

# The Influence of Management Intonation on the Digital Transformation of Enterprises

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**Abstract.** In recent years, both domestic and foreign theoretical and practical circles have paid more and more attention to the role of non-financial information. As a supplement to financial information, non-financial information has had a broad impact on enterprises and society. This paper uses the text information from the 2009-2022 China A-share listed companies' performance conference to examine the influence of management tone on the digital transformation of enterprises. The study found that a more positive management tone is helpful to improve the level of enterprise digital transformation, indicating that there is a positive correlation between management tone and enterprise digital transformation. In addition, the more positive the management tone of the enterprise, the better the performance of the enterprise. The positive management tone is positively and significantly related to the performance of the enterprise. At the same time, the more colorful the corporate performance, the higher the degree of corporate digital transformation, indicating that there is a positive correlation between corporate performance and corporate digital transformation, which also demonstrates the relationship between management tone and corporate digital transformation again. In addition, this paper also puts forward some policy suggestions on how to promote the digital transformation of enterprises, which provides useful theoretical guidance and practical reference for how to promote the digital transformation of enterprises.

**Keywords:** management tone; digital transformation; information disclosure; message passing.

## 1. Raising Questions

The performance statement will be an effective means to establish a good communication mechanism between the board of directors and investors, an important channel for investors to accurately understand the regular reports and fully understand the listed companies, and an important measure to improve the governance level of listed companies and thus the quality of listed companies. The information needs of internal departments of the enterprise and investors include not only financial information such as accounting statements, but also non-financial information such as corporate governance, core technology, marketing network, intellectual capital, management tone, and management's analysis of financial and non-financial information. Based on the analysis of non-financial information, both inside the enterprise and investors can better understand the current financial situation of the company and forecast the future performance. A large number of studies have found that the optimistic tone of management has a predictive effect on the future performance of enterprises and is positively correlated with the future performance of enterprises [1-4]. In October 2020, the State Council issued "Opinions on Further Improving the Quality of Listed Companies" which explicitly mentioned the establishment and improvement of a good communication mechanism between the Board of Directors and investors. In December 2020, the CSRC launched a special campaign on corporate governance of listed companies, focusing on key issues, reinforcing weaknesses and strengthening weaknesses to improve the overall governance of listed companies. In 2021, the CSRC specifically launched the overall promotion and deployment of the performance statement meeting. Through the classification and promotion of key public companies, the annual report performance statement meeting has been basically fully covered by this year, with both quantitative and qualitative improvement. In May 2022, the newly revised "Guidelines on Investor Relations Management of Listed Companies" was implemented, clarifying the new connotation and requirements for high-quality performance briefing. The

performance statement meeting is an important epitome of the critical period for the comprehensive deepening of the reform of the capital market. It is also an important manifestation for the board of directors of listed companies and the 'key minority' to pay attention to and respect investors

The digital transformation of the world economy is the trend of the times. It has become the key to the success of modern business. It can help enterprises adapt to the changing market environment, improve efficiency, innovate business models, and interact more closely with customers in the digital era, so as to obtain continuous competitive advantages. General Secretary Xi Jinping has repeatedly pointed out that to speed up the development of the digital economy, he once again stressed during his inspection in Zhejiang on April 1, 2020 that he should be good at turning crises into opportunities, seize the opportunities given by industry digitalization and digital industrialization, and grasp the layout of the digital economy. In addition, the party's 20th report pointed out that it is necessary to "speed up the development of the digital economy and promote the deep integration of the digital economy and the real economy" and called on enterprises to promote the high-quality development of the real economy through digital transformation. Therefore, how to better promote the digital transformation of enterprises has received extensive attention from the academic community. From the perspective of internal factors, the proportion of technical staff, research and development investment and senior management education are the key internal factors for the digital transformation of enterprises [5]. In addition, the disclosure of the tax credit rating as Grade A has significantly promoted the digital transformation of enterprises [6]. At the same time, the gender diversity of the board of directors will promote the digital transformation of the enterprise, in which the power of female directors plays a positive regulating role [7]. From the perspective of external factors, the "follow-the-trend effect" brought by the digital transformation of peer enterprises is the main external factor of the digital transformation of enterprises [5]. The fair competition review system has also significantly improved the digitalization level of enterprises [8]. The above research provides beneficial enlightenment for understanding the influencing factors of digitalization transformation. However, few researches have explored the influence of management tone on digitalization transformation from the perspective of internal management tone. There is a certain gap in this aspect. In view of this, this paper intends to conduct an in-depth study by combining the management tone with the digital transformation of the enterprise.

