

# Research on the Impact of Digital Transformation on Income Disparities within Enterprises

Shuo Qian

Guangxi Normal University, Guilin, China  
1777324914@163.com

**Abstract:** Based on data from Chinese A-share listed companies from 2008 to 2020, this study constructs a variable of digital transformation degree through text mining and empirically analyzes the impact of digital transformation on income disparities within enterprises. The research finds that digital transformation has increased the income levels of both employees and executives, but it has also widened the income gap between them. Through heterogeneous analysis of the nature of equity, it is found that digital transformation in state-owned enterprises has no significant impact on the income of ordinary employees, and the internal equity of employee income has been reduced.

**Keywords:** Digital Transformation, Income Disparity, Equity Nature, Income Equity

## 1. Introduction

Digital transformation and corporate income are important issues that enterprises are facing today. With the rapid development of technology and the intensification of global market competition, enterprises need to leverage digital technology to enhance efficiency, innovation, and competitiveness. The goal of traditional enterprises in undergoing digital transformation is to reconstruct the value chain, reshape enterprise boundaries, build dynamic capabilities, and create new strategic approaches. Digital transformation involves the integration and application of advanced digital technologies and tools, thereby changing business processes, improving efficiency, optimizing resource utilization, and reducing costs<sup>[1]</sup>. Moreover, the impact of digital transformation on enterprises is not only reflected in optimizing business processes, improving decision-making methods, and accelerating product innovation and research and development, but it may also lead to an increase in income disparities within the enterprise. Against this backdrop, studying the impact of digital transformation on income disparities within enterprises can provide targeted strategic guidance and suggestions for enterprises, grasp the direction of enterprise development in the digital age, and enhance corporate competitiveness.

During the process of digital transformation, due to the impact of technological innovation and industrial structure changes, new changes and challenges in employee income disparities may emerge. Digital transformation may have different effects on employees with different positions and skill requirements, further widening the income gap. Equity theory provides a perspective for understanding employee income disparities<sup>[2]</sup>. According to equity theory, employees' satisfaction with income is influenced by the comparison of relative income. They compare their own income with that of others, which affects their sense of fairness in distribution. In the process of digital transformation, employees may compare their income with that of other employees and leaders within the enterprise, thereby questioning the fairness of their own income. This lack of a sense of equity may lead to a decrease in employees' work enthusiasm, which in turn affects the organization's performance and development.

Based on the above analysis, this study draws on relevant literature to deeply understand the relationship between digital transformation and income disparities within enterprises, empirically tests the impact of enterprise digital transformation on internal employee income disparities, and explores how heterogeneity in industry equity will lead to differentiated outcomes between digital transformation and employee income disparities. The study finds that digital transformation has a significant positive effect on the income levels of both ordinary employees and management. However, digital transformation has also led to an expansion of the income gap between employees and executives. Analysis of equity heterogeneity shows that digital transformation in state-owned enterprises has increased the income level of management, but the promoting effect on the income level of ordinary employees is not significant, leading to an expansion of the income gap between executives and ordinary employees. For non-state-owned enterprises, digital transformation has improved the income levels of both ordinary employees

and management, but the income gap between executives and ordinary employees has also further widened.

## 2. Literature Review

### 2.1. *Income disparity and its influencing factors.*

Employee income disparity is directly related to social equity and the sense of justice. When the income gap is too large, the gap between the rich and the poor in society widens, which can trigger dissatisfaction and instability. Employee income disparity is also closely related to economic development and social stability<sup>[3,4]</sup>. A smaller income gap can motivate employees' positive work drive and creativity, promoting economic growth. At the same time, a smaller income gap also helps to reduce social inequality and class conflict, maintaining social stability<sup>[5]</sup>. Research on employee income disparity is crucial for organizational human resource management. Understanding the existence and causes of employee income disparities can help organizations establish fair compensation systems<sup>[6]</sup>, motivate employees' work drive and participation, and improve employee satisfaction and loyalty. Employee income disparity also has a significant impact on attracting and retaining talent<sup>[7]</sup>. If an organization has too large a pay gap, high-performing employees may feel insufficiently motivated and even choose to leave the organization in search of better opportunities. By studying employee income disparities, organizations can optimize their compensation structure and offer competitive salaries and benefits to attract and retain excellent talent.

