antecedent variables of absorptive capacity, while service innovation performance-related factors, such as business output, innovation, and enterprise performance are regarded as outcome variables of absorptive capacity. Becker and Peters (2000) found that absorptive capacity plays a mediating role partly between knowledge sources and innovation, that is, technological opportunities (scientific knowledge information) significantly affect innovation performance if the absorptive capacity of the enterprise is not considered; when absorptive capacity is added, the R & D performance of the enterprise will be greatly enhanced.

In the existing research on service innovation performance, knowledge transfer and absorptive capacity are taken as antecedent variable and mediating variable respectively. Previous studies on the relationship between service innovation performance and its influencing factors have mainly focused on external network, organizational capability, knowledge management, and stakeholder participation. In other words, the theory of service innovation performance combines service innovation with external environment and internal conditions. In the research of Therin (2003), knowledge transfer is regarded as the driving force of service innovation performance, and then the relationship between knowledge transfer, absorptive capacity and service innovation performance are studied. It is found that knowledge transfer and absorptive capacity are external and internal factors of service innovation performance respectively.

To sum up, the existing research shows that absorptive capacity may play a significant mediating role between knowledge transfer and service innovation performance. Only when enterprises have certain absorptive capacity, can they explore, transform and exploit more external knowledge during knowledge transfer, and combine with internal knowledge to generate new knowledge, which is applied to the entire innovation process to improve service innovation performance.

2.4 Conceptual model and research hypotheses

2.4.1 Conceptual model

Based on service innovation theory, knowledge management theory, and the related research

results on knowledge transfer, absorptive capacity and service innovation performance, this thesis proposes a systematic conceptual model to analyze the relationship between knowledge transfer, absorptive capacity and service innovation performance of small and medium management consulting enterprises.

According to the above literature, in the specific research process, knowledge transfer is divided into two dimensions: knowledge sharing and knowledge integration; absorptive capacity is divided into three dimensions: explorative capacity, transformative capacity and exploitative capacity; service innovation performance is divided into two dimensions: financial performance and non-financial performance. Among them, knowledge sharing and knowledge integration are exogenous latent variables and the remaining five variables are endogenous latent variables. The relationship between these variables are shown in Figure 2.2.

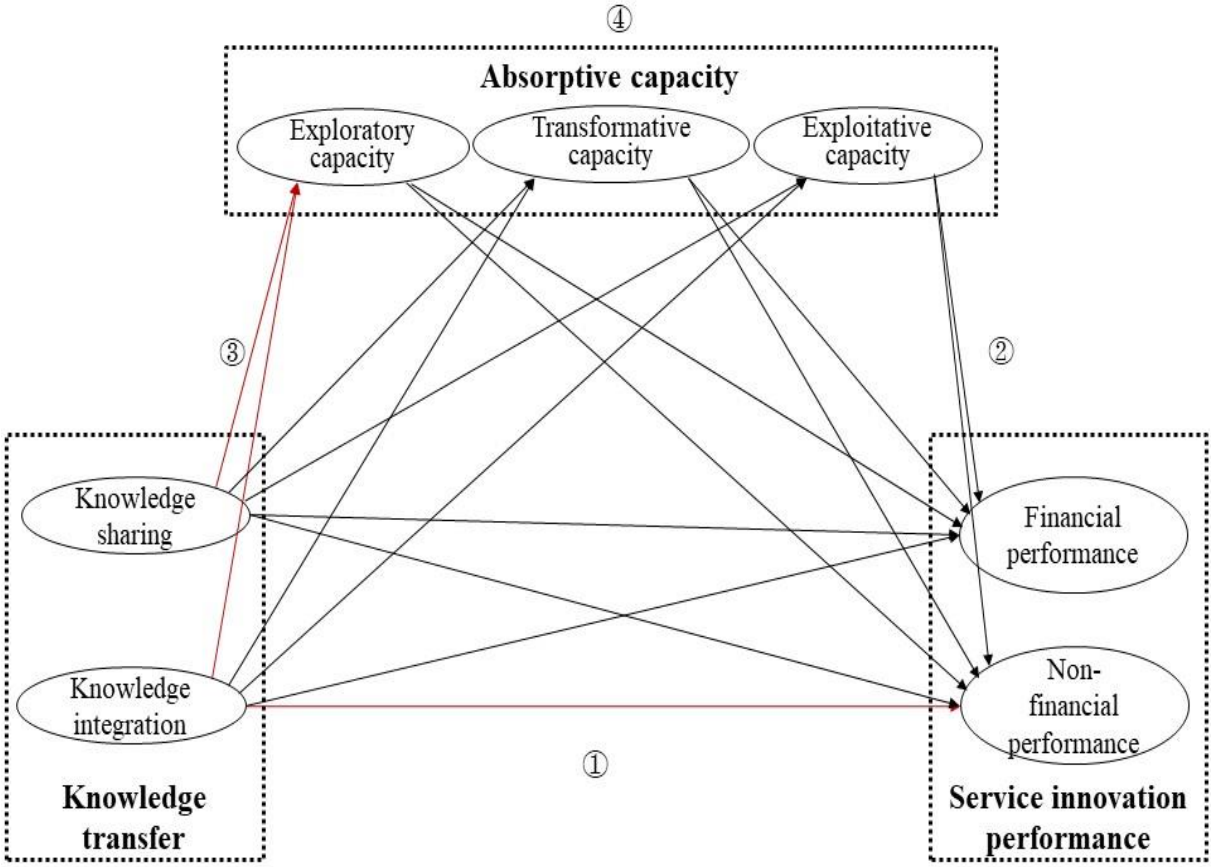

Figure 2.2 Research model

The core idea of the conceptual model diagram is that there are complex relationship between knowledge transfer, absorptive capacity and service innovation performance: knowledge transfer and absorptive capacity have a direct impact on service innovation performance (①, ②); The more corporate knowledge is transferred, the stronger the absorptive capacity will become(③); at the same time, the promotion of service innovation performance

by knowledge transfer is affected by the enterprise's own absorptive capacity, that is, the absorptive capacity plays a mediating role between knowledge transfer and service innovation performance (④).

2.4.2 Research hypotheses

Based on the above theoretical model, combined with relevant domestic and foreign literature, specific hypotheses are put forward on the relationship between variables in the theoretical model according to the basic path of "knowledge transfer → absorptive capacity → service innovation performance": hypotheses on the relationship between knowledge transfer and service innovation performance; hypotheses on the relationship between absorptive capacity and service innovation performance; hypotheses on the relationship between knowledge transfer and absorptive capacity; hypotheses on the role of absorptive capacity between knowledge transfer and service innovation performance.

2.4.2.1 Hypotheses on the relationship between knowledge transfer and service innovation performance

Scholars generally find that the essence of service innovation is knowledge transfer. As the process of commercial application of knowledge, the process of service innovation cannot be separated from the participation of new knowledge (Therin, 2003; Murovec & Prodan, 2008). This shows that knowledge transfer of management consulting companies may have a positive impact on service innovation performance.

As two core activities of knowledge creation, knowledge sharing and knowledge integration face external knowledge with different attributes, that is, knowledge sharing is mainly oriented to tacit knowledge; knowledge integration is mainly oriented to explicit knowledge. Therefore, the two have different impacts on service innovation performance of management consulting enterprises.

(1) Hypotheses on the relationship between knowledge sharing and service innovation performance

Hooff and Ridder (2004) argued that knowledge sharing is an activity in which knowledge exporters and importers work together to create new knowledge. Management consulting enterprises mainly help employees acquire tacit knowledge through channels of knowledge sharing among universities and research institutions, competitors and clients, so as to accumulate rich knowledge, skills and experience to solve the emergence of complex problems in service innovation.

Therefore, the following hypotheses are proposed for the relationship between knowledge sharing and service innovation performance of management consulting enterprises:

Hypothesis H1a1: knowledge sharing is positively correlated with financial performance.

Hypothesis H1a2: knowledge sharing is positively correlated with non-financial performance.

(2) Hypotheses on the relationship between knowledge integration and service innovation performance

Bhandar (2007) pointed out that knowledge integration is the process of combining, applying, and assimilating professional and heterogeneous knowledge. In other words, knowledge integration is the process of turning componentized knowledge into structural knowledge. Management consulting enterprises mainly obtain explicit knowledge through the integration of knowledge from suppliers, universities and research institutions, professional journals and patent databases, professional conferences or exhibitions, and then record and encode content in the form of documents, files, texts, pictures, and videos, and finally use ICT to transfer knowledge on a large scale to promote the growth of total knowledge and improve the quality, efficiency, and effectiveness of service innovation.

Therefore, the following hypotheses are proposed for the relationship between knowledge integration and service innovation performance of management consulting enterprises:

Hypothesis H1b1: knowledge integration is positively correlated with financial performance.

Hypothesis H1b2: knowledge integration is positively correlated with non-financial performance.

2.4.2.2 Hypotheses on the relationship between absorptive capacity and service innovation performance

After a management consulting enterprise acquires knowledge from the outside, its absorptive capacity determines the effect of internalizing and integrating external knowledge. Cohen and Levinthal (1989, 1990, 1994) pointed out that absorptive capacity can increase the speed, frequency, and depth of service innovation. This shows that the absorptive capacity of management consulting companies may have a positive impact on service innovation performance.

From the perspective of organizational learning, Lichtenthaler (2009) regarded absorptive capacity as the ability of an enterprise to exploit external knowledge through three successive processes. In fact, management consulting enterprises discover knowledge by exploratory

capacity, promote organizational learning by transformative capacity, and ultimately realize the commercialization of knowledge through exploitative capacity to create new products or services and obtain new profits and return on investment to improve the financial and non-financial performance of enterprise service innovation.

Based on this, this thesis divides absorptive capacity into three dimensions: exploratory capacity, transformative capacity and exploitative capacity.

(1) Hypotheses on the relationship between exploratory capacity and service innovation performance

Exploratory capacity is the ability of an enterprise to search and discover external knowledge through a variety of formal and informal channels. Zahra and George (2002) pointed out that it can help enterprise identify, evaluate and acquire new external knowledge that is closely related to business operation, including maintaining a keen sense of the external environment, and quickly capturing changes and external opportunities in the external environment, understanding and explaining the knowledge and information that is beneficial to the enterprise. Haro-Dominguez (2007) concluded that exploratory capacity affects the technical knowledge reserve of an enterprise.

Therefore, the following hypotheses are proposed for the relationship between the exploratory dimension in management consulting enterprises' absorptive capacity and service innovation performance: · ·

Hypothesis H2a1: exploratory capacity is positively correlated with financial performance.

Hypothesis H2a2: exploratory capacity is positively correlated with non-financial performance.

(2) Hypotheses on the relationship between transformative capacity and service innovation performance

Transformative capacity is the ability of an enterprise to transform external knowledge into internal knowledge through processes such as organizational learning, knowledge management, and research and development. Zahra and George (2002) pointed out that through the transformation of knowledge, an enterprise can change the original cognitive map, change their understanding of themselves, and develop and refine business processes. Therefore, transformative capacity has really opened the "black box" of enterprise innovation. The research of Haro-Dominguez (2007) and Lichtenthaler (2012) shows that transformative capacity affects the outcome of organizational learning.

Therefore, the following hypotheses are proposed for the relationship between the transformative dimension of management consulting enterprises' absorptive capacity and

service innovation performance:

Hypothesis H2b1: transformative capacity is positively correlated with financial performance.

Hypothesis H2b2: transformative capacity is positively correlated with non-financial performance.

(3) Hypotheses on the relationship between exploitative capacity and service innovation performance

Exploitative capacity is the ability of an enterprise to apply new knowledge explored and transformed to its innovation activities to create new products or services. Zahra and George (2002) pointed out that exploitative capacity is the ability to exploit knowledge to promote action. It can exploit new knowledge to commercial output. Haro-Dominguez (2007)'s research conclusion is that exploitative capacity, assimilating and transformative capacity work together to enhance the competitive advantage of an organization.

Therefore, the following hypotheses are proposed for the relationship between the exploitative dimension of absorptive capacity and innovation capacity of management consulting enterprises:

Hypothesis H2c1: exploitative capacity is positively correlated with financial performance.

Hypothesis H2c2: exploitative capacity is positively correlated with non-financial performance. · ·

2.4.2.3 Hypotheses on the relationship between knowledge transfer and absorptive capacity

Knowledge transfer is an antecedent influencing factor of absorptive capacity. Zahra and George (2002), Lane, Koka, and Pathak (2006), Todorova and Durisin (2007) proposed different structural models of absorptive capacity successively. In these structural models, knowledge transfer and its related influencing factors are used as input variables or influencing factors of absorptive capacity. Knowledge transfer becomes a resource condition and path dependence of absorptive capacity, thereby affecting the effect of absorptive capacity (Cohen & Levinthal, 1990; Fosfuri & Tribo, 2009). This shows that knowledge transfer of management consulting enterprises may have a positive impact on absorptive capacity.

The following relationship may exist between the two dimensions of knowledge sharing and knowledge integration of knowledge transfer and the three dimensions of exploratory capacity, transformative capacity and exploitative capacity of absorptive capacity.

(1) Hypotheses on the relationship between knowledge sharing and absorptive

capacity

Tacit knowledge derived from knowledge sharing is the absorption target of absorptive capacity. The object of knowledge sharing is usually tacit knowledge. When most external knowledge is tacit knowledge, enterprises need to absorb more tacit knowledge, so they need to match relatively strong absorptive capacity of tacit knowledge (Andrews & Delahay, 2000; Gupta & Govindarajan, 2000; Holtham & Courtney, 2001; Lane, Koka, & Pathak, 2006; Duanmu & Fai, 2007).

Therefore, the following hypotheses are proposed for the relationship between knowledge sharing and absorptive capacity of management consulting enterprises: · ·

Hypothesis H3a1: knowledge sharing is positively correlated with exploratory capacity.

Hypothesis H3a2: knowledge sharing is positively correlated with transformative capacity.

Hypothesis H3a3: knowledge sharing is positively correlated with exploitative capacity.

(2) Hypotheses on the relationship between knowledge integration and absorptive capacity

Explicit knowledge derived from knowledge integration is the object of absorption. The object of knowledge integration is usually explicit knowledge (Leonard & Sensiper, 1998). When most external knowledge is explicit knowledge, an enterprise needs to absorb more explicit knowledge, so it needs to have relatively strong absorptive capacity for explicit knowledge (Lane, Koka, & Pathak, 2006; Narasimhan, 2006; Murovec & Prodan, 2009).

Therefore, the following hypotheses are proposed for the relationship between knowledge integration and absorptive capacity of management consulting enterprises:

Hypothesis H3b1: knowledge integration is positively correlated with exploratory capacity.

Hypothesis H3b2: knowledge integration is positively correlated with transformative capacity.

Hypothesis H3b3: knowledge integration is positively correlated with exploitative capacity.

2.4.2.4 Hypotheses on the role of absorptive capacity between knowledge transfer and service innovation performance

In the structure model of absorptive capacity proposed by Zahra and George (2002), Lane, Koka, and Pathak (2006), Todorova and Durisin (2007), knowledge transfer and other related factors such as knowledge source and knowledge basis are generally used as the antecedent variables, while the relevant factors of service innovation performance such as business output, innovation and enterprise performance are taken as the result variables of absorptive capacity.

The mediating role of absorptive capacity is shown in the following: on the one hand, the

more external knowledge the enterprise transfers, the stronger the employees' absorptive capacity is; on the other hand, even if the enterprise faces the same external knowledge, the stronger the absorptive capacity is, the more service innovation the enterprise has. (Cohen & Levinthal, 1990; Zahra & George, 2002).

This shows that the absorptive capacity of management consulting enterprises may have a positive mediating role in the relationship between knowledge transfer and service innovation performance. It is specifically shown in the following aspects:

(1) Exploratory capacity is a positive mediator between knowledge transfer and service innovation performance.

Hypothesis H4a1: exploratory capacity is a positive mediator through which knowledge sharing affects financial performance.

Hypothesis H4a2: exploratory capacity is a positive mediator through which knowledge sharing affects non-financial performance.

Hypothesis H4a3: exploratory capacity is a positive mediator through which knowledge integration affects financial performance.

Hypothesis H4a4: exploratory capacity is a positive mediator through which knowledge integration affects non-financial performance.

(2) Transformative capacity is a positive mediator through which knowledge transfer affects service innovation performance.

Hypothesis H4b1: transformative capacity is a positive mediator through which knowledge sharing affects financial performance.

Hypothesis H4b2: transformative capacity is a positive mediator through which knowledge sharing affects non-financial performance.

Hypothesis H4b3: transformative capacity is a positive mediator through which knowledge integration affects financial performance.

Hypothesis H4b4: transformative capacity is a positive mediator through which knowledge integration affects non-financial performance.

(3) Exploitative capacity is a positive mediator through which knowledge transfer affects service innovation performance.

Hypothesis H4c1: exploitative capacity is a positive mediator through which knowledge sharing affects financial performance.

Hypothesis H4c2: exploitative capacity is a positive mediator through which knowledge sharing affects non-financial performance.

Hypothesis H4c3: exploitative capacity is a positive mediator through which knowledge

integration affects financial performance.

Hypothesis H4c4: exploitative capacity is a positive mediator through which knowledge integration affects non-financial performance.

2.5 Summary of this chapter

This chapter collects, classifies, compares, summarizes, and evaluates the theoretical basis and related literature of service innovation, knowledge transfer and absorptive capacity. Based on this, a theoretical framework reflecting the relationship between the three, including conceptual models and research hypotheses, is constructed.

Compared with the in-depth study of manufacturing innovation behavior, the research on service innovation is a relatively new research field (Cooper et al., 1994; Johne & Storey, 1998; Gallouj, 2002; Tidd, 2003; Leiponen, 2005). The discussion and analysis of service innovation mainly focuses on the concept, types, influencing factors, process and performance of service innovation and the relationship between service innovation performance and its influencing factors. Due to the short history of research, the weak research foundation, and the differences in knowledge structure, especially the knowledge system of the discipline of service innovation itself is still not perfect, the research results aren't systematic and they are also out of touch with reality practice.

From "exogenous theory" to "endogenous theory", it not only clarifies the source of competitive advantage of enterprises, but also indicates the development logic of the factors influencing service innovation performance (Sundbo & Gallouj, 2000). The main points of view are: the view of industrial organization (I/O)—the external environment plays a decisive influence on the strategic behavior of enterprises(Porter, 1980); the view of resources being the basis— the differences of different enterprises' performance are mainly due to their unique resources; the view of enterprise competence— competitive advantages come from the enterprises' abilities to configure, develop and protect resources, and the view of knowledge basis— the fundamental reason for differences between enterprises is the difference of knowledge.

It can be seen that knowledge has become the main source of competitive advantage of an enterprise, and knowledge transfer has naturally become a key success factor for service innovation. Research on knowledge transfer at home and abroad has been very rich, mainly involving the concept of knowledge transfer, the types of knowledge transfer, influencing

factors of knowledge transfer, the process of knowledge transfer and the performance of knowledge transfer. The current research is no longer limited to basic concepts and connotations, but focuses on practical research, involving internal or mutual research at different levels of individuals, teams, organizations.

However, most research on knowledge transfer has the biggest problem of separation of theory and practice. The theoretical development level of knowledge cannot keep pace with the progress of business practice. The main reflection is that the current knowledge transfer theories are often limited to the individual, team level or department level, the theories on the organizational level are still relatively small. At the same time, there is less literature on the connection between knowledge transfer and service innovation and even business strategy. Based on the research status, the author proposes an enterprise-level knowledge transfer system model from the perspective of system view. From the outside to the inside, from the environmental level, the strategic level to the organizational level, it consists of three parts: the external environment and organizational context of knowledge transfer, the strategic execution system to which knowledge transfer belongs, and the main part of knowledge transfer.

Further, many studies have found that enterprises facing the same external knowledge and with similar knowledge transfer status have quite different service innovation performances. Therefore, there must be an intermediate variable between knowledge transfer and service innovation performance. Some scholars have pointed out that under the premise of the same external knowledge environment and knowledge transfer level, the stronger the absorptive capacity is, the higher the performance of service innovation is. Therefore, absorptive capacity is an important mediating variable between knowledge transfer and service innovation.

Reviewing the studies on absorptive capacity at home and abroad, we can find that they are mainly related to the concept of absorptive capacity, types of absorptive capacity, influential factors of absorptive capacity, and related research on absorptive capacity as mediating variable. Among them, scholars have two main views on the classification of absorptive capacity: one is the process view; the other is the structure view. From the research in recent years, the process view is in the mainstream.

Through the review of relevant literature, previous studies have shown that knowledge transfer and absorptive capacity have a positive impact on service innovation performance; absorptive capacity may play a significant mediating role between knowledge transfer and service innovation performance.

Based on the relationship between various dimension variables of knowledge transfer, absorptive capacity and service innovation performance in various dimensions, this thesis

constructs a theoretical model that reflects the relationship between the three. Further, based on the domestic and foreign relevant literature, according to the basic path of "knowledge transfer → absorptive capacity → service innovation performance", we put forward the specific hypotheses about the relationship between variables in the theoretical model: the hypothesis that the dimension variables of knowledge transfer have a positive effect on the dimension variables of service innovation performance; the hypothesis that the dimension variables of absorptive capacity have a positive effect on the dimension variables of service innovation performance; the hypothesis that dimension variables of knowledge transfer have a positive effect on dimension variables of absorptive capacity; the hypothesis that the dimension variables of absorptive capacity play positive mediating roles in the dimension variables of knowledge transfer and service innovation performance.

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Chapter 3: Methodology

This chapter mainly describes the design of empirical research, including questionnaires, the design process of variable measurement, small sample testing, large sample data collection and statistical analysis methods. Structural equation modeling is the core method of hypothesis testing.

3.1 Questionnaire design

The questionnaire is the data source for empirical analysis and hypothesis testing in this thesis. Therefore, the design steps and data collection process of the questionnaire will affect the accuracy of variable measurement and the final results of hypothesis testing. The design, distribution, filling and collection of questionnaires will directly affect the reliability and validity of the research results.

3.1.1 Design principles of the questionnaire

The data collection in this thesis uses a questionnaire survey. Rong (2006) pointed out that the questionnaire design should follow the following principles:

(1) The variable items of the questionnaire should be consistent with the conceptual model;

(2) The content of the designed question items should be easy for the respondents to answer;

(3) In the designed question items, personal privacy should be avoided;

(4) Answers to previous questions should not affect answers to later questions;

(5) In the designed question items, open questions and closed questions should be differentiated;

(6) Pre-testing of small samples is a necessary link before the formal survey of large samples.

Obviously, the designed question items and design process of the questionnaire in this thesis conform to the above six principles.

