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The Influence of Intergenerational Succession of Family Business on Its Performance

—Taking Enterprise Innovation as a Mediating Variable

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Abstract

Intergenerational succession is a critical stage that most Chinese family businesses are in or will be in. Therefore, problems like what influence of intergenerational succession will have on performance of family businesses and what their internal action mechanisms and action paths will be like are worthy to be discussed. Taking 1028 sample data of A-share listed family businesses in Shenzhen and Shanghai during 2010 to 2014 as study objects, the essay discussed direct influence of intergenerational succession on performance of family businesses and mediating effect of enterprise innovation on intergenerational succession and performance of family businesses by use of multiple regressions. Research results indicated that there had a negative correlation between intergenerational succession and performance of family businesses, and between intergenerational succession and enterprise innovation, and moreover, part of mediating effect of enterprise innovation on intergenerational succession and performance of family businesses was obvious. It means that intergenerational succession leads to the decline of performance of family businesses, and one of the mechanisms is that intergenerational succession reduces innovation investment of enterprises. The research results could provide a reference to family businesses in arrangement of innovation strategy and management of enterprise performance in the stage of intergenerational succession.

Keywords

Family Business, Intergenerational Succession, Enterprise Performance, Mediating Effect, Enterprise Innovation

1. Introduction

Family business is a most general business organization form of private enterprises. A survey by Thames journal in 2014 showed that family businesses make up 85% of Chinese private enterprises; their contribution to Chinese GDP reaches to 65%; and job opportunities provided by them also reach to 65% of national employment. After over 30 years of development since the reform and opening-up, Chinese family businesses have entered into a peak season of intergenerational succession. The survey report of Chinese modern family business in 2015 by Forbes indicated that founders of enterprises were above 65 years old and most family businesses were in or would be in the critical stage of intergenerational succession. In China, family businesses emphasize succession based on kinship under the influence of traditional cultures, and the domestic professional manager market is not complete, thus most family businesses would choose internal succession, or in other words, the mode of transference of leadership from fathers to sons. People always hold a doubtful attitude to capability of the second generation of entrepreneurs and the survey reports of Forbes also indicated that enterprises under the control of the first generation of entrepreneurs were superior to that of the second generation in several performance indexes. Is the capability of the second generation of family businesses inferior to that of the first generation? In addition, the second generation would probably reduce their investment in enterprise innovations with high risks and slow earnings because of their desires to have rapid achievements due to their legitimacy disadvantages after intergenerational succession. The shortage of the second generation in social capital due to elements like age, working experience and life experience will also make enterprises cannot obtain technological information and capital support needed in innovation investment. Therefore, differences of enterprise innovation investment can be an important influential factor for enterprise performance in the succession process of family businesses.

Some scholars at home and abroad have studied relations between intergenerational succession and enterprise performance, and between enterprise innovation and enterprise performance. However, most existing researches discussed direct influence of intergenerational succession on enterprise performance without analyzing action mechanisms and paths during the process. Moreover, inherited family businesses also need to understand what mechanisms intergenerational succession is based on to have an impact on performance of family businesses. The existing documents lacked systematic theory discussion and empirical study. According to shortcomings of the existing researches, the essay would discuss action mechanisms of enterprise innovation investment in relations between the intergenerational succession of family businesses and their performance. To be more specific, the essay mainly included the following problems: First, whether intergenerational succession had an effect on performance of family businesses and what effect it would have? Second, whether intergenerational succession had an impact on enterprise innovation and what effect it would have? And third, whether enterprise innovation played a mediating effect on relations between intergenerational succession and performance of family businesses? Theoretically, the study tried to bring enterprise innovation into intergenerational succession of family businesses to analyze its mediating effect on intergenerational succession and enterprise performance, which is the breakthrough point that is excluded in existing direct studies and would make the study deeper. Practically, based on the sample data of A-share listed family businesses in Shenzhen and Shanghai, the essay tried to explore the reasons and solutions in view of fluctuations in performance of Chinese family businesses in the stage of succession from the internal perspective of resource input. And the research results would have a practical significance in innovation management and promotion of performance in the stage of intergenerational succession.

2. Theoretical Basis

2.1. Intergenerational Theory

The theory of intergenerational differences was put forward by the Germany sociologist Karl Mannheim, which pointed out that groups from different eras would have differences in idea, attitude and behavior due to their different birth years and growth environments. Some scholars believed many historic events and corresponding consequences would have important influence on the formation of intergenerational differences, including significant political events, wars, new breakthrough technologies, transformation and upgrading of social economy, and succession and renewal of social cultures. Since the reform and opening-up in the late 1970s, Chinese economy had an amazing growing speed. In the transformation period with rapid development, groups from different eras had different values and individual characteristics due to intergenerational and age effects. The age difference between founders of family businesses and their successors is generally 20 to 30 years, and the various differences mentioned above will exist as well. These differences would affect their decisions in enterprise management so as to impact performance of enterprise operation. Guo Chao believed differences between founders of family businesses and their successors in values would affect various innovations and transformation of enterprises [1].