Within enterprises, an employee's position and level are significant factors in determining income disparities. Senior executives, high-level positions, and technical experts typically enjoy higher salary levels, while lower-level employees and frontline workers have relatively lower salaries. The importance and responsibility of a position are usually closely linked to salary levels. An employee's performance and contribution also affect income disparities within the organization<sup>[8]</sup>. In some organizations, there are performance bonuses or promotion opportunities based on an employee's work performance and performance evaluation results. High-performing employees usually receive higher rewards and salary increases, while the salary growth of low-performing employees may be more limited. An employee's skill and professional knowledge level are also factors that affect income disparities within the enterprise<sup>[9]</sup>. Employees with advanced skills, professional knowledge, and unique abilities are often able to obtain higher salary compensation, as these employees' capabilities make significant contributions to the operation and business development of the enterprise. There are differences in salary levels across different industries and markets, which also affect income disparities among employees in different enterprises. Some industries, such as finance, technology, and healthcare, typically offer higher salaries and benefits. At the same time, geographical location also affects salary levels among enterprises<sup>[10]</sup>, with developed areas usually providing higher salary levels.

### 2.2. *The Impact of Digital Transformation on Income Disparity*

Digital transformation typically requires employees to possess new types of skills such as digital technology, data analysis, and innovation capabilities. For those employees who have these skills, they have the opportunity to play more critical roles in a digital environment, thereby obtaining higher salary levels. However, for employees lacking these skills, they may face the risk of skill mismatch and an expansion of the wage gap. Digital transformation can trigger the reshaping or disappearance of traditional positions, thereby affecting employee income<sup>[11,12]</sup>. Some positions may be replaced by automation or digitization, leading to a decrease in demand and a potential decline in corresponding salary levels. At the same time, digital transformation also creates new high-skill positions and opportunities, and these new positions may offer higher salary levels<sup>[13]</sup>.

Digital transformation has varying impacts across different industries and markets<sup>[14]</sup>. Certain industries and markets are more advanced in digital transformation, and their high-tech and high-value-added jobs may command higher salary levels. In contrast, traditional industries may face challenges in digital transformation, which could lead to a decrease in salary levels and an expansion of income disparities<sup>[15]</sup>. Digital transformation often leads to the formation of digital economic hubs in certain regions, characterized by advanced digital infrastructure, innovative ecosystems, and high-tech industry clusters<sup>[16]</sup>. In these areas, there is a higher concentration of high-tech companies, innovative enterprises, and digital service providers, offering more high-paying job opportunities. As a result, employee income levels in these regions may be relatively higher. Digital transformation plays a significant role in

promoting the development of regional economies<sup>[17]</sup>.

### 3. Research Design

#### 3.1. Data Sample

This paper selects A-share listed companies from 2008 to 2020 as the research sample, and the data used comes from the CSMAR database and the Rethinking RESSET database. To enhance the reliability and representativeness of the data, the initial sample is preprocessed as follows: First, financial and insurance companies are excluded. Second, companies with abnormal financial conditions during the research period are excluded, such as those with ST, \*ST, and SST designations. Third, companies with fewer than 100 employees and those where the average salary of ordinary employees is higher than that of management are excluded. Fourth, to eliminate the interference of individual outliers on the estimation results, all continuous variables are winsorized at the 1% level at both tails. After the aforementioned processing, a total of 20,901 "company-year" level data observations were obtained.

#### 3.2. Variable Construction

##### 3.2.1. Dependent Variable

Following the method of Kong Dongmin and others<sup>[18]</sup>, the average compensation of the management (LnAMP) is defined as the natural logarithm of the ratio between the total compensation of the management and the number of management personnel receiving compensation. The total annual compensation of directors, supervisors, and senior executives is used to represent the total management compensation, and the total number of directors, supervisors, and executives minus the number of independent directors is used to represent the number of management personnel receiving compensation.

$$\begin{aligned} \text{LnAMP} \\ = \text{Ln} \frac{\text{Directors, Supervisors, and Senior Executives' Total Annual Compensation}}{\text{Total Number of Directors and Supervisors} - \text{Number of Independent Directors}} \end{aligned}$$

