

The Project Team Reflexivity's Effects on Team Performance

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Abstract - The project team is a very important form of modern organization and is becoming a source of organizational creativity. Team reflexivity, also known as team introspection, has become a Research hotspot. Study about the relationship between project team reflexivity and team performance and open the project team management "black box" has important theoretical and practical significance. As the project team be in a dynamic market environment which the product and technology updates fast, so environmental dynamism will have an impact on the relationship between team reflexivity and team performance. Therefore, the paper brings team reflexivity into the field of project team on the base of team reflexivity theory. Testing the hypotheses on 100 project teams, research shows that the project team reflexivity has a positive effect on team performance, with this effect mediated by workload sharing and team helping, especially under conditions of stronger environmental dynamism. Additionally, we put forward the managerial implications and suggest possible future research directions.

Index Terms - Team Reflexivity; Workload Sharing; Team Helping; Environmental Dynamism; Team Performance

1. Introduction

With the social environment is changing fast, the vagaries of the market situation is increasing unpredictable and the social division of labor is getting smaller in the area of the knowledge economy, the complexity and comprehensiveness of the work continues to improve. These changes made the project team management increasingly popular in enterprise management. Some project-oriented organizations, such as consulting services companies, software development companies and systems integration companies, are all unfolded in the form of project. Combining the project management with team management, namely use the form of team in the operation of the project, is very effective. It is used to deal with complex work using varieties of knowledge and skills, stimulate creativity and innovation, authorize the staff and produce some other positive consequences (Loo, 2003). Therefore, the project team has become the source of organizational creativity.

The project team brings a lot of wealth to the organization, increase the knowledge and creativity, improve the acceptance of ideas and enhance the team members' commitment and motivation. However, because there are many unknowns in the process of implementation, many organizations find many shortcomings in teams. It cause team leader obedience, encourage "free rider" phenomenon and strangle the different opinions. The team may also become a hotbed of conflicts (Jehn, 2001). So how to improve the project team's management competence and performance is a very important issue.

Team reflexivity, also known as team introspection, was proposed by West in 1996. On the basis of his personal reflection and the combination of teamwork process theory, he conducted a groundbreaking study about reflexivity and became the first man to propose the concept of team reflexivity. Currently team reflexivity has become a hotspot in the field of team research, but the existing research on team reflexivity and team performance are mostly confined to the innovation team and entrepreneurial team, etc. (Mumin, Aydin, 2010; Wiklund, 2005), lack of fruition about the project team. Therefore, it will have important theoretical and practical significance to further investigate the relationship between project team reflexivity and team performance and open the "black box" about project team management.

2. Theoretical Background

The concept of team reflexivity was first proposed by West in 1996. He defined team reflexivity as the extent to which group members overtly reflect upon and communicate about the group's objectives, strategies and processes to adapt to the current or anticipated environmental changes. When the team members do the open reflection and discussion about team goals and strategies and adapt their action to the changing situation, the team will become more effective. It was generally considered team reflexivity as a work style, so it will be difficult to achieve through training or other means in a short time. But Gurtner et al. (2007) think that the reflexive activities of team members can be guided and controlled. By imposing a reflexive intervention on team members, it can help the team make an appropriate strategy.

Team reflexivity includes reflection, plan and action /adjustment, the interaction of these three elements form the team reflexivity (Schippers et al., 2003). Reflection is to observe, examine and assess the target carefully. As the starting point and core concept of team reflexivity, it is the mainly component of team reflexivity. Study about the relationship between these three is also more, West (2004) think that "reflection" can cause an uncertainty of the team, and "plan" is precisely brought by that uncertainty. After the "reflection", the team's action needs to be taken seriously, the action plan needs to be developed and the implementation capacity also needs to be enhanced. A detailed plan is also likely to inspire new innovation, because team members may focus their attention on the implementation of innovation due to the plan. Finally, the "action" or "adjustment" is also an important part of team reflexivity. If a team only do the "reflection" or "plan", nothing will happen. In addition, previous studies also have divided dimension. Cast & West

(1998) divided team reflexivity into task reflexivity and emotion reflexivity. Task reflexivity refers that team members get together and discuss the work openly to adapt to the changing internal and external environment. Emotion reflexivity refers to the capacity that the team members deal with emotional conflict and the degree of concern for personal growth as well as members' happiness. Hist & Mann (2004) divided team reflexivity into task reflexivity and process reflexivity. They began to focus on the process research of team reflexivity.

