

Team Promotion Focus, Team Felt Responsibility for Change and Team Knowledge Creation——the Moderating Role of Team Openness to Cognitive Diversity

Xue Yan

School of Economics and Management, University of Science and Technology Beijing, Beijing 100083, China

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Abstract: To explore the impact of promotion focus on knowledge creation in team-level, we surveyed 86 teams and results showed that: (1) Team promotion focus positively predicted team knowledge creation. (2) Team felt responsibility for change mediated the relationship between team promotion focus and team knowledge creation. (3) Team openness to cognitive diversity moderated the impact of team felt responsibility for change on team knowledge creation, which meant that the relationship between team felt responsibility for change and team knowledge creation was more pronounced when team openness to cognitive diversity was high than it was low. This study deepened the understanding on team promotion focus, team felt responsibility for change and team knowledge creation.

1. Introduction

Knowledge is a unique strategic source that endues enterprises with strength, because it can effectively promote the existing knowledge to be distributed to the whole enterprise and to be used in the process, product or service so as to bring competitive advantages. Team, as a construction behavior or liaison mechanism integrates individuals and organizations. The face of rapidly changing and competitive market environment, many enterprises establish and maintain high performances via team-based work force. Knowledge creation at the team level is indispensable for its long-term performance, innovation and productivity. How to improve team knowledge creation ability effectively has gained great attentions from academics and industries. Some progress had been made, but few emphasize motivation involved in knowledge creation.

Promotion focus reflects important characteristics of individual psychological motivation, whose positive effects on creation has been greatly verified [1]. In recent years, some researches have showed that leader can stimulate a shared regulatory focus in the team via behavior model, linguistic frame and feedback [2, 3]. Therefore, regulatory focus is not only reflected on individuals, but teams. For example, Rietzschel (2011) found that team promotion focus can predict the generation of team's views, while team prevention focus is negatively correlated to the promotion of team's views, and team regulatory focus has no significant effect on realization of views [4]. Shin et al. (2016) showed that team promotion focus is correlated to innovative performance in teams, and team prevention

focus is correlated to task performance in teams [5]. However, the relevant empirical researches are still insufficient, and the mechanism of team promotion focus on creative behaviors is still unknown.

Based on the above mentioned, this paper established a new structural equation model, including four variables as follows: team promotion focus, team felt responsibility for change, team openness to cognitive diversity and team knowledge creation. Then, those variables were incorporated into a research framework to empirically test their interaction effects so as to reveal the action path of team promotion focus on team knowledge creation and provide basis for improving team knowledge creation ability of enterprises.

2. Conceptual background and hypothesis

2.1 Team promotion focus and team knowledge creation

Team regulatory focus can be divided into team promotion focus team prevention focus and it's a kind of team atmosphere in essence. In promotion-focused team, members showed positive regulation in regards to acquisition of rewards in the task, which can drive members to focus on positive objectives, and it's to compete tasks so as to form a positive promotion atmosphere in the group, while in prevention-focused team, members showed positive regulation in regards to avoidance of punishment, which can drive members to focus more on negative objectives, make them fear of making mistakes at work so as to form a strong prevention atmosphere [2, 3].

Team knowledge creation can be divided into two stages, including new knowledge learning and new knowledge sharing. When the high-achievement goal orientation with pursuit of progress and innovation shares in the promotion-focused team, a consistent collective goal and creative normative cognition will be formed inside the team, and members will feel the creative working pressure and realize that goals probably can not be achieved depending on the existing knowledge and methods. Thus, members will learn new knowledge and share their knowledge more actively to conduct high-frequency knowledge exchange internally so as to find out new solution. Burtscher and Meyer (2014) found that promotion-focused team considers wider information source in terms of information processing, and be more willing to share remote information (inaccessible), while prevention-focused team will not only share less remote information, but even ignore or refuse remote information provided by team members [6]. This follows that teams with promotion focus are involved in high-level interaction and conversations to some degree. Those cross-views with rich cognition will lead to new knowledge. Therefore, we hypothesize the relationship:

Hypothesis 1: Team promotion focus is positively correlative to team knowledge creation.