The average compensation of ordinary employees, following the method of Gao Lan and others [27], is defined as the natural logarithm of the ratio between the total compensation paid to ordinary employees and the number of ordinary employees. The total compensation for ordinary employees is represented by the total cash paid to employees minus the total compensation of the management, and the number of ordinary employees is represented by the total number of employees minus the number of management personnel.

$$\text{LnAEP} = \text{Ln} \frac{\text{Cash Paid to and by Employees} - \text{Total Management Compensation}}{\text{Number of Employees} - \text{Total Number of Management Personnel}}$$

The internal income gap in an enterprise, denoted as LnGAP\_IN is measured by the natural logarithm of the ratio of the average compensation of management to the average compensation of ordinary employees, and can be expressed as:

$$\begin{aligned} \text{LnGAP}_{IN} \\ = \text{Ln} \left( \frac{\text{Directors, Supervisors, and Senior Executives' Total Annual Compensation}}{\text{Total Number of Directors and Supervisors} - \text{Number of Independent Directors}} \right) \\ - \left( \frac{\text{Cash Paid to and by Employees} - \text{Total Management Compensation}}{\text{Number of Employees} - \text{Total Number of Management Personnel}} \right) \end{aligned}$$

##### 3.2.2. Explanatory Variable

The core explanatory variable of this paper is the degree of digital transformation of enterprises. Since the digital transformation of an enterprise is a systematic process, how to accurately measure the degree of enterprise digital transformation has become a major challenge for many scholars when conducting research related to enterprise digital transformation. This paper refers to the relevant research of Wu Fei<sup>[19]</sup> and uses text analysis to comprehensively summarize the relevant information of enterprise digital transformation. Specifically, it uses the number of keywords related to enterprise digital transformation in the annual reports of listed companies plus 1 and then performs logarithmic processing to measure the degree of enterprise digital transformation (Dig).

3.2.3. Control Variable

Referring to existing literature, this paper defines and classifies all control variables into two major categories: basic company characteristics and corporate governance structure, As shown in Table 1. The basic company characteristics include: (1) Firm size (Size), measured by the natural logarithm of total assets; (2) Leverage ratio (Lev), measured by the ratio of total liabilities to total assets; (3) Firm age (Age), measured by the number of years since the establishment of the enterprise; (4) Return on equity (ROE), measured by the ratio of net profit to equity. The corporate governance structure includes: (1) Ownership concentration (Top1), measured by the proportion of shares held by the largest shareholder; (2) Executive shareholding ratio (EXCshare), measured by the ratio of shares held by the executive team to the total number of shares. (3) Whether the chairman and general manager are the same person (Dual), a dummy variable is constructed, with a value of 1 when the two positions are combined, and 0 otherwise. (4) Capital expenditure (Capital), measured by the ratio of long-term asset expenditures such as fixed assets and intangible assets to total assets.

Table 1: Variable Definition.

| Nature of Variable   | Variable | Variable Definition                                     |
|----------------------|----------|---|
| Dependent Variable   | LnAMP    | Average Compensation of Management                      |
|                      | LnAEP    | Average Compensation of Regular Employees               |
|                      | LnGAP_IN | Income Gap among Employees within a Company             |
| explanatory variable | Dig      | Degree of Digital Transformation                        |
| control variable     | Size     | Company Size  |
|                      | Lev      | Asset-liability Ratio                                   |
|                      | Age      | Company Age   |
|                      | ROE      | Return on Equity  |
|                      | Top1     | Shareholding Ratio of the Largest Shareholder           |
|                      | EXCshare | Shareholding Ratio of Executives                        |
|                      | Dual     | Whether the Chairman and CEO Positions Are Consolidated |
|                      | Capital  | Capital Expenditure of the Company                      |

4. Model Design

To explore the impact of enterprise digital transformation on the income gap among employees, this paper constructs the following model:

$$LnAMP_{i,t} = \alpha_0 + \alpha_1 Dig_{i,t} + \alpha_i Control_{i,t} + \sum Industry + \sum Year + \epsilon_{i,t} \tag{1}$$

$$LnAEP_{i,t} = \beta_0 + \beta_1 Dig_{i,t} + \beta_i Control_{i,t} + \sum Industry + \sum Year + \epsilon_{i,t} \tag{2}$$

$$LnGAP\_IN_{i,t} = \gamma_0 + \gamma_1 Dig_{i,t} + \gamma_i Control_{i,t} + \sum Industry + \sum Year + \epsilon_{i,t} \tag{3}$$