Previous team reflexivity studies have demonstrated team reflexivity have effect on team performance. Scholars examined the efficiency of team reflexivity from the direct effects, indirect effects and moderate effects.

Team reflexivity has a direct effect on team output (satisfaction, commitment and performance) (Schippers, 2003). Tjosvold's et al. (2004) study showed that team reflexivity has a positive correlation with team performance. Team reflexivity was positively correlated with team performance, but this effect will be affected by the task type (Tacchi & Tschan, 2007). Also there are studies showed that team reflexivity is as a moderating variable to affect team performance, producing an indirect effects or moderate effects. Hirst & Mann (2004) found that team reflexivity can strengthen effective communication within the team and have the indirect effect on team performance through team communication's positive effects. High levels of minority dissent will produce more innovative behavior and higher team performance, but the prerequisite is to have a high level of team reflexivity (DeDreu, 2002). His follow-up study found that team reflexivity plays a moderating role between the dependence of the cooperation results and team effectiveness. Under the high-level team reflexivity conditions, the improvement of dependence of the cooperation results will improve team performance notably.

3. Hypotheses

A. *The Project Team Reflexivity and Team Performance*

Team process theory suggest that as team members engage in multiple series of action and reflection, they will develop the shared understandings of each member's strengths and weaknesses (Edmondson et al, 2008; Mathieu et al, 2000.). The biggest benefit of this shared understandings of the team members is to heighten the level of implicit coordination between team members, which occurs "when the team members anticipate the needs and mission requirements of their colleagues, they can dynamically adjust their behavior accordingly without having to communicate directly with each other or plan the activity"(Rico et al., 2008).

A regular reflective team can be able to recognize the impact of team's action and pay attention to the environment change sustainably (Hogegl & Parboteeah, 2006). At higher levels of reflection teams, team members often exchange of their views or opinions frankly, openly and deeply, thus forming better decisions. The accumulated team reflexivity over time can make the team members better realize those outdated working methods due to the changing environment

and generate new knowledge about the team goals, programs and strategies, and thus making the team more flexibility and creativity in the new environment. And to the extent that the accumulated team reflexivity experience allow a team to develop more effective response to the dynamic situations, the team process theory suggest that team reflexivity is likely to be associated with improved team performance (Edmondson et al, 2008;.. Rico et al, 2008). Hence:

Hypothesis1. Project team reflexivity is positively related to team performance.

B. *The Mediating Role of Workload Sharing*

Workload sharing—the effective and equitable allocation of team tasks (Erez et al., 2002) is an important form of implicit coordination. Because it reflects team members understand the role of other team members and understand the relationship and their interactions without communicating with each other (Rico et al., 2008). This capability can enhance the experience of team members to work together with other members and impede the influence of team compositional instability. The accumulated experience of team reflexivity over time may provide the basis for workload sharing. Because team members from a higher level of team reflexivity are likely to form their own role cognition based on the specific expertise area, while make a common and dynamic understanding about the different roles the other team members play. With the situation changes, the team tasks may also require dynamic redistribution. Team characterized by higher level of team reflexivity can have a clearer understanding of the task each member should undertake. At this time team task will be allocated more efficiently. Therefore, team reflexivity can help team members transfer their knowledge, skills and attention to the more efficient task (Edmondson et al., 2008), thus improving team performance (Fiogre, Salas, 2001). Accordingly, we posit the following assumptions:

Hypothesis2. Team workload sharing partially mediates the positive relationship between project team reflexivity and team performance.

Hypothesis2a. Project team reflexivity is positively related to workload sharing.

Hypothesis2b. Workload sharing is positively related to team performance.

