

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Research subjects

Some well-known family businesses in Guangdong Province were selected, and in-depth interviews with the chairman and incumbent leaders of these companies. The questionnaire survey is mainly used to collect the attitudes of the research objects. During the research, the subjects of this research are Chinese family businesses that are undergoing or planning the inter-generational succession.

The first quantitative research (the influence of family structure on family business succession). Considering that this study has higher requirements on the information of the company's financial indicators and the business owner's family structure. The non-financial private listed companies that have issued stocks in Shanghai and Shenzhen in recent years and in the succession process as the sample source.

The second quantitative research (the influence of family relationships on internal succession). Based on the existing research results of family relationships, the empirical research design can be improved in the following aspects: Firstly, in the specific dimensional composition, the "family relationship" is entered into the research process as a multi-dimensional variable to build operable variables in family business succession process. Secondly, in the study of the role of family relationships, it is necessary to further explore and verify the mediating role of family relationships through empirical research, and to reveal the role mechanism of family relationships in the succession process of family businesses. Finally, in the study of the effect results, focus on the impact of family relationships on the inter-generational succession of family businesses. It should be noted that the scenario studied in this chapter is the internal succession of family businesses, because family relationships can have a significant impact on business operations and performance only in internal succession.

3.2 Research method

The research method is the mixed method. This draws on the potential strengths of both qualitative and quantitative methods.

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The application of this approach involves collecting and analyzing both quantitative and qualitative data. The quantitative data includes closed-end information that undergoes statistical analysis and results in numerical representation. Qualitative data, on the other hand, is more subjective and open ended so it allows for the voice of the participants to be heard and interpretation of observations.

Exploratory sequential design. In this design, beginning with conducting a qualitative research and information gained from its results is used to develop an instrument for collecting quantitative data or to specify variables that used to go into the quantitative study.

Interview method is for the qualitative research. We selected some well-known family businesses in Guangdong Province and conducted in-depth interviews with the chairman and incumbent leaders of these companies. The interviews were conducted in a semi-structured format, and the interviews were mainly focused on the issues that each part focused on. In this way we get a lot of first-hand information.

Questionnaire method is for the quantitative research. On the basis of interviews, combined with foreign research and the actual situation of China, the questionnaire was designed for the content of the research. In order to ensure the representative of the questionnaire survey, the survey of the enterprise selects a sample of Chinese family business.

Families are important influencing factors at the individual, interpersonal, and organizational level. However, families have long been ignored by mainstream management research institutes and are rarely included as variables in the theoretical framework and research design of the literature (Schulze, Lubatkin, & Dino, et al. , 2001). Family business is a form of enterprise organization in which the family system and the enterprise system overlap, and it is rarely the focus of researchers. In the few literature that focus on family systems, the impact of family on corporate behavior and corporate performance is significant. From this perspective, if scholars in the field of business management do not consider family variables, they may not be able to explain a considerable proportion of corporate behavior, leading to incomplete or even misleading conclusions. In the field of family business research, the emphasis on the study of family systems is increasingly becoming the consensus of researchers. Family-based research theory has become an important source of family business research to build its own

theoretical foundation.

It is not difficult to see that although family research based on agency theory and resource perspective has made a useful attempt to understand family business in depth, the family system that determines the essential difference between family business and non-family business is still like a "black box" that is difficult to open. In the field of family business succession, the complexity and dynamics of the family system make it difficult to enter the empirical research process, which makes it more difficult for the research to advance in depth. Therefore, the empirical research part of this paper must be further expanded and improved on the basis of existing research.

First of all, in the research ideas, the research situation is fixed and the concept is operational. One of the important critiques of Habbershon & Williams (1999) on family research is that these studies rarely analyze and validate the relationship between family systems and enterprise systems, and there are issues such as generalization of discussion objects and situational factors. Researchers fall into a situation where concepts are difficult to grasp and empirical research cannot be carried out. Therefore, following the succession research based on family characteristics, it is better to extract the variables that can characterize the family and enterprise system and have operability. Based on the research questions in this paper, the empirical research selects the family business to inherit this important situation, selects the family structure and family relationship variables to describe the family system, selects the succession effect to describe the enterprise system, and tries to explore the influence of family structure and family relationship on the family business succession.

Secondly, in the research content, draw on the family field and realize the integration and application of relevant research results in family business research. With the advancement of family business research, the development trend of returning to the "family" origin is becoming more and more obvious. It is becoming more urgent to draw on and integrate the research results of the family field and even sociology and psychology. In fact, scholars such as Lansberg & Astrachan (1994), Astrachan, Klein & Smyrnios (2002) have already begun their efforts in this area, such as Zhang Qiang (2002). Chen Ling and Ying Lifan (2006) also tried to explain the special business form of family business from the perspectives of sociology and network form. Based on the research questions in this paper, if the empirical research can learn from the relevant

research results of the family system and adapt, correct and purify these results based on the family characteristics of the family business in China, it can enrich the research width in the family business field.

Finally, in the research method, the research method is improved, and the standardization and rigor of the research analysis method are realized. Existing research in family businesses is often limited to broad discussions and controversies. It can only show which family characteristics can cause directional changes in outcome variables and cannot explain the extent of change. These research methods are often difficult to separate family factors from many influencing factors, and can not accurately explain the extent of family factors affecting outcome variables and their mechanisms of action, which has been plagued by many researchers. In this case, the use of large-scale empirical research methods to shield other factors and reveal the essential effects of family factors has become an inevitable requirement of methodology (Scott, 1992). Based on the research questions in this paper, if the empirical research can use more standardized and rigorous research methods, the related research can be further improved. The quantitative research section is shown in figure 3.1.