In the equation, the subscripts (i) and (t) are used to distinguish firms and years, respectively,  $Control_{i,t}$  represent the variables of the company's basic characteristics and corporate governance structure,  $\sum Industry$  and  $\sum Year$  represent industry-fixed effects and time-fixed effects, respectively, used to capture factors that do not change over time at the industry level and macro-level disturbances. When  $\alpha_0$  and  $\beta_0$  are significantly positive, it indicates that digital transformation has increased the average compensation of management personnel and regular employees. When  $\gamma_0$  is significantly negative, it suggests that digital transformation has reduced the income gap between regular employees and management within the enterprise, enhancing the fairness of internal compensation.

5. Empirical Analysis

5.1. Descriptive Statistics

Table 2 presents the descriptive statistical results of the main variables. In Table 2, the internal employee income gap of enterprises (LnGAP\_IN) has a mean of 12.15 and a median of 12.21, with a standard deviation of 0.997, indicating that there is a significant income gap between ordinary employees and management within listed companies in our country, and the fairness of internal income is relatively low. The degree of digital transformation (Dig) has a mean of 1.221 and a median of 0.693, with a standard deviation of 1.372, indicating that more than half of the enterprises in our country have undergone digital transformation, but there are significant differences in the degree of digital

transformation among different enterprises, and some enterprises have not yet undergone digital transformation. The average value of the chairman and general manager being the same person (Dual) is 0.296, with a median of 0, indicating that the situation of the two positions being combined is relatively rare among listed companies in our country. The return on equity (ROE) has a mean of 0.106 and a median of 0.083, indicating that the profitability of listed companies in our country is generally low. By analyzing the mean, median, and standard deviation of the asset-liability ratio (Lev), capital expenditure (Capital), and executive shareholding ratio (EXCshare) of listed companies, it can be seen that the asset-liability ratio of listed companies in our country is generally high, the proportion of company capital expenditure is relatively large, and there are significant differences in the executive shareholding ratio among different enterprises.

Table 2: Descriptive Statistics

| Variable | Sample Size | Mean  | Median | Standard Deviation | Minimum | Maximum |
|----------|-------------|-------|--------|--------------------|---------|---------|
| LnGAP_IN | 20901       | 12.15 | 12.21  | 0.997              | 4.859   | 15.88   |
| LnAMP    | 20901       | 12.61 | 12.59  | 0.696              | 9.620   | 15.93   |
| LnAEP    | 20901       | 11.27 | 11.28  | 0.597              | 7.350   | 13.75   |
| Dig      | 20901       | 1.221 | 0.693  | 1.372              | 0       | 6.282   |
| Dual     | 20901       | 0.296 | 0      | 0.457              | 0       | 1       |
| Size     | 20901       | 17.60 | 17.41  | 1.357              | 13.93   | 23.94   |
| Lev      | 20901       | 0.414 | 0.407  | 0.204              | 0.00800 | 3.919   |
| Top1     | 20901       | 35.34 | 33.37  | 15.22              | 0.290   | 100     |
| EXCshare | 20901       | 14.62 | 0.719  | 21.03              | 0       | 100     |
| Capital  | 20898       | 18.79 | 18.75  | 1.722              | 7.498   | 26.52   |
| ROE      | 20901       | 0.106 | 0.0830 | 0.460              | 0       | 37.20   |
| Age      | 20901       | 16.92 | 16.75  | 6.015              | 1       | 53.67   |

## 5.2. Baseline Regression

Table 3 presents the baseline regression results. When testing the impact of the degree of digital transformation on the average compensation of management and ordinary employees, controlling for industry and year, the regression coefficients for the degree of digital transformation (Dig) are 0.032 and 0.015, respectively, and both are significant at the 1% level. This indicates that enterprise digital transformation significantly increases the income of both employees and executives, and the degree of digital transformation promotes the increase in management income more than it does for ordinary employees. It can be seen that digital transformation has raised the overall income level of enterprises, with more benefits flowing to the enterprise's senior management.