2.2 The mediating role of team felt responsibility for change

Team felt responsibility for change refers to the extent to which a team feels responsibility to conduct improvements continuously instead of only completing tasks well according to current standards [7]. Team may hold that the working methods can be improved but without convincing reasons to do it. Promotion focus cares about wishes, pursues ideal and high achievements, intends to adopt the atmosphere of aggressive strategy to stimulate members' positive mental states and discover values related to proactively changing specific goals, which can make members believe that they have reasons to make changes. In general, promotion-focused team intends to understand changes as the biggest wish that wants to be realized in the ideal. Therefore, they are inclined to accept challenging tasks and objectives and feel relevant responsibilities. The research on individuals showed that the proactive and forward-looking personality traits of promotion focus contain behaviors of promoting changes [8, 9, 10, 11].

Compared with responsibilities of completing the assigned task, the responsibility for change

reflects an intention to make greater efforts, bring out improvements and fix problems in a valuable constructive manner. Team felt responsibility for change is essential for discretion and extra-role behavior [7][12], for example, helping behavior and voice behavior, which are related to team knowledge sharing and knowledge integration and take a positive effect on team knowledge creation. Hence, we propose the following mediating relationship:

Hypothesis 2: Team promotion focus is positively correlative to team felt responsibility for change.

Hypothesis 3: Team felt responsibility for change plays a mediating role between team promotion focus and team knowledge creation.

2.3 The moderating role of team openness to cognitive diversity

The external behaviors of felt responsibility for change are manifested as challenging the status quo, disturbing the existing interpersonal relationship and working process, which will bring huge psychological risks for employees. Thus, team knowledge creation, as external behaviors of felt responsibility for change, needs to be triggered by situational factors. Team cognitive openness refers to inclination of team explores, accepts and considers new thoughts and manners [13]. It contains a kind of belief. That is, people shall be allowed to express their different views freely, admit that others' knowledge and thoughts are valuable and it is beneficial to give full play of these. It shows acceptance and appreciation of changes and reduce worries and fears related to disapproval and evaluation brought by transformative behaviors. It is commensurate with felt responsibility for change as environmental cues. Then, when the team emphasizes and encourages different views, interaction will become more fair and less biased [14], because individuals are more likely to acquire accurate individualized knowledge from others rather than depending on stereotypes; on the contrary, the team with low openness to cognitive diversity will not fully consider or use acquired different perspectives but with some negative bias related to social categorization. Meanwhile, compared with teams with low openness to cognitive diversity, members of teams with high openness to cognitive diversity believe that their contributions are valuable. Therefore, they will be better involved in works and willing to participate in the discussion and constructive conflicts [15]. That is, openness to cognitive diversity will lead to cognitive curiosity, which will stimulate members to seek more information and motivate members to develop their understanding of different views in the face of opposition [16], and promote team members to carry out knowledge reconfiguration and generate creative solutions to problems. Hence, this leads the moderating relationship as follow:

Hypothesis 4: The relationship between team felt responsibility for change and team knowledge creation is moderated by team openness to cognitive diversity, such that the relationship is stronger when team openness to cognitive diversity is high than when it is low.

To summarize, the research model as Figure 1.

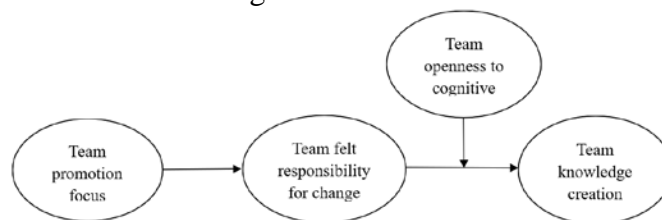


Figure 1 Research model

3. Method

3.1 Sample

The current research data were collected from one large state-owned bank enterprise in China. We totally distributed 1080 questionnaires to 98 teams. After eliminating invalid questionnaire, 912 valid questionnaires were remained, which belonged to 86 teams. The demographics of samples were as follows: in terms of gender, male accounted for 40.7%, while female accounted for 59.3%; in regards to age, people under 25 years accounted for 16%, people from 25~35 years old accounted for 55.9%; people from 36~45 years old accounted for 28.2%; people over 45 years old accounted for 15.9%; in terms to education level, people with junior college and below accounted for 17.3%; people with bachelor accounted for 81.6%; people with master and above accounted for 1.1%; in regards to working time in the team, members under one year accounted for 11%; members with 1~3 years accounted for 58.1%; members over three years accounted for 30.9%; in regards to the number of team, team with 7~10 members accounted for 51.8%; team with 11~15 members accounted for 35.3%; team over 15 members accounted for 12.9%.

