

# The Influence of Entrepreneurial Leadership on Active Following Power in Engineering Informationization Projects

Jiaxin Lv<sup>1</sup>, Yuan Ni<sup>2\*</sup>

School of Economics and Management, Beijing Information Science and Technology University, Beijing, China

838551364@qq.com niyuan230@163.com

Abstract. With the advent of the Industry 4.0 era, big data and information system development (ISD) have become important forces for corporate innovation. However, the existing literature does not clearly explain how to improve the team's follow ability through ISD and what leadership styles can be effective Stimulate the active follow of ISD team members. In order to make up for this theoretical gap, this paper chooses entrepreneurial leadership as the potential antecedent, constructs a model of the relationship between entrepreneurial leadership and active followership, and conducts empirical tests on related variables. The results show that entrepreneurial leadership will enhance employees' active following through relationship identification force. This research provides a certain reference for the current entrepreneurial leadership's leadership management style.

**Keywords:** entrepreneurial leadership; relationship identity; positive follow-up.

#### 1 Introduction

At present, due to the continuous development of information technologies such as the Internet of Things, cloud computing, big data, and artificial intelligence, intelligence in the engineering field has gradually become a hot topic. The innovation of engineering construction management ideas, the continuous exploration and practice of new technologies and new models have gradually made the application of big data to drive engineering management to achieve intelligence and intelligence has gradually become a new consensus. In this context, how entrepreneurial leaders can play a leading role, integrate leadership with emerging information technology, and drive the information transformation of the team, is a very important and realistic problem at present (Renko, Tarabishy, Carsrud, et al, 2015). This study takes employees of various industries and companies as the survey objects. Through the survey of employees, it explores how entrepreneurial leaders can influence the active follow-up of employees through relationship recognition. Relational identification is universal and extremely important in

society. Because when leaders and employees disagree, it will inevitably lead to disharmony within the entire enterprise, which in turn leads to a reduction in corporate profits; on the contrary, mutual recognition between leaders and employees will inevitably enhance the overall cohesion and unity of the company, which is intuitively reflected in corporate profits. Based on the unique leadership style and behavioral concepts of entrepreneurial leaders, entrepreneurial leaders can influence the enthusiasm of employees to a large extent, and thus affect their active follow-up. But how does it affect? Is it related to employees' sense of identity in the relationship between leaders and employees? What is the effect? Related research is not yet clear. This research will focus on this question: that is, under the mediating effect of relationship identification variables, entrepreneurial leadership has an impact on employees' ability to follow actively. As a manager of an enterprise, a leader recognized by employees has a strong appeal, and the work efficiency of the enterprise will increase. However, the existing research results have little to do with this aspect. Research on the mediating role of relationship identity is weak. This research studies the impact of entrepreneurial leadership on employees' positive follow-up, hoping to provide a reference for the management model of entrepreneurial leadership and the mutual promotion between leaders and employees.

### 2 Literature review and theoretical assumptions

## 2.1 Entrepreneurial leadership on the impact of positive follow-up.

Entrepreneurial leadership is an interdisciplinary research field between leadership and entrepreneurship, and a new research field integrating entrepreneurship, leadership and organizational behavior. From the perspective of modern management research, the traditional research on leadership focuses on the leadership behavior produced by leadership, but now it is more inclined to the effect produced by leadership behavior, that is, the following power of employees (Lockwood, Jordan, Kunda, 2002). Many studies have shown that the ultimate goal of leaders' leadership behavior is to make employees produce follow-up behavior, so as to maximize the enthusiasm and potential of employees and achieve organizational goals (Freeman, Siegfried Jr, 2015). Gupta and other scholars (2004) defined entrepreneurial leadership as "encouraging subordinates to devote themselves to discovering and creating strategic value by actively creating vision, and mobilizing and winning the support of subordinates". It is emphasized that entrepreneurial leaders should pay attention to whether employees' psychology recognizes enterprise activities and whether they are willing to follow the leaders to achieve their goals. In order to complete tasks and create performance, entrepreneurial leaders tend to exert their own characteristics, such as affinity and self-confidence, and instill their own ideas into employees gradually. Guide employees to resonate with leaders in values and emotions, and then express and plan goals clearly and strategically, and lead subordinates to implement them together, so as to gain admiration and support from subordinates (Guo, Gao, Li, 2019); on the other hand, appropriate combination of kindness and power, and the use of incentives, encourage others to work hard, stimulate the potential and self-motivation of subordinates, Help them make better use of their potential to gain a sense of accomplishment, so as to gain the support of their subordinates and stimulate their follow-up ability.