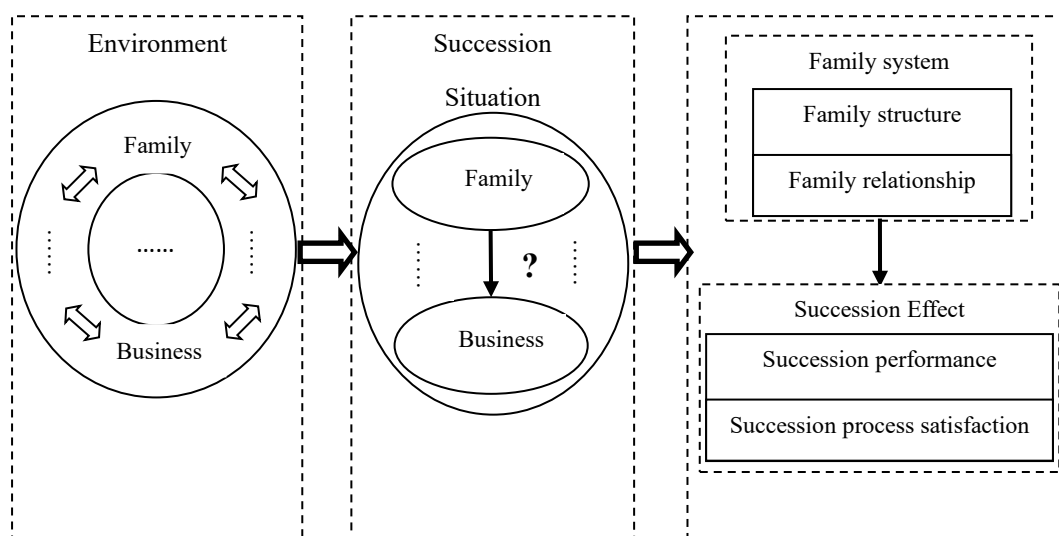


FIGURE 3. 1 SCHEMATIC DIAGRAM OF QUANTITATIVE RESEARCH
(Source: Researcher, 2020)

Based on the succession study of family characteristics, it can be found that the family system of family business is characterized by structural features and functional characteristic variables. In view of the research question in this paper is to answer the role and influence of the family system on the enterprise system in the context of family

business succession, we must find suitable variables to describe the family system and enterprise system, and translate the questions answered in this paper into the key scientific issues of research. Based on the idea of succession research of family characteristics, the method of extracting structural features and functional feature variables is separately selected to describe the family system. Based on the research progress of family influence on the succession of family business, we choose to describe the enterprise system by the succession effect of family business. After solving the above problems, we must also find a more precise entry point, that is, to study which issues can give us a deeper understanding of the role and influence of the family on the family business heritage, and to improve the family business's succession effect from the family perspective.

In the process of family business succession, practitioners and researchers have noticed that the majority of family business owners want to pass on their own children, and “child succession” has become the preferred succession model for family businesses. In the early research, this succession decision was considered to be caused by emotional factors such as the personal preference of the business owner. Few studies explored the objective factors that determine the succession model of the family business. With the deepening of succession practice and the gradual advancement of related research, more and more researchers have realized that the succession of family business is not entirely a subjective and irrational choice. It is likely that the result of multiple factors working together. Among them, the influence of family structure is the most important and may play a decisive role in the succession of family business (Bertrand, Marianne, Johnson, et al., 2005, Bennedsen, Nielsen, Perez-Gonzalez, et al., 2007). If this conclusion is established, we can based on the family composition of the family business owner, and speculate on how many family businesses will choose to inherit or resell others in the future, so that they have a clear understanding of the family business's heritage profile. If the family structure of the family business owner cannot support the internal succession of the enterprise, the business owner can prepare for the transfer of management rights and the arrangement of ownership in advance to avoid the impact and influence of the succession on the operation of the enterprise. This will undoubtedly help the management and control of the family business succession, and help to improve and enhance the succession effect.

The hypothesis that family structure influences the family business succession only had been tested by empirical research from Bertrand, Marianne, Johnson, et al. (2005) and Bennedsen, Nielsen, Perez-Gonzalez, et al. (2007). Similar research is needed in family businesses in different countries to verify the relationship between family structure and succession. Further, we also need to understand how the corporate performance changes after the family business is passed to the family or outsiders. After all, all the management and ownership of the enterprise are arranged to enable the company to win and maintain competitive advantage in the market competition. Based on the above analysis and discussion, the research questions are clear, that is, to answer the influence of family structure on the way of family business succession, and further observe whether different ways of succession affect business performance. The study is shown in Figure 3.2.