3.2 Measures

All research variables were measured by rather mature scales at home and abroad, and scored by six-point Likert.

Team promotion focus. We adopted Sacramento, Fay, and West’s four-item scale to measure team promotion focus [1]. Sample items include “Members often talk about how to achieve future success” and “Members often talk about how to complete performance objectives successfully”. The Cronbach α was 0.881.

Team felt responsibility for change. Team felt responsibility for change was measured by Morrison and Phelps’ five-item scale [12]. Sample items are “I am responsible for improving works” and “I shall rely on myself to improve my work and business”. The Cronbach α was 0.837.

Team openness to cognitive diversity. Team openness to cognitive diversity was measured with three-item scale developed by Mitchell, Nicholas and Boyle B [17]. Sample item is “The atmosphere for members to speak out freely”. The Cronbach α was 0.934.

Team knowledge creation. Team knowledge creation was measured with three-item scale developed by Mitchell, Nicholas and Boyle B [17]. Sample item is “Team has its creative new nouns and methods”. The Cronbach α for was 0.919.

Control variables. Based upon past experience, gender diversity, age diversity, education diversity, team tenure diversity and team size were included as control variables in the analyses.

4. Results

4.1 Confirmatory factor analysis (CFA)

The statistic software Mplus7.0 was applied in this research to conduct CFA on four variables, including team promotion focus, team felt responsibility for change, team openness to cognitive diversity and team knowledge creation. As reported in Table 1, the four-factor model ($\chi^2/df=3.976$, $TLI=0.971>0.90$, $CFI=0.977>0.90$, $RMSEA=0.057<0.08$) fit the data better than other five models. Therefore, the four-factor model can better reflect factor structure of measured variables. The discriminant validity of each variable was verified.

Table 1 Comparison of measurement models for study variables

Models	χ^2/df	TLI	CFI	RMSEA	SRMR
Four-factor model: TPF, TFRC, TKC, TOCD	3.976	0.971	0.977	0.057	0.034

Three-factor model: TPF+ TFRC, TOCD, TKC	20.190	0.815	0.847	0.145	0.092
Three-factor model: TPF+TOCD, TFRC, TKC	22.722	0.790	0.826	0.154	0.117
Three-factor model: TFRC+TOCD, TPF, TKC	22.913	0.789	0.825	0.155	0.110
Two-factor model: TPF + TFRC+TOCD, TKC	28.880	0.731	0.772	0.175	0.108
One-factor model: TPF+ TFRC+TKC+TOCD	36.561	0.657	0.706	0.197	0.113

Notes. TPF = team promotion focus; TFRC = team felt responsibility for change; TKC = team knowledge creation; TOCD = team openness to cognitive diversity. “+” means multiple variables combined into one factor.

4.2 Aggregation Analysis

Because team promotion focus, team felt responsibility for change, team openness of cognitive diversity and team knowledge creation were scored by team members, it was necessary to check the variables adaptability in team-level. As shown in Table 2, the mean of R_{wg} (Within-Group Agreement) of four variables were all greater than 0.7, which indicated that each members in team had good consistency in scoring. That is, the data in individual-level can be averaged after summed up to get data in team-level. To prevent estimation of deviation, we further measured ICC (1) (Intraclass Correlation Coefficient) of each variable, which were all greater than 0.1. Though ICC (2) (Interclass Correlation Coefficient) failed to reach the optimal level (greater than 0.7), it was within acceptable limits (greater than 0.5). Therefore, it was rational to integrate data in individual-level into data in team-level.