In view of the above research questions, this paper, based on the intonation text data used by management in the performance briefing of A-share listed companies from 2009 to 2022, combined with the digital transformation activities of enterprises, makes a deep discussion on how the intonation of management affects the degree of digital transformation of enterprises. The marginal contribution of this paper is mainly reflected in the following aspects. First, it expands the research of the tone of corporate management on the digital transformation of enterprises. Most of the existing researches focus on the influence of management tone on financing and market environment. This paper takes the digital transformation of enterprises as the breakthrough point, studies the influence of management tone on the digital transformation of enterprises from the perspective of management behavior, and expands the research field of management tone. Second, it enriches the research on the influential factors of the digital transformation of enterprises. This paper focuses on the tone of corporate management, discusses the impact of corporate management tone on corporate digital transformation under the background of the digital era, and provides a new evidence perspective to interpret the degree of corporate digital transformation. Help enterprises to better understand the impact of intonation on enterprise transformation, so as to optimize intonation management strategies and improve the smooth progress of digital transformation. Third, this article has certain practical value and experience enlightenment. Through the research, it is found that the positive tone of corporate management helps to improve the degree of digital transformation of enterprises, which has great practical significance. It opens up new ideas for promoting better digital transformation of enterprises. By clarifying the influence and effect of different tones, the management can help enterprises to better realize digital transformation, thus improving the

performance and core competitiveness of the company and obtaining competitive advantages in the industry.

## 2. Literature Review

As non-financial information, the management tone is crucial to the growth of the enterprise and is one of the important driving forces for the development of the enterprise. There is a certain relationship between the management tone and the future performance of the enterprise. After controlling the current performance of the company and other factors, the management tone can still provide incremental information about the future performance of the company, indicating that the management tone has certain credibility in predicting the future performance of the company [4]. At the same time, the tone of management can also improve the fitting degree and forecasting ability of the financial distress model, and this information is not fully reflected in the market transaction price [9]. The tone of the management not only has a certain impact on the inside of the enterprise, but also has a radiating effect on the whole market. When the quality of the company's written information is high, the management's tone has obviously eased the negative reaction to the market [10]. On the stock price side, the more positive the tone is when the true level is low, the greater the risk of a crash after the announcement of the annual report. This indicates that the overly positive tone may be the result of management's impression management, rather than a good outlook for the company. On the other hand, when the intonation is true, the positive correlation between intonation and the risk of collapse is significantly suppressed [11]. The academic circle has also done a lot of research on peer management's tone. In terms of forecast, peer MD&A intonation and information disclosure quality have significant adverse effects on analysts' forecast bias, and such adverse effects are more significant in enterprises with low information disclosure quality [12]. In terms of innovation, the discussion and analysis tone of peer management has information content, which is beneficial to improving the information environment of target enterprises, optimizing management's innovation investment decisions and improving the quality of enterprise innovation [13].

With the advent of the digital era, enterprises are facing the challenges and opportunities of digital transformation. In this process, the role and role of management is crucial. The management's tone and communication style have an important impact on the effect of the enterprise's digital transformation. The management's behavior indicates the direction of the enterprise's digital transformation. The digital transformation is not only the structural change of the enterprise, but also involves the change of management's mentality [14]. Traditional enterprise management often feel lost and confused when facing the digital transformation. Some enterprises insist on taking some superficial actions, while others are not clear and goal-oriented. In order to succeed in the digital transformation, the management needs to have clear direction, objectives and strict implementation and implementation. In addition, by analyzing the digital transformation model and digital maturity evaluation method, the researchers put forward the model of enterprise digital transformation management [15]. Based on the research results, the author demonstrates the methods of developing digital services and establishing strategic partnership, and puts forward the necessary solutions to manage the digital transformation of enterprises.

The research at home and abroad has made a series of explorations and analyses on the function and influence of the management tone. At the same time, with the development of the digital era, the research on the digital transformation of enterprises is gradually deepening, but the existing research seldom involves the influence of non-financial information disclosure tone on the digital transformation of enterprises. Therefore, based on the existing research at home and abroad, this paper takes A-share listed companies from 2009 to 2022 as the basic research sample, focusing on the impact of corporate management tone on corporate digital transformation, in order to better understand and solve the problems faced by corporate digital transformation, and to better enhance the core competence and comprehensive strength of enterprises.