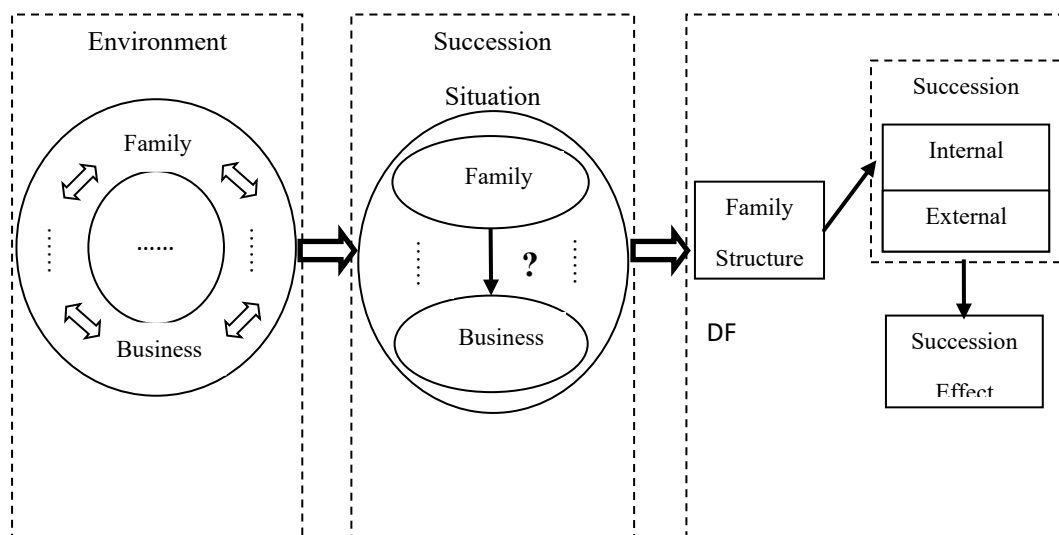


FIGURE 3. 2 SCHEMATIC DIAGRAM OF THE FIRST QUANTITATIVE RESEARCH

(Source: Researcher, 2020)

After the family business completes the transfer of management rights, the family system still affects the operation and performance of the family business, but this effect is limited to the family business that chooses internal succession. It is easy to understand that when a family business chooses an outsider to manage the business, the influence from the family system will be greatly weakened. From this perspective, internal succession has more important research significance. In the study of the succession of

family businesses, many researchers are keen on the study of transfer design, succession management and other issues, but most researchers finally realize that the psychological dynamics of family members are more important. Hoover (1999) even believed that the biggest threat to the continued growth of family businesses is not external factors such as technology, customers, competitors, but the relationship of family members. According to statistics, due to the breakdown of family relationships, the proportion of family business failures is as high as 60%, exceeding the company's failure in market competition. However, so far, we have much more emotional discussion about the relationship between family relationship and corporate heritage, and there are few empirical studies, only Lansberg & Astrachan (1994), Morris, Williams & Allen, et al. (1997), Lee (2006). Others have conducted a more rigorous and standardized discussion. Their research conclusions show that in the internal succession of family business, the mechanism of family relationship's effect on succession may be neither direct nor simple, but a more complicated process. Therefore, it is necessary to make a discussion on the effect of family relationship on the succession effect in the context of family business, so that we have a clearer understanding of the dynamic foundation of family business succession. Based on the above analysis and discussion, the research questions are clear, that is, to answer the influence and mechanism of family relationship on the succession effect under the family business internal succession situation. As shown in Figure 3.3:

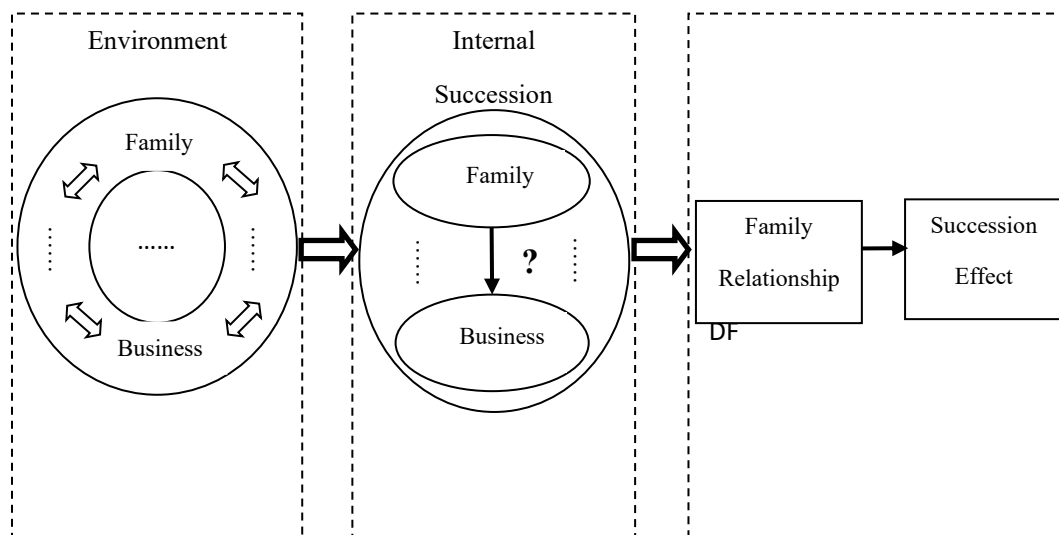


FIGURE 3. 3 SCHEMATIC DIAGRAM OF THE SECOND QUANTITATIVE RESEARCH

(Source: Researcher, 2020)

former is in the family business and the latter is limited to the internal succession of the family business. At this point, the questions to be answered in this paper can be translated into:

- 1) Under the family business succession situation, how does the family structure of the family business owner affect the family business succession mode and effect?
- 2) How does the family relationship of family business owners affect the succession effect in the family business internal succession?

Further theoretical construction and quantitative research work will be carried out in subsequent chapters.