Table 2 Results of aggregation analysis

Models	Mean of R _{wg}	ICC (1)	ICC (2)
Team promotion focus	0.732	0.106	0.556
Team felt responsibility for change	0.803	0.167	0.532
Team openness of cognitive diversity	0.777	0.182	0.586
Team knowledge creation	0.733	0.199	0.536

4.3 Descriptive statistics and intercorrelations

The means, standard deviations and intercorrelations of the study variables were presented in Table 3. As shown in Table 3, there was a positive correlation between team promotion focus and team felt responsibility for change ($r=0.575$, $p<0.01$), team openness to cognitive diversity ($r=0.650$, $p<0.01$) and team knowledge creation ($r=0.589$, $p<0.01$). Team felt responsibility for change was positively related with team openness to cognitive diversity ($r=0.676$, $p<0.01$) and team knowledge creation ($r=0.647$, $p<0.01$). Team openness to cognitive diversity had positive correlation with team knowledge creation ($r=0.609$, $p<0.01$). These bivariate results were preconditions for the next analysis.

Table 3 Descriptive statistics and intercorrelations

Variables	Mean	SD	1	2	3	4
1. TPF	4.864	0.334	(0.817)			

2. TFRC	5.028	0.254	0.575**	(0.759)		
3. TOCD	4.946	0.345	0.650**	0.676**	(0.911)	
4. TKC	4.668	0.385	0.589**	0.647**	0.609**	(0.894)

Notes. N = 86. TPF = team promotion focus; TFRC = team felt responsibility for change; TOCD = team openness to cognitive diversity; TKC = team knowledge creation. Cronbach's α 's are presented in parentheses. * $p < 0.05$; ** $P < 0.01$.

4.4 Hypotheses testing

This research conducted multiple regression analyses to test the four hypotheses. As shown in Table 4, team promotion focus had obviously positive correlation with team knowledge creation ($\beta=0.538$, $P < 0.01$) and team felt responsibility for change ($\beta=0.362$, $P < 0.01$), lending supports to Hypothesis 1 and 2. After joined team felt responsibility for change, the Significance between team promotion focus and team knowledge creation went down ($\beta=0.406$, $P < 0.01$), whereas team felt responsibility for change also positively related to team knowledge creation ($\beta=0.344$, $P < 0.01$). Therefore, Hypothesis 3 was supported.

Hypothesis 4 predicts that team openness to cognitive diversity moderates the relationship between team felt responsibility for change and team knowledge creation. As shown in Table 4, the interaction between team felt responsibility for change and team openness to cognitive diversity received was positively related to team knowledge creation ($\beta=0.459$, $P < 0.01$). This research plotted the interaction effects using Stone and Hollenbeck's procedure [18]. As illustrated in Figure 2, we detected a stronger relationship between team felt responsibility for change and team knowledge creation for higher levels of team openness to cognitive diversity than lower levels of team openness to cognitive diversity. Hence, Hypothesis 4 received support.

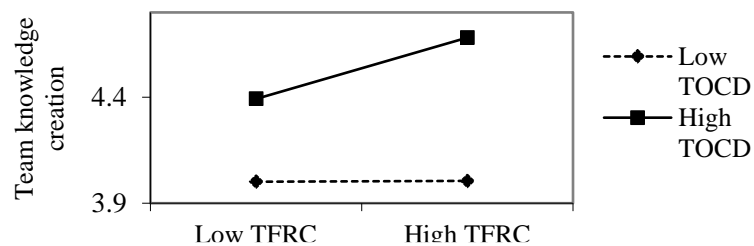


Figure 2 Moderating effect of team openness to cognitive diversity. Notes. TFRC = team felt responsibility for change; TOCD = team openness to cognitive diversity.