Table 3: Baseline Regression Results

| Variable     | (1)                   | (3)                   | (4)                   |
|--------------|-----------------------|-----------------------|-----------------------|
|              | LnGAP_IN              | LnAMP                 | LnAEP                 |
| Dig          | 0.044***<br>(8.21)    | 0.032***<br>(9.44)    | 0.015***<br>(5.24)    |
| Dual         | 0.004<br>(0.27)       | -0.011<br>(-1.24)     | -0.033***<br>(-4.58)  |
| Size         | 0.222***<br>(26.55)   | 0.226***<br>(43.32)   | 0.165***<br>(37.96)   |
| Lev          | -0.511***<br>(-13.90) | -0.414***<br>(-17.98) | -0.199***<br>(-10.40) |
| Top1         | -0.005***<br>(-13.51) | -0.003***<br>(-12.28) | 0.002***<br>(8.64)    |
| EXCshare     | 0.003***<br>(10.24)   | 0.001***<br>(6.25)    | -0.002***<br>(-11.79) |
| Capital      | 0.108***<br>(19.19)   | 0.038***<br>(10.70)   | -0.073***<br>(-25.09) |
| ROE          | 0.047***<br>(3.65)    | 0.045***<br>(5.52)    | 0.015**<br>(2.28)     |
| Age          | -0.000<br>(-0.39)     | 0.001<br>(0.93)       | 0.002***<br>(3.13)    |
| Constant     | 5.856***<br>(50.71)   | 7.557***<br>(104.61)  | 9.025***<br>(150.09)  |
| Observations | 22,811                | 22,811                | 22,811                |
| R-squared    | 0.192                 | 0.437                 | 0.462                 |
| Year         | control               | control               | control               |
| Industry     | control               | control               | control               |

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

When examining the impact of digital transformation on the internal income gap of enterprises, the regression coefficient for the degree of digital transformation (Dig) is 0.044, significant at the 1% level, indicating that digital transformation in enterprises has further widened the income gap between ordinary employees and executives, increasing the unfairness of employee income within enterprises. The reason may lie in the fact that although digital transformation has brought higher enterprise performance and increased the share of labor income for the enterprise, due to the tournament system for executive compensation pricing mechanism and the greater power executives have over income distribution, it has further widened the internal income gap within the enterprise

### 5.3. Endogeneity Test

Endogeneity testing is used to evaluate potential endogeneity issues in statistical models. Therefore, the purpose of conducting endogeneity testing is to ensure that the results of the model are credible and reliable. A common method for conducting endogeneity testing is the instrumental variables method (Instrumental Variables, IV). This method addresses endogeneity issues by introducing additional instrumental variables. An instrumental variable is a variable that meets certain conditions, capable of affecting the endogenous variable but not directly affecting the dependent variable. By utilizing instrumental variables, unbiased and consistent estimation results can be obtained. This paper refers to Huang Kuiyou et al.<sup>[20]</sup>, adopting the lagged digital transformation degree of the enterprise, LDig, and the internet penetration rate of the province where the enterprise is located, Internet, as instrumental variables, and uses two-stage least squares method (2SLS) for regression testing. Since the lagged digital transformation degree and the internet penetration rate are related to the degree of digital transformation, and the lagged digital transformation degree and the internet penetration rate of the province where the enterprise is located do not directly affect the compensation of employees and executives and the income gap between them, it avoids the endogeneity issues caused by reverse causality. The two instrumental variables selected in this paper meet the two preconditions of relevance and exogeneity, and have passed the significance test for weak instrumental variables.

Table 4 presents the results of the two-stage least squares (2SLS) regression test. The first-stage regression results in columns (1) and (4) show that the lagged digital transformation degree and the internet penetration rate are significantly positively correlated with the enterprise's digital transformation degree, indicating that the internet penetration rate in the area where the enterprise is located promotes the digital transformation process of the enterprise and that there is a continuous characteristic in the enterprise's digital transformation. The second-stage regression results in columns (2), (3), (5), and (6) show that the coefficients of Dig are all greater than 0 and significant at the 1% level. In summary, after eliminating possible endogeneity influences using the instrumental variable method, the degree of enterprise digital transformation still maintains a significantly positive correlation with the internal income gap and the external fairness of employee income within the enterprise.