3.3 Research framework

The research method in this study is the quantitative Research. And the technical route and research framework used in this study is shown in figure 3.4:

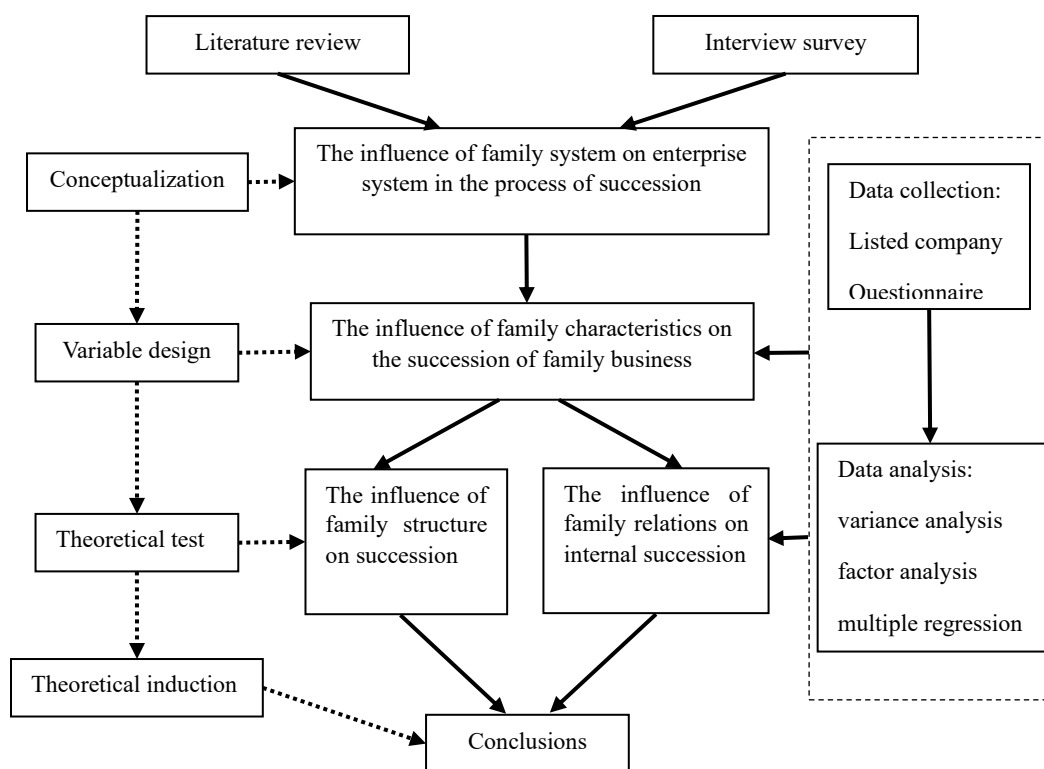


FIGURE 3. 4 THE RESEARCH FRAMWORK OF THIS STUDY

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(Source: Researcher, 2020)

3.4 Population and sample

According to the State Administration of Market Supervision and Administration, in 2019, there were 123 million market entities nationwide, of which the number of enterprises was 38.583 million, an increase of 7.39 million. There were 82.61 million self-employed households, an increase of 16.218 million. There are 368,100 enterprises above a certain scale. 99% of the enterprises are small, medium and micro enterprises with an output value of less than RMB 20 million.

Promoting the informatization of SMEs is an important measure to realize the national informatization development strategy. It will play a positive role in accelerating China's economic restructuring, transforming its development mode, improving the management level, production capacity and market competitiveness of small and medium-sized enterprises, and achieving sound and rapid development.

In the past ten years, the size of China's private wealth market has increased fivefold. There are about 1.58 million high-net-worth families and 105,000 ultra-high-net-worth families. The overall scale of investable assets held by individuals has reached RMB 165 trillion.

One of the most controversial topics in the succession of family business is the appointment of the general manager of the family business. The general manager is ultimately responsible for the organization and strategy, planning, performance, and response to changes in the environment (Dalton & Kesner, 1985). It is the most influential figure in the center of corporate power, controlling and directing the organization to move towards its goals (Brady & Helmick, 1994). The success or failure of the general manager may even be considered the success or failure of the company (Kesner & Sebor, 1994). Once the general manager turnover event occurs, stakeholders at all levels of the company will be affected: For insiders, this means a major change in corporate management style, organizational structure and even development strategy. For external stakeholders such as customers, suppliers, and the public, this is an important signal for the future development of the company (Kesner & Sebor, 1994). Therefore, when changing the general manager, especially when choosing a successor, the company usually takes a very cautious attitude, especially the family business. In a family business,

the choice of manager is often influenced by family preferences. Families need to consider criteria such as ability and loyalty, and more importantly, the family must also determine the identity of the manager, that is, whether to appoint family members or non-family members?

Family business practitioners and researchers have long discovered that most family business owners want to be able to pass the business to their children. To a certain extent, it is precisely in order to realize the dream of "Child succession" that family business owners are committed to making the business bigger and stronger. However, the succession practice of family businesses shows that only 30% of family businesses can be passed on to the second generation, and less than 14% are passed to the third generation (Bjuggren & Sund, 2001, Fleming, 1997, Matthews, Moore & Fialko, 1999). In other words, most family businesses will have to face the consequences of passing it on to someone else. Previous studies have mostly attributed the external succession decisions of family businesses to the helpless choices of business owners without a competent internal heir. Few studies have focused on the boundaries and transition conditions between internal and external succession decisions. Researchers represented by Bertrand, Marianne, Johnson, et al. (2005), Bennedsen, Nielsen, Perez-Gonzalez, et al. (2007) are keenly aware that family structure is likely to be an important factor influencing family business succession decisions. This objective factor is often hidden behind the seemingly subjective decision-making process of business owners. Bennedsen, Nielsen, Perez-Gonzalez, et al. (2007) A study of 5,334 family business succession samples in Denmark shows that the marriage history and gender ratio of children of family business owners significantly affect the decision of the company to choose internal or external succession. A business owner with a male child is 32.7% more likely than a business owner with a first child female to choose internal succession. This result clearly shows that the impact of family structure on family business succession decisions is likely to be seriously underestimated. The study of family business succession methods should put the role and impact of family structure first.

In addition, we also need to consider whether family business spreading internally or externally is more conducive to the improvement of corporate performance. After all, for the company, the ability to sustain profit is paramount. However, neither management practice nor theoretical research can give a clear answer to this. When faced with actual

choices, family businesses make different choices based on their respective development stages and business characteristics.

