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Management Compensation Incentives and Enterprise Digital Transformation

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Abstract

At present, the digital economy is booming, and how to promote the integration of digital economy and real economy has become the focus of academic attention. Therefore, this paper analyzes the relationship and mechanism between management compensation incentive and enterprise digital transformation. The research shows that management compensation incentive promotes the digital transformation of enterprises. Mechanism analysis shows that management compensation incentives can promote the digital transformation of enterprises by reducing agency costs and maintaining financial stability. This study helps to provide theoretical support for the formulation of digital related policies, and provides important enlightenment for the solid promotion of digital transformation and the promotion of high-quality economic development.

Keywords

Management compensation; Digital transformation; Agency cost.

1. Introduction

In the era of big data, with the rapid development of digital economic products such as artificial intelligence, it has become an engine to promote economic growth. For micro enterprises, digital transformation is a vivid interpretation of the results of the development of the real economy(Wang Hongzhi and Lu Minfeng; 2023). However, the problems of "not turning" and "not daring to turn" still exist. The answer to this question is helpful to understand the current problems in the development of micro enterprises' digital economy, and is of great significance of high-quality economic development(Wang Jingyi, 2023; Ye Mengchun, 2023; Lu Jingyou; 2023).

At present, the academic community has made many beneficial explorations on the digital transformation. For example, Xiang Hailing et al. (2023) found that the development of fintech has effectively alleviated the financing situation of enterprises and thus improved the digital transformation. Wang Hai et al. (2023)found that the implementation of digital infrastructure policies significantly improved the digitalization of enterprises. Cao Zhi and Wu Fei (2023) found that the tax incentive policy significantly promoted the digital transformation. Fangqiaoling et al. (2023)found that the opening of high-speed rail reduced the space-time distance between the two places, facilitated the acquisition of enterprise resources, and helped to enhance the digital transformation. In terms of internal governance, xuning et al. (2023) found that internal equity incentives can improve the quality of internal control and thus the level of digital transformation. Dingyifan et al. (2023) found that CEO academic experience can optimize the innovation ability of enterprises, alleviate the capital constraints of enterprises, and then promote the digital transformation of enterprises. Zhan Zhijia and Zhu Mingnian (2023) based on the game tripartite evolution model, they found that enterprise digitalization involves enterprise willingness, social reputation, transformation costs and other aspects, which require the full cooperation of all parties. Weiyanjie et al. (2023) found that CEO social capital can effectively help enterprises' digital transformation. It can be seen that the academic

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research on enterprise digitalization has carried out many beneficial discussions at the internal and external levels of enterprises, but as the main body of enterprise management, there is little literature attention on the impact of enterprise executives on enterprise digitalization transformation. Therefore, the existing literature is still insufficient. This paper discusses its impact on enterprise digitalization transformation from the perspective of management compensation, which helps to make up for the deficiency of the existing literature. It also has a certain impact on promoting high-quality economic development.

The marginal contributions of this paper are as follows: first, it enriches the research on enterprise digitalization. Existing researches on enterprise digitalization mainly focus on internal and external aspects such as financial technology, digital infrastructure policy, tax incentive policy, high-speed rail opening, enterprise equity incentive, enterprise will, CEO academic experience, age structure, overseas background and social capital, but few papers pay attention to the impact of management compensation incentive on enterprise Digitalization transformation. This paper discusses the internal governance mechanism of digitalization transformation from the perspective of management compensation, It enriches the relevant research. Second, it expands the research on the economic consequences of management compensation. Existing studies mainly examine the economic consequences of management compensation from the perspective of enterprise violations (yangjiefei and liyinzhu, 2022) , labor investment efficiency (yuanzhizhu et al., 2023) , performance sensitivity (Ma Ying and Shenbin, 2020) , and R&D investment (wangxueyao and Kang Jinjun, 2020), ignoring the impact of management compensation incentives on enterprise digital transformation to a certain extent, This paper provides empirical evidence for the literature on management compensation from the perspective of enterprise digital transformation. Third, it clarifies the mechanism between management compensation and enterprise digital transformation, that is, reducing agency costs and maintaining financial stability. It opens a theoretical framework for further research.