3.1.2 Design procedures of the questionnaire

The data collection in this thesis uses a questionnaire. The questionnaire design go through the following steps:

The questionnaire design has four stages: (1) literature review, survey and interview; (2)

listen to the opinions of scholars; (3) listen to the opinions of entrepreneurs; (4) pre-test first and then form the final draft. Based on this viewpoint, the questionnaire design of this study goes through the following steps:

3.1.2.1 Literature research

The author consults a large number of research results on service innovation theory, knowledge transfer theory and absorptive capacity theory, and has a relatively comprehensive recognition and understanding of relevant research results at home and abroad. Combined with the specific research objects and research questions in this research, a conceptual model is formed, and the preliminary design of the questionnaire is carried out. When designing the scales, choose the ones that have been verified as much as possible, and especially prefer those with high reliability and validity and widely used.

3.1.2.2 Soliciting experts for their opinions

After completing the preliminary design of the questionnaire, because of the convenience of the author's work, the author solicits the opinions from professors in management, engineering and information sciences, entrepreneurs with management consulting experience and management consulting practitioners. Ask for their suggestions on the format of the questionnaire, the design of the items, the wording of the items. After repeated discussion, the author modifies the items with deviations and unsuitable for the research background to form a revised version of the questionnaire.

3.1.2.3 Small sample test

Before conducting a large-scale formal questionnaire, the author uses the revised questionnaire for small sample testing. According to the test results of reliability and validity, the author judges whether to delete some question items, and revises the expression and wording of some question items again to avoid problems such as unclear concepts, inducing questions and leading to the answers with deviations to form the final formal questionnaire.

In the selection of samples, small and medium management consulting enterprises are mainly selected. In the distribution of questionnaires, mainly use industry associations and other authoritative institutions, take advantage of opportunities such as work contact, achievement promotion conferences and project cooperation to distribute the questionnaires mainly to senior managers, knowledge management leaders and innovation leaders of enterprises on site. The methods of collection are on-site collection, e-mail, telephone fax, mail. The surveyed enterprises are mainly small and medium management consulting enterprises in Shanghai,

Beijing and Shandong Province.

3.1.3 Contents of the questionnaire

The questionnaire design uses a closed questionnaire, which is subjectively filled in by the respondents. Except for some questions about basic information of enterprises and individuals, the remaining questions all adopt the method of subjective perception.

The questionnaire is divided into four parts, including preface, form-filling explanation, basic information of the enterprise and the individual, and the text of the questionnaire. Among them, the basic information of the enterprise includes the economic nature, total number of employees, years of establishment, business type and geographic location; the basic information of the individual includes gender, position, working years, age and education; the text of the questionnaire includes three questionnaires, which are about knowledge transfer, absorptive capacity and service innovation performance respectively.

The questionnaire uses Likert's five-point scale, which can increase the amount of variation of variables and improve the degree of distinction between variables.

3.2 Variable measurement

For the measurement of knowledge transfer, absorptive capacity, service innovation performance and control variables, the author first summarizes the variable measurement in related literature, and then explains how to measure these variables in this thesis. For the specific measurement of each variable, the author mainly draws on the mature scales commonly used at home and abroad; at the same time, in light of the actual needs of the research, some measurement items that are inappropriate for the situation are slightly adjusted.

3.2.1 Variable measurement of knowledge transfer

In general, the measurement of knowledge transfer is divided into "behavior measurement" and "result measurement". Behavior measurement is the measurement of the activities of transfer subject, including the dimensions of transfer willingness, transfer ability, transfer opportunity (Nohria & Eccles, 1992; Strach & Everett, 2006). Result measurement is the measurement of the result of transfer object, including the dimensions of knowledge sharing and knowledge integration. "Behavior measurement" reflects the characteristics of the subject of knowledge transfer, which is more subjective, and "result measurement" reflects the change of the results

of knowledge transfer, which is more objective (Finkbeiner, 2013). It is generally believed that although both can reflect the level of knowledge transfer, the related measurement of transfer activities (willingness, ability) is indirect, and the related measurement of transfer results (sharing, integration) is more direct. Therefore, more scholars divide knowledge transfer into dimensions of knowledge sharing and knowledge integration. This thesis also divides the factors of knowledge transfer variables into knowledge sharing and knowledge integration.

Knowledge sharing is the act of helping others develop the ability to act effectively (Senge, 1990)in a network-based team (Monica Hu, Horng & Christine Sun, 2009). Milton and Lambe (2016) believed that conversation is the most effective tool for knowledge sharing. It is subdivided into many forms such as chat, social connection, reporting, argument and debate, and dialogue. Knowledge integration is the transformation, reorganization and application of existing or new knowledge in internal and external network by group members (Grant, 1996; Madhavan & Grower, 1998). Therefore, knowledge integration requires a technology to organize, store, and collaborate on integrated knowledge. The main knowledge integration technologies are subdivided into wikis, portals, and knowledge bases (Milton & Lambe, 2016).

More scholars measure variables related to knowledge transfer based on the source of external knowledge. The Oslo Manual published by the Organization for Economic Cooperation and Development (OECD) divides knowledge into market knowledge, public institution knowledge, and comprehensive information knowledge, which can be further subdivided into tacit knowledge and explicit knowledge. Murovec and Prodan (2008) believed that the specific ways of knowledge sharing and knowledge integration mainly include suppliers, clients, competitors, universities, research institutions, conferences or periodicals, and exhibitions. Vega-Jurado (2009) divided knowledge into industry knowledge (coming from clients, suppliers, competitors and other enterprises) and scientific knowledge (coming from commercial laboratories, universities, public scientific research institutions and technology centers).

As the two core activities of knowledge creation, knowledge sharing and knowledge integration respectively face external knowledge with different attributes, that is, knowledge sharing is mainly for tacit knowledge; knowledge integration is mainly for explicit knowledge. Therefore, mainly referring to the Oslo Manual, this thesis focuses on measuring knowledge transfer from two dimensions of knowledge sharing and knowledge integration from the perspective of the sources of external knowledge. Among them, the variable measurement of knowledge sharing mainly comes from the sources of tacit knowledge, including 3 items: clients, competitors, universities and research institutions. The variable measurement of knowledge

integration mainly comes from the sources of explicit knowledge, including 6 items: suppliers, universities and research institutions, competitors, professional journals and databases, conferences and exhibitions, and consulting institutions. See Table 3.1.

Table 3.1 The scale of knowledge transfer

Knowledge Transfer
Knowledge Sharing
A1. Enterprises share knowledge about the use of products or services through communication with customers
A2. Enterprises share knowledge through communication with their competitors and within the internal members
A3. Enterprises share indirect knowledge through communication with people at universities and research institutions
Knowledge Integration
A4. Enterprises integrate equipment, raw materials and software knowledge from suppliers
A5. Enterprises integrate direct knowledge from universities and research institutions
A6. Enterprises integrate the knowledge of competitors through reverse engineering
A7. Enterprises integrate knowledge by consulting professional journals and patent databases
A8. Enterprises integrate knowledge by participating in professional conferences and exhibitions
A9. Enterprises integrate knowledge from consulting agencies and other organizations

3.2.2 Variable measurement of absorptive capacity

Generally, from the perspective of hierarchy, the measurement of absorptive capacity is divided into the measurement of absorptive capacity at the individual level and the measurement of absorptive capacity at the enterprise level. The absorptive capacity at the individual level comes from the personal professional background and knowledge accumulation; the absorptive capacity at the enterprise level emphasizes the integration of the absorptive capacity of all members, not a simple summation. Both of them have the characteristics of path dependence: the previous knowledge basis and knowledge search experience will largely affect its subsequent knowledge transfer and absorptive capacity (Fosfuri & Tribo, 2009; Narasimhan, 2006). The variable measurement in this thesis is aimed at the absorptive capacity at the enterprise level.

From the perspective of the methods of variable measurement, the absorptive capacity measurement is divided into single-dimensional measurement and multi-dimensional measurement. Single-dimensional measurements are mostly result-oriented, such as R & D intensity (Tsai, 2001), patent self-citation (Mancusi, 2008) and other variables. The limitations of single-dimensional measurement are: the dynamic characteristic of absorptive capacity is ignored because of the analysis from a static perspective; the universal applicability of absorptive capacity is ignored because of the analysis from a partial perspective. Zahra and George (2002) emphasized that single-dimensional measurement cannot fully measure all the

elements of absorptive capacity.

Multi-dimensional measurement can comprehensively and dynamically reflect the concept of absorptive capacity. Lichtenthaler (2009) believed that absorptive capacity is a holistic ability. It is a dynamic process in which an enterprise recognizes and acquires new knowledge, digests and integrates new knowledge into an existing knowledge system, and finally applies the new knowledge to create new products, new services, or business output. Based on Zahra and George (2002) four dimensions of enterprise absorptive capacity, Flatten et al. (2011) also developed a similar four-dimension scale. Based on the research of Lane, Koka, and Pathak (2006), Lichtenthaler (2009) developed a three-dimension enterprise absorptive capacity scale, including exploratory capacity, transformative capacity and exploitative capacity.

In this thesis, the multi-dimensional measurement method is used to measure the absorptive capacity. Based on the mature scales of scholars such as Haro-Dominguez (2007) and Lichtenthaler (2009), the absorptive capacity is measured from three dimensions: exploratory capacity, transformative capacity and exploitative capacity. Among them, the variable measurement of exploratory capacity is mainly to measure the application effect of various channels or methods used in searching and discovering external knowledge, which has 4 items. The variable measurement of transformative capacity is mainly to measure the performance of the enterprise in transforming external knowledge into internal knowledge in the process of organizational learning, knowledge management, research and development, which includes 5 items. The variable measurement of exploitative capacity is mainly to measure the performance of the new knowledge that the enterprise will explore and transform in the innovation activities of the enterprise and in the creation of new products or services, which has 4 items. See Table 3.2.

Table 3.2 The scale of absorptive capacity

Absorptive Capacity
Exploratory capacity
B1. We often seek and identify new knowledge from the market environment
B2. We are able to collect new external knowledge in detail
B3. We often interact with research institutions, universities or other companies to obtain new knowledge and ideas
B4. We constantly evaluate new knowledge acquired from outside
Transformative capacity
B5. We can quickly understand the new knowledge discovered and retain it for a period of time
B6. We can accomplish knowledge sharing within the company
B7. We can quickly see the practicality of new knowledge and ideas
B8. We are good at combining new knowledge with existing knowledge
B9. When identifying business opportunities, we can quickly utilize the existing knowledge
Exploitative capacity
B10. We are always thinking about developing new services or innovating business models

B11. We often use new knowledge and ideas to create new services
B12. We can easily use new knowledge and ideas to create new services
B13. It is well known to use new knowledge and ideas in the company

3.2.3 Variable measurement of service innovation performance

From the perspective of the methods of variable measurement, the measurement of service innovation performance is divided into single-dimensional measurement and multi-dimensional measurement. Service innovation arises from the interaction of tacit knowledge and explicit knowledge, and has the characteristics of intangibility, diversity, gradualism, complexity, and client orientation. Therefore, service innovation performance is difficult to measure with a single-dimensional indicator, and can only be measured with a multi-dimensional indicator.

Scholars have two main views on the measurement of service innovation performance: one is divided into process performance and results performance (Carbonell, Rodriguez-Escudero, & Pujari, 2009; Hsueh, 2010); the other is divided into financial performance and non-financial performance (Papastathopoulou, & Gounaris, 2001; Storey & Kelly, 2001; Avlonitis, Ramendra & Dena, 2013; Storey & Perks, 2015). It is found that the framework of financial performance and non-financial performance can balance the relationship between financial performance and non-financial performance, process performance and results performance, long-term performance and short-term performance, strategic performance and operational performance, and it has become an internationally used enterprise performance management tool.

Based on the previous research results, combined with the author's best practice research on the business community, this thesis takes the two dimensions of financial performance and non-financial performance as the measurement methods of service innovation based on the service innovation performance indicators proposed by Storey and Kelly (2001). Among them, the variable measurement of financial performance is mainly to measure the satisfaction of shareholders in terms of finance, including 5 items of profit, sales, cost, return on investment and market share. The variable measurement of non-financial performance is mainly to measure the contribution of service innovation in terms of the 5 items of brand, competitiveness, development potential, strategic goals, and business goals. See Table 3.3.

3.2.4 Control variables

The service innovation performance of an enterprise is closely related to its economic nature, enterprise size and other basic attributes. This thesis introduces these variables as control variables into the regression model to minimize their impact on the research results. According

to the relevant literature, this thesis selects four control variables: economic nature, enterprise size, enterprise age and business type, and assigns them the following values:

Table 3.3 The scale of service innovation performance

Service Innovation Performance
Financial Performance
C1. Enterprise's service innovation is highly profitable
C2. Enterprise's service innovation significantly promotes its sales
C3. Enterprise's service innovation significantly reduces its costs
C4. Enterprise's service innovation enables its high rate of return on investment
C5. Enterprise's service innovation improves its market share
Non-financial Performance
C6. Enterprise's service innovation has a significantly positive impact on its brand / reputation
C7. Enterprise's service innovation improves its competitiveness
C8. Enterprise's service innovation improves its future development potential
C9. Enterprise's service innovation helps to achieve its business goals and long-term strategies
C10. Enterprise's service innovation will help to develop other innovative services in the future

3.2.4.1 Economic nature

There may be significant differences in knowledge transfer, absorptive capacity and service innovation performance among enterprises of different equity nature, and they are also affected differently by factors such as globalization and government. For example, the investment intensity of private enterprises in absorptive capacity may be superior to most state-owned enterprises. Therefore, in this thesis, the economic nature of an enterprise is included in the control variables.

According to the economic nature, the values assigned to the control variable are to use 0 and 1 to represent non-private enterprises and private enterprises respectively.

3.2.4.2 Enterprise size

The size of an enterprise has a great influence on its strategic decision, operation decision and daily behavior. Increasing the size of an enterprise brings the advantages of specialized division of labor on the one hand, and the disadvantage of increased coordination difficulty on the other hand. Peng (2007) pointed out that because small businesses are more flexible and full of spirit of innovation, they tend to be more innovative.

According to the size of an enterprise, the values assigned to the control variable are 1, 2, 3 and 4, representing less than 10 people, 11-50 people, 51-100 people and more than 100 people respectively.

3.2.4.3 Enterprise age

Enterprise age is a double-edged sword. On the one hand, as the enterprise ages, it can better use the opportunities brought by the environment, strengthen its own competitive advantage,

accumulate more resources and capabilities for knowledge transfer and service innovation, and absorptive capacity can also be improved. On the other hand, it is also easy to form organizational inertia and path dependence, and it may be easier to foster satisfaction with innovation (Fosfuri & Tribo, 2009). On the contrary, although new startups are weak in terms of absorptive capacity, they have a strong sense of survival and innovative spirit, and are often more likely to create new products or services.

According to the age of an enterprise, the values assigned to the control variable are 1, 2, 3 and 4, representing less than 3 years, 4-6 years, 7-10 years, and more than 10 years respectively.

3.2.4.4 Business type

In general, there are significant differences in knowledge transfer, absorptive capacity and service innovation performance in different industries. The Industrial Organization (I / O) model theory represented by Porter (1980) emphasizes that the attractiveness of an enterprise's business type (including industry type) first determines the long-term profitability of the enterprise. The attractiveness of an industry is determined by five forces (existing competitors, potential entrants, suppliers, buyers, substitutes). For example, as for financial performance, in terms of profit margins, strategic consulting companies may be higher than business process consulting companies; in terms of sales, strategic consulting companies may be lower than business process consulting companies.

According to the type of business, the values assigned to the control variable are 1-9, representing different business types: strategic consulting, organizational consulting, business process consulting, marketing consulting, human resources consulting, financial consulting, corporate culture consulting, comprehensive consulting and other consulting respectively. See Table 3.4.

Table 3.4 Selection and assignment of control variables

Control variables	Classification	Assignment
Economic nature	Private enterprises, state-owned enterprises, Sino-foreign joint ventures, wholly foreign-owned enterprises, other enterprises	0 and 1 represent non-private and private enterprises respectively
Enterprise size	Less than 10 people, 11-50 people, 51-100 people, more than 100 people	1, 2, 3, 4 represent less than 10 people, 11-50 people, 51-100 people, more than 100 people respectively
The age of the enterprise	less than 3 years, 4-6 years, 7-10 years, and more than 10 years	1, 2, 3, and 4 represent less than 3 years, 4-6 years, 7-10 years and more than 10 years respectively.

Business type	Strategic consulting, organizational consulting, business process consulting, marketing consulting, human resources consulting, financial consulting, corporate culture consulting, comprehensive consulting and other consulting	1-9 represents different business types—strategic consulting, organizational consulting, Business process consulting, marketing consulting, human resources consulting, financial consulting, corporate culture consulting, comprehensive consulting and other consulting

3.3 Small sample test

Small sample test is conducted before large sample data is collected, and the purpose is to judge the reliability and validity of the questionnaire to decide whether to modify the variables and items in the questionnaire.

3.3.1 Small sample data collection

The pre-investigation time for the small sample was from January 2019 to February 2019, which lasted 2 months. Mainly for small and medium management consulting companies in Shandong Province, through the recommendation of the Shandong Provincial Federation of Enterprises, questionnaires were distributed and received on site at the enterprises. Since the main content of the research is knowledge transfer, absorptive capacity and service innovation performance, management consulting companies with independent R & D departments or knowledge management departments were selected when questionnaires were distributed. The questions in the questionnaire are suitable for enterprise R & D personnel, knowledge management personnel or middle and senior management personnel to answer, so the questionnaires were only distributed to the above personnel to fill in, so as to ensure the validity, reliability and authenticity of the survey data.

In the pre-test process, a total of 210 questionnaires were distributed, 196 were received, and some of the invalid questionnaires were deleted to form 160 valid questionnaires.

3.3.2 Small sample data analysis

In the small sample test, descriptive statistical analysis, reliability analysis and exploratory factor analysis are mainly carried out to form the formal questionnaire used in the large sample survey.

The descriptive statistical analysis of small sample data is mainly carried out from the four aspects of the sample enterprises' economic nature, enterprise size, enterprise age and business type to understand the overall situation of the small sample.

It can be seen that there is good internal consistency among the items of the three scales of knowledge transfer, absorptive capacity and service innovation performance, and there are no items that need to be deleted, so each scale has good reliability.

After performing reliability analysis and exploratory factor analysis on the small sample, we can get 7 factors, including 2 factors for knowledge sharing and knowledge integration, 3 factors for exploratory capacity, transformative capacity and exploitative capacity, 2 factors for financial performance and non-financial performance.

Therefore, the scales used in the pre-investigation questionnaire has good validity and reliability, and a formal questionnaire can be formed for the collection and analysis of large sample data.

3.4 Data collection

Large sample data collection was conducted after the questionnaire scale had been finalized. Appropriate survey samples were selected and a large-scale questionnaire survey was implemented to obtain valid data for statistical analysis and hypothesis testing. The large sample survey was from March 2019 to June 2019, which lasted 4 months.

3.4.1 Sample selection

This thesis carefully selects samples and establishes the following selection criteria according to research purposes:

3.4.1.1 From the industry, choose small and medium management consulting industry

Management consulting is a professional service to provide clients with knowledge services aimed at improving organizational performance, including analysis of the clients' environment, organizational status and actual problems, formulation of solutions to related problems, and assistance to clients in implementing solutions based on clients' needs. As the main body of the management consulting industry, the small and medium management consulting industry is a typical knowledge-intensive industry, which requires both input of external knowledge and output of service innovation, as well as its own strong absorptive capacity. Therefore, taking this as a sample can better verify the relationship between knowledge transfer, absorptive capacity and service innovation performance.

3.4.1.2 From the geographical perspective, choose Shanghai, Beijing and Shandong

Shanghai, Beijing and Shandong are located in the economically developed areas along the eastern coast of China, where the consulting market is more developed. There are more than 10,000 management consulting companies with a large number of clients, competitors and partners. At the same time, there are obvious differences in the economic development levels of the three regions, representing the southern, northern and central part of China, and also the economic center, political center and traditional cultural center of China respectively.

The sample enterprises are distributed in the southern, northern and central part of China, with a wide range of distribution; among them, 271 copies of questionnaires are collected from Beijing, accounting for 51.3%; 118 copies are collected from Shanghai, accounting for 22.3%; 139 copies are from Shandong Province, accounting for 26.3%, as is shown in Table 3.5.

Table 3.5 Regional distribution of sample companies

Region	n	%
Beijing	271	51.3
Shanghai	118	22.3
Shandong	139	26.3
Total	528	100.0

3.4.1.3 From the diversity of sample attributes, select representative sample enterprises

When designing the questionnaire, the author selects economic nature, enterprise size, enterprise age and business type as the four control variables. When distributing the questionnaire, the author also focuses on choosing small and medium management consulting enterprises with different economic natures, enterprise sizes, enterprise ages and business types as samples to enhance the practical significance of the research and ensure the universality and scientificity of the research results.

3.4.1.4 From the feasibility of data acquisition, select sample enterprises with reliable data

In China, it is often difficult to select samples by random methods to meet the minimum requirements of research, because the response rate is extremely low, and the reliability and credibility of the data are also low. Therefore, searching for available resources such as government, industry intermediaries, universities, classmates and friends, that is, selecting sample enterprises through social relations, is a more feasible way to obtain data in this study. The author mainly selects sample enterprises through the help of industry intermediary—China Enterprise Confederation. Practice has proved that although this method has certain limitations, the receiving rate of the questionnaire is high, and the reliability of the data is also high.

3.4.2 Questionnaire distribution and collection

In order to improve the reliability and validity of the data, the author states in the opening statement of the questionnaire: the purpose of the survey is only for academic research and will not involve business secrets; answer the questions according to the actual situation of the enterprise, and there are no good or bad, right or wrong answers; the questionnaire is filled in anonymously, and the relevant information will never be leaked.

The questionnaires are distributed and collected mainly on site, rather than email or online surveys (such as questionnaire stars). Through the recommendation of the China Enterprise Confederation and its affiliated organizations, the author selects the representative small and medium management consulting companies from its local member companies, and issues and collects questionnaires on the spot. The purpose of this study is to verify the relationship between knowledge transfer, absorptive capacity and service innovation performance. Therefore, enterprises with independent R & D departments or knowledge management departments are selected as sample enterprises.

Set restrictive conditions for the respondents of the questionnaire to ensure the quality of the questionnaires. The questionnaire is suitable for the research and development personnel, knowledge management personnel or middle and senior management personnel of the sample company to answer. According to this, we choose the respondents with the corresponding ability and attitude so that the survey is targeted to ensure the validity, reliability and authenticity of the survey data. Table 3.6 shows that the respondents of the questionnaire have a certain number of working years in their enterprises, have certain work experience and management experience, understand the actual situation of their enterprises, and have good educational backgrounds, so they have the ability to fill in the questionnaire.

In the sample data collection process, a total of 800 questionnaires were distributed and 646 were received. After deleting the invalid questionnaires, there are 528 valid questionnaires.