### 3. The Research Background and Assumptions

The performance statement will be a bridge for listed companies to pass on value and investors to discover value. Holding a performance statement meeting is an important way for listed companies to communicate with investors and an important part of investor relationship management of listed companies, and investor relationship management is an important work of listed companies. In every mature market in the world, it is a common and common practice for listed companies to hold performance briefings after the release of regular reports. According to the generally accepted accounting principle (GAAP, accounting system and standards in China), the financial report is based on historical cost, which can only record and reflect past transactions, and the measurement of past transactions follows the historical cost principle. However, investors' purchase of company securities is the “future” of the company. In order to “translate” historical information into future information, it is necessary to eliminate future transactions in historical statements and add events that will happen in the future but have not had a significant impact on financial statements in the past, otherwise financial statements will be misleading. As the quality of financial information requires both decision-making Reliability and Relevance, it is often difficult to take both into account when there is a conflict between the two. The financial report itself may not be competent to disclose all information related to investors' decisions. In contrast, non-financial information such as management tone focuses on disclosing forward-looking information that may have a significant impact on the company. Through the disclosure of forward-looking information, investors can understand the future operation, financing and investment plans of the listed companies, better understand the opportunities and risks faced by the companies, and thus better forecast the future performance of the companies. Therefore, holding performance briefing is an important measure for listed companies to respond to relevant policies and improve corporate governance under the background of high-quality development. In October 2020, the State Council issued “Opinions on Further Improving the Quality of Listed Companies”, which explicitly mentioned the establishment and improvement of a good communication mechanism between the board of directors and investors. In December 2020, the CSRC launched a special campaign on corporate governance of listed companies, focusing on key issues, reinforcing weaknesses and strengthening weaknesses to improve the overall governance of listed companies. In 2021, the CSRC specifically launched the overall promotion and deployment of the performance statement meeting. Through the promotion of key companies by category, this year, the annual performance statement meeting has basically been fully covered, with both quality and quantity moving forward. In May 2022, the newly revised “Guidelines on Investor Relations Management of Listed Companies” was implemented, clarifying the new connotation and requirements for high-quality performance briefing. Nowadays, it has reached a consensus to hold a performance briefing regularly, and listed companies and investors are more active in interaction and communication, so as to promote listed companies to establish and improve effective ways and long-term mechanisms to improve quality.

In the digital era, enterprises are facing increasingly fierce competition and changing environment. As an important communication tool, the tone of management plays an important role in the digital transformation of enterprises. Therefore, it is very important to understand and explore the relevant theories of management intonation. On the one hand, social cognitive theory can explain the formation and dissemination mechanism of management tone, that is, to shape corporate culture and values through verbal and non-verbal expressions. On the other hand, communication theory can help to understand the influence of management tone on employees' motivation and participation, and promote employees to actively participate in the digital transformation through effective communication and incentive language. In addition, the leadership theory provides an important insight into the impact of management tone on organizational change and innovation, and promotes the smooth transition of enterprises to digital by stimulating employees' creativity and cooperation ability. The research on management tone and digital transformation focuses on leadership communication and organizational change. In addition, the positive tone of the

management can motivate the staff to actively participate in the digital transformation, enhance the staff's confidence and motivation for change, and promote the smooth progress of the organization's change process. At the same time, the tone of the management can also shape the digital transformation image and brand image of the enterprise and have a positive effect on external stakeholders.

In conclusion, the management tone may have certain impact on the digital transformation of the enterprise. Accordingly, this paper puts forward:

H1: Other conditions remain unchanged. The more positive the management tone, the higher the degree of digital transformation of the enterprise.

