

## MODEL CONSTRUCTION OF NON- MATERIAL MOTIVATIONS FOR CHINESE ENTREPRENEURIAL ENTERPRISES

### Abstract

This research aimed to construct a relevant mathematical model and provide a theoretical basis for the improvement of non-material motivation methods of Chinese entrepreneurial enterprises. Questionnaires were used to collect information about non-material motivation methods from Chinese entrepreneurial enterprises. We used multiple linear regression to analyze the relationship between different non-material motivation methods and the level of growth in the number of employees of the company. Our research found that fair motivation method and respect motivation method effectively promoted the growth of the number of employees in Chinese entrepreneurial enterprises, while other non-material motivation methods had no significant effect on them.

**Keywords:** China, entrepreneurial enterprises, non-material motivation.

### Introduction

Non-material motivations are a type of human resource management method that can effectively improve employee performance. They have a longer-term effect on employee performance than material motivations [1, c. 67-69]. In 2021, more than 99% of China's registered enterprises were small and medium-sized enterprises, which provided more than 80% of China's urban jobs [2]. It is necessary to study the affects of non-material motivation methods on the development of Chinese entrepreneurial enterprises. By investigating and analyzing the relationship between non-material motivation methods and the development trend of Chinese entrepreneurial enterprises, this research aimed to construct a relevant mathematical model and provide a theoretical basis for the improvement of non-material motivation methods of Chinese entrepreneurial enterprises.

### Subject

The study was based on Chinese entrepreneurial enterprises. The study established the inclusion criteria of the research objects:

I A company has been registered in China for no less than 5 years and no more than 10 years, and the company is not an affiliates, subsidiary or associated company of another company;

II In 2017, at least one employee of a company has registered for China Social Insurance;

III The first registered capital of a company comes from China, and the first legal representative is of Chinese nationality.

### Method

Through the Chinese enterprise information query platform "Aiqicha" (<https://aiqicha.baidu.com>), we searched for Chinese companies that met the inclusion criteria of the research objectives, and sent questionnaires to the email addresses of these companies. The directors of the personnel departments of these companies were asked to complete these questionnaires.

### Research Design

#### 4.1 Dependent variable

$$M = [(A_1 - B_1) / B_1 + (A_2 - B_2) / B_2 + \dots + (A_n - B_n) / B_n] / n$$

$$V = (A - B \times M) / B$$

$$V \leq -0.6, Y = 1$$

$$-0.6 < V \leq -0.2, Y = 2$$

$$-0.2 < V \leq 0.2, Y = 3$$

$$0.2 < V \leq 0.6, Y = 4$$

$$V > 0.6, Y = 5$$

A: The number of employees of the company who have registered for China's social insurance in 2022

B: The number of employees of the company who have registered for Chinese social insurance in 2017

*M*: From 2017 to 2022, the average growth rate of the number of employees of companies who have registered for Chinese social insurance

*V*: From 2017 to 2022, the adjusted growth rate of the number of employees of the company who have registered for Chinese social insurance

*Y*: The level of growth in the number of employees of the company

#### 4.2 Independent variables

The independent variables were designed based on 11 non-material motivation methods.

Security motivation [3, p. 58-69], Fair motivation [4, p. 80-82], Corporate development goals motivation [5, c. 60-63], Communication motivation [6, p. 70-76], Respect motivation [7, p. 361-364], Recognition motivation [8, p. 172], Career motivation [9, p. 224], Promotion motivation [10, p. 62-68], Training motivation [11, p. 1383-1385] and Participation motivation [12, p. 646-662].

The implementation of each non-material incentive method was described with 5 levels as independent variables.

None,  $X=1$

Rare,  $X=2$

Moderate,  $X=3$

Considerable,  $X=4$

Absolute,  $X=5$

*X*: Implementation level of non-material incentive methods

#### Analysis

We used *multiple linear regression* to analyze the relationship between different non-material motivation methods and the level of growth in the number of employees of the company. *SPSS 21.0* software was used for statistical analysis of the data obtained from the survey, and  $P<0.05$  indicated a significant difference.

#### Results

We asked 200 Chinese companies about their intention to participate in the survey. 112 companies responded to our invitation and provided their questionnaire results.

The table shows the affects of 11 non-material motivation methods on the number of employees of Chinese entrepreneurial enterprises (Table 1).

