

# The Relationship between Organizational Emotional Capability and Employee Innovation Behavior of S&T Enterprise

Shuwen Li

School of Economics and Finance  
Tongji University  
Shanghai, China

**Abstract**—The primary aim in this study was to investigate the effects of emotional capability on employee innovation behavior. In this study, hierarchical Regression was used to research among multiple source questionnaires of 304 S&T enterprises. The results shows: organizational emotional capability has significantly positive influence on employee innovation behavior; External interaction partly mediates the influence of organizational emotional capability on employee innovation behavior in S&T enterprise. The study makes up for researches of organizational emotional theory, and makes S&T enterprises understand different mechanism of organizational emotional capability on innovation deeply.

**Keywords**—*organizational emotional capability, decision-making participation, external interaction, employee innovation*

## I. INTRODUCTION

We are now in a complex environment which is full of changes. Different kinds of enterprises continuously pay attention to organizational innovation management. In the last two decades, lots of researchers devote themselves to identify the effective organizational managerial factors and the path mechanism through which those factors could affect and promote technological innovation, product innovation and managerial innovation in enterprises<sup>[1]</sup>. Considering that an organization is made up of individual employees, organizational innovation process actually is a social interaction process of individual elements, group elements and organizational elements<sup>[2]</sup>. This process presents as not only transformation and utilization of individual's knowledge and skills, but also integration and application of many emotional elements. According to the affective events theory, the integration, restructure and application of affective events could affect employee's attitudes and behaviors, and then form a cycle chain like "emotion-attitude-behavior". Organizational emotional energy and the related organizational emotional capability affecting individual innovation and organizational innovation are concerned, and this extends organizational emotion management to innovation management field<sup>[3]</sup>. Huy<sup>[4]</sup> argued that organization group could produce a group emotional energy, the abilities of guiding and regulating this energy are also significant abilities of organizations. These abilities can emotionally hinder or promote knowledge sharing, creation and innovation inside organizations<sup>[4]</sup>. However, the

current researches on the emotional abilities and theories on organizational level are still in its infancy, especially the understanding of mechanisms<sup>[3]</sup>.

This study chooses high-tech enterprises as object, uses theories including organizational emotion, organizational learning and organizational resources, and compares mechanisms in different industries such as electronic communications, machinery manufacturing, chemical and software service industry. The empirical study results indicate that organizational emotional capability has significant impact on employee innovative behavior; external interaction plays a positive mediator role in the relationship between emotional capability and employee innovation. We hope this study could make up for the deficiency of the current research on emotion theory in organizational level, and promote the integration research of organizational emotion management and innovation.

## II. RESEARCH HYPOTHESIS

### A. Direct Effects

According to emotional events theory, emotion is triggered by specific events, and can impact on organization and employee's individual behavior directly (affect-driven behavior) or through attitude (judgment-driven behaviors), and then form a "event-emotion-attitude-behavior" chain. Studies of organizational emotion show that organization is composed of individuals with different emotions, the trigger of emotional events of individuals in organization will affect their hypothesis and judgment toward organization<sup>[1]</sup>. Emotion is a kind of inner psychological experience, but it has many characteristics, such as infection, transmission and implication. It can play a role in every organizational scene, and can be continuously perceived, infected, spread, resonated, guided, coordinated, and experienced in the workplace, and then stir the process of interpersonal interaction between individuals in organization. In this process, emotions of individual units will share, render, diffuse and aggregate with each other, and then form group dynamic emotions within the organizational action system. This dynamic emotion has the characteristics of spontaneity, potential, instability, etc. Thus, it is necessary for the organization to conduct consciously behavior operation process to guide, reconcile and aggregate. It is the organizational emotional capability that organization could perceive,

understand, monitor, adjust organizational emotions, and guide and reflect the emotions in organizational structure, practices and processes<sup>[4]</sup>. This capability involves not only the organizational abilities of emotions, but also the emotional theory in organizational level. The basic hypothesis of organizational emotional capability is that the organization has the ability to receive, reconcile, guide, integrate, reconstruct, transform and apply the emotions inside the organization. Emotional states vary with different emotional patterns, emotional expression and organizational practices. The difference of enabling property of emotional states constitute multi-dimensions emotional dynamic of organizational emotional abilities, mainly including identity dynamic, harmonious dynamic, experience dynamic, game dynamic, expression dynamic and encouraging dynamic<sup>[2]</sup>.