With the development of capital market, quantitative information about corporate fundamentals can no longer fully explain the changes and fluctuations of asset prices. People are beginning to be more and more interested in the emotional and deterministic information conveyed by government agencies, media and enterprises in public communication. especially

Especially with the improvement of people's financial awareness, in order to achieve the purpose of maintaining and increasing the value of assets, people have been dissatisfied with the stable income brought by traditional savings methods. A large number of investors enter the capital market in order to bear high risks and obtain high returns, which intensifies people's demand for information disclosure and real information disclosure. People's reception and understanding of information will be affected by the language in the text information. Therefore, language will have certain influence on decision-making. Positive and optimistic management tone can stimulate the enthusiasm and creativity of the staff, express their confidence in the development of the enterprise through the attitude of encouragement and support, form a good working atmosphere, and increase the staff's sense of identity and loyalty, thus also promoting the development of enterprise performance, enabling the enterprise to have its own core competitiveness and form a unique competitive advantage. Refer to Xie and Lin [4], after controlling the factors such as the company's performance in T-year, the management tone in the performance statement meeting can still provide incremental information about the company's future performance, and the post-verification perspective indicates that the management tone has good credibility. The research findings mean that the text information disclosed by the management has information content and has certain credibility. Based on better performance, the enterprise has more cash flows and a stronger capital base. The comprehensive strength and innovation ability of the enterprise have been greatly improved, laying a solid foundation for the digital transformation. In addition, it has also enhanced the image and reputation of the enterprise, attracted more attention and support from partners and investors, provided more resources and opportunities for the digital transformation, and promoted the smooth progress of the digital transformation. Based on the above analysis, the research hypothesis H2 in this paper is proposed.

H2: Positive management tone promotes the improvement of corporate performance and further promotes the digital transformation of the enterprise

## **4. Research and Design**

### **4.1 Sample Selection and Data Sources**

This paper selects the intonation text used by the management of the 2009-2022 A-share listed companies' performance statement meeting in China as the research sample. The selection of 2009-2022 as the sample interval is mainly based on the following two reasons: (1) With the advent of information technology such as cloud computing, artificial intelligence and block chain, China has entered the digital era since about 2009, and the digital transformation has begun to develop at a high speed, so the sample interval began in 2009; (2) The sample interval of the study is as long as 14 years, which is typical and representative, and can more fully examine the influence brought by the management tone. In order to ensure the reliability and preciseness of the research conclusions, the sample selection procedures in this paper are as follows: (1) considering the heterogeneity of the

industry, excluding enterprises in the financial industry; (2) to avoid interference with the results due to extreme data of ST, \*ST and delisting companies, such companies are eliminated (3) missing samples of key variables are eliminated; (4) In order to enhance the reliability of the results and avoid the influence of individual outliers, Winsorize is applied to the extreme values of both sides of continuous variables at 1% and 99%, and robust standard error is used to alleviate the heteroscedasticity problem. After the above-mentioned screening process, this paper finally obtains 14,301 company-year samples.

In this paper, the management intonation data are derived from the performance briefing database in China Research Data Service Platform (CNRDS), and the digital transformation data and other data are all derived from the National Taian Database (CSMAR).

## 4.2 Variable Definition

### 4.2.1 Interpreted variable

Number of digital keywords/number of words discussed and analyzed by management. The greater the value, the higher the degree of digital transformation of the enterprise.

### 4.2.2 Explanatory variables

Tone of management is the tone used by the management of the enterprise in the management discussion and analysis of the disclosure. Based on the measurement method of management tone by Xie and Lin [4], this paper uses the number of positive words and negative words of listed companies in performance briefings to construct the index of management net tone. The basis for judging positive words and negative words is mainly based on Loughran and McDonald's (2011) English sentiment dictionary translated into Chinese dictionary, which is then expanded and improved in combination with Chinese context. For example, positive words include “profit”, “positive”, “growth” and “positive”, while negative words include “loss”, “negative”, “decline” and “pessimism”. Net Tone= (POST-NEG) /(POST+NEG), where POST is the ratio of the number of positive tone words used by the management of the company's performance presentation meeting to the total number of words answered by the management in t years; The NEG represents a comparative example in which the corresponding number of negative tone words accounts for the total number of management-level responses. The value of Tone is between [-1, +1], and the higher the value, the more positive the overall words used by the management, and the positive and optimistic attitude towards the current operation status, future results and industry development prospects of the Company.

### 4.2.3 Intermediate variable

Drawing on the research of Xie and Lin [4], the performance of an enterprise is measured by its return on equity (ROE).