2.2. Family Emotional Wealth Theory

In 2007, based on former researches, Gomez-Mejia, together with other people, put forward the theory of family social emotional wealth (SEW) with the hope of studying non-economic effect of family members on family businesses under their control. Gomez-Mejia pointed out that SEW referred to that family members used their identities as an owner, manager and master to obtain non-economic benefits like satisfaction and sense of belonging, maintenance of the same values of families, protection of family social capitals and implementation of family duties. Gomez-Mejia thought social emotional wealth included three dimensions including emotion, family values and altruism [2].

Why most families tended to choose internal succession even when there had more excellent persons beyond the families. Based on the SEW theory, the problem can be answered effectively: internal succession can make families obtain obvious non-economic benefits, and only when maintaining the control over enterprises can families continue to provide guarantee to create SEW even though sometimes the choice is to the disadvantage of enterprises to obtain practical economic benefits. In addition, to guarantee family emotional relations among family members, family businesses will usually give internal members with treatments and power superior to people beyond the families [3]. However, actions of this kind could consume internal resources of enterprises. Innovation behaviors and activities of enterprises need certain input. However, there has a long retribution cycle and a high uncertainty, thus creating a sight phenomenon for social emotional wealth [4].

2.3. Legitimacy Disadvantage Theory

Legitimacy is a kind of social cognition and assumption which refers to that the actions of a certain person are regarded as correct, proper and satisfactory by other individuals in a modern social system that has standards, beliefs and values [5]. Generally speaking, the identity of the second generation of enterprises is beneficial for successors to take over management rights and control power. The higher the legitimacy of the first generation, the higher the legitimacy of the second generation will have [6]. However, as founders who create the enterprises by themselves, the management ability, resources and leader charms of the first generation can be basis for relevant stakeholders to assess the second generation, and the high expectation reference point is beyond reach of the second generation in a short time [7]. Then, in the process of succession, serving and promotion paths of the second generation generally will not be restricted by formal regulations of enterprises so that other shareholders will doubt legitimacy and capability of the second generation [8]. Legitimacy disadvantages have a negative effect on position and right of speech of the second generation in enterprises, thus the second generation will often have a motivation to have a rapid success after the succession with the hope of achieving remarkable achievements for enterprises [9]. Therefore, in strategy decisions of enterprises, the second generation will be inclined to promote investments with low risks and rapid benefits instead of long innovation investment with a slow payback. Thus, in the process of intergenerational succession, innovation level of enterprises will be declined due to tilting resource allocation.

2.4. Social Capital Theory of Entrepreneurs

Social capital theory pointed out that relations between enterprises or individuals were efficient paths to obtain critical external resources. Social capitals of entrepreneurs are special resources that can reflect their personal resource mobilized ability. As private businesses, family businesses have a high dependence on resources exclusive to entrepreneurs. Especially under the actual conditions of China, social capitals of entrepreneurs have a significant effect on achievements of companies. In 2000, Bian Yanjie divided social capitals of entrepreneurs into three dimensions: vertical relations, horizontal relations and political status [10].

Social capitals of entrepreneurs will contribute to companies to obtain support in political policy, business information and capital, thus companies can not only get more technological information but also introduce external financing as occasion requires. The more innovative resources and the richer fund guarantee enterprises have, the more they will invest in innovative research and development, thus affecting business performance of enterprises. Generally speaking, social capitals of the second generation are generally smaller than that of the first generation due to factors like age, working experience and life experience.

3. Theoretical Analysis and Research Hypothesis

3.1. Study on Relations between Intergenerational Succession and Performance of Family Businesses

Statistical data at home and abroad indicated that family businesses had better performance than that of non-family businesses, which could be contributed to inner advantages under systems of family businesses. However, all family businesses will inevitably go through a turbulent special period like intergenerational succession. According to the theory of altruism, during the succession process of the second generation taking over the power, there may have new contradictions and conflicts of interest between the two generations of family businesses, giving rise to a series of problems like interest inconsistency and information asymmetry which will not only do harm to the functions of the altruism of family businesses but also increase inner consumption and reduce performance of enterprises. According to the theory of entrepreneurs, the second generation of enterprises has a higher educational background, richer theoretical knowledge and more vigor than that of the first generation while the first generation has hard-working spirit, rich friend sourcing and practical experience. In 2003, Morck and Yeung pointed out that besides capability, the reasons for bad performance of successors could be related to their devotion to work. And according to the succession theory of CEOs, factors like management experience, educational background, age, characters and demands of successors will have an effect on the succession event so as to affect performance of enterprises. In 2006, by taking American listed companies as samples, Villalonga and Amit analyzed the influence of family ownership, control power and management ability on enterprise value and found that the second generation of CEOs had a negative effect on enterprise value. In 2001, Schulze *et al*. put forward that the dispersion of family business ownership among family members would hinder enterprise development due to behaviors of family members avoiding risks and the interest inconsistency would increase agency costs of enterprises [11]. Undoubtedly, some scholars held different opinions. For example, through practical researches, some scholars discovered power transition of family businesses during intergenerational succession was contributed to enterprise performance [12]. And some scholars pointed out that there did not have a correlation between intergenerational succession and performance of enterprises [13].