The research on entrepreneurial leadership from the perspective of traits starts from the leader itself, and studies the traits of entrepreneurs who have both entrepreneurial and leader status, such as stress resistance, determination, reform, risk-taking, and risktaking. The definition of entrepreneurial leadership from the perspective of process gets rid of the unilateral deficiencies confined to leaders. Starting from the interaction process between leaders and followers in organizing entrepreneurial activities, it embodies the leadership process of entrepreneurial leaders to achieve successful entrepreneurship, emphasizing opportunities The core feature of identification and development highlights the uniqueness of entrepreneurial leadership acting on both the organizational and personal levels. In fact, the summary of entrepreneurial leadership concepts from the two perspectives has their respective focuses and shortcomings. In the process of studying entrepreneurial leadership. In this process, we can neither ignore the characteristics of entrepreneurial leaders in the leadership process, but also need to pay attention to the process of their role in entrepreneurial activities. Therefore, combined with the above-mentioned research on entrepreneurial leadership, this article tends to recognize Gupta's definition and believes that entrepreneurial leadership has tasks in corporate organizational planning, decision-making implementation, and mobilization of employees. In order to accomplish these tasks, the leader must outline the blueprint of the organization and obtain employee recognition, set his own active role in the company's entrepreneurial process to mobilize subordinates to devote themselves to the company's entrepreneurship, and achieve the organization's entrepreneurial goals. This paper defines entrepreneurial leadership as leadership behavior based on the entrepreneurial perspective. It can be defined as: Leaders build a constructive vision based on their own unique insight into market changes, gain followers' recognition of this vision through successful entrepreneurial behavior and the spirit of daring to take risks, and then create a positive organizational entrepreneurship Atmosphere, and use successful entrepreneurial activities to enhance the competitiveness of the organization, to deal with the uncertain environment, and ultimately to achieve the leadership behavior of the organization's sustainable development (Li, Dong, 2014).

Under the influence of leadership, followers actively respond to the leader's call by using their own enterprising spirit, cognition, execution skills, relationship skills and upward influence, and spontaneously follow the leader under the constraint of common goals (Cao, Xu, 2013), which integrates the performance of attitude, ability, behavior and interpersonal relationship. It meets the basic elements and practical needs of creating leadership effectiveness, and produces a strong positive effect, which can effectively promote organizational development (Lin, Yi, 2021). In daily management activities, leaders can influence subordinates' trust in themselves and commitment to the organization, and build the same goals and emotional similarities to influence subordinates' behavior (Li, Yi, Yin, 2020). When this similarity resonates in employees' minds, it can promote the formation of consistent matching between them, thus stimulating employees' active learning, effective communication, efficient execution and other follow-up behaviors, thus generating follow-up force (Yan, Jia, Luo, 2017). According to

the theory of follow-up, when subordinates realize that they are full of behavioral energy, they will stimulate their internal work motivation and promote the generation of follow-up behavior (Ke, Ding, 2020). Accordingly, this paper holds that there is a certain correlation between employees' positive following ability and entrepreneurial leadership. In this paper, the following assumptions are proposed:

H1 Entrepreneurial leadership has a significant positive impact on employees' positive follow-up.

# 2.2 Relationship identity in the entrepreneurial leadership and the role of positive follow-up.

The process of relationship identification emphasizes the interaction between the two parties, including the process of initial identification, action feedback, re-identification and formation of specific description (Huang, Liu, Liu, 2017). When a subordinate contacts a leader, he will first have a relationship with the leader, make a preliminary determination on the enterprise and the way of the leader, and give feedback on the management style and style of the leader during his work. Gradually compare with their own values, etc., and generate new cognition again. Finally, they are merged with the leader's values, and the body integrates the identification into the whole identification narrative (Wang, Liu, 2018). In this process, leaders will build interpersonal relationships, actively interact with employees, and skillfully create images in employees' minds by means of demeanor and actions, so as to better form good communication. Thereby generating recognition (Mcenany, Strutton, 2015). Relationship focuses on interpersonal identity, that is, the degree to which an individual defines or describes his own characteristics through the relationship with a specific interpersonal role.