### 4.2.4 Control variables

Based on the relevant research on the digital transformation of existing enterprises, and considering the impact of annual financial information disclosure on the digital transformation of enterprises, this paper controls the asset-liability ratio (Lev), enterprise Size, Cash, Listing Age and return on total assets of the target enterprises (ROA). See for details of the main variables and measurement methods in this paper (Table 1).

model building

$$DT_{i,t+1} = \alpha_0 + \alpha_1 Tone_{i,t} + \alpha_2 CV_{i,t} + \alpha_3 Year_t + \alpha_4 Ind_i + \varepsilon_{i,t} \quad (1)$$

$$ROE_{i,t+1} = \beta_0 + \beta_1 Tone_{i,t} + \beta_2 CV_{i,t} + \beta_3 Year_t + \beta_4 Ind_i + \varepsilon_{i,t} \quad (2)$$

Among them,  $DT_{i,t+1}$  is the degree of digital transformation of the target enterprise in the next phase,  $ROE_{i,t+1}$  is the performance of the enterprise in the next phase,  $Tone_{i,t}$  is the management tone of the enterprise in the current phase, and  $CV_{i,t}$  is the control variable.  $Year_t$  and  $Ind_i$  are annual fixed effect and individual fixed effect respectively, and  $\varepsilon_{i,t}$  is random disturbance term.

$\alpha_1$  and  $\beta_1$  in the model are the coefficients that this paper focuses on. If  $\alpha_1$  is significantly positive, it indicates that the net optimistic tone used by the management in the corporate performance presentation meeting has significantly improved the degree of digital transformation of the enterprise. If  $\beta_1$  is significantly positive, it indicates that the net optimistic tone of the management of the enterprise significantly improves the performance of the enterprise, i.e. the more positive the tone of the management, the better the performance of the enterprise.

Table 1. Main variables and measurement methods

Dt	Digital transformation	Number of digital keywords/number of words discussed and analyzed by management
Tone	Management's tone of net optimism	The ratio of the difference between the number of positive words and the number of negative words used in the answer to the sum of the number of positive words and the number of negative words in the enterprise performance statement meeting is calculated as follows (number of positive words-number of negative words)/ (number of positive words+ number of negative words)
lev	Asset-liability ratio	Ratio of total liabilities at the end of the year to total assets at the end of the year
size	Scale	Natural logarithm of total assets of an enterprise
cash	Cash holdings	The ratio of the sum of cash and cash equivalents at the end of the year to the total assets at the end of the year
Listing Age	Business age	Year of sample observation less year of establishment
ROA	return on total assets	Ratio of annual net profit to average total assets at the end of the year
ROE	Rate of Return on Common Stockholders' Equity	Corporate net profit/owner's equity

## 5. Empirical Results and Analysis

### 5.1 Descriptive Statistic

The descriptive statistical results of this paper are reported (Table 2). The average value of digital transformation of enterprises is 0.023, the minimum value is 0.000, the maximum value is 0.125, and the standard deviation is 0.028, which shows that the degree of digital transformation of Chinese enterprises is low, and the degree of digital transformation is insufficient, and there are certain differences among different enterprises, and some enterprises have not even begun to pay attention to digital transformation. The average value of management's net optimism tone is 0.032, the minimum value is -0.010, and the maximum value is 0.069, which shows that the overall management tone of listed companies in China presents an optimistic trend, but there are also cases where the net optimism tone is negative. Descriptive statistical results of other control variables are within a reasonable range.

Table 2. Descriptive Statistics of Variables

Var Name	Obs	Mean	SD	Min	P25	Median	P75	Max
Digital	14301	0.023	0.028	0.000	0.000	0.012	0.034	0.125
EmotionTone1	14301	0.032	0.016	-0.010	0.021	0.032	0.042	0.069
EmotionTone2	14301	0.259	0.122	-0.086	0.183	0.268	0.344	0.515
Lev	14344	0.428	0.203	0.062	0.266	0.418	0.578	0.913
size	14344	22.204	1.291	19.860	21.284	22.045	22.942	26.109
cash	14344	0.145	0.109	0.009	0.067	0.116	0.190	0.544
Listing Age	14344	10.961	7.460	1.000	5.000	9.000	18.000	26.000

ROA	17979	0.033	0.081	-0.427	0.013	0.037	0.069	0.207
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## 5.2 Regression Analysis