Although the second generation has advantages in the aspects like education background, degree of internationalization and acceptance level to new things when compared with the first generation, the first generation is superior to the second generation in business management and resource mobilization which will have a great impact on enterprise performance. Moreover in the succession process of the two generations, there will have new contradictions and conflicts of interest within enterprises. And the second generation will be doubted after the succession due to their shortage of experience and resources and they have difficulties to have breakthrough in enterprise performance. Thus, the essay put forward the following assumption:

Assumption 1: Intergenerational succession had a negative effect on performance of family businesses.

3.2. Study on Relations between Intergenerational Succession and Enterprise Innovation

As two generations that grow up in different environments, there have differences between them in world outlook, values, and various preferences and behaviors, and the differences will affect their daily operation, strategic development decisions and so on. In 2013, Guo Chao pointed out that differences of founders and successors of family businesses in values would have an influence on various innovations and transformations of enterprises. In the process of intergenerational succession, to protect social emotional wealth of families, maintain control power over enterprises and safeguard family ties, the first generation could control financial interests by reducing research and development expenditures so as to make the second generation improve their performance as soon as possible and direct inside and outside stakeholders to pay attention to short-term profits and neglect long-term benefits. In addition, the desire for a rapid victory of the second generation due to their legitimacy disadvantages make their strategic decisions tend to promote projects with low risks, short time limit and rapid paybacks and invest less resources to innovation activities with high risks, relative long time limit and slow paybacks [14]. Furthermore, social capitals of the second generation are generally inferior to that of the first generation while social capitals of entrepreneurs have a significant influence on enterprises to obtain new development tendency, technical information and financial support. The shortage of the second generation in social capitals will also give rise to insufficient innovation investment. In the turbulent stage of intergenerational succession, family businesses would often show their tendency to risk aversion and reduce their capital input in research development [15]. In 2015, the study by Jana Hauck and Reinhard Prugl discovered that succession of internal leadership recognized by family businesses had a negative influence on innovation investment of enterprises [16]. Based on this, the essay put forward the following assumption:

Assumption 2: Intergenerational succession had a negative effect on enterprise innovation.

3.3. Study on Relations between Enterprise Innovation and Enterprise Performance of Family Businesses

Through wide reading, the writer found that there had many documents about relations between enterprise innovation and enterprise performance, and most studies took R&D expenditures of enterprises as a major index for enterprise innovation. Innovation investment of enterprises is beneficial to develop new products, improve manufacturing flows and service procedures of products and so on, especially under the era featured with rapid technological development when enterprises can maintain their special advantages, improve sales volume and extend market shares, thus improving enterprise performance with continuous innovation and progress. In 1986, the study of Griliches indicated that investments in research and development could promote productivity growth of American companies [17]. In 1991, the empirical study of Lichtenberg on American companies pointed out that research and development investments had an obvious positive effect on enterprise performance [18]. And moreover, in 2013, the study of Sun Weifeng and Huang Zuhui indicated research and development expenditures of Chinese listed companies had a positive impact on enterprise performance [19]. Based on this, the essay put forward the following assumption:

Assumption 3: Enterprise innovation had a positive influence on performance of family businesses.

3.4. Study on Mediating Effect of Enterprise Innovation

In the process of intergenerational succession, on the one hand, to create a favorable business environment to the second generation so as to avoid performance declination to threaten their status, the first generation will control financial interests by reducing research and development expenditures so that shareholders would pay attention to short-term performance and neglect long-term performance (Barkerm, 2002); on the other hand, the second generation will be inclined to short-term investments to obtain rapid returns due to their shortage of authority and legitimacy disadvantages and reduce long-term resource allocation like enterprise innovation, thus finally damaging long-term performance of enterprises and overall interests of shareholders. According to the theory of family social emotional wealth, family businesses will abandon economic targets for non-economic targets in operating decisions. During succession, innovation investment of family businesses is the result of checks and balances between economic targets and non-economic targets, and non-economic targets pursued during succession will finally affect economic benefits of family businesses (or performance of family businesses in other words). Some scholars indicated that innovation research and development investment had a mediating effect on relations between family ownership and enterprise performance [20]. In 2010, Li Jing and some other people discovered enterprise innovation capability had a mediating effect on influence of the affiliation between CEOs and controlling shareholders to performance of family businesses [21]. Based on this, the essay put forward the following assumption:

Assumption 4: Enterprise innovation had a mediating effect on relations between intergenerational succession and performance of family businesses.