2. Model construction and data description

2.1. Model setting

This paper focuses on the impact of management compensation on the digital transformation of enterprises. The following model is constructed(Yuanchun et al. 2021):

$$\mathrm{Dig}_{i,t} = \alpha_0 + \alpha_1 \mathrm{TMTPay}_{i,t} + \sum Controls_{,t} + \sum Ind + \sum \mathrm{Year} + \varepsilon_{i,t} \quad (1)$$

2.2. Variable definition

2.2.1. Explained variable

Digital transformation of enterprises. Referring to the research of Wu Fei et al. (2021), this paper uses text analysis to measure the degree of digitalization of enterprises, specifically to measure the digitalization transformation of enterprises (DIG) by the ratio of the total number of digitalized words and the length of MD&A segments.

2.2.2. Explanatory variables

Management compensation (tmtpay). Tmtpay is measured by the natural logarithm of the total compensation of the top three managers.

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2.2.3. Control variables

This paper selects financial leverage, cash flow, growth rate, integration of two positions, proportion of independent directors, listing years, book to market value ratio, equity concentration and property right nature.

2.3. Sample selection and descriptive analysis

The of this paper is Shanghai and Shenzhen A-share enterprises from 2009 to 2021, and ST and PT enterprises are excluded in this paper; Delete the missing samples of the main variables. The main variables are trimmed by 1% up and down.

Table 2 descriptive statistical results

Variable	N	Mean	SD	P50	Min	Max
Dig	23113	0.713	0.715	0.481	0	5.295
TMTpay1	23113	14.52	0.696	14.49	12.94	16.49
Lev	23113	0.438	0.206	0.431	0.055	0.891
Cashflow	23113	0.048	0.068	0.047	-0.151	0.238
Growth	23113	0.167	0.390	0.106	-0.542	2.378
Dual	23113	0.257	0.437	0	0	1
Indep	23113	37.46	5.307	33.33	33.33	57.14
Age	23113	2.193	0.813	2.303	0	3.332
BM	23113	0.645	0.250	0.650	0.115	1.170
Top1	23113	35.54	14.79	33.66	9.190	74.45
SOE	23113	0.391	0.488	0	0	1

3. Empirical analysis

3.1. Basic regression

The coefficient of variable tmtpay to variable dig is positive, indicating that the higher the incentive of management compensation, the stronger the digital transformation of enterprises. It may be because the high salary of the management inhibits its motivation to whitewash performance and manipulate earnings, maintains financial stability, reduces the possibility of corporate agency problems, transfers the motivation of the management to the company's operation, and improves the operating efficiency and profitability of the enterprise.

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Table 3 basic regression results

Variables	(1) Dig	(2) Dig
TMTpay1	0.066***	0.079***
	(9.571)	(11.148)
Lev		0.041
		(1.582)
Cashflow		-0.472***
		(-6.906)
Growth		0.023**
		(2.054)
Dual		0.038***
		(3.715)
Indep		0.001
		(0.623)
Age		-0.039***
		(-5.891)
BM		-0.061***
		(-2.821)
Top1		0.000
		(0.098)
SOE		-0.009
		(-0.781)
Constant	-0.008	-0.103
	(-0.082)	(-0.957)
Observations	27454	27454
Adjusted R-squared	0.508	0.510
Industry	Yes	Yes
Year	Yes	Yes

3.2. Robustness test

3.2.1. Missing variable inspection

There are many variables that affect the digital transformation of enterprises. Although the article controls some potential variables on the basis of the existing model (1), there may still be unidentified variables that have a potential impact on the results of the article. Therefore, based on the existing research, this paper adds the following variables tobinq, loss and board size, and uses the model (1) to test again. The variable TMTpay1 is still significantly positive, indicating that the results of the article are robust.

3.2.2. Eliminate strategic behavior of enterprises

Enterprises in the information industry may be more keen on the digital transformation, which may have an impact on the conclusion of this paper. Therefore, this paper removes the samples of the information industry (C39, I63, I64, I65) for inspection. The conclusion of this paper is still valid after excluding the strategic behavior of enterprises.