Table 3.6 Basic information of respondents in the questionnaire

Basic Information	Classification	n	%
Gender	Male	251	47.5
	Female	277	52.5
Position	Below middle-level	382	72.3
	Middle-level executive	67	12.7
	Senior executive	48	9.1
	Chairman / general manager	31	5.9
Years of Work in the Current Enterprise	Less than 3 years	239	45.3
	3-5 years	246	46.6
	6-10 years	40	7.6
	More than 10 years	3	0.6

Age	26-35 years old	299	56.6
	36-45 years old	118	22.3
	Over 46 years old	111	21.0
Education	College degree and below	74	14.0%
	Bachelor	391	74.1%
	Master	38	7.2%
	Doctor or postdoc	25	4.7%

3.5 Statistical analysis methods

After obtaining the data through the questionnaire, this thesis mainly uses statistical software such as SPSS24.0 and AMOS24.0 to conduct empirical analysis of the data. The main statistical analysis methods used are descriptive statistical analysis, reliability and validity analysis, correlation analysis, analysis of variance and structural equation model.

Structural equation model is the core method of hypothesis testing. The structural equation model analyzes the relationship between variables by constructing the structural relationship between latent variables and observed variables. The path diagram of SEM includes two parts: measurement model and structural model. Structural equations deal with latent variables and cannot be measured directly; the measurement model indicates that a latent variable is indirectly measured by those observed variables, describing the process of variable design, that is, the gradual conversion from conceptual variables to operational variables.

The following briefly introduces the modeling steps of the structural equation model and the verification steps of the intermediary effect.

Bollen and Long (1993) pointed out that structural equation modeling generally undergoes five main steps:

(1) Model specification

According to the research hypotheses, an initial theoretical model is proposed to clarify specific latent variables and observed variables; a path map is constructed to clarify the possible mutual relationship between variables.

(2) Model identification

Determine whether the hypothetical model can find a unique parameter estimate. Degree of freedom is a necessary condition to judge whether the model is identified. Generally, if df$\geqslant$ 0, the model may be identified; if df <0, it must not be identified. If the hypothetical model itself cannot be identified, it is impossible to obtain a unique estimate of each parameter.

(3) Model estimation

According to the distribution characteristics of the data, choose the parameter estimation

methods such as maximum likelihood estimation or generalized least square to solve the estimated values of various parameters in the model.

(4) Model evaluation

Absolute Indices, Relative Indices and Parsimony Indices are used to evaluate the model and solve the fitting index to verify whether the model fits the sample data and the degree of fit.

(5) Model modification

If the fitting effect of the model evaluation is poor, we need to modify the model to determine whether we need to add, delete, or modify the parameters in the model, and then use the same set of observation data to test, so as to improve the fitting effect of the model. What needs to be emphasized is that the model modification is based on the theoretical model, not the data.

The commonly used method for testing mediating variables is the method of Baron and Kenny (1986). From the data relationship, the main steps are:

(1) Independent variables affect dependent variables

The change of the independent variables can significantly explain the change of the dependent variables, that is, the regression coefficient is significantly not equal to 0.

(2) Independent variables affect mediating variables

The change of the independent variables can significantly explain the change of the mediating variables, that is, the regression coefficient is significantly not equal to 0.

(3) After controlling the mediating variables, the effect of the independent variables on the dependent variables disappears, or is significantly reduced

Under the structural equation model, it is assumed that the regression coefficient between the independent variables and the mediating variables, the mediating variables and the dependent variables is still significantly not equal to 0. If the regression coefficient of the independent variable and the dependent variable becomes not significantly equal to 0, it means that there is a full mediator; if the regression coefficient of the independent variable is still significantly not equal to 0, but less than the regression coefficient in the first step, it indicates that there is a partial mediator.

3.6 Summary

This chapter focuses on the design of empirical research. Firstly, this chapter introduces the design principles, design process and main contents of the questionnaire. Secondly, it describes

the design process of variable measurement, such as knowledge transfer, absorptive capacity, service innovation performance and control variables, that is, based on the summary of the relevant literature on variable measurement, state how to measure these variables in this thesis. Thirdly, in the small sample test, descriptive statistical analysis, reliability analysis and exploratory factor analysis are mainly carried out to form the formal questionnaire used in the large sample survey. Finally, the data collection in this thesis uses a questionnaire survey method; statistical analysis methods are descriptive statistical analysis, reliability and validity analysis, correlation analysis, analysis of variance and structural equation model. Among them, the structural equation model is the core method of hypothesis testing.

Chapter 4: Results and Discussion

This chapter uses 528 small and medium management consulting companies in Shanghai, Beijing and Shandong Provinces of China as effective sample companies. Based on descriptive statistical analysis, reliability and validity analysis and analysis of variance of large sample data, SEM is mainly used for hypothesis testing to examine the variable relationship between the dimensions of knowledge transfer, absorptive capacity and service innovation performance.

4.1 Descriptive statistical analysis

The sample companies in this thesis are Chinese small and medium management consulting companies. By analyzing the relevant data characteristics of the sample companies, we can understand the distribution and basic situation of the surveyed companies in terms of economic nature, enterprise size, enterprise age and business type, as well as their data characteristics in variables such as knowledge transfer, absorptive capacity and service innovation performance.

4.1.1 Descriptive statistics of the samples

Descriptive statistical analysis is mainly carried out from the four aspects of the sample companies' economic nature, enterprise size, enterprise age and business type to understand the overall status of the samples, which are shown in Table 4.1.

4.1.1.1 Economic nature

Among the enterprises surveyed, the number of private enterprises is the largest, with 424, accounting for 80.3% of the total questionnaire; it is followed by state-owned enterprises, with 51, accounting for 9.7% of the total; there are 33 Sino-foreign joint ventures, accounting for 6.2% of the total; there are 20 wholly foreign-owned enterprises, accounting for 3.8% of the total questionnaire. It can be seen from this that the economic natures of the sample companies are widely distributed, and private companies are the main body of small and medium management consulting companies.

Table 4.1 Sample descriptive statistics

Variable	Classification	n	%
Economic nature	Private enterprises	424	80.3
	State-owned enterprises	51	9.7
	Sino-foreign joint ventures,	33	6.2
	Wholly foreign-owned enterprises	20	3.8
	Other enterprises	0	0
Enterprise size	Less than 10 people	0	0
	11-50 people	254	48.1
	51-100 people	157	29.7
	More than 100 people	117	22.2
Enterprise age	Less than 3 years	153	29.0
	4-6 years	222	42.0
	7-10 years	94	17.8
	More than 10 years	59	11.2
Business type	Strategic consulting	91	17.2
	Organizational consulting,	55	10.4
	Business process consulting	82	15.5
	Marketing consulting	42	8.0
	Human resources consulting	48	9.1
	Financial consulting	54	10.2
	Corporate culture consulting,	75	14.2
	Comprehensive consulting	81	15.3

4.1.1.2 Enterprise size

There is no enterprise with less than 10 employees. There are 254 enterprises with 11-50 employees, accounting for 48.1% of the total. There are 157 enterprises with 51-100 employees, accounting for 29.7% of the total. The number of companies with more than 100 employees is the smallest, only 117, accounting for 22.2% of the total. It can be seen from this that the vast majority of sample enterprises are small and medium enterprises.

4.1.1.3 Enterprise age

Among the surveyed enterprises, most of the enterprises have been established for 4-6 years, 222 altogether, accounting for 42% of the total; 153 enterprises have been established for less than 3 years, accounting for 29% of the total; 94 enterprises have been established for 7-10 years, accounting for 17.8% of the surveyed enterprises; only 59 enterprises have been established for more than 10 years, accounting for 11.2% of the total. It can be found that most of the sample enterprises are growth enterprises with not- too- long lives.

4.1.1.4 Business type

From the perspective of the surveyed enterprises' business types, there are more strategic consulting, business process consulting, comprehensive consulting, and corporate culture consulting, with a total of 329, accounting for 62.31% of the total; 55 enterprises' business type

is organizational consulting, accounting for 10.4% of the total; 54 enterprises' business type is financial consulting, accounting for 10.2% of the total; 48 enterprises' business type is human resource consulting, accounting for 9.1% of the total; 42 enterprises' business type is marketing consulting, accounting for 8% of the total. It can be seen from this that the businesses of small and medium management consulting enterprises are quite different and complementary, leaving enough room for mutual cooperation.

Therefore, through the descriptive statistical analysis of the samples, it is found that the surveyed enterprises are widely distributed in terms of economic nature, enterprise size, enterprise age, and business type, indicating that they have good representativeness.

4.1.2 Descriptive statistics of variables

Table 4.2 shows that the sample means of the latent variables and each dimension variable are all greater than 3, which are all around 3.8, indicating that the basic level of the sample enterprises is at a high level. At the same time, by comparing the means of variables, it is found that the average level of knowledge transfer among surveyed enterprises is slightly higher than the average level of absorptive capacity and service innovation performance.

Kline (1985) believed that when the absolute value of skewness is <3 and the absolute value of kurtosis is <10, it indicates that the sample data basically follow the normal distribution. Table 4.2 shows that the absolute value of skewness of each variable of the sample is <3, and the absolute value of kurtosis is <10, indicating that the data of the sample enterprises' variables conform to the normal distribution.

Table 4.2 Descriptive statistics of variables and dimensions

Variables	n	Min	Max	AVG	SD	Skewness	Kurtosis
KS	528	1.00	5.00	3.881	1.124	-0.854	-0.384
KI	528	1.17	5.00	3.820	0.997	-0.618	-0.711
KT	528	1.44	5.00	3.840	0.860	-0.558	-0.594
EC_1	528	1.00	5.00	3.824	1.040	-0.696	-0.559
TC	528	1.00	5.00	3.885	1.035	-0.800	-0.375
EC_2	528	1.00	5.00	3.789	1.014	-0.641	-0.583
AC	528	1.77	5.00	3.836	0.783	-0.438	-0.668
FP	528	1.20	5.00	3.817	1.000	-0.663	-0.647
NFP	528	1.00	5.00	3.831	1.019	-0.696	-0.546
SIP	528	1.20	5.00	3.824	0.835	-0.645	-0.255

Therefore, through descriptive statistical analysis of variables and various dimensions, it is found that the surveyed enterprises have a higher average level of variables such as knowledge transfer, absorptive capacity and service innovation performance, and the sample data basically conform to the normal distribution.

4.2 Reliability and validity analysis

Reliability analysis and validity analysis analyze the reliability and validity of the questionnaire. The method of reliability analysis uses Cronbach's α coefficient. Validity includes three types: content validity, criterion validity, and construct validity. Construct validity analysis mainly uses confirmatory factor analysis and correlation analysis.

4.2.1 Reliability analysis

In reliability analysis, the α coefficient is the reliability of the cumulative Likert scale, and its value is between 0 and 1. The closer the α value is to 1, the higher the reliability of the questionnaire. In general, the Cronbach's α coefficient of the total scale should be above 0.8, acceptable if it is between 0.7 and 0.8; the Cronbach's α coefficient of the subscale should be above 0.7, and also acceptable if it is between 0.6 and 0.7.

Table 4.3 shows that the Cronbach's α coefficient of knowledge transfer is 0.862, and the Cronbach's α coefficients of the included knowledge sharing and knowledge integration are 0.869 and 0.892 respectively; the Cronbach's α coefficient of absorptive capacity is 0.881, and the Cronbach's α coefficients of the included exploratory capacity, transformative capacity and exploitative capacity are 0.858, 0.898 and 0.876 respectively; the Cronbach's α coefficient of service innovation performance is 0.870, and the Cronbach's α coefficients of the included financial performance and non-financial performance are 0.870 and 0.886. All the Cronbach's α coefficients are greater than 0.8, indicating all the questionnaire variables and dimensions in this thesis have good reliability.

Table 4.3 Reliability test of sample variables

Variables	Dimensions	Number of questions	Cronbach's α coefficient	
KT	KS	3	0.869	0.862
	KI	6	0.892	
AC	EC1	4	0.858	0.881
	TC	5	0.898	
	EC2	4	0.876	
SIP	FP	5	0.870	0.870
	NFP	5	0.886	

4.2.2 Confirmatory factor analysis

Confirmatory factor analysis aims to verify the fit of the measurement model through data to verify the effectiveness of variable measurement. The judgment criterion is that when conducting confirmatory factor analysis, the factor load of each item is generally greater than

0.7. In general, confirmatory factor analysis needs to go through the steps of model specification, model estimation and model evaluation.

4.2.2.1 Confirmatory factor analysis of knowledge transfer

The measurement model of knowledge transfer is shown in Figure 4.1.

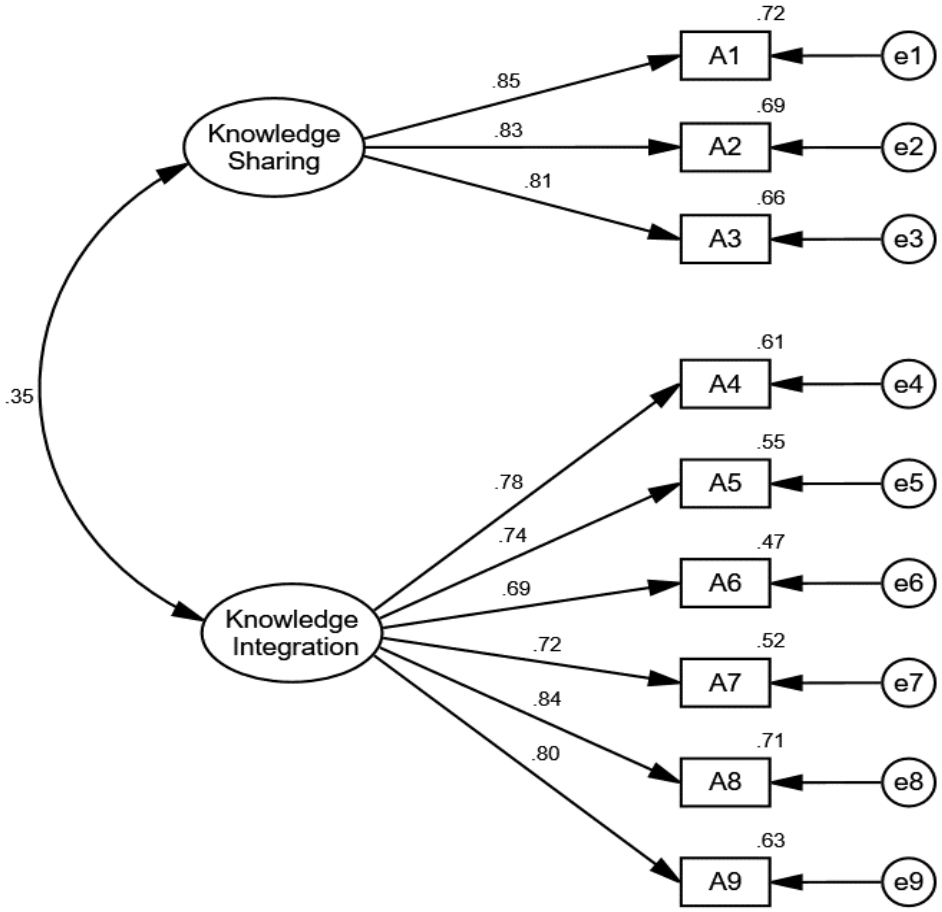

Figure 4.1 The measurement model of knowledge transfer

Use the maximum likelihood estimation method for model estimation, run AMOS software, the estimation results of load coefficients and other parameters are shown in Table 4.4.

Table 4.4 Parameter estimates of KT measurement model

		Estimate	S.E.	C.R.	P	Factor loading	CR	AVE
A1 <---	KS	1.000				0.850	0.869	0.689
A2 <---	KS	0.967	0.047	20.419	***	0.829		
A3 <---	KS	0.940	0.046	20.272	***	0.810		
A4 <---	KI	1.000				0.783	0.893	0.583
A5 <---	KI	0.991	0.056	17.722	***	0.743		
A6 <---	KI	0.905	0.056	16.246	***	0.687		
A7 <---	KI	0.949	0.055	17.176	***	0.719		
A8 <---	KI	1.112	0.055	20.241	***	0.842		
A9 <---	KI	1.071	0.056	19.234	***	0.796		

The above table shows that the standardized coefficients of the nine observed variables of knowledge transfer are> 0.5, which have passed the significance test of the parameters. The CR (composite reliability) and the AVE (average variance extracted) value of knowledge sharing integration are 0.869 and 0.689 respectively; the CR and the AVE value of knowledge integration are 0.893 and 0.583 respectively. They all meet the standards of CR> 0.5 and AVE> 0.5.

Use the absolute fitting index, relative fitting index and parsimony fitting index to evaluate the model to verify the fitting degree of the model to the sample data. The obtained fitting indexes are shown in Table 4.5.

Table 4.5 Fit index of KT measurement model

Test statistics		Reference value	Value	Result
	χ^2		63.648	
	df		26	
Absolute Indices	GFI	≥0.90	0.975	Yes
	AGFI	≥0.90	0.957	Yes
	RMSEA	≤0.08	0.052	Yes
	NFI	≥0.90	0.975	Yes
Relative Indices	TLI	≥0.90	0.979	Yes
	CFI	≥0.90	0.985	Yes
Parsimony Indices	χ^2/df	1-3	2.448	Yes
	AIC		101.648	

The above table shows that the absolute fit indexes in the model GFI = 0.975, AGFI = 0.957, RMSEA = 0.052, all meet the test standards of good model fit; the relative fit indexes TLI = 0.979, CFI = 0.985, both meet the test standards of good model fit; the parsimony fit indexes χ2 / df and AIC statistics also meet the test standards of good model fit. Therefore, the model has a higher degree of fit.

4.2.2.2 Confirmatory factor analysis of absorptive capacity

The measurement model of absorptive capacity is shown in Figure 4.2.

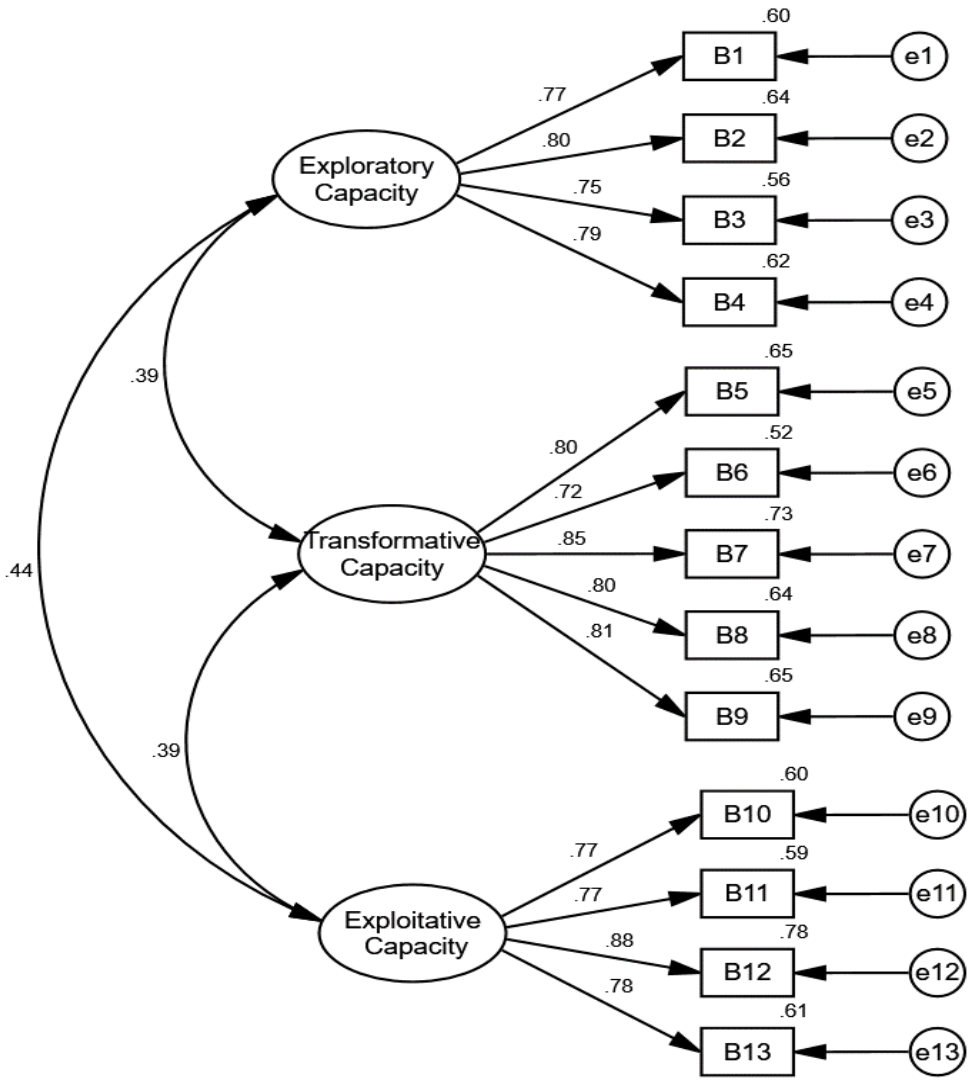

Figure 4.2 The measurement model of absorptive capacity

Use the maximum likelihood estimation method for model estimation, run AMOS software, the estimation results of path coefficients and load coefficients and other parameters are shown in Table 4.6.

The below table shows that the standardized coefficients of the 13 observed variables of absorptive capacity are> 0.5, which pass the significance test of the parameters. The CR and the AVE of exploratory capacity are 0.860 and 0.605 respectively; the CR and the AVE of transformative capacity are 0.898 and 0.639 respectively; the CR and the AVE of exploitative capacity are 0.878 and 0.643 respectively. They are all in line with the criterion of CR> 0.5 and AVE> 0.5.

Use the absolute fitting index, relative fitting index and parsimony fitting index to evaluate the model to verify the fitting degree of the model to the sample data. The obtained fitting indexes are shown in Table 4.7.

Table 4.6 Parameter estimates of AC measurement model

			Estimate	S.E.	C.R.	P	Factor loading	CR	AVE
B1	<---	EC_1	1.000				0.774	0.860	0.605
B2	<---	EC_1	1.039	0.058	17.938	***	0.802		
B3	<---	EC_1	1.060	0.063	16.767	***	0.747		
B4	<---	EC_1	1.100	0.061	17.908	***	0.787		
B5	<---	TC	1.000				0.805	0.898	0.639
B6	<---	TC	0.875	0.049	17.697	***	0.722		
B7	<---	TC	1.050	0.048	21.746	***	0.854		
B8	<---	TC	1.005	0.049	20.532	***	0.802		
B9	<---	TC	0.992	0.050	19.823	***	0.808		
B10	<---	EC_2	1.000				0.772	0.878	0.643
B11	<---	EC_2	0.956	0.053	17.958	***	0.767		
B12	<---	EC_2	1.113	0.053	20.841	***	0.883		
B13	<---	EC_2	1.034	0.057	18.226	***	0.779		

Table 4.7 Fit index of AC measurement model

Test statistics		Reference value	Value	Result
	χ^2		149.019	
	df		62	
Absolute Indices	GFI	≥0.90	0.960	Yes
	AGFI	≥0.90	0.941	Yes
	RMSEA	≤0.08	0.052	Yes
	NFI	≥0.90	0.961	Yes
Relative Indices	TLI	≥0.90	0.971	Yes
	CFI	≥0.90	0.977	Yes
Parsimony Indices	χ^2/df	1-3	2.404	Yes
	AIC		207.019	

The above table shows that the absolute fit indexes in the model GFI = 0.960, AGFI = 0.941, RMSEA = 0.052, all meet the test standards of good model fit; the relative fit indexes TLI = 0.971, CFI = 0.977, both meet the test standards of good model fit; the parsimony fit indexes χ2 / df and AIC statistics also meet the test standards of good model fit. Therefore, the model has a higher degree of fit.