The research model of the essay is as Figure 1 showed.

4. Empirical Research Design

4.1. Study Samples and Data Sources

The essay selected data of A-share listed family businesses of Shenzhen and Shanghai during 2010 to 2014 as study objects which did not include data of 2015 considering the situation that periodical changes in the capital market in 2015 caused not a few enterprises transferring their actual control power and basing on the timeliness and comprehensiveness of the data. By taking a reference from existing researches, the essay collected sample data according to criteria of listed family businesses: 1) selected enterprise listed before 2010; 2) got rid of data of listed financial family businesses since financial companies lacked the comparability due to their particularity; 3) ultimate controllers could trace natural person or families and the natural person and families must came from single families; 4) removed data that actual controllers or families made changes during 2010 to 2014 because these companies did not maintain the consistency of family businesses due to their actual control transfer and did not meet requirements of the essay; and 5) removed ST and *ST listed family businesses since they had a loss for more than two years, facing with the threaten of delisting they would tend to have a profit management to whitewash their financial performance, the data cannot reflect financial status of enterprises.

All the data used by the essay came from the CSMAR database and professional websites like cninfo.com.cn. The CSMAR database is developed by GTA from the academic research needs. GTA is a leading global provider of China financial market data, China industries and economic data, whether real-time, delayed or historical (over 55 years for the latter two), to international financial and educational institutions. The collected data is screened as the following procedures: 1) removed samples that missed relevant data; 2) had a 1% tail shrink processing on all continuous variables to eliminate effect of extreme values; and 3) had a crosscheck for uncertain data through WIND database, CHOICE database, corporate annual reports and so on so as to guarantee the authenticity and accuracy of data. In the end, the essay obtained the 1028 observing samples during

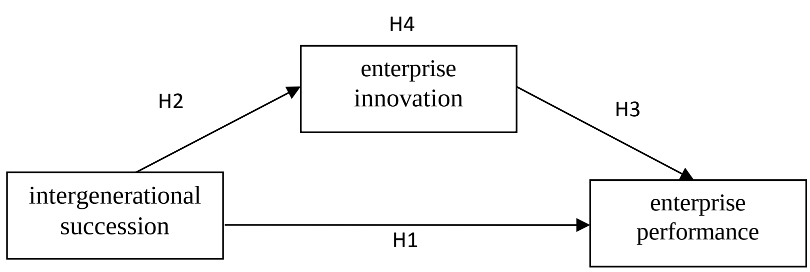

Figure 1. Research model.

2010 to 2014, including 433 samples of inherited family businesses, accounting for 42.12%. In the paper, the SPSS statistical tools are used in the empirical analysis.

4.2. Empirical Models and Variable Definitions

The essay took the second generation entering top management teams or boards of directors of enterprises as a symbol of the starting of intergenerational succession and took whether intergenerational succession happened as a standard to divide inherited and non-inherited family businesses (Zhao Jin, 2015). The essay set two dummy variables to stand for intergenerational succession: $Suc_{i,t} = \{0, 1\}$ and $Inhe_{i,t} = \{0, 1\}$. $Suc_{i,t} = 0$ refers to that the family business does not have intergenerational succession and thus it is a non-inherited family business, and $Suc_{i,t} = 1$ indicates the family business has intergenerational succession and thus it is an inherited family business. $Inhe_{i,t}$ refers to whether the family business can start intergenerational succession in the year t, and when it has started the succession, $Inhe_{i,t} = 1$, otherwise, $Inhe_{i,t} = 0$. $Suc_{i,t} * Inhe_{i,t}$ is a critical explanatory variable of the research model: $Suc_{i,t} * Inhe_{i,t} = 1$ indicates that the enterprise has started its intergenerational succession in that year, in other words, the second generation has entered into the top management team or the board of directors; and $Suc_{i,t} * Inhe_{i,t} = 0$ indicates that the family business has not started the intergenerational succession or it is a non-inherited family business.

From the perspective of innovation activity input and output of enterprises, there have had documents that mainly adopted research and development input, and patent and output of intangible assets as indexes to measure enterprise innovation. Intangible assets of listed companies generally included corporate reputation, trademark design and land use right which were hard to evaluate innovation level of enterprises. Many foreign documents adopted number of patent applications to measure innovation level and capability of companies, but innovation activities of Chinese enterprises mainly adopted the reverse form of imitation-innovation and number of patents was impossible to reflect enterprise innovation. In addition, Chinese protecting systems of intellectual property is not complete in the current stage. Since patent applications can let out core technological innovative achievements, they might be only for internal usage. Therefore, the essay decided to measure innovation level of family businesses from the perspective of research and development input and express it with the research and development strength $RDin_{i,t}$ of company i in the year t.