The study of organizational emotional capability around the world is currently spread to innovation management field. The integrated study of organizational emotional capability and innovational abilities of group and individual may explore a new path to solve managerial problems in a complex and changeable environment<sup>[5]</sup>. Emotional factor is one of the most important social psychological factors associated with creativity, and it can directly influence the transformation process of innovation resources in a “spiral path” in technological enterprises<sup>[6]</sup>. The innovation activities of technological enterprises are characterized by uncertainty and high risk, especially perform as variability of innovation environment, ambiguity of solve path, specificity of skills and time limitation of problem solving. These features determine that the main body of innovation must not only call for the knowledge and skills of their own reserves, but also effectively manage and utilize their potential innovative intellectual resources and emotion resources in order to cope with the dynamic situation of their activities. Thus, innovative activity of both individual and organization is a typical emotional labor<sup>[3]</sup>. Technological enterprise is a polymer of rational knowledge and perceptual emotion; rational knowledge is a passive organizing ability on the conventional knowledge level, comparatively, perceptual emotion is an active organizing ability on the emotion level. Organizations initiatively construct, integrate and guide the perceptual emotion, and put it into innovation process, then make emotion resources “kinetic” and make innovation resources “enabling”. Recently, researchers around the world pay attention to study spiral effect, infection effect and integration effect of emotion factors in innovation management field, such as emotional atmosphere<sup>[7]</sup>, emotion activation<sup>[8]</sup>. Emotion can expand individual’s action and cognitive system, promote individual to give up following normative solutions, and to seek new and creative ways and cognitive ranges. Therefore, this paper puts forward the following hypothesis:

H1 Organizational emotional capability has a positive impact on employee innovative behavior.

### *B. Mediation Effects*

The organizational emotional capability is a significant organizational resource, which can be transferred into other forms of resources such as knowledge resource, innovative intellectual resources through employee’s participation and

organization practices. Organizational emotional capability can enhance the emotion sharing between individual employees and organizations, standardize employee’s behavior logic, focus employee’s behavior beliefs, and provide support and emotional guidance for innovative activates. The individual innovative behavior of high-tech corporations is affected by interactions of some important factors including innovation field, innovation situation and innovation motivation. And then, how vital role these factors can play, and how many originality can be put into organizations, both of them are closely related with organizational emotions<sup>[10]</sup>. Organizational emotional capability provides a convenient atmosphere for employees, both for the information sharing and interacting inside the organization and the information exchanging and communicating outside of the organization; it can also deepen the emotional connection between colleagues and peers, unify their innovative behaviors, and promote the joint innovative actions cross-dept and cross-organization<sup>[9]</sup>. Previous studies have shown that there is a significant correlation between emotional interaction, emotional innovation and employee innovation behavior<sup>[7]</sup>. Therefore, our study forwards the following hypothesis:

H2 decision-making participation and external interaction play an mediator role in the relationship between organizational emotional capability and employee’s innovative behavior.

## III. METHODS

### *A. Sample Procedures and Participants*

In this study, we choose high-tech enterprises to compose the studying sample. The data corresponding to each variable is collected from employees who engaged in R&D jobs. After eliminating of questionnaires in which too many items are leaked and answers are not serious, finally, 304 valid questionnaires are collected, and the effective recovery rate is 66.7%. The descriptive statistics of the sample give information in the following aspects: for years of establishment, enterprises established for 1-2 year accounted for 27.3%, 3-5 years accounted for 14.1%, 6-10 years account for 29.3%, more than 10 years accounted for 29.3%; for development stage, enterprises in their initial stage accounted for 23%, in their growth stage accounted for 44.7%, in their maturity stage accounted for 29.6%, and enterprises in their decline stage accounted for 2.6%.

### *B. Measures*

Questionnaires are used to collect data in this study. All the questionnaires are Likert 5 point scale (1=completely agree with, 5=completely disagree). The measurements of variables are stated as follows: Organizational emotional capability was assessed with a measure by Akgün et al.<sup>[12,5]</sup>. There are 20 items in the scale, including six dimensions as dynamics of encouragement, dynamics of display freedom, dynamics of playfulness, dynamics of experiencing, dynamics of reconciliation, and dynamics of identification. Example item: our firm has an ability to instill hope among of all its members. Decision-making participating was assessed with the decision-making participating dimension form the organizational learning scale by Alegre et al.<sup>[14]</sup>. Three items is used to measure this variable, a example item is: managers in

this organization frequently involve employees in important decisions. External interaction was assessed with the according dimension form the organizational learning scale by Alegre et al.<sup>[11]</sup>. There are three items for this dimension, a sample item is: it is part of the work of all staff to collect, bring back, and report information about what is going on outside the company. Innovation behavior was assessed with a measure by Scott et al.<sup>[12]</sup>. The only one dimension in this scale includes 6 items, a sample item is: searches out new technologies, processes, techniques, and/or product ideas. According to study of Akgün et al.<sup>[1,2,3]</sup>, organizational factors were controlled, such as years

of establishment, scales, developing stages, and industrial fields.