When leaders lead subordinates' activities, they involve a process of relationship construction. This mainly shows the process that both leaders and followers strive to create, display and maintain specific role identity and relationship identity (Zhu, Wang, Li, 2015). When leaders and subordinates have a working relationship, the frequency of interaction increases accordingly. According to the theory of social identity, if the leader and follower's recognition of the relationship between the two parties will be continuously strengthened, that is, when the follower's recognition of the leader's behavior and emotion is higher, they will pay more attention to the development of the relationship with the leader, and will be more willing to participate in the behavior expected by the leader, so that the leader can gain the recognition and follow of the members to a greater extent. When leaders can gain more recognition from employees, it can encourage employees to incorporate the relationship between themselves and leaders into the formation of self-concept (Chaleff, 1997). That is to say, leadership can improve employees' relationship recognition of leadership. When employees' recognition of the relationship between leaders increases, the recognition will stimulate employees' tendency to regard the interests of leaders as their own. Thereby generating the motivation to accomplish the goals and tasks related to leadership. At this point, employees will not only complete their duties, but also engage in other positive behaviors beneficial to leaders, such as better understanding and supporting leaders' decisions.

After the relationship is formed, employees' cognition of leadership and their self-concept are integrated. Will the leader's code of conduct, values, etc. into the heart, accept the leadership's altruistic ideas, but also strengthened the employees' active follow-up behavior to the leader.

The effective exertion of leadership requires the interaction between leaders and employees. When employees or leaders and other enterprise group members give positive comments on the personal and role identities of other group members, it shows that there is relationship identification between employees and leaders. When employees identify with their enterprises or leaders, they can enhance their trust and loyalty to leaders. So as to enhance employees' positive follow-up to leaders. Therefore, relationship identity can play an intermediary role between entrepreneurial leadership and employees' active follow-up. In this regard, this paper puts forward the following assumptions:

- H2 Entrepreneurial leadership has a positive impact on relationship identity.
- H3 Relationship identity has a positive impact on positive follow-up.
- H4 Entrepreneurial leadership and relationship identity have a positive impact on positive follow-up.

#### 3 Research

#### 3.1 Sample description statistics.

This study investigates entrepreneurial leadership, following ability and relationship identity, which includes two parts: personal situation and questionnaire. The questionnaire was distributed to employees in various industries, and 392 questionnaires were collected and 392 were valid. In the descriptive statistics of the survey samples, the respondents accounted for 41.8% of men and 58.2% of women, and the ratio of men and women was relatively balanced, and the data collection was relatively scientific. In terms of age distribution, the overall age distribution of respondents is younger, as shown in Table 1.

#### 3.2 Analysis of reliability and validity.

SPSS software was used to analyze the reliability of statistical data, and Alpha reliability coefficient method was adopted. In this study, the reliability coefficient of the total scale is 0.857, which is higher than 0.8, and the reliability coefficient of entrepreneurial leadership in subscale is 0.884, which is higher than 0.8, and the reliability of entrepreneurial leadership subscale is higher. The reliability coefficients of the subscale of relationship identity and following power are 0.631 and 0.696, respectively, both of which are greater than 0.6. The questionnaire is reliable.

This paper still uses SPSS software to analyze the validity of the scale. In the validity analysis of the scale, the KMO value of Entrepreneurial Leadership Scale is 0.871, the KMO value of Follow Strength Scale is 0.897, and the KMO value of Relationship Identity Scale is 0.871, all of which are higher than 0.8. The scale is meaningful and suitable for factor analysis. The Sig of the three variables are all 0, which is less than

0.05. Independent variables can effectively predict the difference of dependent variables.

#### 3.3 Data analysis and hypothesis testing.

#### Correlation analysis.

From the above analysis, it can be seen that the correlations among entrepreneurial leadership, positive follow-up and relationship identity have good reliability and validity. In order to further understand the correlation between variables, this paper makes a correlation analysis among transformational leadership, employees' innovative behavior and organizational innovation atmosphere, and the statistics are shown in Table 2.