There have many indexes to measure enterprise performance and they can be generally divided into financial index, market index and balanced score card. Common financial indexes included ROS, ROE, ROA and EPS, and the common market index TobinQ value was put forward by the famous economist James Tobin from Harvard for the first time. Balanced score card was established by American scholar Kaplan and Norton which evaluated enterprise performance by structuring the four indexes, namely, finance, client, interior operation, and study and growth. Since ROE mainly reflects short-term value earnings of enterprises and intergenerational succession has a long-term influence on enterprise performance and enterprise innovation, the essay decided to adopt TobinQ value used by most scholars to measure performance of family businesses. TobinQ reflects proportion between replacement cost and enterprise performance, which combines various indexes that can reflect enterprise performance including cash flow, sales income and profit and hard to be controlled by enterprise mangers.

According to former relevant researches, the essay constructed the following regression model (1):

$$\begin{aligned}\text{TobinQ}_{\text{i,t}} &= \alpha_0 + \alpha_1\text{Suc}_{\text{i,t}} * \text{Inhe}_{\text{i,t}} + \alpha_2\text{RDin}_{\text{i,t}} + \alpha_3\text{Owner}_{\text{i,t}} + \alpha_4\text{Scale}_{\text{i,t}} \\ &+ \alpha_5\text{Age}_{\text{i,t}} + \alpha_6\text{ALR}_{\text{i,t}} + \alpha_7\text{BIR}_{\text{i,t}} + \alpha_8\text{Year}_{\text{i,t}} + \alpha_9\text{Industry}_{\text{i,t}} + \in_{i,t}\end{aligned} \tag{1}$$

Factors like industry sector, year, ownership proportion, enterprise scale, enterprise period, asset-liability ratio and growth in main businesses will also have a potential effect on enterprise innovation and enterprise performance, thus the essay regarded them as control variables. Moreover, industry sector is measured with dummy variables, and the division is made according to industry classification of listed companies of the China Securities Regulatory Commission by setting manufacturing industry as 1 and non-manufacturing industry as 0. Other control variables obtain and calculate data according to their definitions. The essay expected that intergenerational succession would have an obvious influence on innovation and performance of family businesses based on these control variables. Definitions of major variables and their measurement indexes are as Table 1 showed.

4.3. Descriptive Statistics

Table 2 is the descriptive statistical results of various research variables of sample

Table 1. Major variables and measurement indexes.

variable type	variable symbol	variable meaning	variable measurement
dependent variable	TobinQ	TobinQ	market value/replacement cost
independent variable	Suc	Whether it is an intergenerational succession family business	the value of enterprises that go through intergenerational succession during 2010 to 2014 is 1, or else, it is 0
	Inhe	whether family businesses have started intergenerational succession	the value is 1 when intergenerational succession is started, or else, it is 0
mediating variable	RDin	research and development input strength	research and development expenditure/business income
control variable	Owner	family ownership	proportion of family ownership
	Scale	enterprise scale	nature log logarithm of total assets
	Age	enterprise age	natural logarithm of listed years of enterprises
	ALR	asset-liability ratio	gross liability/total assets
	BIR	growth rate of main businesses	business volume of the current period-business volume of the prior period/business volume of the prior period
	Year	year	values of annual variables
	Industry	industry sector	dummy variables: the value of the manufacturing industry is 1 and others are 0

data of non-inherited and inherited family businesses. The maximum values and minimal values of various variables of non-inherited family business (left side) and inherited family businesses (right side) are basically the same except that minimal values of enterprise performance (TobinQ) of inherited family businesses are relatively smaller than that of non-inherited family businesses. Other descriptive data have certain differences. To be more specific, the mean value of enterprise performance (TobinQ) of inherited family businesses is 1.930 which is lower than 2.478 of non-inherited family businesses, indicating that intergenerational succession did reduce performance of family businesses. The mean value of research and development strength of inherited family businesses is 0.031, lower than the mean value 0.51 of non-inherited family businesses. In addition, the mean value of family ownership proportion of non-inherited family businesses is higher than that of inherited family businesses, manifesting that intergenerational succession would give rise to a dispersion of family ownership. The mean value of BIR of inherited family businesses is lower than that of non-inherited family businesses while the mean value of ALR of inherited family businesses is higher than that of non-inherited family businesses. Mean values of indexes of inherited family businesses including enterprise scale and company age are relatively higher than that of non-inherited family businesses, but the differences are not obvious.