It is not difficult to imagine that the managers who wait for the family will not all be successful and successful. They must correctly handle the conflicts between family and business, the conflict between social expectations and self-development goals, especially for the second generation of family business. For example, in a research interview, a female successor in a family business talked about her work-family conflict and said, "Women are tired of doing everything. I manage both business and child education. The problem of child education is all my business. The child's father doesn't care that. Everyone in the family wants me to have one more child, but I just do not want that. "

When family managers encounter such problems, conflicts and pressures from families and businesses can easily have a negative impact on their performance during their tenure. Similar to the case where it is difficult to give deterministic answers in corporate practice, the answers given by existing studies are not clear or even contradictory (Gomez-Mejia, Nuz-Nickel & Gutierrez, 2001; Schulze, Lubatkin, Dino, et al. , 2001; Schulze, Lubatkin & Dino, 2003). Researchers who support the appointment of family managers emphasize that family businesses in the S & P 500 perform significantly better than non-family businesses (Anderson & Reeb, 2003). Their theoretical basis is that family managers have high-level, non-monetized incentives that are closely related to business success, have tacit knowledge related to business operations that are difficult to obtain for others, and high trust from key stakeholders. This has a positive impact on business performance (Kandel & Lazear, 1992; Davis, Schoorman & Donaldson, 1997). Opponents of the opposite view argue that family managers often face the pressure of conflicting dual goals between family and business (Christiansen, 1953; Levinson, 1971; Barnes & Hershon, 1976; Lansberg, 1983), which has led their businesses to Poor performance. More importantly, family managers are selected from a smaller talent pool, and they are likely to be a suboptimal choice (Faccio, Lang & Young, 2001; Levinson, 1971; Burkart, Panunzi & Shleifer, 2003).

Corresponding to the situation of the theoretical researchers' mutual insistence, the empirical research results on this issue are contradictory, and it is difficult to draw definitive conclusions. Existing empirical research can be basically divided into three perspectives: support, opposition and indifference. Scholars who support the appointment

of family managers have found that family businesses are better than non-family businesses in terms of financial growth rate and perceived performance (Daily & Dollinger, 1992). Opponents conclude that non-family businesses perform better on several indicators of corporate performance. Other scholars have not observed a significant difference between the two in empirical research, and thus support the view that "there is no significant difference in the performance of family businesses and non-family businesses." Dyer (2006) systematically sorted out some empirical research results and compared the research process in detail, as shown in Table 3.1:

TABLE 3.1
PERFORMANCE COMPARISON BETWEEN FAMILY BUSINESS AND NON-FAMILY BUSINESS

Origin	Definition of family business	Method of performance measurement	Sample	Standard for sample selection	Research conclusion
Anderson & Reeb, 2003	1. Business ownership belongs to the family continuously; 2. The family has board seats; 3. Entrepreneurs or their children succeeded	Tobin's Q Return on assets Return on equity	403 companies in the S&P 500 in 1992-1999	Standard & Poor's 500, eliminating banking and public facilities services	Family business's Tobin's Q and return on assets are higher
Beehr, Drexler & Faulkner, 1997	Business owner and at least one family member serve in the enterprise	1. Conflict & advantage 2. Expectation 3. Individual output 4. Organization output 5. Family output	45 companies, personal sample number: 235	Small family businesses paired with non-family businesses. Industry: retail, machinery and light metal manufacturing	Family businesses perform better in all five dimensions of performance
Daily & Dollinger, 1992	The core manager has a kinship relationship with business owner, recognized as a family business.	1. Scale 2. Growth rate 3. Profit 4. Predictive performance	186 companies in the manufacturing industry	Manufacturing companies with no more than 500 employees, SIC number: 20-39	Family businesses perform better in several dimensions
McConaughy, Matthews & Fialko, 2001	CEO is a founder or family member of the company	1. Efficiency 2. Capital Structure 3. Value	219 companies selected from Business Weekend CEO 1000	CEO is an entrepreneur or a member of a startup family	Family business performs better in 3 dimensions

Gallo, Tapias & Cappuyns, 2000	Questionnaires are filled in to determine whether the family business	1.Growth rate 2.Debt levels and other financial indicators	204 non-family businesses and 101 family businesses	Spanish companies with more than 3 billion in sales in 1995 and more than 150 employees	Non-family businesses have higher growth rates
Gomez-Mejia, Nunez-Nickel & Gutierrez, 2001	Determined by the relationship between the owner and the CEO	Newspaper circulation	276 newspapers in Spain	Spanish newspapers that existed between 1966 and 1993	Non-family businesses can better supervise CEOs
Villalonga & Amit, 2004	Entrepreneur or family member is a corporate leader or shareholder	Tobin's Q	Fortune 500 in 1994-2000	Fortune 500 in 1994-2000	Second-generation family leaders damage corporate value
Chrisman, Chua & Litz, 2004	Proportion of ownership, number of family members in management	Sales growth	1141 companies	Companies are selected from the Small Business Development Center project in the US.	Not clear: there is almost no difference between family business and non-family business
Tanewski, Prajogo & Sohal, 2003	Core family owns more than 50% ownership; The core family can effectively control and manage the enterprise	1.Product innovation 2.Process innovation 3.Structure 4.Future strategy 5.Leader strategy	2000 small and medium-sized family and non-family businesses in the Australian manufacturing and service industries	1000 family businesses with less than 100 employees (manufacturing) or less than 20 employees (services)	Not clear: family business is not innovative, but future development is better

Source: Dyer (2006)