#### Regression analysis.

Under the condition of adding control variables, entrepreneurial leadership, employees' positive follow-up ability and relationship identity are put into different regression models for analysis. The correlation coefficient between entrepreneurial leadership and employees' positive following ability is 0.738, and P is 0. There is a significant relationship between entrepreneurial leadership and employees' positive following ability. R2 in M1 model is greater than 0.1,  $\triangle F$  is equal to 0. There is a strong regression relationship between entrepreneurial leadership and employees' positive following ability, which supports hypothesis H1. By analogy, entrepreneurial leadership has a significant positive impact on employees' positive following ability. There is a significant relationship between them. R2 of M2 model is greater than 0.1,  $\triangle F$  is equal to 0, and the regression relationship between entrepreneurial leadership and relationship identity is strong, which supports hypothesis H2. Entrepreneurial leadership has a positive impact on relationship identity. The correlation coefficient between entrepreneurial leadership and relationship identity on employees' positive following ability is 0.777, which is higher than that between entrepreneurial leadership and employees' positive following ability, which is 0.738. Therefore, there is no obvious correlation between entrepreneurial leadership and relationship identity on employees' positive following ability, but R2 of M4 model is greater than 0 and  $\triangle$  f is equal to 0. There is a regression relationship between entrepreneurial leadership and follow-up, as shown in table 3.

clas- sify	option	fre- quency	percent- age	classify	option	fre- quency	percent- age
gen- der	man	164	41.8%	degree of edu- cation	College and be- low	119	30.4%
					Undergraduate course	236	60.2%
			58.2%		master	30	7.7%
	woman	228			Doctoral degree and above	7	1.8%
age	25 years old and under	74	18.9%	work- ing life	2 year and below	161	41.1%
	26-35years	188	48%		2-5years	103	26.3%

**Table 1.** Statistical of sample description

	old					
	35-45years old	98	25%	5-10years	65	16.6%
	over 46 years old	32	8.2%	over 10 years	63	16.1%

Table 2. Correlation analysis table

	Entrepreneurial lead- ership	Active following power	Relationship identifi- cation		
Entrepreneurial lead-	1	0.718**	0.398**		
ership		0.000	0.000		
Active following	0.718**	1	0.182**		
power	0.000		0.000		
Relationship identifi-	0.398**	0.182**	1		
cation	0.000	0.000			
** There was a signification correlation at 0. Level (bilateral)					

**Table 3.** Regression analysis results table

Model	M1	M2	M3	M4		
variable	Active following power	Relationship identification	Active following power	Active following power		
Entrepreneurial leadership	0.738***	0.361***		0.777***		
Relationship identification			0.176***			
$\mathbb{R}^2$	0.533	0.199	0.055	0.543		
$\Delta R^2$	0.525	0.184	0.038	0.533		
ΔF	0.000	0.000	0.003	0.000		
***means P<0.001, **means P<0.01and *means P<0.05.						

#### 4 Conclusion

# 4.1 Entrepreneurial leadership has a significant positive impact on employees' positive follow-up.

Entrepreneurial leadership has an impact on employees' positive follow-up, which is positively related and positive. The stronger the entrepreneurial leadership characteristics, the higher the employees' positive following ability. Entrepreneurial leadership has a direct impact on employees' positive following ability, without the role of intermediary variables, and has a complete impact on employees' positive following ability. The results of this study suggest that the more obvious the characteristics of entrepreneurial leadership, the more obvious the charisma and position power of leaders are, and the greater the impact on employees, the more conducive to the issuance and implementation of leadership policies, and the strict implementation of employees' arrangements

and plans for leadership, which will improve the internal work efficiency and performance of enterprises.

## 4.2 Entrepreneurial leadership has a significant positive impact on relationship identity.

Identity constitutes a causal relationship between entrepreneurial leaders and employees. Entrepreneurial leaders agree with employees, and only when creating organizational vision, formulating strategies and implementing policies will they consider the internship of the policy, which will have an impact on employees' feelings, thoughts and vital interests. The feasibility and success rate of the policies formulated in this way will be greatly improved. Moreover, entrepreneurial leaders are decisive, thoughtful, good at decision-making and organizing activities, and draw blueprints for enterprises. Therefore, entrepreneurial leaders show stronger personal charm and position authority, and employees have higher recognition for entrepreneurial leaders in their daily work. Entrepreneurial leadership has a positive impact on relationship identity.