4.4. T-Test of Performance of Family Businesses

Table 3 reported the results of the T-test of performance of family businesses. By comparing mean values of performance of non-inherited and inherited family businesses, the essay came a conclusion that there had obvious differences between mean values of the two (0.557, $t = 5.565$, $p < 0.01$). In addition, intergenerational

Table 2. Descriptive statistics of variables.

	mean value	Standard deviation	minimal value	maximal value	mean value	standard deviation	minimal value	maximal value
TobinQ	2.478	1.685	0.405	8.934	1.930	1.432	0.307	8.934
RDin	0.051	0.046	0.000	0.258	0.031	0.027	0.000	0.258
Owner	31.782	14.949	4.356	66.187	29.175	15.308	4.356	66.187
Scale	21.470	0.882	19.979	24.587	21.860	0.959	19.979	24.587
Age	2.234	0.287	1.946	3.091	2.367	0.318	1.946	3.091
ALR	0.376	0.178	0.052	0.791	0.405	0.187	0.052	0.791
BIR	0.219	0.269	−0.342	1.170	0.168	0.254	−0.342	1.170

Table 3. T-test of performance of family businesses.

variable	non-inherited family businesses	intergenerational succession of family businesses	mean test
overall samples of family businesses	2.487	1.930	0.557(t = 5.565)***
variable	**before intergenerational succession**	**after intergenerational succession**	**mean test**
samples of intergenerational succession of family businesses	2.404	1.873	0.531(t = 2.411)**

succession family businesses had obvious differences in enterprise performance before and after succession. And performance of family businesses had an obvious decline after succession (0.531, $t = 2.411$, $p < 0.05$), which indicated that intergenerational succession of family businesses would reduce performance of family businesses.

5. Empirical Test and Result Analysis

5.1. Correlation Analysis

Table 4 listed correlations between all variables in the essay. Among critical variables concerned by the essay, there had an obvious negative correlation between intergenerational succession and performance of family businesses ($r = -0.183$, $p < 0.01$), which was in line with assumption 1; there had a negative correlation between intergenerational succession and enterprise innovation input strength ($r = -0.215$, $p < 0.01$), corresponding to assumption 2; and there had a positive correlation between enterprise innovation input strength and performance of family businesses ($r = 0.294$, $p < 0.01$), which was in line with assumption 3. In addition, family ownership proportion, enterprise scale, enterprise year, asset-liability ratio and growth rate of main businesses had obvious positive relations with performance of family businesses (P values were smaller than 0.01), which indicated that control variables of the essay were meaningful and these control variables would have an influence on dependent variables.

5.2. Multiple Regression Analysis

To further prove the mediating effect of enterprise innovation on intergenerational succession and performance of family businesses, the essay had a multiple linear regression analysis and the analysis results were as Table 5 showed. Wen Zhonglin (2004) pointed out that there had preconditions for test of mediating effect [22]: first, the independent variable (intergenerational succession) should have an obvious effect on the dependent variable (enterprise performance); and second, the independent variable (intergenerational succession) should have an influence on the mediating variable (enterprise innovation). Then, the essay

Table 4. Analysis on correlation coefficients of major variables.

variable	TobinQ	Suc * Inhe	RDin	Owner	Scale	Age	ALR	BIR
TobinQ	1							
Suc * Inhe	−0.183***	1						
RDin	0.294***	−0.215***	1					
Owner	0.298***	−0.099***	0.092***	1				
Scale	−0.459***	0.203***	−0.287***	−0.223***	1			
Age	−0.298***	0.193***	−0.250***	−0.493***	0.531***	1		
ALR	0.513***	0.068**	−0.352***	−0.184***	0.497***	0.305***	1	
BIR	0.062***	−0.111***	−0.066**	0.127***	−0.045	−0.114***	0.019	1

Notes: *indicates 0.1 significance level; **indicates 0.05 significance level; and ***indicates 0.01 significance level.

Table 5. Analysis on multiple linear regression results.

variable		model 0	model 1	model 2	model 3
		TobinQ	TobinQ	RDin	TobinQ
control variables	Owner	0.163*** (5.956)	0.163*** (5.965)	−0.034 (−1.108)	0.166*** (6.087)
	Scale	−0.233*** (−7.342)	−0.223*** (−7.017)	−0.098*** (−2.699)	−0.215*** (−6.770)
	Age	0.049 (1.538)	0.056* (1.750)	−0.107*** (−2.945)	0.064** (2.022)
	ALR	−0.373*** (−13.657)	−0.376*** (−13.787)	−0.264*** (−8.501)	−0.354*** (−12.612)
	BIR	0.217*** (8.730)	0.212*** (8.541)	−0.073*** (−2.572)	0.218*** (8.784)
	Year	−0.067*** (−2.621)	−0.065*** (−2.570)	0.133*** (4.593)	−0.076*** (−2.975)
	Industry	−0.157*** (−6.638)	−0.150*** (−6.338)	−0.266*** (−9.873)	−0.129*** (−5.204)
independent variables	Suc * Inhe		−0.060*** (−2.841)	−0.146*** (−5.264)	−0.049** (−1.976)
mediating variables	RDin				0.081*** (2.960)
F		112.443***	99.655***	47.778***	90.231***
Adj.R^2		0.432	0.435	0.267	0.439

Notes: *indicates 0.1 significance level; **indicates 0.05 significance level; and ***indicates 0.01 significance level. Inhe is a subset of Suc * Inhe, and since information of the two variables is totally homogeneous, it is omitted as a same variable when introduced to models. And since Suc had a relatively strong colinearity with Suc * Inhe, it is omitted.

would have a study on the effect of the independent variable (intergenerational succession) and the mediating variable (enterprise innovation) on the dependent variable (enterprise performance).