C. *The Mediating Role of Team Helping*

Helping behavior is the second channel by which reflexive behavior improve team performance. Previous studies have consistently showed that helping have a beneficial effect on team performance (Podsakoff, Whiting, Podsakoff, & Blume, 2009; Spitzmuller, Van Dyne, & Ilies, 2008). Teams of higher level of reflexivity are likely to show a higher degree of team helping, because the team members may be more attuned to deviate from expected patterns that the team member have difficulties and need help (Danan & Peter, 2013). Therefore, teams characterized by higher levels

of team reflexivity can be more proactive to help other members, rather than passively waiting for other team members to seek help (Bamberger, 2009). This consensus formed by the reflexivity may make team members who willing to help others be able to realize the benefits of team helping and thus even in the very subtle situation team members can more easily identify those in need of help. This assistance enables team members to conduct the completion of the task more efficiently. Accordingly:

Hypothesis3. Team helping partially mediates the positive relationship between project team reflexivity and team performance.

Hypothesis3a. Project team reflexivity is positively related with team helping.

Hypothesis3b. Team helping is positively related with team performance.

D. The Moderating Role of Environmental Dynamism

Today the teams face the dynamic internal and external environment, the team’s survival and development is facing a severe challenge. Therefore, how to improve the team performance under the dynamic internal and external environment get concerned in the academic and business circles. Environmental dynamism refers to the degree of change of the constituent elements of the environment. If the constituent elements of organizational environment is changing rapidly and the changing amplitude is large, it is called dynamic environment; if it change only slightly and very slow, then known as the steady-state environment. The crisis and uncertainty faced by the project team characterized by a rapidly changing and dynamic organizational environment will influence the organization's competitive position in the market.

Daft (1982) even suggest that the business environment may have the greater impact on organizational structure, internal processes and management decisions more than other factors. Covin (2001) describes the relationship between organizational structure, strategic posture, business practices and the performance for SMEs under the steady-state environment and the dynamic environment. He found that environmental dynamism has a positive impact on the strategic choices and moderates the relationship between organizational structure, strategic posture and the organizational performance. The project team was faced with a rapidly changing market environment, so the degree that the project team responds to the dynamic market will even determine the survival of the entire team.

Therefore, study of the moderating role of the environmental dynamism to the relationship between the project team reflexivity and team performance can expand the team reflexivity theory. Based on the team process theory, environmental dynamism will not only bring the uncertainty and risk for a team to get the market resources, but also affect the level of team reflexivity. Sustained dynamic changing will force the team to improve the team reflexivity and examine

the dynamic changes. It will help the team search for information quickly and effectively and strengthen communication and interaction among the team members and the outside, and thus affecting team performance indirectly. The stronger the environmental dynamism, the greater elements of the environment changes faster. In this case, team interaction, especially team reflexivity will significantly reduce the uncertainty and fuzziness brought by the dynamic environment, and thus enhancing the team performance. In the stable environment, because the risks faced by the project team is smaller, team reflexivity effect on team performance is also smaller. Team reflexivity is a key point that a team be able to examine the environment change and make reaction to that change. It is a decisive factor on the team innovation and team performance. Accordingly, we posit:

Hypothesis4. Environmental dynamism mediates the relationship between project team reflexivity and team performance such that team reflexivity will be positively related to team performance under stronger environmental dynamism.

The research model is depicted in Figure 1:

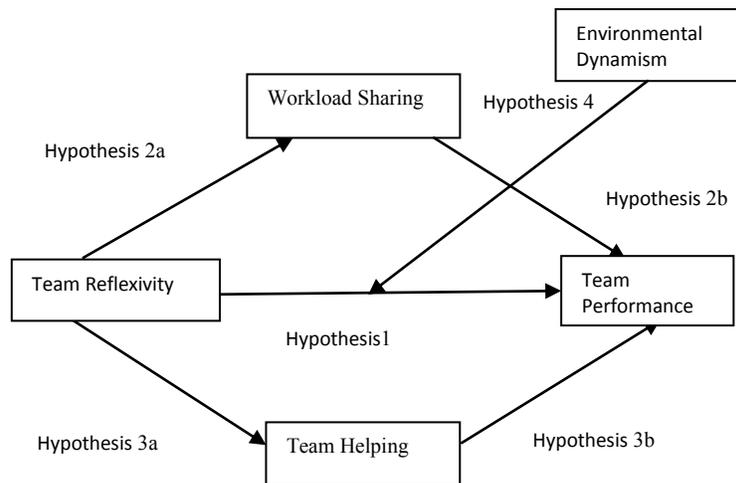


Figure1. Proposed Model

4. Methods

A. Data and Sample

In this paper we mainly use the literature research and empirical research. By reading lots of relevant literature, it provides the literature foundation for the model framework of my proposed model. Then through the field survey of 100 project team as a data source for this article, we use SPSS and LISREL statistical software to do the statistical analysis, regression analysis, variance analysis and confirmatory factor analysis.