#### IV. RESULTS

##### A. Descriptive statistics

The mean, standard deviation and coefficient correlation of dependent, independent variables and mediator in this study are shown in TABLE I. According to the table, we can find that organizational emotional capability, decision-making participating, and external interaction have significant positive correlation with employee's innovative behavior.

TABLE I. MEANS, STANDARD DEVIATION AND CORRELATION

Variable	Means	SD.	1	2	3	4
1. Emotional capability	3.389	0.497	(0.939)			
2. Decision-making participating	3.136	0.896	0.695***	(0.885)		
3. External interaction	3.663	0.574	0.457***	0.280***	(0.771)	
4. Innovation behavior	3.348	0.512	0.574***	0.393***	0.420***	(0.873)

Note. N=304; \*\*\*P<0.01; \*\* P<0.05; \* P<0.1; The Cronbach  $\alpha$  was shown in parentheses along the diagonal.

##### B. Hypotheses testing

As to the above equations, DP means decision-making participating, EI means external interaction, EIB means employee's innovative behavior, and OEC means organizational emotional capability. Hypotheses 1 aroused that organizational emotional capability has a positive impact on employee innovative behavior. Model P3 as shown in TABLE II evidences that organizational emotional capability and employee's innovative behavior were significantly positive correlation ( $\beta=0.522^{***}$ ). Hypotheses 1 was supported. Model P4 and P5 in TABLE II showed that both decision-making

participating and external interaction could positively affect employees' innovative behavior significantly. Model P6 and P7 in TABLE II showed that based on organizational emotional capability, after adding decision-making participating, organizational emotional capability has no significant effect on employee's innovative behavior. Therefore, decision-making participating cannot play mediating role. Meanwhile, when adding external interaction, the regression coefficient of organizational emotional capability declined from 0.522 to 0.458 on the significance level of 1%, which means that external interaction positively played partial mediating role.

TABLE II. HIERARCHICAL REGRESSION OF MAIN AND MEDIATION EFFECTS

Variable	DP		EI		EIB		
	P1	P2	P3	P4	P5	P6	P7
Control	—	—	—	—	—	—	—
OEC	0.757***	0.383***	0.522**			0.518***	0.458***
DP				0.372***		0.006	
EI					0.342***		0.167***
R <sup>2</sup> adj	0.559***	0.243***	0.358***	0.247***	0.220***	0.356***	0.377***
F	96.969***	25.370***	43.243***	25.912***	22.373***	34.481***	37.659***

#### V. CONCLUSION

First, this study concluded that organizational emotional capability positively affects employees' innovative behavior. This conclusion significantly develops Akgün et al.'s study in 2011 in which structured organizational emotion was spared to innovation management field. Previous studies pointed out that in high-tech enterprises, organizational emotional factors had significant effect on innovation of management, product and procedure on the organizational level. However, whether these factors affect innovative elements on individual level has not been explained. Our study proved that for high-tech enterprises in China, organizational emotional capability has significant effect on employees' innovative behavior in industries including electronic communications, machinery manufacturing, and chemical food and software services.

Second, the relationship between organizational emotional capability and employees' innovative behavior was mediated by external interaction positively. This conclusion clear and specify the mechanism between emotional capability and innovation. It also provides a new basis for the study of organizational emotional capability affect organizational change and organizational innovation in complex situations. Organizational emotional capability is an important resource of enterprises. Transforming and utilizing this resource must rely on employees' resource exchange with external resources, such as information exchange, and then update the internal original resources, promote the process of innovative intellectual resources capability.

This study has significant managerial implications. According to the previous study of high-tech enterprises on

2013, innovative activities of some enterprises were limited and blocked, but not motivated and encouraged. It was partly because of the limitation of hardware resource support. However, the soft environmental governance problems were the main reasons. Soft environmental variables including "emotion" and "atmosphere" could promote or block innovative activities both on individual level and organizational level. Thus, high-tech enterprises could enhance their soft capabilities in order to improve organizational and individual innovative capabilities, especially through encouraging employees' informational interaction with outside organizations, and reducing decision-making participating. At the same time, high-tech enterprises should encourage communication between colleagues, give employees emotional expression spaces, and appropriately answer these communications.

Although this study contributed to emotional theories development and enterprises' practices, there were some limitations of this study. First, cross-sectional data in this study could not entirely reveal causal relationships between emotional dynamics and other variables. In the following studies, vertical data researches are recommended. Second, conclusions of this study were only applied for high-tech enterprises. Other types of enterprises could be included in the future. At last, on the basis of high-tech enterprises, conclusions differed from industries. The following studies may introduce environmental variables such as industrial characters.

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