## 4.3 Relationship identity has a positive impact on employees' positive followup.

This study suggests that relationship identity will have a positive impact on employees' positive follow-up. Employees' recognition of entrepreneurial leaders will enable employees to have strong recognition of the organizational vision created by leaders. Employees are willing to work together with leaders to achieve the blueprint outlined by leaders, which is conducive to forming a unified goal within the company. Then it is conducive to the achievement of the overall goal of the company, which is the embodiment of active follow-up behavior. Entrepreneurial leaders are bold and innovative in their work process, are good at decision-making, and are recognized and acquiesced by their employees under the action of relationship identity. They are conducive to the building of internal corporate culture, and on the other hand, they are conducive to the establishment of leadership authority in the minds of employees.

#### References

- Cao Yuankun, Xu Sheng. Subordinate following power: concept definition and scale development [J]. Contemporary Finance and Economics, 2013.340:82-89.
- Chaleff I (1997). The Courageous Follower: Standing Up to And for Our Leaders [J]. NASSP Bulletin, 81(586):119-119.
- 3. Freeman, D., & Siegfried Jr, R. L. (2015). Entrepreneurial leadership in the context of company start-up and growth. Journal of leadership studies, 8(4), 35-39.
- Guo yanhong, Gao ying, Li sizhi. the influence of entrepreneurial leadership on followers' creativity-a dual-path study of working and non-working situations [J]. scientific and technological progress and countermeasures, 2019, 036(019):145-152.
- 5. Gupta, V., MacMillan, I. C., & Surie, G. (2004). Entrepreneurial leadership: developing and measuring a cross-cultural construct. Journal of Business Venturing, 19(2), 241–260.

- 6. Huang Yueling, Liu Shanshi, Liu Xiaolang. Research progress and Prospect of relationship identification [J]. Soft science, 2017, 31 (001): 95-100
- Ke Jianglin, Ding Qun. The effect of entrepreneurial leadership on employee attitudes and innovation performance in Start-up Enterprises: the mediating effect of workplace spirituality and the moderating role of leader member exchange [J]. Economic and management research, 2020, 41 (01): 91-103
- 8. Li Hongli, Dong Lijuan. The evolutionary nature of leadership and follow-up [J]. Journal of Soochow University (Educational Science Edition), 2014, 000(004):24-33.
- Li Shuo, Yi Lingfeng, Yin Yishuai. How can entrepreneurial leadership stimulate employees' innovative behavior——On the role of innovation self-efficacy and organizational identity [J]. Hubei Social Sciences, 2020 (11): 83-90
- Lin Qin, Yi Lingfeng, how entrepreneurial leaders improve organizational innovation performance under uncertain environment [J]. Science and technology progress and countermeasures. 2021 (09)
- 11. Lockwood, P., Jordan, C. H., & Kunda, Z. (2002). Motivation by positive or negative role models: regulatory focus determines who will best inspire us. Journal of personality and social psychology, 83(4), 854.
- 12. Mcenany R, Strutton D (2015). Leading the (r)evolution: Succession and leadership rules for re-entrepreneurs[J]. Business Horizons, 58(4):401-410.
- 13. Renko M, Tarabishy A E, Carsrud A L, et al (2015). Understanding and Measuring Entrepreneurial Leadership Style [J]. Journal of Small Business Management, 53(1):54–74.
- Wang Hongyu, Liu Bolong. Review and Prospect of entrepreneurial leadership research [J].
  Foreign economy and management, 2018,40 (04): 84-95
- 15. Yan Jiaqi, Jia Jianfeng, Luo Jinlian. Trans level transmission and following ability of Transformational Leadership: the moderating effect of human resource management intensity and enterprise nature [J]. Science of science and management of science and technology, 2017,38 (10): 147-157
- Zhu Yu, Wang Lingjuan, Li Qianqian. Leader psychological capital, leader member exchange and employee innovation behavior: theoretical model and empirical study [J]. Foreign economy and management, 2015,37 (5): 36-51

**Open Access** This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (http://creativecommons.org/licenses/by-nc/4.0/), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