4.2.2.3 Confirmatory factor analysis of service innovation performance

The measurement model of service innovation performance is shown in Figure 4.3.

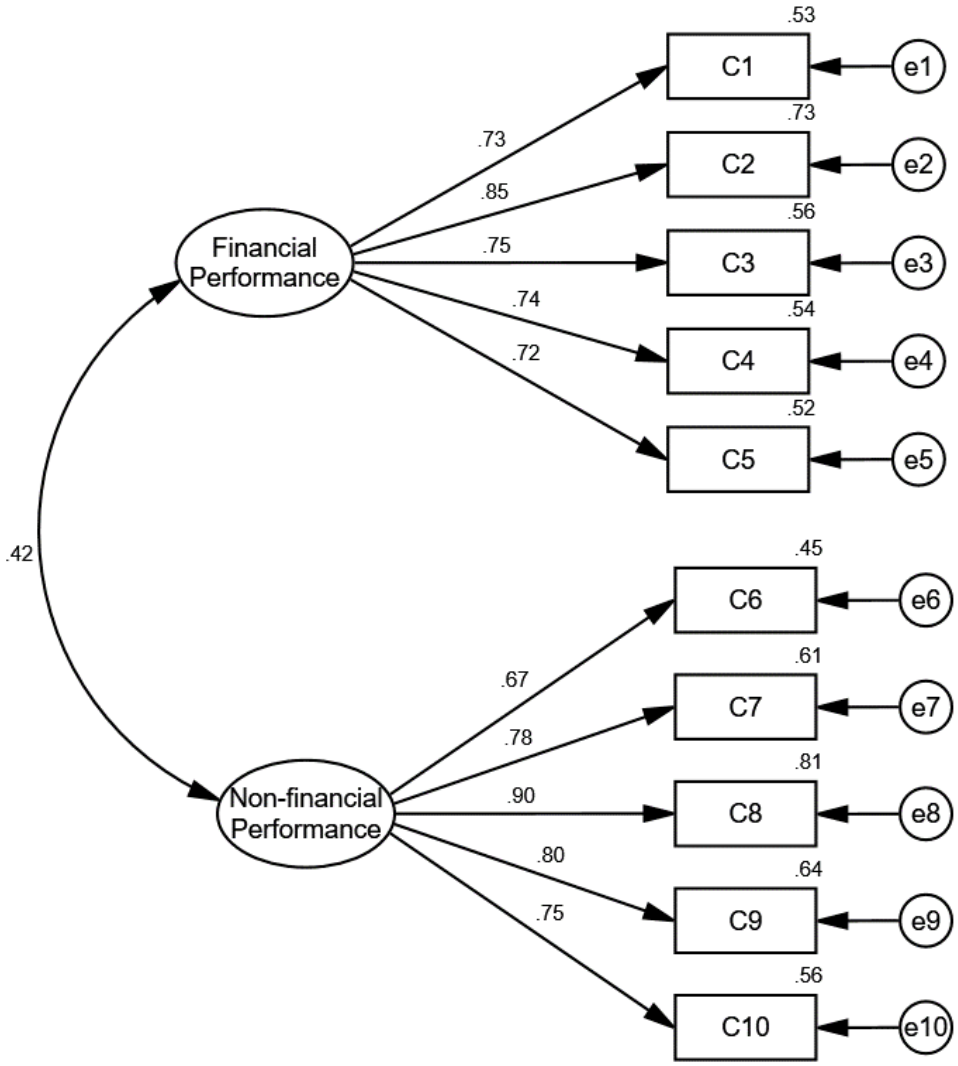

Figure 4.3 The measurement model of service innovation performance

Use the maximum likelihood estimation method for model estimation, run AMOS software, the estimation results of path coefficients and load coefficients and other parameters are shown in Table 4.8.

The below table shows that the standardized coefficients of the 10 observed variables of service innovation performance are> 0.5, which have passed the significance test of the parameters. The CR and the AVE of financial performance are 0.871 and 0.576 respectively; the CR and the AVE of non-financial performance are 0.887 and 0.614 respectively. They are all in line with the criterion of CR> 0.5 and AVE> 0.5.

Table 4.8 Parameter estimates of SIP measurement model

			Estimate	S.E.	C.R.	P	Factor loading	CR	AVE
C1	<---	FP	1.000				0.732	0.871	0.576
C2	<---	FP	1.209	0.066	18.412	***	0.855		
C3	<---	FP	1.029	0.063	16.320	***	0.745		
C4	<---	FP	0.989	0.063	15.799	***	0.732		
C5	<---	FP	1.026	0.065	15.729	***	0.724		
C6	<---	NFP	1.000				0.667	0.887	0.614
C7	<---	NFP	1.108	0.070	15.804	***	0.782		
C8	<---	NFP	1.331	0.077	17.325	***	0.902		
C9	<---	NFP	1.146	0.072	15.904	***	0.801		
C10	<---	NFP	1.090	0.072	15.180	***	0.747		

Use the absolute fitting index, relative fitting index and parsimony fitting index to evaluate the model to verify the fitting degree of the model to the sample data. The obtained fitting indexes are shown in Table 4.9.

Table 4.9 Fit index of SIP measurement model

Test statistics		Reference value	Value	Result
	χ^2		74.994	
	df		34	
Absolute Indices	GFI	≥0.90	0.974	Yes
	AGFI	≥0.90	0.958	Yes
	RMSEA	≤0.08	0.048	Yes
	NFI	≥0.90	0.972	Yes
Relative Indices	TLI	≥0.90	0.980	Yes
	CFI	≥0.90	0.985	Yes
Parsimony Indices	χ^2/df	1-3	2.206	Yes
	AIC		116.994	

The above table shows that the absolute fit indexes in the model GFI = 0.974, AGFI = 0.958, RMSEA = 0.048, all meet the test standards of good model fit; the relative fit indexes TLI = 0.980, CFI = 0.985, both meet the test standards of good model fit; the parsimony fit indexes χ2 / df and AIC statistics also meet the test standards of good model fit. Therefore, the model has a higher degree of fit.

4.2.3 Correlation analysis

Correlation analysis aims at a preliminary study of the correlation between variables and create conditions for further application of the SEM method.

The correlation analysis between the various dimension variables of knowledge transfer, absorptive capacity and service innovation performance is shown in Table 4.10.

Table 4.10 Correlation analysis between variables

	1	2	3	4	5	6	7	8	9	10	11
1EN	1										
2ES	-0.040	1									
3EA	0.059	-0.037	1								
4BT	-0.023	0.020	0.087*	1							
5KS	0.057	0.030	-0.002	-0.001	1						
6KI	0.086*	0.013	0.029	0.001	0.313**	1					
7EC$_1$	0.036	0.028	0.143**	0.043	0.375**	0.371**	1				
8TC	0.074	0.004	0.214**	0.046	0.340**	0.147**	0.347**	1			
9EC$_2$	0.100*	-0.002	0.144**	-0.009	0.438**	0.415**	0.387**	0.360**	1		
10FP	0.059	-0.034	0.122**	-0.005	0.392**	0.352**	0.375**	0.249**	0.395**	1	
11NFP	0.070	0.002	0.229**	0.061	0.397**	0.383**	0.449**	0.380**	0.430**	0.370**	1

Note: * means P＜0.05; ** means P＜0.01.

The above table shows that the correlation coefficients of knowledge sharing and exploratory capacity, transformative capacity, and exploitative capacity are 0.375, 0.340, and 0.438 respectively, which are all significant at 0.01 level, indicating a significantly positive correlation; the correlation coefficients of knowledge integration and exploratory capacity, transformative capacity, exploitative capacity are 0.371, 0.147 and 0.415 respectively, which are significant at the level of 0.01, indicating a significantly positive correlation; the correlation coefficients of financial performance and knowledge sharing, knowledge integration, exploratory capacity, transformative capacity, exploitative capacity are 0.392, 0.352, 0.375, 0.249, 0.395 respectively, which are all significant at 0.01 level, indicating a significantly positive correlation; the correlation coefficients of non-financial performance and knowledge sharing, knowledge integration, exploratory capacity, transformative capacity, exploitative capacity are 0.397, 0.383, 0.449, 0.380, 0.430 respectively, reaching significance at 0.01 level, indicating a significantly positive correlation.

Therefore, there is a significantly positive correlation between the dimension variables of knowledge transfer, absorptive capacity and service innovation performance, which initially proves the hypotheses of this study.

4.3 Analysis of variance

For analysis of variance (ANOVA), the author uses one-way analysis of variance to analyze the impact of corporate characteristics on variables to determine whether knowledge transfer, absorptive capacity, service innovation performance and their dimension variables are different in terms of economic nature, enterprise size, enterprise age and business type.

There are two types of one-way ANOVA: parametric one-way ANOVA and non-parametric ANOVA. If the variables follow the normal distribution, use parametric one-way ANOVA, otherwise use non-parametric ANOVA. Table 4.2 shows that the absolute value of skewness of each variable of the samples is <3, and the absolute value of kurtosis is <10, indicating that the data of the sample enterprises' variables conform to the normal distribution. Therefore, this thesis uses parametric one-way ANOVA.

4.3.1 Analysis of variance of economic nature

Taking the economic nature as a factor, the T test is used to determine whether the sample companies' knowledge transfer, absorptive capacity and service innovation performance and their dimension variables are significantly different due to the differences in economic nature. See Table 4.11.

Table 4.11 Analysis of variance of economic nature

	PE（n=424）	NPE（n=104）	F	P
KS	3.923±1.136	3.783±1.092	-1.302	0.193
KI	3.876±1.002	3.688±0.978	-1.982	0.048
KT	3.891±0.863	3.720±0.843	-2.103	0.036
EC_1	3.848±1.013	3.766±1.104	-0.832	0.406
TC	3.934±1.01	3.767±1.088	-1.701	0.090
EC_2	3.854±0.979	3.634±1.081	-2.205	0.028
AC	3.883±0.742	3.726±0.867	-1.991	0.048
FP	3.856±0.968	3.726±1.07	-1.306	0.193
NFP	3.877±1.017	3.722±1.019	-1.598	0.111
SIP	3.866±0.818	3.724±0.87	-1.790	0.074

The above table shows that there are significant differences in knowledge integration due to the differences in economic nature (F= -1.982, P <0.05). The average score of private enterprises is higher than that of non-private enterprises. Similarly, there are also significant differences in knowledge transfer, exploitative capacity and absorptive capacity due to the differences in economic nature. The average score of private enterprises is higher than that of non-private enterprises. There are no significant differences in other variables (P> 0.05).

4.3.2 Analysis of variance of enterprise size

Taking enterprise size as a factor, use the F test to determine whether the sample companies' knowledge transfer, absorptive capacity and service innovation performance and their dimension variables are significantly different due to the differences in enterprise size, as is shown in Table 4.12.

Table 4.12 Analysis of variance of enterprise size

	11-50（n=254）	51-100（n=157）	>100(n=117）	F	P
KS	3.892±1.122	3.756±1.234	4.026±0.952	1.961	0.142
KI	3.826±1.008	3.764±1.017	3.88±0.952	0.462	0.630
KT	3.848±0.878	3.762±0.89	3.929±0.769	1.292	0.276
EC_1	3.804±1.091	3.809±1.015	3.887±0.965	0.275	0.760
TC	3.899±1.003	3.827±1.096	3.93±1.028	0.381	0.683
EC_2	3.818±1.049	3.701±0.97	3.844±0.994	0.871	0.419
AC	3.845±0.816	3.783±0.758	3.89±0.746	0.662	0.516
FP	3.861±1.019	3.768±1.028	3.788±0.923	0.477	0.621
NFP	3.821±1.037	3.86±1.016	3.815±0.989	0.090	0.914
SIP	3.841±0.865	3.814±0.855	3.802±0.745	0.102	0.903

The above table shows that for the variables, there are no significant differences in terms of enterprise size (P> 0.05).

4.3.3 Analysis of variance of enterprise age

Taking enterprise age as a factor, use the F test to determine whether the sample companies' knowledge transfer, absorptive capacity and service innovation performance and their dimension variables are significantly different in terms of enterprise age. See Table 4.13.

Table 4.13 Analysis of variance of enterprise age

	<3（n=153）	4-6（n=222）	7-10（n=94）	>10（n=59）	F	P
KS	3.891±1.125	3.875±1.107	3.872±1.204	3.893±1.082	0.010	0.999
KI	3.782±1.065	3.786±0.997	4.009±0.878	3.743±0.986	1.403	0.241
KT	3.818±0.907	3.816±0.852	3.963±0.791	3.793±0.87	0.794	0.497
EC_1	3.637±1.092	3.788±1.005	4.109±1.012	3.987±0.98	4.662	0.003
TC	3.577±1.075	3.911±1.016	4.085±1.021	4.264±0.803	8.754	0.000
EC_2	3.632±1.052	3.76±0.995	3.91±1.005	4.11±0.922	3.751	0.011
AC	3.612±0.802	3.827±0.742	4.039±0.781	4.132±0.726	9.499	0.000
FP	3.646±1.071	3.853±0.939	3.834±1.023	4.098±0.941	3.195	0.023
NFP	3.595±1.043	3.75±1.019	4.128±0.892	4.278±0.91	10.160	0.000
SIP	3.62±0.869	3.801±0.81	3.981±0.77	4.188±0.79	8.255	0.000

The above table shows that there is a significant difference in exploratory capacity due to the differences in enterprise age (F = 4.662, P <0.01), the average score of the enterprises which are in the age of 7-10 years is the highest, and the average score of the enterprises which are < 3 years is the lowest; there is a significant difference in transformative capacity due to the differences in enterprise age (F = 8.754, P <0.001), the average score of the enterprises which are > 10 years is the highest, and the average score of the enterprises which are <3 years is the lowest; there is a significant difference in exploitative capacity due to the differences in enterprise age (F = 3.751, P <0.05)), the companies which are > 10 years have the highest average score, the companies which are <3 years have the lowest average score; there is a significant difference in the absorptive capacity of a company due to its age (F = 9.499, P

<0.001), the companies which are > 10 years have the highest average score, the average score of the companies which are <3 years is the lowest; financial performance is significantly different due to the differences in enterprise age (F = 3.195, P <0.05), the average score of the companies which are > 10 years is the highest, the average score of the companies which are <3 years is the lowest; there is a significant difference in non-financial performance due to the differences in enterprise age (F = 10.160, P <0.001), the average score of the enterprises which are > 10 years is the highest, and the average score of the enterprises which are <3 years is the lowest; there is a significant difference in service innovation performance due to the differences in enterprise age (F = 8.255, P <0.001), the enterprises which are > 10 years have the highest average score, and the average score of the enterprises which are <3 years is the lowest. There are no significant differences in other variables due to the differences in enterprise age (P> 0.05)

4.3.4 Analysis of variance of business types

Taking the business type as a factor, use the F test to determine whether the sample companies' knowledge transfer, absorptive capacity and service innovation performance and their dimension variables are significantly different due to the differences in business type. See Table 4.14.

The below table shows that there is a significant difference of non-financial performance in business type (F = 2.185, P <0.05). The average score of corporate culture consulting companies is the highest, and the average score of comprehensive consulting companies is the lowest. Service innovation performance has significant differences in business type (F = 2.570, P <0.05). The average score of corporate culture consulting companies is the highest, and the average score of marketing consulting companies is the lowest. There are no significant differences in business type among other variables due to the differences in business type (P> 0.0)

Table 4.14 Analysis of variance of business types

	SC（n=91）	OC（n=55）	BPCn=82）	MCn=42）	HRCn=48）	FC（n=54）	CCCn=75）	CC（n=81）	F	P
KS	3.905±1.217	3.994±1.108	3.797±1.17	3.73±1.052	3.896±1.041	3.827±1.225	4.058±1.005	3.807±1.117	0.590	0.764
KI	3.971±0.962	3.858±0.959	3.697±0.997	3.46±1.212	3.872±1.029	3.642±1.124	3.98±0.891	3.875±0.883	1.861	0.074
KT	3.949±0.875	3.903±0.795	3.73±0.846	3.55±0.987	3.88±0.895	3.704±0.976	4.006±0.776	3.852±0.763	1.750	0.095
EC_1	3.808±1.104	3.727±1.06	3.851±0.922	3.72±0.954	3.641±1.021	3.806±1.104	4.077±0.979	3.821±1.129	0.986	0.441
TC	3.837±1.071	4.011±0.975	3.756±1.053	3.819±0.924	3.863±1.041	3.733±1.157	4.005±1.049	4.017±0.974	0.850	0.546
EC_2	3.808±0.957	4.027±1.005	3.787±1.012	3.405±1.014	3.734±0.961	3.736±1.057	3.8±1.079	3.864±1.005	1.413	0.197
AC	3.819±0.804	3.929±0.804	3.795±0.734	3.661±0.679	3.755±0.754	3.756±0.846	3.964±0.773	3.91±0.827	0.990	0.438
FP	3.736±1.019	4.007±1.031	3.846±0.989	3.719±0.969	3.713±1.118	3.756±0.95	4.096±0.904	3.644±0.998	1.735	0.098
NFP	3.75±1.03	3.982±0.948	3.676±1.05	3.729±1.156	3.758±0.998	3.693±1.099	4.197±0.811	3.827±1.023	2.185	0.034
SIP	3.743±0.858	3.995±0.819	3.761±0.86	3.724±0.873	3.735±0.885	3.724±0.855	4.147±0.704	3.736±0.788	2.570	0.013

4.4 Hypothesis testing

Based on the validity analysis of exploratory factor analysis and confirmatory factor analysis, the author uses SEM to conduct hypothesis testing to test the relationship between the dimension variables of knowledge transfer, absorptive capacity and service innovation performance in this section. Similar to confirmatory factor analysis, it requires the steps of model specification, model estimation, and model evaluation. The commonly used method for testing mediating variables is the method of Baron and Kenny (1986).

4.4.1 Estimation and evaluation of SEM

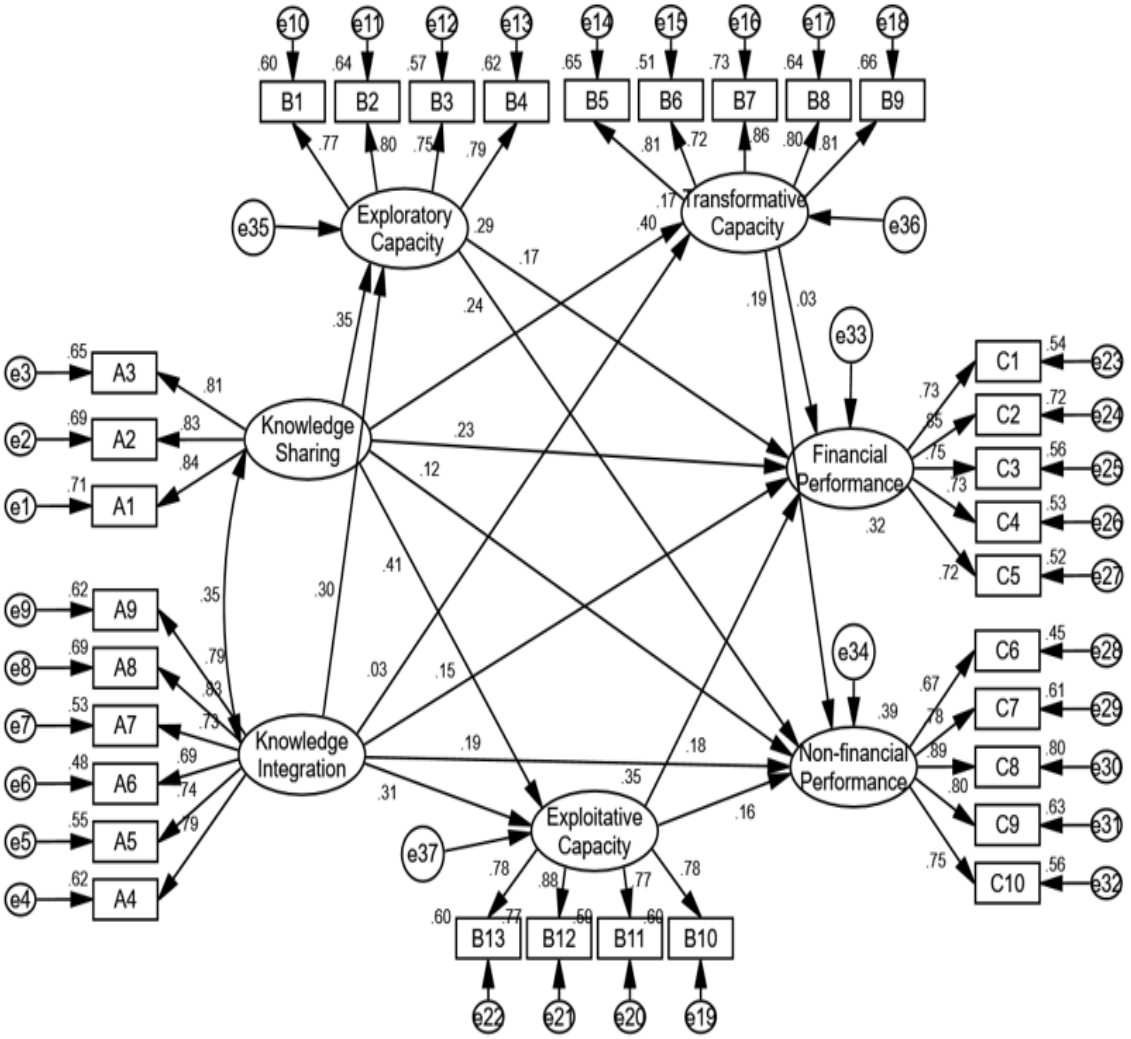

Figure 4.4 Structural equation model of the relationship among KT, AC and SIP

Based on the proposed research model (Figure2.2), structural equation model is constructed, as is depicted in Figure 4.4。

In the SEM result path diagram, the two variables of knowledge transfer include 9 items, of which 3 items represent knowledge sharing and 6 items represent knowledge integration; the variables of service innovation performance include 10 items, of which 5 items represent financial performance and 5 items represent non-financial performance; the variables of absorptive capacity contain 13 items, of which 4 items represent exploratory capacity and 5 items represent transformative capacity, 4 items represent exploitative capacity.

In Figure 4.4, the latent variables of knowledge sharing, knowledge integration, exploratory capacity, transformative capacity, exploitative capacity, financial performance, and non-financial performance are represented by ellipses, where knowledge sharing and knowledge integration are exogenous latent variables, exploratory capacity, transformative capacity, exploitative capacity, financial performance, and non-financial performance are endogenous latent variables. Exogenous explicit variables, endogenous explicit variables and endogenous latent variables all have corresponding errors; exogenous latent variables have no errors.