Family business researchers have different interpretations of the differences in research results. For example, Habbershon & Williams (1999) believes that most of the existing studies are only anecdotal descriptions of family business characteristics. It is claimed that these characteristics can bring competitive advantages to the family business, and the relationship between these characteristics and performance variables is unknown. What is more limited is that most of the arguments have not been rigorously analyzed and verified, and there are problems such as the generalization of the object of discussion and the departure from the context. With the further development of research, more and more scholars have begun to question the methods and processes of previous research. In their opinion, the methodological shortcomings of the existing studies are mainly reflected in: 1). It is generally believed that corporate performance is affected by multiple

factors such as the industry, corporate governance, characteristics, and management of the company, and it is difficult to fully control these variables to separate the impact of succession on corporate performance. 2). Existing studies have differences in the measurement of business performance and the selection of samples. The differences in research conclusions are likely not caused by different succession methods, but by differences in the design of these studies. 3). It is difficult to control the overall changes in corporate performance due to some reasons, such as changes in corporate performance due to industry development during corporate heritage, and it is easy to mistakenly attribute changes in industry performance to differences in managers' capabilities. 4). More importantly, the theoretical foundation of the existing research is born from the research on succession of general business theory, which has not been combined with the theoretical foundation of the family business itself, resulting in insufficient research on the succession of family business.

The typical family business is mostly small and medium-sized enterprises. International experience shows that enterprises of this size are generally unwilling and unable to disclose financial data (Fiorito & LaForge, 1986; Pelham & Wilson, 1996). The previous survey situation is also consistent with this. Considering that this study has higher requirements on the information of the company's financial indicators and the business owner's family structure. The non-financial private listed companies that have issued stocks in Shanghai and Shenzhen in recent years and in the succession process as the sample source.

In the sample selection of this study, three basic questions were involved: how to determine a family business? How is it determined that succession has occurred? How do you identify an internal succession? In determining the family business, in addition to meeting the definition of family business in this article, given the diversified characteristics of the listed company's equity and the control chain's multiple complex characteristics, this research uses the ultimate actual controller of the listed company as the main basis for identifying the family business. The salient feature is that in this study, a private listed company whose actual controller is a family or individual, and within the time period of observation, the actual controller has not changed is identified as a family business. In determining whether succession has occurred, according to the research purpose and research needs, the determination of succession must meet the following

three conditions: 1). The outgoing and succeeding general manager has been in his position for at least one year. 2). During the succession period, family structure information of the actual controller of the enterprise is available. 3). Performance during succession is available. For the identification of internal succession, the successor general manager is required to have blood or marriage relationship with the actual controller of the enterprise.

Based on the above criteria, a lot of work was done in the process of collecting research data. In the collection of information required for family business judgments, firstly, the actual controller is screened through the database to select privately held listed companies, and then the sample is further narrowed by identifying whether the actual controller is an individual or family. After the end of this step, it is necessary to identify whether the actual controller of the enterprise has changed within the observed time range, and the enterprise that has not changed is finally judged to be a family business defined in this chapter. In determining whether to collect the necessary information for succession, first of all, the situation of management changes in the enterprise is obtained through the database. Then, based on the judgment criteria, observe the service life of the general manager, and exclude those who have left and succeeded the general manager for less than one year. In the collection of necessary information to determine whether internal succession has occurred, the family structure information of the actual controller of the family business is mainly obtained through corporate announcements (prospectus, annual report, etc.) to determine the relationship between the successor and the incumbent. In addition, media reports are also an important source of family structure information, with final observations of 131 samples.

3.5 Data collection and analysis

The empirical research is an empirical test of the theoretical model obtained from theoretical analysis. The positivist idea holds that social phenomena must be perceived by experience, and all concepts must be restored to direct empirical content. The authenticity of the theory must be verified by experience. Positivism follows the idea of natural science. It believes that there must be a logical causal relationship between things and things. The study of things is to find these relationships and scientifically verify them

through rational tools.

From this point of view, the scientific nature of existing or the research hypotheses based on these theories needs to be empirically tested. In the research process of this paper, we will also adopt an empirical research method to test the scientific nature of the various hypotheses proposed in the conceptual model. The empirical research methods used in this paper mainly include data analysis and questionnaire survey. The public information has the characteristics of relative standardization and availability of statistical methods, and is suitable for accurate analysis of enterprise performance. Therefore, in the exploration of whether the family structure affects the family business succession mode and performance, the data of listed companies in China and some Internet public information are used as the main sources of information. The questionnaire is based on large-scale sample data and can be used to test the statistical assumptions of the research hypotheses in the conceptual model. Therefore, in the test of whether the family relationship affects the succession effect of the family business, the questionnaire survey method is used to infer whether the research hypothesis is established.

Publicly available information is information that has existed somewhere and has been collected for a purpose, and can be sourced from government publications, journals, books, commercial materials, and internal documents. The collection of publicly available information is relatively easy and the cost is relatively low, which is an important source of research data.

In the exploration of whether the family structure affects the family business succession and performance, public data collection methods are used. In the test of whether the family relationship affects the succession effect of the family business, the original data collection method is used. The main reason for the differences in data collection methods is that the research questions are different, and the content and types of materials required are different. In the first study, family structure information and enterprise performance data of family business owners were needed. These data can be obtained from public data, and the uniformity and standardization of the required data can be guaranteed. In the second study, the family relationship is different from the demographic characteristics such as the family structure. The original anecdotal evidence and research data can more strongly express the influence of family relationship on the

succession effect of the enterprise.