### 5.2.1 The impact of management tone on the digital transformation of enterprises

This paper uses stepwise regression analysis to analyze the influence of management tone on the digital transformation of enterprises, Table 3 reports the regression results of management tone on the digital transformation of the enterprise. The first column is the regression result that does not contain control variables but controls the fixed effect of the enterprise and the annual fixed effect, and the second to fifth columns are the regression results that gradually add control variables and control the fixed effect of the enterprise and the annual fixed effect. Without control variables, the coefficient of enterprise management tone 1 is 0.201, which is significantly positive at the level of 1%, and is positively and significantly related to the Digital transformation degree of enterprises. When the control variables are not included, the coefficient of the management EmotionTone1 is 0.201, which is significantly positive at the level of 1%, and is positively and significantly correlated with the Digital transformation degree of the enterprise. When the control variables are added step by step, the scores of the management EmotionTone1 are 0.206, 0.206, 0.205 and 0.205 respectively, which are significantly positive at the level of 1%, and are positively and significantly correlated with the Digital transformation degree of the enterprise. This shows that there is a positive correlation between enterprise management tone and digital transformation, and positive management tone will promote the digital transformation of enterprises. This study assumes that H1 is established.

Table 3. Impact of Management Intonation on Enterprise Digital Transformation

	(1) Digital	(2) Digital	(3) Digital	(4) Digital	(5) Digital
EmotionTone1	0.201*** (11.106)	0.206*** (11.347)	0.206*** (11.358)	0.205*** (11.324)	0.205*** (11.104)
Lev	0.002 (0.791)	-0.000 (-0.162)	-0.000 (-0.154)	-0.000 (-0.163)	-0.000 (-0.116)
size		0.003*** (4.170)	0.003*** (4.161)	0.003*** (4.140)	0.003*** (4.139)
cash			0.000 (0.022)	0.000 (0.016)	0.000 (0.011)
ListingAge				0.002 (0.733)	0.002 (0.732)
ROA					0.000 (0.115)
_cons	0.013*** (11.038)	-0.045*** (-3.225)	-0.045*** (-3.207)	-0.063** (-2.237)	-0.063** (-2.235)
Firm fixed effect	control	control	control	control	control
Annual fixed effect	control	control	control	control	control
N	14301	14301	14301	14301	14301

### 5.2.2 Mechanism analysis: The influence of management intonation on enterprise performance

This paper uses regression analysis to test the influence of management tone on corporate performance. The empirical results are as follows Table 4. As shown in the figure, column (1) reports the regression result of the corporate management tone and corporate performance considering other influencing factors and controlling corporate fixed effect and annual fixed effect. From the result, it can be seen that the regression coefficient of corporate management tone is 0.969,



and it is significantly positive at the significance level of 5%, indicating that there is a positive correlation between corporate management tone and corporate performance, and a positive management tone will promote corporate performance.

Table 4. Impact of Management Intonation on Corporate Performance.

	(1) ROE
EmotionTone1	0.969** (2.146)
Lev	-0.154*** (-3.552)
size	0.009 (0.763)
cash	-0.025 (-1.128)
ListingAge	0.016 (0.738)
ROA	2.588*** (18.365)
_cons	-0.342 (-1.147)
Firm fixed effect	control
Annual fixed effect	control
N	14279

### 5.2.3 Robustness test

In this paper, the enterprise digital transformation is redefined as the logarithm of the digital transformation keyword plus 1 and then return again. Table 5 Column (2) reports the regression result of the digital transformation of the enterprise. The coefficient of the management tone of the enterprise is 7.676, while it is still significantly positive at the level of 1%, and the coefficient is increased as compared with that before the change, indicating that the conclusion in this paper is still valid. Change the explanatory variable indicator, and use (number of positive words)/(number of positive words+ number of negative words) to measure the management tone. Table 5 Column (1) shows the regression result after changing the measurement method of the management tone of the enterprise. The coefficient of the management tone of the enterprise is 0.027, still significantly positive at the level of 1%, which is consistent with the conclusion in the benchmark regression in this paper. It shows that the more positive the tone of management, the higher the degree of digital transformation of enterprises, and the conclusion of this paper is stable.

Table 5. Robustness testing.