Questionnaire is divided into two categories: one questionnaire (A volume) is mainly filled by the project team members to measure the project team reflexivity, team workload sharing and team helping; another questionnaire (B volume) mainly by the project team’s managers or executives familiar with the business environment to measure the team

performance and environmental dynamism. Because the unit of analysis is a team, each project team issued a business volume A 3, B Volume 1 to avoid the homologous variance problem when issuing questionnaires.

B. Measures

1) Team reflexivity

Team reflexivity was measured with Swift and West's (1998) 8-item measure. Example items are as follows: "We regularly discuss whether the team is working effectively"; "In this team we modify our objectives in light of changing circumstances" (1 = strongly disagree, 5 = strongly agree). Cronbach's alpha was 0.82.

2) Team workload sharing

Team workload sharing was measured with by Erez et al. (2002), four statements describing behaviors of their team relevant to workload sharing. Example items are as follows: "Each team member does his/her share of the work on the team's task. (1 = strongly disagree, 5 = strongly agree). Cronbach's alpha was 0.86.

3) Team helping

Team helping was measured with by Anderson and Williams(1996), five statements describing behaviors of their team relevant to team helping. Example items are as follows: "Each team member can help others when they need help . (1 = strongly disagree, 5 = strongly agree). Cronbach's alpha was 0.83.

4) Team performance

In keeping with our conceptual definition of team performance, our measure focused on team's task accomplishment as evaluated by their supervisors. The scale consisted of three items: one referring to the quantity of output, one referring to the quality of output, and one overall assessment of team performance. Team supervisors were instructed to evaluate the performance of their teams in the light of established performance standards on a scale ranging from 1 ("very poor") to 10 ("superb").

Environmental dynamism

Environmental dynamism was measured with by Mile(1983), four statements describing the environmental dynamism. Example items are as follows: "the technique is updating fast. (1 = strongly disagree, 5 = strongly agree). Cronbach's alpha was 0.83.

5. Conclusion

We believe our study has important implications on illuminating and enriching team reflexivity theory effect on team performance. The study contributes to the literature in several ways. First, Previous empirical research on the team reflexivity are mostly from the innovation team and entrepreneurial team, rarely from the perspective of the project team. The paper brings team reflexivity into the field of project team on the base of team reflexivity theory.

Second, Previous team reflexivity effect on team performance focus more on explaining the different dimensions of reflexive influence on team performance, but rarely consider how the team through the reflexive activities to influence team performance. So it has a very important

significance that we put forward workload sharing and team helping two mediating variables to illustrate the process. In the era of knowledge economy, enterprises are facing dynamic market environment, the speed of response to rapidly changing market environment determines its ability to occupy a dominant position in the market to some extent. Therefore, exploring the environmental dynamism's role on the team reflexivity and team performance is very important and necessary. It can also enrich the content of the project team reflexivity.

6. Limitations and Directions for Future Research

While an obvious strength of our study is that we tested it in a field of the project teams, we should recognize that only experimental studies speak to the causality implied in our research model. Nonetheless, future research could use field-experimental research designs to establish that differences in work demands account for the effects of team reflexivity and team performance.

A similar limitation is that while we do indeed have evidence about the core process involved - team reflexivity- we do not know about the content of this process. That is, we do not know exactly what was discussed in the teams in the course of their reflection and improved the team performance. While evidence in this respect is not a prerequisite for testing our hypotheses, nor is this suggested by our analysis, such information would be helpful in further developing our analysis as it may point to possible contingencies of reflexivity in relation to performance. Future research speaking to this content would be valuable. Also, we can get more attention on the contingencies of effectiveness of team reflexivity, because reflexivity as an intervention is an investment-it takes time and effort. So it will be valuable to research what conditions team reflexivity can provide the biggest performance benefits.

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