By running AMOS software and using the maximum likelihood estimation method for model estimation, the results of parameter estimation such as path coefficient and load coefficient are shown in table 4.15.

Table 4.15 Parameter estimates of SEM

Path			Estimate	S.E.	C.R.	P	Standardized estimate	R^2
FP	<---	KS	0.188	0.049	3.873	***	0.227	0.318
FP	<---	KI	0.145	0.049	2.945	0.003	0.154	
FP	<---	EC_1	0.168	0.054	3.128	0.002	0.173	
FP	<---	TC	0.026	0.043	0.600	0.548	0.029	
FP	<---	EC_2	0.169	0.055	3.079	0.002	0.177	
NFP	<---	KS	0.095	0.043	2.222	0.026	0.121	0.389
NFP	<---	KI	0.167	0.044	3.788	***	0.188	
NFP	<---	EC_1	0.222	0.049	4.540	***	0.242	
NFP	<---	TC	0.162	0.039	4.100	***	0.193	
NFP	<---	EC_2	0.144	0.049	2.966	0.003	0.160	
EC1	<---	KS	0.300	0.044	6.877	***	0.351	0.290
EC1	<---	KI	0.294	0.048	6.096	***	0.303	
TC	<---	KS	0.368	0.049	7.444	***	0.395	0.166
TC	<---	KI	0.033	0.052	0.624	0.533	0.031	
EC2	<---	KS	0.359	0.043	8.377	***	0.413	0.354
EC2	<---	KI	0.302	0.047	6.417	***	0.306	

As can be seen from the above table, knowledge sharing has a significantly positive effect on financial performance ($\beta = 0.227$, $P < 0.01$), and knowledge integration has a significantly positive effect on financial performance ($\beta = 0.154$, $P < 0.01$), exploratory capacity has a significantly positive effect on financial performance ($\beta = 0.173$, $P < 0.01$), transformative capacity has no significantly positive effect on financial performance ($\beta = 0.029$, $P > 0.05$), and

exploitative capacity has a significantly positive effect on financial performance (β = 0.177, P <0.01), the model's interpretation of financial performance R^2 is 0.318, and the percentage is 31.8%.

Knowledge sharing has a significantly positive impact on non-financial performance (β = 0.121, P < 0.05), knowledge integration has a significantly positive impact on non-financial performance (β = 0.188, P < 0.01), exploratory capacity has a significantly positive impact on non-financial performance (β = 0.242, P < 0.001), transformative capacity has a significantly positive impact on non-financial performance (β = 0.193, P < 0.001), and exploitative capacity has a significantly positive impact on non-financial performance (β = 0.160, P < 0.01). the model's interpretation of non-financial performance R^2 is 0.389, the percentage is 38.9%.

Knowledge sharing has a significantly positive effect on exploratory capacity (β = 0.351, P < 0.001), knowledge integration has a significantly positive effect on exploratory capacity (β = 0.303, P < 0.001), and the model's interpretation of exploratory capacity R^2 is 0.290, the percentage is 29%.

Knowledge sharing has a significantly positive impact on the transformative capacity (β =0.395, P < 0.001), while knowledge integration has no significantly positive impact on transformative capacity (β =0.031, P > 0.05). The model's interpretation of transformative capacity R^2 is 0.166, the percentage is16.6%.

Knowledge sharing has a significantly positive impact on exploitative capacity (β = 0.413, P <0.001), knowledge integration has a significantly positive impact on exploitative capacity (β = 0.306, P <0.001). The model's interpretation of exploitative capacity R^2 is 0.354, the percentage is 35.4%

The absolute fitting index, relative fitting index and parsimony fitting index are used for model evaluation to verify the fitting degree between the model and the sample data. The obtained fitting indices are shown in Table 4.16.

It can be seen from the table below that GFI = 0.921, AGFI = 0.906 and RMSEA = 0.036 in the absolute fitting indices of the model all meet the testing standard of good model fitting; TLI = 0.965 and CFI = 0.969 in the relative fitting indices all meet the testing standard of good model fitting; χ^2/df and AIC statistics in the parsimony fitting indices also meet the testing standard of good model fitting. Therefore, the model has a high degree of fit.

Table 4.16 Fitting indices of SEM

Test statistics		Reference value	Value	Result
	χ^2		745.419	
	df		447	
Absolute Indices	GFI	≥0.90	0.921	Yes
	AGFI	≥0.90	0.906	Yes
	RMSEA	≤0.08	0.036	Yes
	NFI	≥0.90	0.926	Yes
Relative Indices	TLI	≥0.90	0.965	Yes
	CFI	≥0.90	0.969	Yes
Parsimony Indices	χ^2/df	1-3	1.668	Yes
	AIC		907.419	

4.4.2 Test of research hypotheses

According to the results of the above data analysis, including model parameter estimates and model fitting indices, combined with the method of testing mediating variables proposed by Baron and Kenny (1986), the results of hypothesis testing are summarized and explained, as is shown in Table 4.17.

Table 4.17 Summary of hypothesis testing results

Nr,	Hypothesis	Testing result
	The relationship between KT and SIP	
H1a1	KS is positively correlated with FP	supported
H1a2	KS is positively correlated with NFP	supported
H1b1	KI is positively correlated with FP	supported
H1b2	KI is positively correlated with NFP	supported
	The relationship between AC and SIP	
H2a1	EC_1 is positively correlated with FP	supported
H2a2	$EC_1$is positively correlated with NFP	supported
H2b1	TC is positively correlated with FP	Not supported
H2b2	TC is positively correlated with NFP	supported
H2c1	EC_2 is positively correlated with FP	supported
H2c2	EC_2 is positively correlated with NFP	supported
	The relationship between KT and AC	
H3a1	KS is positively correlated with EC_1	supported
H3a2	KS is positively correlated with TC	supported
H3a3	KS is positively correlated with EC2	supported
H3b1	KI is positively correlated with EC_1	supported
H3b2	KI is positively correlated with TC	Not supported
H3b3	KI is positively correlated with EC2	supported
	The mediating effect of AC between KT and SIP	
H4a1	EC_1 is a positive mediator through which KS affects FP	supported
H4a2	EC_1 is a positive mediator through which KS affects NFP	supported
H4a3	EC_1 is a positive mediator through which KI affects FP	supported
H4a4	EC_1 is a positive mediator through which KI affects NFP	supported
H4b1	TC is a positive mediator through which KS affects FP	Not supported
H4b2	TC is a positive mediator through which KS affects NFP	supported

H4b3	TC is a positive mediator through which KI affects FP	Not supported
H4b4	TC is a positive mediator through which KI affects NFP	Not supported
H4c1	EC_2 is a positive mediator through which KS affects FP	supported
H4c2	EC_2 is a positive mediator through which KS affects NFP	supported
H4c3	EC_2 is a positive mediator through which KI affects FP	supported
H4c4	EC2 is a positive mediator through which KI affects NFP	supported

In a word, the hypotheses of the relationship between various dimension variables of knowledge transfer, absorptive capacity and service innovation performance are basically verified. In addition to transformative capacity→financial performance, knowledge integration → transformative capacity, knowledge sharing → transformative capacity → financial performance, knowledge integration → transformative capacity → financial performance, knowledge integration→transformative capacity→non-financial performance, the other path coefficients of SEM have passed the significance test and the model has a high degree of fit, so the hypotheses are supported by data.

4.5 Discussion

Table 4.17 shows that through the SEM testing, of the 28 research hypotheses in this thesis, 23 passed and 5 failed the testing. Overall, the hypotheses of the relationship between various dimension variables of knowledge transfer, absorptive capacity and service innovation performance are verified. The following mainly discusses the results of hypothesis testing. For the verified hypotheses, it further emphasizes the relationship between various variables from theoretical and empirical research; for the unverified hypotheses, it explains the reasons and discusses their revelation to the theoretical research and practical application of small and medium management consulting companies in the future.

4.5.1 Discussion on the impact of knowledge transfer on service innovation performance

This thesis confirms the hypotheses of the relationship between various dimension variables of knowledge transfer and service innovation performance, that is, the hypotheses that H1a1 knowledge sharing has a significantly positive effect on financial performance, H1a2 knowledge integration has a significantly positive effect on financial performance, and H1b1 knowledge integration has a significantly positive impact on financial performance, and H1b2 knowledge integration has a significantly positive impact on non-financial performance.

This is consistent with or similar to the research conclusions of Sarin and McDermott (2003), Therin (2003), Murovec and Prodan (2008), Vega-Jurado (2009), Cheng (2012).

Knowledge sharing and knowledge integration respectively face external knowledge with different attributes, that is, knowledge sharing is mainly for tacit knowledge and knowledge integration is mainly for explicit knowledge. In the process of knowledge transfer, from outside to inside, management consulting companies mainly help employees obtain tacit knowledge through knowledge sharing with universities and research institutions, competitors and clients, and they obtain explicit knowledge mainly through the ways of knowledge integration, such as suppliers, universities and research institutions, professional journals and patent databases, professional conferences or exhibitions. And then they transform external knowledge into internal knowledge, transform knowledge resources into innovation capacity and new service achievements, and ultimately improve the financial performance and non-financial performance of their enterprises.

4.5.2 Discussion on the impact of absorptive capacity on service innovation performance

This thesis confirms the hypotheses of the relationship between various dimension variables of absorptive capacity and service innovation performance, that is, the hypotheses that H2a1 exploratory capacity has a significantly positive effect on financial performance, H2a2 exploratory capacity has a significantly positive effect on non-financial performance, and H2b2 transformative capacity has a significantly positive impact on non-financial performance, H2c1 exploitative capacity has a significantly positive impact on financial performance, and H2c2 exploitative capacity has a significantly positive impact on non-financial performance pass the test.

This is consistent with or similar to the findings of scholars such as Cohen and Levinthal (1994), Zahra and George (2002), Haro-Dominguez (2007), Lichtenthaler (2009), and Flatten et al. (2011). A large number of empirical studies have shown that absorptive capacity, as a dependent variable, can effectively improve the enterprises' service innovation performance. In fact, management consulting companies can discover business opportunities and external knowledge through exploratory capacity only if they have certain absorptive capacity, and integrate external knowledge and internal knowledge through transformative capacity and exploitative capacity to ultimately improve service innovation performance. Especially from the perspective of organizational learning, Lichtenthaler (2009) regarded absorptive capacity as the ability of enterprises to use external knowledge through three consecutive processes, that is, through exploratory learning identifies and understands potential and valuable knowledge outside the enterprise, through transformative learning digests valuable new knowledge, and uses digested knowledge to create new knowledge and business output through exploitative

learning.

However, the hypothesis that H2b1 transformative capacity has a significantly positive effect on financial performance fails the test. The possible reason is that, as an intermediate link of absorptive capacity, transformative capacity may have difficulty directly affecting financial performance.

On the one hand, transformative capacity may not be transparent enough to be easily understood. Through organizational learning, knowledge management, research and development and other processes, transformative capacity transforms the external knowledge of management consulting enterprises into internal knowledge, and promotes the integration, sublimation and diffusion of external knowledge and internal knowledge. This internal process is like a “black box” of enterprise innovation, which is the “internal strength” of the enterprise and is not easy to perceive.

On the other hand, compared with exploratory capacity and exploitative capacity, transformative capacity may have less direct connection with financial performance. To exert exploratory capacity, management consulting companies need to use various formal channels and informal channels, and use certain methods to search and discover external knowledge, so it requires certain cost and expense; to exert exploitative capacity, management consulting companies need to integrate new capability into corporate operation to realize the commercial use of knowledge and create new products or services, thus obtaining new profits and return on investment.

In general, the hypotheses of the relationship between various dimension variables of absorptive capacity and service innovation performance are basically established. The unsuccessful hypotheses enlighten us that we need to improve both the “hard power” and the “soft power” of transformative capacity, and strengthen the understanding and publicity of transformative capacity to make it “dominant”.

4.5.3 Discussion on the relationship between knowledge transfer and absorptive capacity

This thesis confirms the hypotheses of the relationship between various dimension variables of knowledge transfer and absorptive capacity, namely, the hypotheses that H3a1 knowledge sharing has a significantly positive effect on exploratory capacity, H3a2 knowledge sharing has a significantly positive effect on transformative capacity, and H3a3 knowledge sharing has a significantly positive impact on exploitative capacity, H3b1 knowledge integration has a significantly positive impact on exploratory capacity pass the test.

This is consistent with or similar to the findings of scholars such as Zahra and George

(2002), Lane, Koka, and Pathak (2006), Todorova and Durisin (2007), Duanmu and Fai (2007), Murovec and Prodan (2009). In different absorptive capacity structure models, knowledge transfer is generally regarded as the antecedent of absorptive capacity. In fact, for management consulting companies, knowledge transfer is the source and prerequisite of absorptive capacity. The tacit knowledge obtained by knowledge sharing is the absorption target of absorptive capacity; in the process of interpersonal communication, employees continue to acquire tacit knowledge, that is, the more knowledge sharing, the stronger the absorptive capacity of the enterprise. Explicit knowledge obtained from knowledge integration is the absorption target of absorptive capacity; in the process of file exchange, employees continue to obtain explicit knowledge, that is, the more knowledge integration is, the stronger the absorptive capacity of the enterprise is.

However, the hypothesis H3b2 that knowledge integration has a significantly positive effect on transformative capacity fails the test. The possible reason is that knowledge integration and transformative capacity may have partial functional substitution and path differences.

On the one hand, there may be partial functional substitution for knowledge integration and transformative capacity. The process of knowledge integration is that the enterprise creates external explicit knowledge as structured content, and diffuses and reorganizes within the enterprise. This overlaps partially with the exerting process of transformative capacity—transforming more external knowledge into internal knowledge, thus significantly reducing the significance of the positive impact of knowledge integration on transformative capacity.

On the other hand, knowledge integration and transformative capacity may have partial path differences. The main way to increase knowledge integration is to apply information and communication technology (ICT) to strengthen document exchange, but the main way to improve transformative capacity is to promote interpersonal communication through carrying out organizational learning, research and development. There is a certain degree of path inconsistency between the two, so it also significantly reduces the significance of the positive effect of knowledge integration on transformative capacity.

In general, the hypotheses of the relationship between various dimension variables of knowledge transfer and absorptive capacity are basically established. The unsuccessful hypothesis enlightens us that in the process of knowledge transfer, although the important role of knowledge integration cannot be ignored, it is necessary to take knowledge sharing as the main way to clarify the dominant position of human beings and promote knowledge integration through knowledge sharing. The two work together to improve absorptive capacity.

4.5.4 Discussion on the mediating role of absorptive capacity between knowledge transfer and service innovation performance

This thesis confirms the hypotheses of the mediating role of each dimension variable of absorptive capacity in various dimension variables of knowledge transfer and service innovation performance, that is, the hypotheses that H4a1 exploratory capacity has a positive mediating effect on the relationship between knowledge sharing and financial innovation performance, and H4a2 exploratory capacity has a positive mediating role in the relationship between knowledge sharing and non-financial innovation performance, H4a3 exploratory capacity has a positive mediating effect on the relationship between knowledge integration and financial innovation performance, and H4a4 exploratory capacity has a positive mediating effect on the relationship between knowledge integration and non-financial innovation performance, H4b2 transformative capacity has a positive mediating effect on the relationship between knowledge sharing and non-financial innovation performance, H4c1 exploitative capacity has a positive mediating effect on the relationship between knowledge sharing and financial innovation performance, H4c2 exploitative capacity has a positive mediating effect on knowledge sharing and non-financial innovation performance, H4c3 exploitative capacity has a positive mediating effect on the relationship between knowledge integration and financial innovation performance, and H4c4 exploitative capacity has a positive mediating effect on the relationship between knowledge integration and non-financial innovation performance pass the test.

This is consistent with or similar to the research results of scholars such as Becker and Peters (2000), Zahra and George (2002), Lane, Koka, and Pathak (2006), Todorova and Durisin (2007), Duanmu and Fai (2007), Murovec and Prodan (2009). In different structure models of absorptive capacity, the relevant factors of knowledge transfer, such as knowledge sources and knowledge bases, are generally regarded as the antecedent variables of absorptive capacity, while the relevant factors of service innovation performance, such as business output, innovation and enterprise performance are taken as the outcome variables of absorptive capacity. In particular, Becker and Peters (2000) found that absorptive capacity plays a partial mediating role between knowledge sources and innovation, that is, if the absorptive capacity of an enterprise is not considered, external knowledge significantly affects innovation performance; when absorptive capacity is added, the enterprise R & D performance will be greatly enhanced. In practice, from the perspective of the process of absorptive capacity, at first, the stronger the exploratory capacity is, the more external knowledge can be discovered; then,

the stronger the transformative capacity is, the more external knowledge can be transformed into internal knowledge; finally, the stronger the exploitative capacity is, the more knowledge can be applied to the innovation process, and more new products or services can be created. That is to say, exploratory capacity, transformative capacity and exploitative capacity will play a significant mediating role between knowledge transfer and service innovation performance.

However, the hypotheses that H4b1 transformative capacity has a positive mediating effect on the relationship between knowledge sharing and financial innovation performance, H4b3 transformative capacity has a positive mediating effect on the relationship between knowledge integration and financial innovation performance, and H4b4 transformative capacity plays a positive mediating role in knowledge integration and non-financial innovation performance fail the test. The possible reason is that the hypothesis of direct effect does not hold, therefore the hypothesis of mediating effect does not hold.

The Baron and Kenny (1986) method for testing the mediating variables needs to satisfy three conditions at the same time: (1) independent variables affect the dependent variables; (2) independent variables affect the mediating variables; (3) after controlling the mediating variables, the effect of independent variables on the dependent variables disappeared, or was significantly reduced. It can be seen from Table 4.17 that the direct effect hypotheses H2b1, H3b2 do not hold, which means that the three conditions cannot be “simultaneously met”, so the hypotheses H4b1, H4b3, H4b4 that lead to the indirect effect cannot be established.

In general, the hypotheses of the mediating role of each dimension variable of absorptive capacity in various dimension variables of knowledge transfer and service innovation performance are basically established.

4.6 Summary of this chapter

The sample companies in this thesis are Chinese small and medium management consulting companies. Based on descriptive statistical analysis, reliability and validity analysis, and analysis of variance of large sample data, this chapter mainly uses SEM to conduct hypothesis testing to test the relationship between various dimension variables of knowledge transfer, absorptive capacity and service innovation performance. The results show that the research hypotheses are basically confirmed.

Through descriptive statistical analysis, it is found that the surveyed enterprises are widely distributed in terms of economic nature, enterprise size, enterprise age, and business type, indicating that they are good representatives; at the same time, they have a high average level

in variables such as knowledge transfer, absorptive capacity, and service innovation performance, and the samples basically conform to the normal distribution.

Reliability analysis and validity analysis analyze the reliability and validity of the questionnaire. The method of reliability analysis uses Cronbach's α coefficients. Validity includes three types: content validity, criterion validity and construct validity. The method of construct validity analysis mainly uses confirmatory factor analysis and correlation analysis. The results show that the variables and dimensions in each questionnaire of this thesis have good reliability and validity, the measurement model has a high degree of fit, and there is a significantly positive correlation between the various dimension variables of knowledge transfer, absorptive capacity and service innovation performance, which have initially proved the hypotheses of this study.

Analysis of variance uses one-way analysis of variance to analyze the impact of corporate characteristics on variables to determine whether there are differences in business characteristics such as knowledge transfer, absorptive capacity, service innovation performance, and various dimension variables in terms of economic nature, enterprise size, enterprise age, and business type. The results show that the differences are obvious.

Based on validity analysis, such as exploratory factor analysis and confirmatory factor analysis, SEM is used to conduct hypothesis testing to test the variable relationship between the dimensions of knowledge transfer, absorptive capacity and service innovation performance. After the steps of model specification, model estimation and model evaluation, the method of Baron and Kenny (1986), a common method for testing mediating variables, is used. The results show that the hypotheses of the relationship between various dimension variables of knowledge transfer, absorptive capacity and service innovation performance are basically verified. Of the 28 research hypotheses in this thesis, 23 pass the test and 5 fail the test (transformative capacity → financial performance, knowledge integration → transformative capacity, knowledge sharing → transformative capacity → financial performance, knowledge integration → transformative capacity → financial performance, Knowledge integration → transformative capacity → non-financial performance), the model has a high degree of fit, so the hypotheses are supported by data.

Discuss the results of hypothesis testing. For the verified hypotheses, the author further emphasizes the relationship between various variables from theoretical research and empirical research; for the unverified hypothesis, the author explains the reasons and discusses their

enlightenment on the theoretical research and practical application of small and medium management consulting enterprises in the future.

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Chapter 5: Case Study

In order to further verify the relationship between knowledge transfer, absorptive capacity and service innovation performance, based on the statistical analysis of the previous large sample, the method of case study is adopted in this chapter and three representative enterprises are selected as the cases. The study lasted for three months (from July 2019 to September 2019). After the stages of case selection, data collection and data analysis, it finally provides a practical test for the theoretical research of this thesis.

5.1 Case study design

On the basis of understanding the theoretical background of the concept, origin, status and classification of case study, the author mainly expounds the three steps of case selection, data collection and data analysis.

5.1.1 Method of case study

Case study is to collect information from one or more entities by using a variety of data collection methods, to describe, explain, or explore phenomena and problems in the natural state to discover new phenomena, verify hypotheses, and reveal causes, thereby explaining views and diagnosing the existing problems.

Case study originated from the study of anthropology and sociology in the early 20th century (Wang, 2007), and has been widely used in the research of the subjects of sociology, anthropology, education, politics, and management.

In empirical research, case study is a strong testing method. Empirical research mainly includes case study, experiments, statistical analysis of large samples and field research (Eisenhardt, 1989). Among them, the statistical analysis of large samples follows the sampling logic. Through the study of the samples, we can accurately infer the overall situation, so as to understand the law of the overall. It generally explains whether the hypothesis is reliable, not why it is reliable. In comparison, case study reveals the underlying reasons behind the phenomenon by describing the cases in detail. It shows more about why the hypothesis is reliable, that is, is the theory valid? How does it work? It is generally believed that if the

research conclusions of multiple cases are consistent, then the conclusion is valid; further, even for a single case study, the answer is also clear.

According to the number of cases, case study can be divided into single case study and multiple-case study (Yin, 2010). The conclusions of single case study usually do not have universal significance, and generally cannot form a new theoretical framework. The conclusions of multi-case study are generally more universal. Eisenhardt and Martin (2000) believed that multiple-case study can more comprehensively understand and reflect different aspects of the cases, thus forming a more complete theory. This thesis uses multiple-case study to make the research conclusions more convincing.

According to different research purposes, case study can be divided into exploratory case study, descriptive case study, and explanatory case study (Yin, 2010). The problems of exploratory case study are not yet clear, and the research route and plan need to be clarified in order to define practical problems and generate preliminary theories. Based on clear practical questions and preliminary theoretical hypotheses, descriptive case study focuses on accurately describing phenomena, characters, events, and scenarios, thereby generating clear theoretical questions, preliminary propositions, or hypotheses. Explanatory case study aims to further clarify hypotheses and propositions, obtain direct evidence of the relationship between variables, summarize the theory from the phenomenon, and focus on a strong testing of the theory to prove the relationship between things and form a new theory or revise the existing theories to explain how things happen. The case study in this chapter is explanatory case study.