	(1) Digital	(2) Digital1
EmotionTone2	0.027*** (11.388)	
Lev	-0.001 (-0.253)	-0.026 (-0.401)
size	0.003*** (4.152)	0.099*** (5.428)
cash	-0.000 (-0.020)	-0.067 (-0.891)
ListingAge	0.002 (0.744)	0.094 (1.148)
ROA	-0.001 (-0.362)	0.091 (1.165)
EmotionTone1		7.676*** (15.267)
_cons	-0.064**	-2.439***

Firm fixed effect	(-2.269)	(-2.997)
Annual fixed effect	control	control
N	14301	14301

#### 5.2.4 Dealing with endogenous problems

Considering the endogenous problem caused by mutual causality, that is, the degree of digital transformation of enterprises may affect the tendency of the management tone of enterprises. Therefore, this paper adopts the instrumental variable method to alleviate the endogenous problem. Select the industry average corporate management tone as the explanatory variable and the instrumental variable of corporate management tone, and then conduct regression test. Table 6 Column (1) shows the regression result of instrumental variable method, and the coefficient of enterprise management tone is 0.202, which is still significantly positive at the level of 1%, indicating that there is a positive correlation between enterprise management tone and digital transformation, which is consistent with the conclusion in this benchmark regression.

Table 6. 2sls

	(1) Digital
EmotionTone1	0.202*** (2.866)
Lev	-0.000 (-0.114)
size	0.003*** (4.595)
cash	0.000 (0.013)
ListingAge	0.002 (0.894)
ROA	0.000 (0.112)
N	14173

## 6. Conclusions and Policy Recommendations

### 6.1 Main Conclusions

As an important non-financial information, the management tone has a profound impact on the enterprise and the market. Based on the urgent demand for high-quality development of listed companies in China and the era background of urgent need for digital transformation, this paper takes A listed company in China from 2009 to 2022 as a research sample, empirically analyzes the relationship between management tone and digital transformation of enterprises, and discusses the influence of management tone on digital transformation of enterprises from the perspective of digital transformation. The study found that there was a significant positive correlation between the tone of management and the digital transformation of the enterprise. The more optimistic the tone of management, the more conducive to promoting the digital transformation of the enterprise. It indicates that the tone of management has a certain information content of the enterprise performance. The more positive the tone of management, the better the performance of the enterprise and the improvement of the level of the digital transformation of the enterprise. The relationship between corporate performance and corporate digital transformation demonstrates once again the positive correlation between management tone and corporate digital transformation.

The research limitation of this paper is that the digital transformation of enterprises is a long-term and systematic process, and there are many influencing factors to promote or hinder the digital transformation of enterprises. Therefore, in the process of studying the influence of management tone on the digital transformation of enterprises, we should consider a variety of regulating variables to investigate its influencing mechanism more thoroughly and promote the digital transformation of enterprises better. In addition, with the development of digital transformation, it will further bring diversification of information disclosure methods. Further research can use other forms of information disclosure such as text, audio and video to further explore the influence of management tone on the digital transformation of enterprises.

## **6.2 Policy Advice**

### **6.2.1 At the governmental level**

The relevant departments should improve the supervision of information disclosure, enhance the authenticity and quality of information disclosure, and enable the management to transfer true information to the capital market in a more effective tone. In addition, the government should strengthen its policy support for the digital transformation of enterprises. Encourage enterprises to increase investment in digital technology, and provide corresponding financial support and tax incentives to reduce the burden of digital transformation of enterprises. In addition, the government can establish a specialized agency for digital transformation, provide consulting and training services, help enterprises to formulate digital transformation strategies, and provide relevant technical support. Secondly, the government should speed up the construction of digital infrastructure. A stable and fast network connection is the foundation of the digital transformation of enterprises. The government should improve the network bandwidth and coverage, strengthen the network security, and provide reliable digital infrastructure for enterprises. Finally, the government can cooperate with communication operators to promote the development and application of 5G technology and provide more efficient technical support for the digital transformation of enterprises.

### **6.2.2 At the enterprise level**

First of all, enterprises need to clarify the objectives and vision of digital transformation. This includes identifying key areas, key objectives and timelines for the digital transformation. Developing a clear strategy can help the entire organization stay consistent throughout the digital transformation process. Secondly, the digital transformation needs to rely on advanced technology and stable infrastructure. Enterprises should evaluate and invest in key digital technologies such as cloud computing, big data analysis, artificial intelligence, etc. At the same time, ensure that the enterprise's network and infrastructure can support the needs of digital transformation. In addition, organizations should collect, analyze, and leverage data to support decision-making and business process optimization. Establishing a sound data management and analysis system can help enterprises better understand the needs of customers, optimize operations and provide personalized products and services. Finally, the digital transformation is a continuous process that needs continuous innovation and improvement. Enterprises should maintain flexibility and agility and adjust strategies and plans in time to adapt to changes in the market and technology. At the same time, employees should be encouraged to put forward new ideas and solutions to promote the organization's innovative ability.

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