Therefore, the essay established models to carry out tests one by one according to suggestions of the scholars mentioned above, and the detailed procedures were as follows: 1) had a regression analysis on independent and dependent variables (model 1); 2) had a regression analysis on independent variables and mediating variables (model 2); 3) had a regression analysis on independent, mediating and dependent variables (model 3). If the coefficients of the independent variables of the former two models were obvious and the coefficients of the mediating variables in the third model were also obvious, the assumptive mediating effect can be proved and the influence of independent variables on dependent variables was partly realized by the mediating variables at least. Then, the essay would prove whether the mediating effect was total or partial.

Results of multiple linear regressions were as Table 5 showed. Model 0 is a prediction model of performance of family businesses that only includes control variables, and the results indicated that when considering these control variables, enterprise scale ($\alpha = -0.233$, $p < 0.01$), asset-liability ratio ($\alpha = -0.373$, $p < 0.01$), year ($\alpha = -0.067$, $p < 0.01$) and manufacturing industry ($\alpha = -0.157$, $p < 0.01$) remarkably reduced performance of family businesses; family ownership proportion ($\alpha = 0.163$, $p < 0.01$) and growth rate of main businesses ($\alpha = 0.217$, $p < 0.01$) remarkably improved performance of family businesses; and enterprise years ($\alpha = 0.049$, $p > 0.1$) had a slight positive impact on performance of family businesses. Model 1 added the independent variable intergenerational succession, and the regression results indicated that intergenerational succession ($\alpha = -0.060$, $p < 0.01$) had reduced performance of family businesses remarkably, corresponding to assumption 1. Results of model 2 indicated that intergenerational succession ($\alpha = -0.146$, $p < 0.01$) reduced research and development input strength of enterprise innovation, which was in line with assumption 2. Based on model 1, model 3 added the mediating variable research and development input strength, and the regression results showed that research and development input strength ($\alpha = 0.081$, $p < 0.01$) of enterprise innovation remarkably improved performance of family businesses, corresponding to assumption 3. In addition, after the mediating variable was added, the significance of the independent variable intergenerational succession to the dependent variable performance of family businesses had an obvious decline ($P < 0.05$) and the coefficient of the independent variable was also reduced ($\alpha = 0.049$), indicating the mediating effect of enterprise innovation on relations between intergenerational succession and performance of family businesses was obvious, in other words, part of the effect of intergenerational succession on performance of family businesses was realized by the mediating variables, enterprise innovation, which was in line with assumption 4.

5.3. Robustness Test

To test the robustness of the above regression results, this chapter had an analysis by replacing TobinQ with the accounting performance indicator ROS (net profit/business income). Regression results were as Table 6 showed: the independent variable intergenerational succession had a negative impact on the dependent variable ROS ($\alpha = -0.080$, $p < 0.01$); the independent variable intergenerational succession had an obvious negative effect on the mediating variable innovation research and development input RDin ($\alpha = -0.146$, $p < 0.01$); and the influence coefficient of intergenerational succession ($\alpha = -0.069$) on ROS was reduced after the mediating variable was added, and the significance also had a declination (the value of t declined). Thus the essay concluded that the mediating effect of enterprise innovation input RDin was obvious in relations between intergenerational succession and enterprise performance ROS, which was generally in line with the conclusions mentioned above. Thus, the empirical results of the essay were steady and robust.

6. Conclusions and Contributions

6.1. Conclusions

When intergenerational succession started to be concerned by people, the academic circles in early stages mainly discussed various influential factors of intergenerational succession. When intergenerational succession was popularized,

Table 6. Regression results of enterprise performance ROS.

variable		model 4	model 5	model 6	model 7
		ROS	ROS	RDin	ROS
control variables	Owner	0.041 (1.440)	0.041 (1.439)	−0.034	0.043 (1.528)
	Scale	0.239*** (7.318)	0.252*** (7.672)	−0.098***	0.259*** (7.875)
	Age	0.048 (1.455)	0.057* (1.729)	−0.107***	0.064** (1.955)
	ALR	−0.624*** (−22.138)	−0.376*** (−22.353)	−0.264***	−0.609*** (−21.014)
	BIR	0.180*** (7.021)	0.174*** (6.795)	−0.073***	0.179*** (6.991)
	Year	−0.118*** (−4.495)	−0.116*** (−4.441)	0.133***	−0.126*** (−4.762)
	Industry	−0.188*** (−7.705)	−0.179*** (−7.339)	−0.266***	−0.61*** (−6.293)
independent variable	Suc * Inhe		−0.080*** (−3.166)	−0.146***	−0.069** (−2.726)
mediating variables	RDin				0.071*** (2.592)
F		96.138***	86.117***	47.778***	77.630***
Adj.R2		0.393	0.399	0.267	0.402