5.1.2 Steps of case study

Eisenhardt (1989) divided case study into nine phases, namely start-up, case selection, design of research tools and procedures, entry into the scene, intra-case analysis, cross-case analysis, hypothesis formation, dialogue with the literature, and the end. In the foregoing chapter, through statistical analysis of large sample, it is assumed and demonstrated that there is relatively complicated relationship between knowledge transfer, absorptive capacity and service innovation performance. In the design phase of the case study, In the design phase of the case study, the defined research questions are tested through direct evidence practice to further examine how knowledge transfer and absorptive capacity of management consulting firms affect service innovation performance. Combining with the reality of the case study in this thesis, the following focuses on the three steps of case selection, data collection and data analysis.

5.1.2.1 Case selection

This thesis selects multiple-case study and selects three small and medium management consulting companies with different business types as the analysis objects to make the research conclusions more reliable and convincing. The three companies are Shanghai C & D Management Consulting CO., Ltd., Beijing Excellence Enterprise Management Consulting Company and Jinan Shengchen Management Consulting Company. For the convenience of the research, and in accordance with the conventions of case study, this thesis conceals the specific name of the enterprises and replaces it with the letter code and main business, namely A management consulting company, B management consulting company and C management consulting company.

The specific selection criteria are the typicality of the case (Eisenhardt, 1989), the availability of data (Yan & Gray, 1994), and the convenience of research (Yan & Gray, 1994).

The typicality of the case is that the business types of the case companies selected in this thesis are representative, covering strategic consulting, human resource consulting and comprehensive consulting. At the same time, the backgrounds of their founders are also different. They're from a Fortune 500 multinational company, a world-renowned professional consulting company and a well-known domestic university respectively.

The availability of data is manifested in the following aspects: from a geographical perspective, the three case companies are all in the more developed regions of the national consulting market, with more than 10,000 management consulting companies and a large number of clients, competitors and partners; from the perspective of personnel, the author is an executive of one of the case companies and has close business cooperation with the executives of the other two case companies.

The convenience of the research is reflected in three aspects. The first aspect is the convenience of field research, that is, the cities where the author and the case companies are located are in the economically developed regions of eastern China, and the Beijing-Shanghai high-speed railway conveniently connects the three cities. The second one is the convenient acquisition of the industry information, that is, the author and the industry organization of the management consulting companies—China Enterprise Confederation, have many years of in-depth cooperation, and the survey content basically does not involve commercial secrets. The third is the convenient acquisition of public information, that is, the three case companies are well-known in the industry, each with their own characteristics and competitive advantages, clients and the media are also highly concerned about them, and it is easy to obtain a large

amount of public information.

5.1.2.2 Data collection

In the data collection stage, the common methods include literature, interviews, questionnaires and observation (Eisenhardt, 1989). Through the materials and information from different sources, the author hopes to have a comprehensive and objective understanding of the case companies. The methods of second-hand data collection and in-depth interviews are mainly adopted in this thesis.

Second-hand data collection. The objects of second-hand data collection mainly include the official websites of the case companies, news reports, research reports and theses, annual reports, brochures and internal information such as internal journals, training manuals, archives and direct observation of the author.

Depth interviews. The author and the members of the research team conducted one-on-one in-depth interviews with 9 staff members of the case companies in July 2019. The time of each interview was controlled at 1-1.5 hours. The basic information of the interviews can be seen in Table 5.1. Before the interview, a semi-structured interview outline was designed, see Annexes 2. During the interview, most of the time the talk was based on the outline of the interview, using a question-and-answer method, encouraging the interviewees to communicate openly at the same time and take notes throughout the interview. Finally, according to the guidance of Eisenhardt (1989), the members of the research team sorted, checked and archived the interview data within 24 hours after the interview, and obtained a total of more than 50,000 words of interview data. With regard to the problem information, including missing, confusing, inconsistent or uncertain content, the team members communicated with the interviewees via email and telephone to further improve the interview information.

Table 5.1 Basic information of the interview

Company name	Interviewee	Location	Time
A Management Consulting Company	Mr. Li, CEO Mr. Wu, Knowledge Director Ms. Jiang, Marketing Manager	Shanghai, Corporate Meeting Room	July 5, 2019
B Management Consulting Company	Mr. Gao, Vice President of HR Mr. Wang, General Manager of Research Department Mr. Duan, Senior Consultant	Beijing, Starbucks Cafe	July 12, 2019
C Management Consulting Company	Mr. Yao, Project Director Mr. Li, Director of Research and Development Mr. Tan, Marketing Director	Jinan, Corporate Training Center	July 19, 2019

5.1.2.3 Data analysis

At the stage of case analysis, the author mainly adopts the method of content analysis to analyze the collected second-hand data and interview data (Strauss & Corbin, 1998). Patton (1990) pointed out that the method of content analysis confirms, codes, and classifies the content of the data collected through interviews and observations according to the purpose of study. In practice, content analysis generally uses category as the classification standard, and category often comes from the first-level variable of variable measurement, so category should meet the research purpose and be consistent with the content of the literature. The definition of categories should be clear and the categories should be mutually exclusive.

The analysis of interview data includes three steps: information screening, interpretation and conclusion (Miles & Huberman, 1994). Information screening is carried out by means of coding and summary. It is a process of "selecting, concentrating, simplifying, abstracting and transforming information". Based on the previous literature review and large sample statistical analysis, combined with the research framework of this chapter, the author decided to take financial performance and non-financial performance of service innovation performance, exploratory capacity, transformative capacity and exploitative capacity of absorptive capacity, knowledge sharing and knowledge integration of knowledge transfer as categories. The author and the research team members comprehensively organized the case data, first condensed the interviewees' thoughts or ideas into language stems (keywords), then encoded each language stem separately, and finally coded each language stem into the coding table according to their categories.

5.2 Case analysis

The basic information of the three case companies in this thesis is shown in Table 5.2.

Table 5.2 List of basic situations of the case companies

Basic situation	A management consulting company	B management consulting company	C management consulting company
Established in	1998	2001	2000
Total employees	50	30	60
The average annual sales in the past 3 years	10 million yuan	12 million yuan	16 million yuan
Main business	leadership, human resource and organizational management solutions,	strategic planning, design, and supporting system construction	Comprehensive consulting, strategy execution integration, enterprise business

			school
Major markets	China Yangtze River Delta Region	Central and Eastern China	Coastal Region Eastern China

5.2.1 Case analysis of A management consulting company

5.2.1.1 Overview of the company

A management consulting company is a professional management consulting organization. It has a group of excellent consultants who have good educational backgrounds, rich international and local business practices, and rich consulting experience in famous international or domestic management consulting companies. A's core mission is to provide world-class leadership, human resource and organizational management solutions to fast-growing Chinese companies, to share the latest management concepts and methods; and to develop effective leadership behaviors, leadership development and evaluation tools and human resource management tools to provide the latest theoretical guidance and operational tools for improving the leadership and human resource management of Chinese enterprises. In the field of human resource, it will provide one-stop solutions, including consulting, talent assessment and training.

5.2.1.2 Analysis of variable characteristics

(1) Knowledge transfer analysis

Company A believes that the sharing of tacit knowledge and the integration of explicit knowledge are both important. According to the "knowledge iceberg model", explicit knowledge accounts for less than 10% of all knowledge, while tacit knowledge exceeds 90%. According to empirical data, only 5% of the easily acquired explicit knowledge can be applied to the real world. This means that if there is only explicit knowledge management, then 95% of the work is wasted. In contrast, tacit knowledge is difficult to obtain, and it exists in the brains of employees, but it is knowledge with innovative genes. Therefore, the key to knowledge transfer is to explicitly present and share huge tacit knowledge resources, and to stimulate the innovation capacity of employees.

Company A's knowledge transfer is guided by clear organizational goals and corporate culture. The goal of company A's knowledge transfer is "three ones": finding the knowledge necessary for work within one minute; getting response to questions from the community within one day; and summarizing lessons learned within one week after the project is completed. At the same time, Company A advocates the corporate culture of learning, sharing and reproducibility, and hopes to promote the rapid flow of knowledge through effective collaboration and sharing and a technical support platform to get higher business performance.

In terms of knowledge sharing, Company A promotes the tapping, sharing, and transfer of tacit knowledge through expert dialogue, best practice sharing, and practice communities. First, at the level of expert dialogue, dialogue with industry experts from research institutions, industry associations, and clients is the preferred form of knowledge sharing for Company A. Company A encourages open innovation and extensive external exchanges, especially frequent exchanges with experts in Europe and the United States. For example, there is a total of 42 external exchanges in 2018. At Company A, expert dialogues are conducted in two ways: online Q & A and face-to-face discussion. Online Q & A is the most powerful mechanism for knowledge sharing in a community or network; face-to-face discussions can discuss knowledge and experience in a highly trusted environment. In order to form a closed loop from the conversion of tacit knowledge to explicit knowledge, a tacit knowledge specialist has been set up in company A. This post mainly organizes and systematically taps tacit knowledge through face-to-face interviews with external experts and internal experts, so as to continuously introduce complete knowledge topics and provide continuous knowledge supplement for systematic explicit knowledge construction.

Second, as for the sharing of best practices, Company A's knowledge sharing behavior is mainly the following: learning courses, learning material, search Q & A, circle communication, document sharing, course teaching. Based on this, modules such as course on-demand, search, Q & A, circle, document sharing, and Weibo sharing are constructed on the learning cloud platform through Internet technology. Through the platform, employees can share and learn best practices anytime, anywhere, so that tacit knowledge can be visualized, precipitated and shared.

Third, at the community level, in Company A, the community forum mainly focuses on three aspects: the first one is real business issues. In company A, there is a standard that more than 70% of the content should answer business questions; anyone who asks questions will get answers within one day. The second one is people. In order to reward users, Company A has made the columns of micro interviews, honorary titles, medals and special titles in the community forum. Company A invites all the users to discuss about their needs in the community every year and evaluate the maturity of the community. The third one is content construction. "The content is worth reading" is the key element of community success. Company A continuously encourages, develops and promotes high-quality content. In Company A's community monthly report, Company A selects the most popular content and republish it. Company A also collects hot topics and high-quality content from the outside, such as blockchain, artificial intelligence, and big data, produces thematic content and republishes it

to the target audience.

In terms of knowledge integration, Company A mainly promotes the effective management of explicit knowledge by using perfect Web2.0 tools to ensure that employees obtain, integrate and share content at the right time and place. First, in terms of business coverage, knowledge exchange tools cover sales, delivery, work records, deliverables, best practices, and connecting employees. Second, in terms of the methods of knowledge transfer, its applications integrate enterprise search engines, forums, blogs, practice communities, wiki spaces, and enterprise portals. The methods of knowledge transfer are not a separate working group, system or innovation, but relies on a series of methods which mainly includes the following: a central knowledge base that stores all the information of projects, which is guided by a knowledge map; company intranet and information management system; an internal Wikipedia or discussion community to collect knowledge on various aspects of strategy, clients, organizations, technology, and employees; a blog for personal publishing, knowledge dissemination, and informal information sharing; an enterprise search system carrying network link function, a core expert finder and email list searcher, and an interactive meeting resource. Among them, the central knowledge base basically includes two parts: one part is the explicit knowledge system, mainly based on the document platform; the other part is fragmented tacit knowledge, mainly based on Q & A and experience platforms.

(2) Absorptive capacity analysis

Company A believes that the process of knowledge transfer and service innovation is also the process of the flow of absorptive capacity. Internal research shows that many consultants spend 1/3 of their working time finding some information that is “familiar but hard-to-get”; even some consultants spend far more time searching for information than learning, digesting and using information.

Therefore, Company A improves its absorptive capacity from the following three aspects. Firstly, helping employees expand their entrances—accurately and quickly acquire knowledge. Secondly, expanding the pipeline—conveniently and quickly transform knowledge. Thirdly, focusing on exits—exploit knowledge for service innovation which is guided by clients’ needs, so as to eventually realize the timely expansion of the enterprise’s knowledge reserve, continue to optimize the enterprise’s knowledge base, and transform knowledge resources into innovative results.

In terms of exploratory capacity, Company A mainly assists employees in acquiring external knowledge assets and expanding knowledge reserve through cooperative research and external investigation. Firstly, in terms of collaborative research, Company A and its six external

partners, which include research institutions and universities, jointly established a research team to conduct project research. Cooperative projects account for nearly half of all research projects. A lot of resources are invested every year, and the research results will be shared inside and outside the company. Through cooperation, the use of their respective expertise to create knowledge together also enables employees to acquire a large amount of new knowledge, improve their own research and development capability and increase the total amount of corporate knowledge, thereby improving organizational capability and competitive advantages. Secondly, as for the external survey, Company A mainly obtains clues and experience of service innovation through client surveys and best practice collection. New products, new services or new businesses in the same industry are emerging one after another. Only open innovation can avoid repetitive innovation. Client survey is to listen to the clients' voice, perceive the clients' "pain points", and find market opportunities that can sprout innovation, thereby promoting the creation of ideas and the start of new service development processes. The best practice collection is that the tacit knowledge specialist continuously collects the competitive products in the same industry and the innovative results of external experts, and then quickly disseminates them within the company to keep employees up to date with the latest knowledge and form innovative resources after precipitation and optimization.

In terms of transformative capacity, Company A mainly promotes organizational learning through internal research, team learning and other operational practices, and helps employees transform external knowledge into internal knowledge and innovation capacity. Firstly, at the internal research level, Company A conducts more than 20 R & D projects each year to meet current business needs, accelerate new business development, and explore future businesses. According to the long-term, mid-term and current research directions established by the "Research Roadmap", the company provides funding to encourage employees to set up research groups spontaneously, aiming to solve the difficulties encountered in the project and fill the gap between their skills. The research results will be applied to the consulting project and shared with colleagues through the internal network. Secondly, at the level of team learning, Company A adopts "the method of drawing lots" for collective reading activities. As a learning organization, regularly reading a classic book is particularly important for each member. The operation process is roughly to form a learning group of 4-6 people, divide the same book into several topics, and study one topic every week; arrange a 2-hour PPT reading and sharing meeting at the same time every week; the lots decide the speaker of the day on the spot; re-draw lots next week.

In terms of exploitative capacity, through innovation support and conference marketing,

Company A mainly helps employees integrate knowledge into business operation and use knowledge to create value and output knowledge-based services or solutions to internal and external clients. Firstly, at the level of innovation support, Company A focuses on using tacit knowledge to promote R & D innovation through creative management and support for new business promotion. Creative management is to comprehensively manage the creation, collection, review and implementation of ideas to promote service innovation. It involves the entire process from creativity to project and becomes the source of organizational innovation. Supporting the new business is to sort out the knowledge points of the new business, build a new business knowledge system and push it to the business personnel, so as to improve the quality and efficiency of new business promotion. Secondly, at the conference marketing level, Company A promotes the core knowledge of consulting products to target clients in the form of external training courses. Mainly through cooperation with industry associations, universities, corporate universities and other institutions, it organizes a series of special training on leadership, human resource and organizational behavior to expand brand influence and occupy the target market.

(3) Service innovation performance analysis

Company A drives the "knowledge flow" through knowledge transfer, and at the same time helps employees acquire knowledge through exploratory capacity, promotes organizational learning through transformative capacity, and commercialize the use of knowledge through exploitative capacity, thereby promoting the optimization of business process and creating new products or services and obtaining new profits and return on investment to ultimately improve the financial performance and non-financial performance of the enterprise's service innovation.

In terms of financial performance, Company A's financial indicators, such as sales, profits, and return on investment have been greatly improved. In 2018, the company achieved operating income of 12 million yuan, an increase of 15% compared with 2017; realized a profit of 800,000 yuan, an increase of 27% compared with 2017. By the end of 2018, Company A's total assets had exceeded 3 million yuan, and it has become a first-line brand of human resource consulting in Zhejiang, Jiangsu and Shanghai.

In terms of non-financial performance, Company A has improved in terms of development potential, competitiveness, brand, operating performance and strategic performance. Firstly, at the level of employees' capability, Company A combines knowledge transfer with the human capital development process. Through organizational learning and training systems, it helps employees enhance knowledge, capability, experience, and passion continuously and transform knowledge into work through effective actions. At the same time, through knowledge processes

and business processes, individual abilities are transformed into organizational capability. Secondly, at the level of organizational capability, Company A focuses on the core business process-research and development process, continuously spreading, refining, and substituting knowledge and experience in the process of innovative projects, and quickly transforming it into a new service that meets clients' needs; at the same time, it continuously improves the execution efficiency and quality of the process to make innovation become the core value and core competitiveness of the company.

In terms of service innovation, based on effective knowledge transfer and rich absorptive capacity, Company A has developed a training course adapted to the Chinese scenario and successfully applied it to marketing activities. In 2002, the founder of the company introduced the Big Five Work Behavior Inventory (WBI) evaluation tools from the United States, including Openness, Conscientiousness, Extraversion, Agreeableness and Neuroticism (OCEAN Personality). After continuous digestion, absorption and improvement, a lot of local research and consulting practices have been carried out. In 2015, with deep research skills in applied psychology and more than 10 years of hard work in the field of talent management and leadership development, the founder launched a leadership promotion copyright course based on WBI personality assessment and the latest principles of behavior change—"Insight into Yourself, Step into Excellence". The course is highly appreciated by the students and experts by virtue of their distinctive learning cases, effective practical operations and exploration and research that keep pace with the times.

5.2.2 Case analysis of B management consulting company

5.2.2.1 Overview of the company

B management consulting company is a management consulting company specializing in corporate strategic planning, design and supporting system construction. Mr. Gao Jianhua, the most famous expert in practical marketing strategy in China, serves as the chief consultant, and brings together a group of domestically grown up, professional managers with management practices in multinational companies serving as management consultants and assistants.

The company adheres to the business philosophy of doing something more important by leaving the others undone. It neither copies the foreign consulting model, nor completely explores it by itself, but takes the path of combining the local and the original. Cultivating the hematopoietic mechanism for clients may be the biggest difference between B consulting company and other management consulting companies. Instead of doing market research,

market selection, and management decisions for clients, they use scientific methods, frameworks and systems to guide the clients and assist them to clarify their thinking and let them learn how to do market research, market selection and business decision-making. In addition, assisting a client to execute the plan is sometimes more important than the plan itself. At the same time, it is also a feature of Company B's consulting to link their returns to the growth and benefits of their clients, and to share the fruits of success in new profits.

5.2.2.2 Analysis of variable characteristics

(1) Knowledge transfer analysis

Company B views knowledge transfer as a key factor in creating knowledge value. Most people think that the content quality of knowledge determines the value of knowledge. However, Company B argues that this statement is not wrong, yet it is not comprehensive enough. The value of knowledge depends on two factors: the content quality of knowledge and the times of knowledge transfer. Therefore, it is summarized as a knowledge value formula: the value of knowledge = the quality of knowledge content × the times of knowledge transfer. It can be seen that the value of knowledge is like monetary value. To maximize the value of knowledge depends on two major measures: one is to improve the content quality of knowledge and the other is to improve the efficiency of knowledge transfer. Company B believes that improving the efficiency of knowledge transfer requires two client-oriented infrastructures: one is interpersonal network; the other is IT network. For interpersonal networks, cooperation atmosphere and mutual trust are key factors; for IT networks, bandwidth is critical. No matter what kind of network, the client-oriented perspective is adopted. Following the client-centric principle and focusing on client needs, they correctly collect market intelligence, understand competitors, perceive changes in the industry environment to formulate correct strategic and operational decisions and select appropriate market development and service innovation strategies.

In terms of knowledge sharing, Company B mainly uses expert training, team sharing, and human resource policies to create an environment and atmosphere for knowledge sharing and promote changes in employees' thinking modes and behavior habits. Firstly, in terms of expert training, Company B regularly invites senior professional managers or middle- and senior-level researchers from multinational companies, research institutions, rival companies and other institutions to explain systematically the research methods, strategic insights, management trends and classic cases of target industries and potential clients to employees to deepen and improve the professional quality and ability of consultants. Secondly, as for team sharing,

knowledge transfer between teams are mainly carried out through exchanging experience in turn. The steps are: firstly, the "teacher team" lists its work flow, draws a timeline or mind map on a large piece of thesis, and marks the learning points in the map with instant stickers, indicating that there is important new knowledge here; secondly, the "student team" uses instant stickers to mark the desired learning points; then the two teams communicate these learning points through dialogue; finally, the "student team" creates an action list to decide how to apply the new knowledge. Thirdly, as for human resource policies, link knowledge sharing management practices with human resource management practices, mainly includes the following: make knowledge sharing policies a part of employment agreements and job descriptions to clarify the expected behavior of employees; knowledge sharing attitudes, behavior, and ability are listed in the employees' annual performance goals; compile the "Consultant Growth Handbook" to make it clear that the knowledge, capability, and experience that a qualified management consultant needs to have in the field of knowledge management at all stages of career growth; institutionalize the reward and recognition of knowledge sharing behavior and integrate them into the overall corporate culture.

In terms of knowledge integration, Company B mainly provides a one-stop knowledge search and publishing service for all employees by building an enterprise 2.0 knowledge collaboration platform and setting up knowledge assistant positions. Firstly, at the level of IT collaboration platform, through this intelligent network platform, employees can not only search for information, find documents, submit ideas, apply for mentors, establish circles, release insights, disseminate experience and conduct project management, but also can connect client CRM, expert library, consulting report template library, industry database, research report library and other resource systems, so as to help employees break through time and space restrictions and achieve full-life cycle management of knowledge—"connecting knowledge anytime, anywhere, co-creating knowledge on demand, sharing knowledge as you like", greatly improving the efficiency, effectiveness and sustainability of business processing and knowledge management. Secondly, at the organizational design level, by setting up the position of knowledge assistants, it provides organizational capability support for knowledge integration. For example, "intelligence research assistant" focuses on the analysis and research of external intelligence, such as industry and technology trends, market and clients' dynamics, competition and service innovation; "academic resource assistant" focuses on tracking external static knowledge resources, such as academic journals, conference theses, books, archives, journals, including search, acquisition, sorting, classification, storage, utilization and other links.

(2) Absorptive capacity analysis

It is found in Company B's survey that 90% of the "innovation work" done by most R & D personnel is repetitive work because these innovations already exist inside or outside the organization. Therefore, in the process of knowledge transfer, absorptive capacity determines how to acquire external knowledge, how to combine external knowledge with internal knowledge, and how much service innovation performance is generated.

Company B helps employees quickly acquire knowledge, transform knowledge in a timely manner, and use knowledge effectively to improve absorptive capacity. There are three specific measures: firstly, in terms of resource integration, conduct trend research, open innovation and knowledge collaboration based on clients' needs of knowledge; secondly, in terms of knowledge precipitation, the traditional business knowledge is precipitated and standardized and the results of knowledge sharing and knowledge integration are refined into best practices, focusing on the copying and promotion of lessons learned; thirdly, in terms of knowledge innovation, focusing on clients' new needs, tap innovation points from traditional business knowledge to prepare for service innovation.