Questionnaire survey is the basic work of quantitative analysis in this paper, and also the direct source of statistical analysis data in quantitative test. During the multiple questionnaire surveys that have been involved, it has been found that the scientific and interface-friendly nature of the research questionnaire design will have a major impact on the successful completion of the field research work. The scientific nature of the questionnaire design is the fundamental guarantee for the questionnaire to obtain the data needed for the research. The friendly questionnaire is helpful for the respondent to quickly enter the questionnaire filling status, fill in the real data, and reflect the real situation of the enterprise. Designing a scientific and user-friendly questionnaire ensures the authenticity, completeness and usability of the survey data, directly affecting the scientific nature of the research findings. Therefore, based on the relevant research results, combined with the field interview data of a large number of family businesses in Guangdong Province, the questionnaire to meet the development status of the family business was designed.

The content of the questionnaire includes four aspects: basic information, family relationships, family perceptions of business succession and the effectiveness of business succession. Among them, the basic information includes the personal information of the respondent, the company profile and the family business judgment, etc., mainly using objective data measurement. Family relationships, family perceptions of business succession and the effectiveness of business succession are measured using the Likert 5 subscale. The respondents make judgments on the listed statements one by one based on the actual situation of the family and the corporate succession perception.

Before conducting a large-scale survey, it is necessary to further determine the selection criteria of the companies surveyed and the respondents. First of all, the questionnaire design object is the family business in the process of succession, and the respondent's enterprise must satisfy the two conditions of the family business judgment and succession status judgment. In the case of a family business judgment, the enterprise is required to satisfy two conditions at the same time: the individual, the core family or the family has controlling ownership; at least one family member works in the enterprise management. As far as the judgment of succession is concerned, the transfer of management power of the enterprise has been required, which is mainly determined by

the role of the business owner and his children in the enterprise. Secondly, in the choice of the respondent, due to the description and assessment of the relationship between the business owner and the family, the respondent must be the family business owner or his or her children.

Based on the collected questionnaire data, this paper mainly uses SPSS software for statistical analysis. The statistical analysis of this study mainly includes two parts: First, the exploratory analysis of whether the family structure affects the family business succession mode and performance, mainly using descriptive statistics, regression analysis, partial correlation analysis and other methods. The other part is a validation analysis of whether family relations affect the succession of family business, mainly using descriptive statistics, correlation analysis, variance analysis and multiple linear regression.

About the Empirical models construction, Here we mainly observe the influence of family structure on the choice of succession methods of family businesses. In general corporate theory, the succession method of an enterprise generally refers to the type of general manager alternate. Researchers divide succession methods based on two ideas. One idea is based on the willingness of the departing general manager to divide the succession method into voluntary departure (normal change) and involuntary departure (mandatory change). The former is usually a normal adjustment of the company's internal management. It is a voluntary behavior of the outgoing general manager based on natural factors such as age, health, retirement, etc., and often has little to do with corporate performance. The latter is usually a compulsory turnover due to the poor performance of the company. The decision maker hopes to replace the general manager to improve the performance of the company, and sends a signal of hope for improved performance. Another way to divide the succession method is based on the source of the successor. The succession method is divided into two types: internal succession and external succession. The internal successor refers to the person who has been and is being employed by the company, and the external successor refers to not hired by the company. There are other different definitions. For example, Dalton & Kenser (1985) defined external successors as those who were not in the company when his former general manager was in office. Wang Lina and Zhu Xianghong (2007) divided the successor into three types: internal company, internal industry and external industry. In the study of the succession of family

business, the source of the successor generally refers to the inside or outside of the controlling family, that is, whether the successor is a family member or a non-family member. The source of successors is of great research significance to the succession of family businesses. Some scholars even consider internal succession as one of the key factors in determining family businesses. In the study of this chapter, the succession methods of family businesses are divided into two types: internal succession and external succession, based on whether there is blood or marriage relationship between the successor general manager and the actual controller of the enterprise.

The main explanatory variable of observation, family structure, including family size, composition, type, etc., refers to the combination status among family members and the family model and type formed from it. There are different classification criteria for the division of family structure. In the study of family business succession, because the next generation is one of the key groups of succession, and is the main candidate for the future leader of the business and the successor of family wealth, the researchers mostly use child gender, number of children, and child-related families constitute features to characterize family structure. In this chapter, we also focus on the relevant information of the next generation in the family structure. We use the three variables, the first child sex, the child sex ratio, and the number of male children of the family business owner to characterize the family structure.

In the family business succession process, in addition to the family structure, the characteristics and performance of the business will affect the succession selection of the family business, and it is necessary to control it in the research. Previous studies have suggested that in family businesses with a long history of establishment and large assets, succession decisions are more affected by external forces such as shareholders and suppliers, and companies are more attractive to outstanding external managers. Therefore, the probability of choosing a non-family member as the successor general manager is greater. Relatively speaking, the smaller family businesses are more closed and less standardized, and are more affected by nepotism. They are more likely to choose family members to manage the business. In addition, corporate performance is also an important factor affecting the succession method. A number of studies have shown that changes in the general manager of an enterprise usually occur with the decline of the company's stock or operating performance. Replacement of the general manager is a

common practice for companies to send performance improvement signals. Therefore, the performance of the company, especially the year before the succession, has a strong influence on the choice of the business succession method (Coughlan & Schmidt, 1985; Weisbach, 1988; Franks & Mayer, 2001; Lausten, 2002; Vopin, 2002).