Table 1

The affects of non-material motivation methods on Chinese enterprises

	B	P	VIF
constant	1.238	0.033	
Security motivation	- 0.062	0.083	1.269
Fair motivation	0.390	0.041	2.595
Corporate development goals motivation	0.076	0.069	2.582
Communication motivation	- 0.184	0.075	2.620
Respect motivation	0.195	0.043	1.476
Trust motivation	0.027	0.086	2.640
Recognition motivation	0.013	0.093	3.639
	B	P	VIF
Career motivation	0.096	0.165	2.034
Promotion motivation	0.212	0.073	2.451
Training motivation	0.071	0.057	1.431
Participation motivation	- 0.013	0.113	1.906

*Multiple linear regression*

$R^2=0.240$ , adjusted  $R^2=0.216$

Regression equation

$Y=1.238+0.39\times X_1+0.195\times X_2$

*Y*: The level of growth in the number of employees of the company

*X<sub>1</sub>*: The level of fair motivation

X<sub>2</sub>: The level of respect motivation

Data analysis showed that the level of fair motivation and the level of respect motivation had significant effect on the level of growth in the number of employees of the company ( $P < 0.05$ ). An increase of the level of fair motivation by 1 will increase the level of growth in the number of employees of the company by 0.39. An increase of the level of respect motivation by 1 will increase the level of growth in the number of employees of the company by 0.195.

#### Conclusion

Our research found that fair motivation method and respect motivation method effectively promoted the growth of the number of employees in Chinese entrepreneurial enterprises, while other non-material motivation methods had no significant effect on them. The results of this study can be used as a reference for Chinese entrepreneurial enterprises to implement non-material methods. We believe that Chinese entrepreneurial enterprises should give priority to the development of fair motivation method and respect motivation method, especially fair motivation method, so as to promote the development of enterprises.

#### References

1. Mu. X. Brief Analysis of the Impact of Material Incentives and Non-Material Incentives On the Performance of Enterprise Employees // *Frontiers in Business, Economics and Management*. 2022. Vol 6. No. 3. Pp. 67-69.
2. 《“十四五”就业促进规划》，中华人民共和国国家发展和改革委员会. Режим доступа: [https://www.ndrc.gov.cn/fggz/fzzlgh/gjzxgh/202111/t20211102\\_1302777\\_ext.html](https://www.ndrc.gov.cn/fggz/fzzlgh/gjzxgh/202111/t20211102_1302777_ext.html) (дата обращения: 05.05.2023).
3. Ilyin I. V. Influence of non-material motivation on the labor behavior of personnel // *Bulletin of the Moscow State Linguistic University*. 2019. No. 542. Pp. 58-69.
4. Kogdin A. A. Motivation and stimulation of labor activity in personnel management // *Fundamentals of Economics, management and law*. 2012. No.4. Pp. 80-82.
5. Romali Yu. G., Non-Material stimulation of labor as an element of economic well-being of an employee. In: *Society and the continuous well-being of man*. // *Proceedings of the International Scientific Symposium of Students and Young Scientists* // Tomsk, TPU Publishing House. 2014. C. 60-63.
6. Khasia L. A., Non-Material motivation. // *Personnel development Management*. 2016. No.1. C.70-76.
7. Blok K. D., Zhernova N.A. Effective system of motivation at the enterprise: synthesis of material and nonmaterial motivation // *Human resource Management the basis for the development of innovative economy*. 2014. No. 5. Pp. 361-364.
8. Gerchikov V. I. Motivation, incentives and remuneration. Moscow // *High School of Economics*. 2014. Pp. 172.
9. Samoukina N. V., Effective motivation of personnel at minimal financial costs. // *Moscow, Vershina*. 2016. C. 224.
10. Sokolova E. A., Secrets of non-material motivation or how to increase employee loyalty. // *Personnel development Management*. 2018. No.1. C. 62-68.
11. Chobanu E. S. Non-Material side of motivation in the organization // *Young scientist*. 2016. No.10. C. 1383-1385.
12. Nejman Z., Sadlowska-Wrzesinska J., Jalowiec T., et al., Analysis of Factors Influencing the Motivation of Production Workers: Experiences of Polish Family Businesses // *European Research Studies Journal*, XXIV (Issue 1). 2021. No.2. C. 646-662.

М. Жэньцзе

### КОНСТРУКЦИЯ МОДЕЛИ НЕМАТЕРИАЛЬНЫХ МОТИВАЦИЙ ДЛЯ ПРЕДПРИНИМАТЕЛЬСКИХ ПРЕДПРИЯТИЙ КИТАЯ

Аннотация

Это исследование было направлено на построение соответствующей математической модели и предоставление теоретической базы для совершенствования методов нематериальной мотивации китайских предпринимательских предприятий. Анкеты использовались для сбора информации о нематериальных методах мотивации китайских предпринимательских предприятий. Мы использовали множественную линейную регрессию для анализа связи между различными методами нематериальной мотивации и уровнем роста численности сотрудников компании. Наше исследование показало, что метод справедливой мотивации и метод мотивации уважения эффективно способствовали росту численности работников китайских предпринимательских предприятий, в то время как другие методы нематериальной мотивации не оказали на них существенного влияния.

**Ключевые слова:** Китай, предпринимательские предприятия, нематериальная мотивация.