In terms of exploratory capacity, Company B mainly acquires external knowledge through brainstorming and enterprise search, helps employees to understand clients' changes, and quickly introduces external knowledge and industry information. Firstly, as far as brainstorming is concerned, Company B regularly invites clients and external experts to hold brainstorming sessions in the company. Brainstorming session is a good way to introduce external knowledge. Therefore, it is necessary to convene suitable participants and let all members fully express their knowledge. In the brainstorming session, the ideal state is to establish the relationship between causal variables through equations, find a mathematical model that describes the goal to explain the problem (dependent variable) and its cause (independent variable), and then decide the action plan and immediately execute it. For example, through brainstorming sessions with clients, they can obtain specific industry knowledge and expand the industry knowledge base, so that when facing other clients in the same industry, we can extract knowledge from the knowledge base and formulate appropriate solutions for them. Secondly, as for enterprise search, it is different from the Internet search, which focuses on searching web pages. Company B's enterprise search targets are unstructured electronic documents, text files, emails, audio and video files. By continuously improving the effectiveness of enterprise search, Company B has effectively improved employees' productivity, organizational agility, and knowledge acquisition capability.

In terms of transformative capacity, Company B mainly builds the learning organization

through action learning, internal training and other leadership and human resource development measures to help employees transform external knowledge into corporate value and employee value. Firstly, as for action learning, Company B views action learning as a powerful tool for solving complex problems and proposing sustainable strategies. The operation process is roughly like this: start an action learning project on an actual problem encountered by the enterprise, and strive to propose solutions in 2-3 weeks; divide the students into several groups; each group can spontaneously organize research, discussion, analyze the root cause of the problem, formulate solutions and action plans, and form a report; convene a structured meeting, submit the group report to the judges to answer, choose the appropriate plan, form a resolution, and implement it formally. Secondly, at the internal training level, Company B invests a lot of resources every year to train employees' knowledge skills and transformative capacity from three levels. The first level is the company's formal training: based on job category and level, a classified and layered training course system is established, which is divided into three categories: general, professional, and management. Among them, the management category is subdivided into primary, intermediate, and advanced. The second level is the learning of job knowledge system: based on job competency and quality model, job knowledge system including job description, job-related system guidelines, best practices of job experience, job skill mentoring system, and job training topics are established to realize the close connection between job platform and knowledge platform to promote knowledge conversion and application. The third level is the newcomer mentor and internal lecturer system: in order to promote the sharing of tacit knowledge, for new employees and new executives, the direct superiors serve as "mentors" to help them quickly adapt to the new environment and new roles; to promote the knowledge sharing of internal employees, establish the internal lecturer team and 12 internal recognized lecturers have been trained successively.

In terms of exploitative capacity, mainly through the forms of business support and benchmark management, Company B helps employees learn to use knowledge to create client value and improve business level. Firstly, at the level of business support, Company B has established a knowledge platform system that conforms to strategic orientation and business process. As a strategic management consulting company, the business process exported by Company B to clients mainly includes three steps: strategy formulation, strategy execution and strategy innovation. Corresponding to this, Company B's knowledge platform also includes three parts: the strategy formulation link consists of a competitive intelligence information pool and a business analysis model to form a decision support module; the strategy execution link consists of job capability, process capability and business support capability. to form an

execution module; strategic innovation link consists of a rational proposal collection system, an innovation expert database and an innovation practice community to form an innovation module. Secondly, at the benchmarking level, Company B quickly copies and spreads the best practices in the business field through the "7-step benchmarking approach". Benchmarking management is a systematic management tool for companies to compare their own system elements, such as strategies, business modes, business processes and management systems, with best practices to identify gaps, formulate improvement measures and achieve continuous improvement. The specific steps are: define the scope, clarify the benchmark, form a team, collect data, compare gaps, formulate plans and implement improvements. For example, by implementing continuous improvement benchmarking management during the consulting report stage, Company B not only improves the knowledge application ability of consultants, but also increases the average profit index of consulting projects by 5% -10% annually.

(3) Service innovation performance analysis

Through the construction of knowledge transfer system and the development of absorptive capacity, Company B has effectively improved service innovation performance, including both financial performance and non-financial performance. It is found in the study that by enhancing the knowledge sharing of sales personnel, sales best practices can be developed to increase sales revenue; by developing the absorptive capacity of R & D personnel, the R & D cycle can be shortened, thereby reducing R & D costs; by improving the internal training system, training hours, training expenses and management costs can be reduced, thereby increasing economic value added (EVA).

In terms of financial performance, Company B's financial indicators, such as sales, profits and return on investment have been greatly improved. In 2018, the company achieved operating income of 13 million yuan, an increase of 17.5% compared with 2017; realized a profit of 600,000 yuan, an increase of 17% compared with 2017. By the end of 2018, the total assets had exceeded 3.5 million yuan; at the same time, with its founder's "halo effect", based on brand value and market share, Company B has become a leader in the strategic consulting market for SMEs.

In terms of non-financial performance, Company B has made progress in terms of competitiveness, development potential, strategic performance, operating performance, and brand value. Firstly, in terms of competitiveness, Company B continues to improve the organization's human capital through knowledge transfer process and absorptive capacity development, and builds human capital into the enterprise's competitive advantage. Combined with the competency model of key positions, through a variety of channels such as course

learning, mentor training, project practice, a set of one-stop training system is established to make knowledge management become a weapon for human capital development, promote the conversion of experts' personal knowledge into corporate knowledge, accelerate the improvement of employees' abilities and qualities and improve organizational IQ as a whole. Secondly, as for brand value, Company B's knowledge management team works closely with the marketing team to carefully plan and widely publicize the company's latest knowledge achievements so that clients and the society are confident about their strategic consulting capability and continuously win market opportunities for the company.

In terms of service innovation, Company B advocates the "making foreign things serving China" style of innovation, fully draws on the mature management system of multinational companies, and promptly launches localized consulting solutions. At the beginning of starting the business, based on his professional experience in Hewlett-Packard, the founder launched the well-known "six-step strategy planning" in China, which has become an effective tool for clients to think and formulate strategies. In accordance with the "starting with the end" principle, this "top-level design" methodology decomposes the strategic planning process into six steps for the purpose of building a smart enterprise and the industry's first brand: the first step, environment and status analysis; the second step, the ideal complete product description; the third step, the formulation of the company's long-term goals and development direction; the fourth step, business strategy and risk analysis; the fifth step, organizational structure, human resource and financial budget; the sixth step, the tactical implementation plan for the first year. This is a "scriptwriter" process, allowing managers to learn to look from the back to the front, apply "visual" thinking, visually see the future trends and results, with clues, plots, characters, and actions, and finally reverse the timetable, connect things and people, and form an easy-to-understand "script", so that everyone can see the future, care for clients, take the benefit of the world as their own responsibility, and clarify and assume their own "role", responsibilities and tasks. Over the past 20 years, it has provided a clear path for the continuous growth and successful transformation of Chinese companies, and has laid a solid foundation for Chinese companies to go global and improve international competitiveness. It has been well received by Chinese entrepreneurs and the business community.

5.2.3 Case analysis of C management consulting company

5.2.3.1 Overview of the company

C management consulting company is the pioneer and leader of strategy execution integration

consulting, and its value lies in helping clients establish strategy execution systems with simple, fast, systematic and sustainable solutions so as to build enterprise systems and achieve industry champions. Based on the concept of "from plan to result", they provide clients with consulting services in the areas of strategy, operation and transformation, leadership and corporate culture, organization, process and human resource. Company C's service is different from other companies. It is well versed in value creation and helps clients' CEOs successfully lead the process of change in the form of strategic partners, providing clients with effective full strategic cycle services—*strategic positioning annual meeting + champion system consulting + strategy execution university + performance improvement director to create a centralized and unified management platform system*—decision-making platform, system platform, capability platform and management and control platform, which is from strategy to execution, and ultimately achieve a double harvest in "performance growth + organizational health".

5.2.3.2 Analysis of variable characteristics

(1) Knowledge transfer analysis

Company C views knowledge transfer as a lifeline. Company C believes that the management consulting process is a typical knowledge transfer process and their management consultants are typical knowledge workers. Management consulting enterprises are typical knowledge-intensive enterprises, investing knowledge, producing knowledge, selling knowledge, and managing knowledge. A management consulting enterprise is such a pyramid formed by the accumulation of various knowledge, which becomes the core capital of the enterprise to create wealth.

Company C's knowledge transfer system construction is a systematic project. To build a knowledge-based organization, Company C is not in a hurry to seek success and greed for perfection, but do the right thing at the right time and proceed step by step, that is, from exploratory practice to forward-looking innovation, from planning to execution, from simple to systematic, from point to line, and then to face, and ultimately achieve effective connection with business and strategy, and effectively support the company's strategic goals. After nearly 20 years of entrepreneurship and development, Company C has accumulated a large amount of rich and valuable knowledge wealth, which constitutes the competitive advantage of the enterprise.

Company C's knowledge transfer is guaranteed by functional departments and based on business processes. The Knowledge Management Department is the functional department of the company's knowledge management, responsible for overall planning and business guidance

of the company's knowledge resources acquisition, storage, use, sharing and creation process. At the same time, knowledge transfer does not exist independently, but is integrated into the core business processes and operating systems, that is, "processes are pipelines, and knowledge is living water." Specifically speaking, on the one hand, there are clear milestone "delivery lists" at all key nodes of the project operation phase so as to achieve the precipitation of explicit knowledge; on the other hand, within 7 days of the end of the project, a project review meeting or a project sharing meeting will be held to exchange and summarize the experience and lessons in the project work so as to achieve the accumulation of tacit knowledge.

In terms of knowledge sharing, Company C mainly promotes the sharing and transfer of tacit knowledge through external cooperation, human resource development, IT platforms and leadership and corporate culture. Firstly, at the level of external cooperation, Company C mainly carries out long-term industry-university-research cooperation projects with universities, such as Tsinghua University, Shandong University, and Fudan University, and has obtained a large number of independent innovation results; furthermore, regularly invites famous professors to the company to hold knowledge lectures to help employees expand professional horizons, strengthen the combination of college research and market practice, and promote the internalization of external knowledge into the company's own competitiveness. Secondly, at the level of human resource development, Company C has established the team of internal lecturers, salons, work camps and other organizations. By creating a scene of tacit knowledge sharing and constructing a training system suitable for employees' career development plans, help employees improve their knowledge structure and work skills and transform knowledge into effective action capability at the same time, and ultimately improve human resource quality and corporate competitiveness. Thirdly, at the IT platform level, Company C has successively built knowledge exchange platforms, such as instant messaging tools (WeChat, Weibo), expert libraries and internal forums. Through the establishment of connections between clients, consultants or partners, and the establishment of "circle of friends" that breaks through the boundaries of geography and organization, constantly stimulate the learning and communication of members of the circle, make personal tacit knowledge become the knowledge of the team and organization, effectively improving organizational IQ. Fourthly, in terms of leadership and corporate culture, Company C relies on company leaders to lead by example and set an example. Through multi-channel and multi-media knowledge push and publicity training, as well as incentives for "Best Practice Award", encourage employees to use the organizational resources, create a cultural environment for knowledge sharing, externalize the values of knowledge sharing into employees' behavior habits and become the DNA of every

cell of the organization.

In terms of knowledge integration, Company C mainly promotes the integration and transfer of explicit knowledge through IT platforms and supporting systems. Firstly, at the IT platform level, Company C has built an integrated knowledge resource platform and a business collaboration knowledge management platform. The former is a unified knowledge warehouse and knowledge portal, which is equivalent to the "central study" and digital archives, which requires the pull of "people looking for knowledge"; the latter is to embed knowledge management into business processes and project management processes, which is equivalent to scene and intelligence, it needs the push of "knowledge looking for people". By creating a knowledge management system that adapts to strategic goals and business development, make the knowledge flow and the business flow be in the same direction and synchronized and the knowledge resources be connected in the work flow, and finally realizing "the right person, in the right scene, timely, accurately, completely acquire the right knowledge." Second, at the level of supporting systems, the implementation of Knowledge Sharing Manual makes it an operational guide for all employees to carry out knowledge management. Using Knowledge Sharing Manual, employees can quickly become familiar with and use the company's knowledge resources, master the methods and tools of knowledge acquisition, transformation, exploitation and sharing, which can help to continuously improve employees' knowledge ability and work efficiency. At the same time, Knowledge Sharing Manual encourages employees to actively share their experience and wisdom in their work, which helps employees cultivate good knowledge sharing behavior and promotes the construction of the corporate culture of sharing and co-creation.

(2) Absorptive capacity analysis

Company C found that, in the process of knowledge transfer, the absorptive capacity determines the effects of internalization and commercialization of external knowledge by the input, process and output links. On the input side, external knowledge is input by connecting with cooperative institutions; in the process, external knowledge is transformed through business operation and organizational learning; on the output side, innovation results are output through connecting clients. Therefore, Company C relies on improving organization and employees' absorptive capacity to expand the enterprise's knowledge reserves timely, update the enterprise's knowledge base, and transform knowledge resources into innovative achievements.

In terms of exploratory capacity, Company C mainly helps employees cultivate knowledge assets and expand knowledge reserves by introducing external cooperation and knowledge.

Firstly, as for introducing external cooperation, Company C has realized open innovation, combined internal development with external cooperation, and cooperated with universities such as Tsinghua University, Shandong University, and Fudan University to obtain large amounts of independent innovation. At the same time, in the field of talent development, insisting on "inviting in and going out" at the same time. On the one hand, they regularly invite famous experts to the company to give lectures on knowledge management and service innovation. On the other hand, a large number of employees are sent to participate in external professional training and certification exams to provide employees with external study opportunities and financial and time support so as to broaden employees' horizons, improve their professionalism and exploration skills. Secondly, as for the introduction of external knowledge, Company C provides employees with abundant external knowledge resources, including regular push of excellent publications, construction of external best practice case bases, purchase of knowledge bases, databases, book bases, to help employees optimize their knowledge stocks, update their knowledge structure and encourage them to generate sparks of innovation.

In terms of transformative capacity, Company C mainly promotes organizational learning and helps employees promote a "chemical reaction" between external knowledge and internal knowledge through business operation practices, such as R & D management and project management. Firstly, at the level of R & D management, Company C has formulated the service innovation strategy of "clients as the center, research serves projects, and development supports operation". By combining R & D innovation with business operation, a R & D team consisting of multi-sectoral, multi-disciplinary experts has been established. In order to promote the transformation of experts' knowledge, knowledge sharing salons are regularly held, fully combining business needs and popular knowledge, and adopting various sharing forms to promote the exchange and precipitation of knowledge in the professional field. Secondly, at the project management level, Company C has formulated a perfect project management system, clarifying that at every stage and link of the project, not only input the appropriate external knowledge of the project, but also output the appropriate internal knowledge of the project, thus effectively enhancing the ability to transform knowledge inside and outside the project. For example, in the project sharing meeting, through the knowledge sharing of different projects, people can increase understanding, "know who knows", so as to learn from each other, complement each other, and promote the exchange, discussion, precipitation and chemical reaction of knowledge in the professional field, thus making knowledge "fission, fusion" and innovating business processes. At the same time, through the knowledge sharing of clients in

different industries, the industry knowledge reserves can be accumulated, so as to provide reference solutions for other clients in the same industry.

In terms of exploitative capacity, Company C mainly exports knowledge-based services or solutions to clients and society through curatorial, publishing, and conferences to help employees enhance client capital and create client value. Firstly, at the publishing level, the Knowledge Management Department of Company C will work with the R & D team and marketing team to conduct client-oriented knowledge tapping and case studies. Its research results are published in the form of academic theses, professional books, various salons, and small exhibitions, which become the important media for clients and the public to perceive the value of management consulting. Secondly, at the curatorial level, in the public space of Company C, various exhibitions are displayed to show clients and partners the professional capability and knowledge accumulation of the enterprise. For example, in October 2019, the Knowledge Management Department selected important academic theses published by employees, and held an "Academy · Essence" exhibition in the company's training center and also got them released on the official website, which had a great influence. Thirdly, Company C supports employees to actively participate in various academic seminars and business forums to share their knowledge and experience, spread tacit knowledge to clients and partners and the entire industry, and show off the experts.

(3) Service innovation performance analysis

After years of effective construction of knowledge transfer system and absorptive capacity development, Company C has not only effectively improved the financial performance of service innovation, but also effectively improved the non-financial performance of service innovation. The results show that the total investment of Company C in the construction of knowledge transfer system and absorptive capacity development is far lower than the total benefits of avoiding duplication of labor, reducing search time in the R & D process, and reducing the cost of adaptive training for new employees.

In terms of financial performance, Company C's financial indicators such as sales, profits, and return on investment have been greatly improved. In 2018, the company achieved operating income of 19 million yuan, an increase of 24.5% over 2017; realized a profit of 160,000 yuan, an increase of 18.7% over 2017. By the end of 2018, the total assets had exceeded 5 million yuan, and the brand value and market share have been firm in the forefront of domestic small and medium management consulting companies.

In terms of non-financial performance, Company C has made considerable progress in terms of brand, competitiveness, development potential, and strategic performance and

operating performance. In terms of competitiveness, Company C has built its rapid learning ability into the enterprise's competitive advantage. On the one hand, as far as the individual is concerned, each employee develops real-time learning habits, and learns to apply, integrate knowledge and action, and transform knowledge into action and performance. On the other hand, in terms of organization, it has created a corporate culture with "learning, sharing, and innovation" as its core value, inspiring employees to create and share tacit knowledge, encouraging their team learning and collaborative innovation, letting knowledge create value. It is actively moving towards the rank of "learning organization".

In terms of service innovation, in 2017, Company C launched the *Action Plan for Collaborative Enterprise Construction*, which had exceeded clients' expectations. It is mainly aimed at the problem that the majority of small and medium consulting companies emphasize too much on local factors or staged methods and fail to gain insight into and understand the comprehensive and real needs of clients. Therefore, they focus on the entire life cycle of the enterprise and carry out overall product planning and service design. It takes the establishment of a strategic execution system as its overall goal, and uses a four-dimensional approach to provide strategic partners with full strategic cycle services—*strategic positioning annual meeting + champion system consulting + strategic execution university + performance improvement director*. Facts have proved that it overcomes the limitations of a single measure and comprehensively improves the consulting implementation methodology. Therefore, it is favored by clients for creating extraordinary values for them. At the same time, it greatly improves the company's organizational capability and knowledge capital, and also wins for itself good return on investment.

5.3 Conclusion of case study

The above three case companies are all small and medium management consulting companies. They have both common points and differences in knowledge transfer, absorptive capacity and service innovation performance. See Table 5.3.

Table 5.3 List of differences of the case companies

Variable	A management consulting company	B management consulting company	C management consulting company
Knowledge transfer	·mainly cooperating with foreign consulting institutions and research institutions	·focusing on building a platform for interaction and communication with professional managers of	·collaborating with practical experts in colleges and universities ·encouraging

	·attaching importance to the application of practical communities	multinational companies	employees to “go out and bring in”
Absorptive capacity	·attaching great importance to the development of exploitative capacity	·paying attention to the development of exploratory capacity	seeking the ·balance between exploratory capacity and exploitative capacity
Service innovation performance	·The core competitiveness lies in the intellectual assets focusing on explicit knowledge	·The core competitiveness lies in the expert brand that emphasizes tacit knowledge	·The core competitiveness is to develop a full strategic cycle, enterprise system-level solution

In terms of knowledge transfer, all the three case companies have adopted a parallel approach of knowledge sharing and knowledge integration, formulated a more standardized knowledge transfer process, and constructed a more comprehensive IT knowledge platform. Tacit knowledge is mainly obtained through cooperation with universities and research institutions, competitors and clients; explicit knowledge is mainly obtained through cooperation with suppliers, universities and research institutions, professional journals and patent databases, professional conferences or exhibitions. However, their respective focuses are different. In terms of knowledge sharing, Company A mainly cooperates with foreign consulting institutions and research institutions, introduces their knowledge achievements, and forms its own intellectual property services and solutions through localized verification and improvement. At the same time, it attaches importance to the application of practical communities to tap and precipitate the tacit knowledge of core employees. Company B focuses on building a platform for interaction and communication with professional managers of multinational companies, and its obvious feature of knowledge transfer is “taking it from the enterprise and applying it to the enterprise”. The focus of company C is to collaborate with practical experts in colleges and universities, and encourage employees to “go out and bring in” to create an open and sharing culture for knowledge transfer.

In terms of absorptive capacity, the three case companies all attach importance to the building of absorptive capacity, that is, acquiring knowledge through the development of exploratory capacity, promoting organizational learning through the development of transformative capacity, achieving the commercial use of knowledge through the development of exploitative capacity, ultimately to create new products or services. The basic way for them to develop absorptive capacity is to closely integrate knowledge transfer with human resource development and business process optimization to further deepen knowledge management,

enhance employees' capability and focus on scene applications. For example, they all set up special R & D teams, and they all value open innovation and imitative innovation. However, their specific measures are obviously different. Company A attaches great importance to the development of exploitative capacity. The main reason is that as a human resource consulting agency, it is generally faced with a stable knowledge environment. It is easy to discover and acquire knowledge and the focus of absorptive capacity is on the exploitative dimension. Company B pays attention to the development of exploratory capacity. The main reason is that as a strategic consulting company, it is generally faced with an unstable knowledge environment. There are great differences between the external knowledge and internal knowledge of the enterprise and the knowledge situation exerts a negative influence on absorptive capacity. Therefore, the focus of absorptive capacity is on the exploratory dimension. The main reason why Company C can balance between exploratory capacity and exploitative capacity is that it is a comprehensive consulting company that provides enterprise-level consulting services. Therefore, it is necessary to actively explore external knowledge to study and analyze the different macro and industrial environments faced by different clients; and it is also necessary to actively use existing knowledge to enhance clients' internal capability.

In terms of service innovation performance, the three case companies have not only effectively improved financial performance, such as profit, sales, and return on investment, but also effectively improved non-financial performance, such as brand, competitiveness, development potential, and strategic and operational goals. Although they have all adopted incremental innovation and imitative innovation, their respective core competitiveness and innovation strategies are different. The core competitiveness of Company A lies in the intellectual assets focusing on explicit knowledge accumulated over the years, such as the influential human capital evaluation system, and its innovation strategy is content-oriented, accumulating explicit knowledge, strengthening organizational memory, and improving knowledge assets. The core competitiveness of Company B lies in the expert brand that emphasizes tacit knowledge, such as the founder's senior management qualifications in a famous multinational company. Its innovation strategy is oriented to clients' application scenarios, focusing on building an expert platform and actively spreading brand value. The core competitiveness of company C is to develop a full strategic cycle, enterprise system-level solution according to the actual needs of clients, and adopt an effect-based charging model. Its innovative strategy is to take into account the balance between external and internal, implicit and explicit, build an ecosystem and help clients build a competitive advantage.