Table 4: Endogeneity Test

|                  | instrumental variable: LDig |                         | instrumental variable: Internet |                         |
|------------------|-----------------------------|-------------------------|---------------------------------|-------------------------|
|                  | First-stage Regression      | Two-Stage Least Squares | First-stage Regression          | Two-Stage Least Squares |
|                  | Dig<br>(1)                  | LnGAP_IN<br>(2)         | Dig<br>(1)                      | LnGAP_IN<br>(2)         |
| LDig             | 0.859***<br>(188.96)        |                         | 0.010***<br>(15.04)             |                         |
| Dig              |                             | 0.086***<br>(17.35)     |                                 | 0.558***<br>(31.36)     |
| Control Variable | YES                         | YES                     | YES                             | YES                     |
| Year             | control                     | control                 | control                         | control                 |
| Industry         | control                     | control                 | control                         | control                 |
| Sample Size      | 16781                       | 16781                   | 20895                           | 20895                   |
| R <sup>2</sup>   | 0.794                       | 0.265                   | 0.373                           | 0.263                   |

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

### 5.4. Robustness Test

Replacing key variables is a common data processing strategy in research analysis, aimed at enhancing the robustness of the model and the reliability of the results. Key variables might suffer from data missingness, outliers, or other quality issues, and there might be endogeneity problems when observing data, meaning there is mutual influence or co-determination between variables. This could lead to biased estimation results. By substituting key variables with other related variables, it can help

resolve endogeneity problems and improve the accuracy and reliability of the estimation results. Although this paper has deleted samples with missing key variables and potential outliers in the data preprocessing stage, to further ensure the robustness of the model, following existing research, the core explanatory variable—degree of digital transformation is replaced. The specific method is as follows: referring to the approach by Qi Huaijin et al. in 2020<sup>[21]</sup>, the proportion of the year-end intangible assets detailed in the financial report notes that are related to the digital economy to the total intangible assets (DE) is used to replace the core explanatory variable.

The degree of digital transformation recalculated in the above manner is substituted into the regression model for testing, and the test results are shown in Table 5. The regression results indicate that the original conclusion still holds after replacing the core explanatory variable, demonstrating that the model and conclusion are robust.

Table 5: Replacing the Key Variable

| Variable         | (1)                | (2)                | (3)                |
|------------------|--------------------|--------------------|--------------------|
|                  | LnGAP IN           | LnAMP              | LnAEP              |
| Dig              | 0.086***<br>(6.80) | 0.056***<br>(6.96) | 0.014**<br>(2.10)  |
| DE               | 0.199***<br>(5.97) | 0.187***<br>(8.98) | 0.130***<br>(7.55) |
| Control Variable | YES                | YES                | YES                |
| R-squared(Dig)   | 0.322              | 0.456              | 0.462              |
| R-squared(DE)    | 0.265              | 0.410              | 0.445              |
| Year             | control            | control            | control            |
| Industry         | control            | control            | control            |

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

## 6. Heterogeneity Analysis

Due to the significant role state-owned enterprises play in China's economic development and their close relationship with social interests, they often differ from non-state-owned enterprises in terms of ownership, management practices, organizational structure, and so on. Additionally, the government and regulatory bodies may adopt different policy measures for state-owned and non-state-owned enterprises. Digital transformation may have different impacts on these two types of enterprises. By conducting heterogeneity analysis based on ownership, a better understanding can be gained of how digital transformation affects the income gap among employees of different enterprise types. Understanding the impact of digital transformation on the income gap among employees of these two enterprise types can provide guidance for the formulation of relevant policies.