It should be noted that in the choice of corporate performance variables, we only use accounting performance variables. The main reason is that there are many types of stocks in the Chinese securities market, the company's stock price indicators are not uniform, and the strong speculative atmosphere in the market has caused stock prices to seriously deviate from company performance. In this context, we abandon stock price indicators and use accounting performance indicators. Among them, the total return on assets (ROA) has entered the research process as a main indicator of corporate performance because it can truly reflect the profitability and growth ability of the enterprise. Based on the above analysis, the choice of the succession method of the family business is affected by the following three major factors: family structure, business characteristics, and business performance. And the relationships between them is summarized as the following functional form:

Family business succession mode selection = F (family structure, business characteristics, business performance) + random disturbance term

In this study, the succession of family businesses was used as the dependent variable, that is, the type 0-1 dependent variable (internal succession, defined as $y = 1$; external succession, defined as $y = 0$). Let the probability of $y = 1$ be P , then the distribution function of y is: $f(y) = P^y(1 - P)^{1-y}$; $y=0,1$

Obviously, the dependent variable of the study does not meet the requirements of ordinary least squares for the dependent variable, and Logit regression needs to be used to analyze whether the family structure affects the succession of family businesses. Compared with linear regression, Logit regression does not require that the variables meet a normal distribution, and more explanatory variables can be selected to enhance the prediction accuracy of the model. In this study, a binary choice Logit model was used to limit the value of the dependent variable to the range of [0-1], and the maximum likelihood estimation method was used to estimate its regression parameters. The basic form of the Logit model is as follows:

$$\text{Logit } P = \ln\left(\frac{p}{1-p}\right) = \alpha + \sum_{i=1}^m X_i \beta_i$$

Among them, X_i ($i=1,2, \dots, m$) is the i -th factor that affects the succession method of the enterprise, and α, β_i ($i=1,2, \dots, m$) are the parameters to be estimated. The economic significance of the model is to use a set of descriptive variables to measure the probability of internal succession of the enterprise. In this study, X_i is the family structure, business size, and business performance of one year before succession. The specific definitions of the study variables are shown in Table 3.2.

TABLE 3. 2
VARIABLES DEFINITION OF FAMILY STRUCTURE ON THE INFLUENCE OF SUCCESSION

Variable	Variable name	Variable description
Succession way	Succession way	Index variable, if internal succession is 1. If not it's 0.
	Gender of the first child	Index variable, the first child is male, it's 1. If not it's 0.
Family structure	Number of male children	The total number of male children of business owners.
	Sex ratio of children	The number of male children of business owners / Total number of children
Enterprise characteristics	Enterprise age	The year of business succession - The year of business build
	Asset size	$\ln[(\text{Initial total assets} + \text{Terminal total assets})/2]$
	Return on assets(ROA)	$\text{Pre-tax profit} * 2 / (\text{Initial total assets} + \text{Terminal total assets}) * 100\%$
Enterprise performance	ROA industry adjusted value	Enterprise ROA - The mean ROA of the industry

(Source: Researcher, 2020)

After establishing the Logit probability model about succession methods, we also need to explore whether different succession methods will affect the succession effect of family businesses. As mentioned earlier, the evaluation index system of the succession effect of the family business is divided into two dimensions: the satisfaction of the succession process and the succession performance. It is the premise and basis for evaluating and improving the succession effect. Because this chapter studies the impact of the two methods of external succession and internal succession on the effect of succession, in the external succession, family members' satisfaction of the succession process is not an ideal measure. Therefore, in the research in this chapter, we only use succession performance to evaluate the succession effect of the family business, and we do not pay attention to the satisfaction of the succession process. In addition, the data studied in this chapter mainly comes from listed companies, and the public data of listed companies only includes performance indicators of corporate operations, which also limits the choice of succession effect indicators. Therefore, in the research in this chapter,

we only consider the impact of the succession method of family businesses on the succession performance.

It should be noted that existing studies on the succession methods and succession performance of family businesses are often difficult to control the overall changes in corporate performance due to some reasons, and it is easy to mistakenly attribute the changes in industry performance to the differences in managers' capabilities. In order to eliminate the influence of industry factors on company performance, we use industry coefficients to adjust the performance of all companies. The specific steps are as follows: We first use the Wind database to find the ROA average of listed companies in various first-tier categories in recent years, that is, the ROA industry average.

In this process, in order to eliminate the influence of individual singular values on the industry average, singular values are eliminated by using $|X_i - E(X)| > 3\sigma_i$ as a standard. Then subtract the ROA value of the industry in that year from the ROA value of the sample enterprise to get the ROA industry adjusted value. Due to the changes in performance before and after the succession of the company, the difference between the ROA value of the company one year after the succession and the ROA value of the company one year before the succession is used in the study (Let the succession be $t = 0$ in the year, and $t = 1$ in the year after succession), and get the variable "ROA difference". Finally, the difference between the adjusted value of the ROA industry is calculated by using the adjusted value of the ROA industry one year after succession ($t = 1$) minus the adjusted value of the ROA industry one year before succession ($t = -1$). The final result can be Effectively eliminate the impact of overall industry changes on corporate heritage performance.

Multivariate regression analysis is mainly used to observe whether the choice of succession methods of family businesses significantly affects succession performance. In the regression analysis, based on the combing of the existing research results, the company's asset size, company age, and the performance of the previous year's performance are further controlled. The specific definitions of the study variables are shown in Table 3.3.

TABLE 3.3
VARIABLES DEFINITION OF SUCCESSION METHODS ON THE
INFLUENCE OF SUCCESSION PERFORMANCE

Variable	Variable name	Variable description
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Succession performance	The difference of ROA industry adjusted value	ROA industry adjusted value in the first year after business succession - ROA industry adjusted value in the first year before the succession
Succession way	Succession way	Same as table 4.2
Enterprise characteristics	Enterprise age	Same as table 4.2
	Asset size	Same as table 4.2
Enterprise performance	ROA industry adjusted value	Same as table 4.2

(Source: Researcher, 2020)