Through the case studies of the above three companies, it can be found that through the

implementation of knowledge transfer measures such as expert sharing, best practice sharing, practice communities, and knowledge bases, they have not only effectively improved business processes such as research and development, but also have developed absorptive capacity and other organizational capital, and ultimately have improved service innovation performance. In other words, not only the relationship between knowledge transfer, absorptive capacity and service innovation performance have been established, but also have clarified the logical relationship between the three as a "strategic map" (Kaplan & Norton, 2008): knowledge transfer not only supports service innovation performance, but also drives the development of absorptive capacity; absorptive capacity both supports service innovation performance and enhances the effect of knowledge transfer on service innovation performance.

To sum up, the case study in this chapter verifies the relationship between knowledge transfer, absorptive capacity and service innovation performance: knowledge transfer has a positive impact on absorptive capacity and service innovation performance; absorptive capacity has a positive impact on service innovation performance; absorptive capacity plays a partially positive mediating role between knowledge transfer and service innovation performance.

5.4 Summary of this chapter

Based on the statistical analysis of large samples in the preceding chapter, this chapter adopts the method of case study. At first, the method and steps of case study are described. Then three representative case companies are selected for systematic analysis. Finally, their common points and differences are summarized. It is found that this chapter further verifies the relationship between various dimension variables of knowledge transfer, absorptive capacity and service innovation performance, proves the rationality of the conceptual model and research hypotheses proposed in this thesis and provides practical testing and empirical support for theoretical research in this thesis.

Chapter 6: Conclusion

In the foregoing, the theoretical hypotheses of the relationship between knowledge transfer, absorptive capacity and service innovation performance are proposed and tested. This chapter will summarize research conclusions, discuss management implications, analyze research limitations, and propose future research prospects.

6.1 Main conclusions

Focusing on the relationship between knowledge transfer, absorptive capacity and service innovation performance, the author has learned the research process and research methods of putting forward questions—analyzing problems—solving problems.

This thesis first puts forward three major research questions, constructs theoretical models and research hypotheses; then in the research process, it focuses on the combination of theoretical research and empirical research; finally these problems are solved one by one, which have verified the rationality of the conceptual model and research hypotheses proposed in this thesis. The following conclusions are learned and drawn specifically:

(1) Based on the concepts and dimensions of knowledge transfer, absorptive capacity and service innovation performance, the theoretical hypotheses of the relationship between the three are constructed

In this thesis, it is believed that service innovation is the organic combination of a variety of ideas, knowledge, processes, activities, methods and behavior, which focuses on the entire enterprise system and is oriented by client value and competitive strategy and used by service enterprises in the operation and management process and can create new value for the enterprise; broad knowledge transfer runs through the entire process of knowledge flow or the entire system of knowledge management; absorptive capacity is an enterprise's behavioral process of acquiring, digesting, transforming, and exploiting external knowledge, it is also an enterprise's internal dynamic ability to transform external knowledge into business output and innovation performance.

At the same time, this thesis divides knowledge transfer into two dimensions: knowledge sharing and knowledge integration. It divides absorptive ability into three dimensions: exploratory capacity, transformative capacity and exploitative capacity. What's more, it divides service innovation performance into two dimensions: financial performance and non-financial

performance.

This thesis proposes the conceptual model of "knowledge transfer → absorptive capacity → service innovation performance", and puts forward specific hypotheses about the relationship between different variables: hypotheses of the relationship between knowledge transfer and service innovation performance; hypotheses of the relationship between absorptive capacity and service innovation performance; hypotheses of the relationship between knowledge transfer and absorptive capacity; hypothesis of absorptive capacity as a mediator between knowledge transfer and service innovation performance. The small sample test finds that the scales used in the pre-survey questionnaire has good reliability and validity, and can form a formal questionnaire used in the large sample survey.

(2) The theoretical hypotheses proposed in this thesis are verified by the statistical analysis of large samples

According to the normative requirements of empirical research, this thesis proposes research hypotheses for research problems, collects data through a large-scale questionnaire survey, and uses the method of statistical analysis of large samples to conduct hypothesis testing. Based on the data obtained from the questionnaire, this thesis mainly uses statistical software such as SPSS24.0 and AMOS24.0 to conduct empirical analysis of the data. The statistical analysis methods, such as descriptive statistical analysis, reliability and validity analysis, correlation analysis, analysis of variance and structural equation models, are mainly used to verify the hypotheses of the relationship between knowledge transfer, absorptive capacity and service innovation performance.

It is found in the results that of the 28 research hypotheses in this thesis, 23 pass the test and 5 fail the test, so the hypotheses of the relationship of various dimension variables of knowledge transfer, absorptive capacity and service innovation performance are basically verified. Except for transformative capacity → financial performance, knowledge integration → transformative capacity, knowledge sharing → transformative capacity → financial performance, knowledge integration → transformative capacity → financial performance, knowledge integration → transformative capacity → non-financial performance, other path coefficients of SEM pass the significance test, the model has a high degree of fit, so the hypotheses are supported by data.

(3) The theoretical hypotheses proposed in this thesis are supported by the case study

According to the normative requirements of the case study and based on the statistical analysis of large samples, this thesis selects three small and medium management consulting

companies of different business types, including Shanghai C & D Management Consulting Co., Ltd., Beijing Excellence Enterprise Management Consulting Company and Jinan Shengchen Management Consulting Company as the analysis objects, use the method of case study to further verify the hypotheses of the relationship between variables. It is found in the results that the relationship between knowledge transfer, absorptive capacity and service innovation performance are: knowledge transfer has a significantly positive effect on absorptive capacity and service innovation performance; absorptive capacity has a significantly positive effect on service innovation performance; absorptive capacity plays a partial positive mediating role between knowledge transfer and service innovation performance.

That is to say, the case study further validates the hypotheses of the relationship between knowledge transfer, absorptive capacity and service innovation performance, proves the rationality of the conceptual model and research hypotheses proposed in this thesis, and provides practical testing and empirical support for theoretical research in this thesis.

6.2 Management inspiration

The research results of this thesis provide management inspiration, including decision-making reference and practical suggestions, for Chinese small and medium management consulting enterprises to effectively improve the level of knowledge transfer, absorptive capacity and service innovation performance.

(1) Attach importance to outcome performance and process performance to create service innovation performance

Service innovation performance includes financial performance and non-financial performance. It is believed in this thesis that financial performance is result-oriented, mainly to measure shareholders' financial satisfaction, including profit, sales, and return on investment; non-financial performance is process-oriented, mainly to measure the contribution of service innovation in brand and competitiveness, development potential, strategic objectives and business objectives.

The goals of service innovation performance are the precursor of service innovation. Enterprises need to be client-centric and market-oriented to balance the relationship between financial performance and non-financial performance, process performance and results performance, long-term performance and short-term performance, strategic performance and operational performance. They need to formulate the objectives and planning of service innovation with a strategic perspective, carry out service innovation activities, and ultimately

achieve the goals of service innovation performance.

(2) Interpersonal network and IT network operate side by side to improve the efficiency of knowledge transfer

Improving the effectiveness of knowledge transfer requires two client-oriented infrastructures: one is interpersonal network; the other is IT network, the two operate side by side and complement each other. Among them, the interpersonal network mainly transfers knowledge through human dialogue, which is particularly conducive to tacit knowledge sharing. The IT network mainly transfers knowledge by coding the content of knowledge, which is particularly conducive to the integration of explicit knowledge.

In terms of knowledge sharing, the promotion of the tapping, cross-organization sharing and transfer of tacit knowledge is mainly achieved through expert dialogue, external cooperation, practice communities, and best practice sharing. At the level of expert dialogue, enterprises should regularly talk to industry experts from research institutions, industry associations, rival companies, multinational companies, and clients; at the level of external cooperation, enterprises should strengthen their cooperation and exchanges with external organizations, such as suppliers, clients, friends, universities, research institutions and consulting institutions; at the level of practice community, enterprises should be oriented at real business issues, focus on tapping and accumulating tacit knowledge of core employees; at the level of best practice sharing, enterprises should build best practice sharing platforms to enable employees to work anywhere and anytime to share and learn best practices.

In terms of knowledge integration, it mainly promotes the integration and transfer of explicit knowledge through IT platforms and supporting systems. At the IT platform level, by creating a knowledge management system that adapts to strategic goals and the needs of business development, make knowledge flow and business flow be in the same direction and synchronized and knowledge resources be connected in the work flow to achieve the full life cycle management of knowledge—"the right person, in the right scene, timely, accurately, completely acquire the right knowledge"; at the supporting system level, enterprises should develop and implement *Knowledge Sharing Manual* to make it an operation guide for all employees to carry out knowledge management, and effectively promote the construction of the sharing and co-creating corporate culture.

(3) Business operation and talent development go hand-in-hand to strengthen the development of absorptive capacity

To accelerate the development of absorptive capacity, it is necessary to combine business

process activities with human resource development, and improve exploratory capacity, transformative capacity and exploitative capacity from the three links of input, process and output.

In terms of exploratory capacity, enterprises help employees gain insight into client changes, cultivate knowledge assets, and expand knowledge reserves mainly through the forms of external surveys, external cooperation, and external training. At the external survey level, they mainly obtain clues and experience of service innovation through client surveys and best practice collection; at the external cooperation level, they mainly establish research teams with external partners, such as research institutions, universities, clients and suppliers, to carry out project research; at the level of external training, a large number of employees are sent to participate in external professional training and certification exams to provide employees with external study opportunities and financial and time support.

In terms of transformative capacity, enterprises should promote organizational learning through activities such as R & D management, action learning and internal training, and help employees transform external knowledge into corporate value and employee value. At the R & D management level, a client-centric service innovation strategy should be formulated, and an R & D team composed of multi-department and multi-disciplinary experts should be established by combining R & D innovation with business operation; at the action learning level, when facing a complex problem, enterprises should start action learning projects, formulate solutions and action plans; at the internal training level, enterprises should invest a lot of resources to train employees' knowledge skills and transformative capacity from three levels, namely, classified, hierarchical formal training course system, job knowledge system based on job competence and quality model, and mentors for newcomers and internal lecturer system.

In terms of exploitative capacity, enterprises should help employees integrate knowledge into business operation, and use knowledge to create value, and output knowledge-based services or solutions to internal and external clients mainly through innovation support, sales support, and human resource policies. At the level of innovation support, enterprises should mainly focus on using tacit knowledge to promote R & D innovation through creative management and support for new business promotion; at the level of sales support, enterprises should find sales stars by promoting knowledge sharing among sales personnel and use their experience to develop the best sales practice, and then promote it to the sales team, thereby improving overall sales revenue; at the level of human resource policies, enterprises need to support employees to actively participate in various academic seminars and business forums to share their knowledge and experience, spread tacit knowledge to clients, partners and the entire

industry and display their experts.

In short, this thesis aims to improve the competitive advantage of enterprises. Through the analysis of the impact mechanism between knowledge transfer, absorptive capacity and service innovation performance, it reveals the key success factors that affect service innovation for Chinese small and medium management consulting companies, which can help them combine their own external environment, industry status and internal capability to make correct strategic decisions, continuously broaden the sources and paths of knowledge transfer, and continue to develop realistic and potential absorptive capacity so as to comprehensively improve service innovation performance and ultimately promote the development of China's high-end service industry.

6.3 Research limitations

Although there have been some scientific results in theory and practice, this study still has some limitations due to the complexity of the research questions, the author's limited personal ability and many other subjective and objective factors.

(1) Sample selection

In this study, the scientific procedures are followed as much as possible in the process of sample selection, and the sample size and survey scope reach a certain level to ensure the reliability of the research results. However, due to the factors such as the author's ability and time, the number of provinces where the sample companies are located is relatively limited and the data collected has certain regional characteristics, which may affect the universality of research conclusions.

(2) Data source

Questionnaire survey is the data collection method used in this study. The reliability of this method has been widely recognized by the academic community, but its shortcomings are also obvious. On the one hand, there are subjective factors of the respondents. The questionnaire survey uses the subjective feedback of the respondents to measure the variables. It is inevitable that it will be affected by the personal subjective consciousness of the respondents, which may affect the scientific nature of research conclusions. On the other hand, there is a time lag between the effects of variables. There is a certain causal relationship between the variables, but the effects of variables may present a certain time lag. For example, the effect of absorptive capacity on service innovation performance may take some time to appear. In particular, the way second-hand data is collected is more likely to reflect this time lag.

(3) Variable measurement

For the specific measurement items of the variables of knowledge transfer, absorptive capacity and service innovation performance, it mainly draws on the mature scales commonly used at home and abroad, which have certain authority and reliability. Although their reliability and validity have been confirmed to a certain extent, most of the research is in the Western context, and there is a lack of more mature research and testing in Chinese context.

（4）Dynamic research

The survey data used in this study is cross-sectional data at a certain point in time, and it cannot fully reflect the dynamic development process of management consulting firms in terms of knowledge transfer, absorptive capacity and service innovation performance. If time series data can be used for research, it will reflect the impact of knowledge transfer and absorptive capacity of management consulting companies on service innovation performance more truthfully, accurately and completely.

6.4 Research outlook

The shortcomings of this thesis provide direction and space for future research to further expand and deepen theoretical research and empirical research in the following aspects:

(1) Theoretical research

At the level of service innovation performance, the author only verifies the significantly positive impact of knowledge transfer and absorptive capacity on service innovation performance in this thesis. People can further analyze the key success factors of service innovation performance from other factors in the future. At the level of knowledge transfer, the author conducts research from knowledge sharing and knowledge integration. People can not only increase the interaction study between the two, but also can further refine the variable study of knowledge transfer in the future study. At the level of absorptive capacity, most of the existing research in the academic community has focused on the effect of absorptive capacity on service innovation and other outcome variables. In the future, it is necessary to deeply analyze the mechanism of absorptive capacity. For example: What capacities of enterprises have been enhanced by absorptive capacity to further improve the effects of knowledge transfer or service innovation performance?

(2) Statistical analysis of large samples

For the same service innovation performance, different time points may have different results. This thesis only evaluates service innovation performance from a single point of time,

so the evaluation of service innovation performance may produce certain deviations. In the future research, we can appropriately increase the evaluation cycle of service innovation performance for people to fully understand the historical process of service innovation performance.

(3) Case study

Due to the limited research scope and research conditions, this thesis only makes a detailed study of China's management consulting industry, especially small and medium management consulting companies. The variable characteristics of different industries are quite different, and the life cycle stages are also different. These factors may have different effects on the relationship between knowledge transfer, absorptive capacity and service innovation performance. Therefore, we can further explore whether there is also a significantly positive relationship between knowledge transfer, absorptive capacity and service innovation performance in other industries or sub-sectors in the future.

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Annex A: Questionnaire

Questionnaire on the Relationship Between Knowledge Transfer, Absorptive Capacity and Service Innovation Performance

Dear Sir / Madam:

Thank you for taking the time to answer the questionnaire.

The questionnaire aims to study the relationship between knowledge transfer, absorptive capacity and service innovation performance, which has certain values for related theories and practices. Please answer according to the actual situation of your company, there is no right or wrong answer; and please do not omit any questions to maintain the integrity of this questionnaire. The questionnaire will be filled in anonymously, which will not involve trade secrets. The information you provide is only used for academic research and it will never be disclosed to any other parties or individuals.

Thank you again for your strong support for this research!

Best wishes to you!

Research Group on Service Innovation, Institute of Small and Medium Enterprises, Shandong University

June, 2018

Instructions for answering questions

1 Please select the options that best match your 'company's actual situation and tick "√";
2 Without other specifications, all items are multiple choices.

Part I Basic Information

Enterprise's Basic Information

1 Economic Nature of Your Enterprise	A. Private enterprises B. state-owned enterprises C. Sino-foreign joint ventures D. wholly foreign-owned enterprises E. other enterprises
2 Enterprise Size	A. Less than 10 people B. 11-50 people C. 51-100 people D. more than 100 people
3 The Age of Your Enterprise	A. less than 3 years B. 4-6 years C. 7-10 years D. more than 10 years
4 Business Type of Your Enterprise	A. Strategic consulting B. organizational consulting C. business process consulting D. marketing consulting E. human resources consulting F. financial consulting G. corporate culture consulting H. comprehensive consulting I. other consulting （[ ] please write down the business type）
5 Location of Your Enterprise	[ ] City, [ ] Province

Personal Information

6 Gender	A. Male B. Female
7 Position	A. Chairman / general manager B. Senior executive C. Middle-level executive D. Below middle-level
8 Years of Work in the Current Enterprise	A. Less than 3 years B. 3-5 years C. 6-10 years D. More than 10 years
9 Age	A. Under 25 years old B. 26-35 years old C. 36-45 years old D. Over 46 years old
10 Education	A. College degree and below B. Bachelor C. Master D. Doctor or post-doc.

Part II Text of the Questionnaire

Questionnaire on Knowledge Transfer

Compared with the actual situation of your company, the following description is: 1. Very non-conforming 2. Non-conforming 3. Uncertain 4. Conforming 5. Very conforming	
A1. Our enterprise shares knowledge about the use of products or services through communication with customers	1 2 3 4 5
A2. Our enterprise shares knowledge through communication with their competitors and within the internal members	1 2 3 4 5
A3. Our enterprise share sindirect knowledge through communication with people at universities and research institutions	1 2 3 4 5
A4. Our enterprise integrates equipment, raw materials and software knowledge from suppliers	1 2 3 4 5
A5. Our enterprise integrates direct knowledge from universities and research institutions	1 2 3 4 5
A6. Our enterprise integrates the knowledge of competitors or peers through reverse engineering	1 2 3 4 5
A7. Our enterprise integrates knowledge by consulting professional journals and patent databases	1 2 3 4 5
A8. Our enterprise integrates knowledge by participating in professional conferences and exhibitions	1 2 3 4 5
A9. Our enterprise integrates knowledge from consulting agencies and other organizations	1 2 3 4 5

Questionnaire on Absorptive Capacity

Compared with the actual situation of your company, the following description is: 1. Very non-conforming 2. Non-conforming 3. Uncertain 4. Conforming 5. Very conforming	
B1. We often seek and identify new knowledge from the market environment	1 2 3 4 5
B2. We are able to collect new external knowledge in detail	1 2 3 4 5
B3. We often interact with research institutions, universities or other companies to obtain new knowledge and ideas	1 2 3 4 5
B4. We constantly evaluate new knowledge acquired from outside	1 2 3 4 5
B5. We can quickly understand the new knowledge discovered and retain it for a period of time	1 2 3 4 5
B6. We can accomplish knowledge sharing within the company	1 2 3 4 5
B7. We can quickly see the practicality of new knowledge and ideas	1 2 3 4 5
B8. We are good at combining new knowledge with existing knowledge	1 2 3 4 5
B9. When identifying business opportunities, we can quickly utilize the existing knowledge	1 2 3 4 5
B10. We are always thinking about developing new services or innovating business models	1 2 3 4 5
B11. We often use new knowledge and ideas to create new services	1 2 3 4 5
B12. We can easily use new knowledge and ideas to create new services	1 2 3 4 5
B13. It is well known to use new knowledge and ideas in the company	1 2 3 4 5

Questionnaire on Service Innovation Performance

Compared with the actual situation of your company, the following description is: 1. Very non-conforming 2. Non-conforming 3. Uncertain 4. Conforming 5. Very conforming	
C1. Our enterprise's service innovation is highly profitable	1 2 3 4 5
C2. Our enterprise's service innovation significantly promotes its sales	1 2 3 4 5
C3. Our enterprise's service innovation significantly reduces its costs	1 2 3 4 5
C4. Our enterprise's service innovation enables its high rate of return on investment	1 2 3 4 5
C5. Our enterprise's service innovation improves its market share	1 2 3 4 5
C6. Our enterprise's service innovation has a significantly positive impact on its brand / reputation	1 2 3 4 5
C7. Our enterprise's service innovation improves its competitiveness	1 2 3 4 5
C8. Our enterprise's service innovation improves it's future development potential	1 2 3 4 5
C9. Our enterprise's service innovation helps to achieve its business goals and long-term strategies	1 2 3 4 5
C10. Our enterprise's service innovation will help to develop other innovative services in the future	1 2 3 4 5

The answer is over, thanks again! Wish you all the best!

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Annex B: Interview Outline

Interview outline on knowledge transfer, absorptive capacity and service innovation performance

Name of the interviewed company: Interviewee:

Interview time: Interview location:

I. Basic information of the enterprise · ·

1. How is the current development of your enterprise? How is its external environment? Who are its main clients and competitors?

2. What is the economic nature of your enterprise? What are the stages of enterprise development?

3. What is the number of employees? Is there an independent R & D department? Is there an independent knowledge management department? ·

II. Knowledge transfer of the enterprise

1. Knowledge sharing of the enterprise

(1) Do you often communicate and share knowledge with your clients? (2) Do you often share knowledge with competitors and internal members? (3) Do you often communicate and share knowledge with people from universities and research institutions?

2. Knowledge integration of the enterprise ·

(1) Do you often integrate knowledge from suppliers? (2) Do you often integrate knowledge from universities and research institutions? (3) Do you often integrate knowledge from competitors or other consulting companies through reverse engineering and other means? (4) Do you often integrate knowledge by consulting professional journals and patent databases? (5) Do you often integrate knowledge by participating in professional conferences and exhibitions? (5) Do you often integrate knowledge from consulting agencies and other organizations?

III. Absorptive capacity of the enterprise ·

1.Exploratory capacity of the enterprise ·

(1) Do you often seek and identify new knowledge from the market environment? (2) Is it possible to collect the existing new external knowledge in detail? (3) Do you often interact with research institutes, universities or other enterprises to acquire new knowledge and creativity? (4) Is new knowledge acquired from outside often evaluated?

2. Transformative capacity of the enterprise ·

(1) Is it possible to quickly understand and retain the new knowledge discovered for a period of time? (2) Is it possible to achieve knowledge sharing within the company? (3) Can you quickly see the usefulness of new knowledge and ideas? (5) Are you good at combining new knowledge with existing knowledge and using it? (6) When identifying business opportunities, can existing knowledge be quickly transferred?

3. Exploitative capacity of the enterprise

(1) Are you always thinking about developing new services or innovating business models? (2) Are new knowledge and ideas often used to create new services? (3) Is it easy to apply new knowledge and ideas to create new services? (4) Is the use of new knowledge and new ideas well known in the company?

IV. Service innovation performance of the enterprise

1. Financial performance of the enterprise

(1) Does service innovation make the company highly profitable? (2) Does service innovation significantly increase the company's sales? (3) Does service innovation significantly reduce the company's costs? (4) Does service innovation make the company have a higher return on investment? (5) Has service innovation increased the company's market share?

2. Non-financial performance of the enterprise ·

(1) Does service innovation have a significantly positive impact on the company's brand / reputation? (2) Has service innovation improved the company's competitiveness? (3) Has service innovation increased the company's potential for future development? (4) Does service innovation help to achieve the company's business goals and long-term strategy? (5) Will service innovation help the company develop other innovative services in the future?