Notes: *indicates 0.1 significance level; **indicates 0.05 significance level; and ***indicates 0.01 significance level. Numbers in brackets are t values.

people started to concern some effects of the second generation on family businesses during succession. By combing family emotional wealth theory, legitimacy disadvantage theory and social capital theory of entrepreneurs, the study explained why intergenerational succession of family businesses had an obvious influence under the background of Chinese enterprise culture. Through theoretical analysis and reasoning, the study believed intergenerational succession would reduce strength of enterprise innovation research and development input, and then would affect performance of family businesses. Then, according to the analysis of the 1028 sample data of family businesses during 2010 to 2014 from the A-share market of Shenzhen and Shanghai, the essay proved the above assumptions and reasoning. The research results indicated intergenerational succession had a direct negative influence on performance of family businesses, in other words, intergenerational succession would reduce performance of family businesses; meanwhile, innovation input of enterprises would have partial mediating effect on relations between intergenerational succession and enterprise performance. To be more specific, intergenerational succession first reduced enterprise innovation input, thus leading to a decline of enterprise performance.

6.2. Contributions

The theoretical contributions of the essay mainly included the following aspects: First, former researches of family businesses generally emphasized static features of family businesses while researches on relations between the long-term intergenerational succession and enterprise performance were mainly based on foreign enterprises. Although some scholars of China started to explore relations of the two, sample selection and experimental design should be improved. Based on sample data of listed family businesses under the Chinese context, the essay inspected relations between intergenerational succession and enterprise performance through empirical analysis. Moreover, the study brought in the inner perspective. Although the mainstream resource school believed internal resources of enterprises were decisive factors of enterprise performance, but they neglected the mediating effect of internal resource input on relations between intergenerational succession and enterprise performance. The results of the study would make up the gap of internal perspective of researches on relations between intergenerational succession and enterprise performance.

6.3. Managerial Implications

From the view angle of enterprise performance management, it is believed that family businesses could not reduce enterprise innovation for protection of family social emotional wealth or under influence of altruism thoughts in the process of succession since it would affect performance of family businesses and their sustainable development. They can strengthen innovation research and development input of enterprises, introduce foreign scientific and technological talents actively, and promote development and construction of enterprise research and development groups while guarantee control power of families over enterprises at the same time, thus maintaining their core competitiveness in the era with rapid development. Furthermore, family businesses cannot pay attention to transference of visible powers like enterprise ownership and control power only in succession, they should also take the transition of invisible capitals such as social capitals and human capitals into account, try to shorten the differences of the two generations in these aspects and strengthen the capability of the second generation to obtain external resources and internal recognition, which is beneficial to reduce the declination degree of enterprise innovation input in the stage of intergenerational succession. In the end, the first generation can make the second generation participate in the management as soon as possible, give enough time for the second generation to get familiar with the environment, improve their capabilities and establish their authority, and avoid unfavorable interferences in enterprise investment strategic decisions due to the desire for rapid victory aroused by legitimacy disadvantages, thus improving rationality of internal resource allocation of enterprises.

7. Further Prospect

The study of the essay on relations between intergenerational succession, enterprise innovation and enterprise performance has important significance. However, due to factors like time and space, the essay inevitably has some limitations, and researches in the future can have an exploration in the following aspects: 1) break through regional limits of the study. Due to the limitations in data collection, the study of the essay did not obtain relevant data of succession of western family businesses and enterprise performance, thus whether the research results of the essay can be applied by studies under the background of western culture is not clear. Studies in the future can have a comparison between western and eastern family businesses in succession, and expand and enrich relevant theories about intergenerational succession of family businesses; 2) adopt a longer research cycle. Since intergenerational succession of family businesses entered the peak season after 2010 and considering the limited research time, the essay selected enterprise samples of the five years from 2010 to 2014. Researches in the future can have samples that have a relatively larger time span so as to obtain more reliable results; and 3) combine internal and external perspectives. The essay discussed the influence of enterprise innovation on relations between intergenerational succession and enterprise performance mainly from the internal perspective, but changes of external environments like political environment, market environment and culture environment will also affect performance of family businesses in the stage of succession. Therefore, future researches can combine internal and external perspectives, which is beneficial to further explore specific action mechanisms between intergenerational succession and enterprise performance.

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