Table 3 Result of hierarchical regression analyses

	team felt responsibility for change			team knowledge creation			
	M1	M2	M3	M4	M5	M6	M7
Control variables							
Gender diversity	0.507	-0.165	0.524	0.231	0.300	0.544	0.660
Age diversity	-0.130	-0.016	0.009	0.003	0.010	0.021	0.007
Education diversity	0.112	0.133	-0.150	-0.110	-0.166	-0.256	0.062
Team tenure diversity	0.012	0.006	0.008	-0.003	-0.006	-0.003	-0.003
Team size	0.000	0.000	0.006	0.006	0.006	0.006	0.003
Independent variable							
Team promotion focus		0.362**		0.538**	0.406**		
Mediator							

team felt responsibility for change					0.344**	0.547**	0.289*
Moderating effect							
team felt responsibility for change × team openness to cognitive diversity							0.459**
R ²	0.080	0.402	0.133	0.652	0.698	0.491	0.729
△R ²	0.080	0.322**	0.133*	0.519**	0.046**	0.358**	0.238**

Notes. N = 86. *p < 0.05; **P < 0.01.

5. Discussion

This research explored effects of team promotion focus on team knowledge creation in Chinese cultural background. The main results were as follows: (1) Team promotion focus was positively associated with team knowledge creation, this was because the sharing atmosphere of team promotion focus played a guidance role in members' behavior tendency and provided a good resource platform and psychological support to team members' knowledge creation behaviors. Meanwhile, members would feel creative pressure, which would further promote individuals to learn and share new knowledge so as to expand the aggregate of members' knowledge pool. This conclusion provided further evidences for another conclusion that team promotion focus can predict team creation significantly from the perspective of knowledge creation. The leadership should take steps to promote the atmosphere of team promotion focus formation in management practice. For example, leaders consciously demonstrate the sample of promotion focus, more positive evaluation of team work, using more praise words and standing out members' positive benefits in terms of individual growth and self-evaluation via the "gains or no gains" form so as to stimulate team members' knowledge creation behaviors. (2) Team felt responsibility for change mediated the correlation between team promotion focus and team knowledge creation, this was because under the influence of promotion focus atmosphere, team members experienced that changes were the biggest wish that wanted to be realized in the ideal and perceived the importance of change to team goals. Team knowledge creation not only required individuals with sufficient problem awareness and analytical abilities, but demanded team members to handle works in a spontaneous, proactive and creative attitude so as to find out creative breakthroughs of problems. The felt responsibility for change was such a kind of power source. (3) The relationship between team felt responsibility for change and team knowledge creation was moderated by team openness to cognitive diversity, such that the relationship was stronger when team openness to cognitive diversity was high than when it was low. This was because with the increasing of felt responsibility for change, team members would input more cognitive efforts to challenge the status quo, or even disturb the existing interpersonal relationship and working process. The high team openness to cognitive diversity encouraged collision of different views, which would decrease team members' psychological risk perception and expanded depth of information processing so as to promote the positive effect of team felt responsibility for change on team knowledge creation. Leadership shall make corresponding specifications of team openness to cognitive diversity, adhere to the principle of "harmony in diversity" and take the lead to respect and appreciate different views so as to create a team culture of embracing differences, eliminate members' misgiving and fear. Meanwhile, leadership should take measures to promote team members to form a common cognition of knowledge sharing.

In conclusion, this research explored the effect of team promotion focus on team knowledge creation, revealed the mediating effect of team felt responsibility for change as well as the moderating effect of team openness to cognitive diversity so as to specify and clarify the process in regards to the effect of team promotion focus on team knowledge creation. This will deepen the understanding of the mechanism of team knowledge creation in theory, and provide basis of psychological science for

enterprises to improve team knowledge creation and innovative performances in practice.

Finally, this research also had some limitations. First of all, the samples of this research were only from teams of bank outlets in the same region, whose representativeness was questionable. The future researches shall expand investigation regions and add teams of different types so as to verify external validity of conclusions in this paper. Secondly, this research adopted cross-sectional study. Whether inevitable cause-and-effect relationship exists between independent variables and dependent variables of model was under threat. The further research can adopt longitudinal study to reveal the influence path of team promotion focus on team knowledge creation. Thirdly, this research only considered the influence of promotion focus on knowledge creation alone. In fact, promotion focus and prevention focus may co-exist in the management practice with only differences in the degree of application according to different situations. The further research can explore influences of both regulation focus on team knowledge creation at the same time.

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