The results in Table 6 show that the digital transformation of non-state-owned enterprises significantly increases the income levels of both ordinary employees and management, but also widens the income gap within the enterprise. For state-owned enterprises undergoing digital transformation, there is an increase in the income level of management, but the promoting effect on the income level of ordinary employees is not significant, further widening the internal income gap and reducing the internal fairness of employee income. The reasons for the above results may include: 1. Digital transformation typically encourages enterprises to focus more on efficiency and market competitiveness. Non-state-owned enterprises face more competitive pressures in the market economy, and to attract and retain high-performing employees, they may increase the compensation levels of employees and management to motivate and reward their contributions. This could lead to a significant increase in the income levels of employees and management in non-state-owned enterprises. State-owned enterprises, on the other hand, often have more complex organizational structures and decision-making mechanisms, which may lead to more centralized decision-making, especially in compensation decisions, where senior management usually has a greater say in the decision-making process. The significant increase in the income level of management in state-owned enterprises due to digital transformation reflects this trend. Therefore, due to centralized decision-making, the increase in the income level of ordinary employees in state-owned enterprises may not be as significant as in non-state-owned enterprises. 2. Management usually holds higher-level positions and greater responsibilities, and their roles and functions within the organization are distinctly different from those of ordinary employees<sup>[22]</sup>. There is an imbalance in the enterprise's compensation decision-making mechanism. Management usually has more influence and decision-making power over compensation decisions, while the compensation decisions for ordinary employees may be more subject to standardization or institutional constraints, thus leading to an expansion of the internal income gap within the enterprise.

Table 6: Heterogeneity Analysis

| Variable         | SOEs               |                    |                   |
|------------------|--------------------|--------------------|-------------------|
|                  | (1)                | (2)                | (3)               |
|                  | LnGAP IN           | LnAMP              | LnAEP             |
| Dig              | 0.057***<br>(5.22) | 0.028***<br>(4.42) | -0.001<br>(-0.21) |
| Control Variable | YES                | YES                | YES               |
| Year             | control            | control            | control           |
| Industry         | control            | control            | control           |
| Sample Size      | 6,849              | 6,849              | 6,849             |
| R <sup>2</sup>   | 0.305              | 0.467              | 0.470             |
|                  | non-SOEs           |                    |                   |
| Dig              | YES                | YES                | YES               |
| Control Variable | control            | control            | control           |
| Year             | control            | control            | control           |
| Industry         | 13,655             | 13,655             | 13,655            |
| Sample Size      | 0.361              | 0.486              | 0.467             |
| R <sup>2</sup>   | YES                | YES                | YES               |

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

## 7. Conclusions and Recommendations

This paper uses data from Chinese A-share listed companies from 2008 to 2020 to empirically analyze the impact of digital transformation on the internal income gap within enterprises. The study finds that digital transformation has a significant positive impact on the income levels of both ordinary employees and management. However, digital transformation has also led to an expansion of the income gap between employees and executives. Further heterogeneity analysis indicates that in terms of ownership nature, the digital transformation of state-owned enterprises has increased the income level of management, but the promoting effect on the income level of ordinary employees is not significant, leading to an expansion of the income gap between executives and ordinary employees. As for non-state-owned enterprises, digital transformation has increased the income levels of both ordinary employees and management, but the income gap between executives and ordinary employees has also further expanded.

Based on the above conclusions, this paper proposes the following suggestions to promote the rational management and optimization of income disparity within enterprises during digital transformation: Firstly, from the government level, it is necessary to strengthen the supervision of enterprises' compensation management to ensure the fairness and transparency of salary distribution and prevent the expansion of unreasonable income disparities. Investment should be made in digital skills training programs to provide employees with skills and knowledge suitable for digital transformation, improving their employment competitiveness and income level. Secondly, at the enterprise level, the existing compensation system should be reviewed to ensure fair and reasonable compensation decisions, with reasonable allocation based on employees' contributions and market competitiveness. Internal fairness and employee participation should be enhanced. Organizational internal fairness should be emphasized to ensure fairness in compensation distribution and promotion opportunities, thus improving employees' sense of identification and participation in the enterprise. Consideration should be given to implementing equity incentive plans to allow employees to share the growth achievements of the enterprise, reducing the income gap between executives and ordinary employees. Thirdly, at the employee level, individual skills and knowledge should be continuously improved. Employees should actively participate in training and learning opportunities required for digital transformation to enhance their competitiveness and strive for better career development and salary growth. They should actively participate in enterprise affairs, pay attention to and participate in the internal decision-making process of the enterprise, put forward reasonable suggestions and opinions, and promote internal fairness and the protection of employees' rights and interests.

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