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Table 4 robustness test

	(1)	(2)
Variables	Dig	Dig
TMTpay1	0.077***	0.076***
	(10.727)	(11.911)
Lev	0.066**	0.009
	(2.506)	(0.390)
Cashflow	-0.500***	-0.185***
	(-7.246)	(-2.986)
Growth	0.016	0.045***
	(1.372)	(4.435)
Dual	0.037***	0.047***
	(3.589)	(4.995)
Indep	-0.000	0.001
	(-0.272)	(1.046)
Age	-0.034***	-0.031***
	(-5.107)	(-5.036)
BM	-0.214***	-0.017
	(-6.353)	(-0.864)
Top1	-0.000	-0.000
	(-0.177)	(-0.395)
SOE	-0.006	-0.056***
	(-0.544)	(-5.496)
tobinq	-0.033***	
	(-5.854)	
Loss	-0.063***	
	(-4.145)	
Hboard	-0.052*	
	(-1.851)	
Constant	0.218*	-0.324***
	(1.699)	(-3.359)
Observations	27454	23112
Adjusted R-squared	0.511	0.322
Industry	Yes	Yes
Year	Yes	Yes

4. Mechanism analysis

The previous analysis shows that management compensation incentives promote the digital transformation. But how about its potential mechanism, or whether there is a mechanism of management compensation incentive affecting the digital transformation, this paper tests in this part. First, this paper refers to the practice of lichongcong (2023) and measures the agency cost of enterprises with the management fee rate (mfee). Further, this paper refers to the practice of Guan Zhijian (2023) and measures the agency cost of an enterprise by the turnover rate of total assets. The larger the value, the smaller the agency cost. On the other hand, the increase of management compensation level will inhibit their behavior of seizing private interests, which will help maintain the financial stability of enterprises. Therefore, this paper

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describes the financial stability of enterprises with the risk Z value(Wu Fei et al., 2021). The greater the value, the more stable the enterprise's finance is. The coefficient of variable tmtpay to variable mfee is significantly negative, and the coefficient of variable tmtpay to variable ATO is significantly positive. It can be seen that the higher the management salary, the lower the agency cost of the enterprise, which will help promote the digital transformation of the enterprise.

Table 5 mechanism test

	(1)	(2)	(3)
Variables	Mfee	ATO	Zscore
TMTpay1	-0.007***	0.089***	0.230***
	(-11.657)	(24.569)	(5.771)
Lev	-0.061***	0.372***	-14.391***
	(-29.274)	(28.081)	(-98.984)
Cashflow	-0.127***	0.675***	2.146***
	(-23.027)	(19.232)	(5.564)
Growth	-0.024***	0.176***	0.037
	(-26.660)	(30.431)	(0.581)
Dual	0.001	-0.020***	0.016
	(1.048)	(-3.870)	(0.269)
Indep	0.000***	-0.001**	0.014***
	(5.426)	(-2.166)	(2.970)
Age	0.006***	-0.019***	0.515***
	(10.529)	(-5.617)	(13.657)
BM	-0.048***	-0.144***	-10.403***
	(-27.299)	(-12.968)	(-85.116)
Top1	-0.000***	0.002***	0.006***
	(-13.606)	(11.735)	(3.265)
SOE	-0.006***	0.042***	0.400***
	(-6.920)	(7.221)	(6.257)
Constant	0.238***	-0.776***	12.125***
	(27.500)	(-14.074)	(20.026)
Observations	27454	27454	27454
Adjusted R-squared	0.303	0.335	0.537
Industry	Yes	Yes	Yes
Year	Yes	Yes	Yes

5. Conclusion

Management compensation is a key issue in corporate governance. For a long time, management has been regarded as the main body of fraud, often seizing the interests of the company by means of whitewashing performance and manipulating earnings, and even investing in projects with negative net present value to build a business empire. Good compensation design can effectively alleviate management agency costs, reduce management's malicious manipulation of earnings, and achieve compatibility between the two goals, Pay more attention to improving the long-term performance of enterprises, maintain the financial

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stability of enterprises, and then promote the digital transformation of enterprises(Li Shuo et al., 2023).

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