Having Union Members in a Team:
Its Effect on Team Innovation*

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With respect to the effect of unions on innovation, much previous research was conducted at the firm level, naturally assuming union members as the implementers of management-initiated innovations and concluded its negative impact due to union's rent-seeking behaviors. However, if the effect of unions on innovation is studied at the work team level, then union members could become a part of initiating team innovations, which could introduce a new perspective to its effect on innovation. In this study, several propositions were suggested on how having union members in a team could positively associated with team innovation. Having union members in a team could increase voice of team members, particularly if team psychological safety is high, which will allow teams to engage in risk-laden actions, resulting in higher team innovation. This study also emphasizes the content of voice union members and argues that this positive effect will exist only when the content of voice was toward improving product/ process, not toward seeking rents.

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Ⅰ. Introduction

Much interest has been focused by researchers on what impact unions have on the workplace, such as on job satisfaction, firm performance, and innovation (e.g., Freeman & Medoff, 1984). Although some research were conducted at including micro-level phenomenon (e.g., Redman & Snape, 2014), most of these union effects were studied at the firm level (Pohler & Luchak, 2013; Reshef, Bemmels, & Wolfe, 1993). Work teams are increasingly appreciated as the source of organization performance. Particularly, with respect to innovation, working in teams is expected to result in more novel associations and innovative outcomes because of the broader set of perspectives available to team members (Perry-Smith & Shalley, 2014). Much research was conducted to show how new ideas are usually proposed and pursued toward implementation by work teams (Anderson, Potočnik, & Zhou, 2014; Hülsheger, Anderson, & Salgado, 2009). Hence, in studying the effect of unions on innovation in the workplace, examining its effect at the team level is imperative. In this paper, I examine the effect of having union members in work teams on team innovation.

Team innovation is usually defined as "the intentional introduction and application, within a role, group, or organization of ideas, processes, products, or procedures, new to the relevant unit of adoption, designed to significantly benefit the individual, the group, the organization or wider society" (West & Farr, 1990). It includes both the generation of new ideas and their implementation (Amabile, 1996; West & Farr, 1990; Woodman, Sawyer, & Griffin, 1993). Previous empirical research on the effect of union on innovation argues how unionization impedes innovation due to their rent-seeking behavior, low productivity, and low flexibility (Bradley et al., 2016; Hirsch & Link, 1987; Reshef et al., 1993), but these were all conducted at the firm level (Bradley, Kim, & Tian, 2016; Fang & Ge, 2012; Hirsch & Link, 1987; Machin & Wadhwani, 1991; Reshef et al., 1993).

When examining the effect of unions on innovation at the firm level, extant research unintentionally assumes that union members are the implementers of management-initiated innovation, not the initiator of the implementation. This view of union members as passive implementers of firm-initiated innovation could intensify its rent-seeking behavior, resulting in negative influence on innovation. However, when we focus at the team-level innovation, some innovation could be initiated by union members within their teams, and this view of proactive initiators in innovation implementation could result in different union effects on innovation at the team-level. It is known that union members learn to voice their dissatisfaction, leading them to identify an increasing number of job characteristics that should be improved (Artz, 2010; Hirschmann, 1970; Medoff & Freeman, 1984). Depending on the team dynamics and what the voice is for, voice of union members could be transferred to non-union members within a team, resulting in more risk-laden team actions to effectively implement innovation. In this case, unionization could positively affect innovation at the team-level. In this paper, I suggest the potential positive effect of union on team innovation with contingency factors of team dynamics and the content of voice.

This paper could contribute to previous research on the effect of union and determinants of team innovation in several folds. First, this research will contribute to research on the effect of unions by examining team-level influences. By introducing the team-level analysis, this will enrich research on union effects. Union members could introduce new insights into its team, creating new team dynamics and determining team's performance. Given that previous research on union effects largely disregarded its effect at the team-level, this will introduce new insights to what union brings to the organization. Second, this research will contribute to innovation research by showing the effect of unions on team-level innovations. Previous research on innovation regarded union largely as a factor that impedes innovation, because it was studied only at the firm-level. By linking "voice" from the union members and its effect on

team dynamics, this research will extend our understanding on the effect of union on team innovation.

Ⅱ. The effect of unions on team innovation

Vast amount of research has been done on what kinds of impact unions have on the workplace, such as job satisfaction, wages, benefits, turnover, and productivity (e.g., Freeman and Medoff, 1984). Although innovation was not the popular outcome of the effect of unions, some research has been conducted on how unions affect innovation. Majority of previous work found the effect of unionization on innovative to be negative (Hirsch & Link, 1987; Reshef et al., 1993; Bradley et al., 2016). For instance, Hirsch and Link (1987) argue that union firms invest less intensively in innovative activity because the union tax on investment results in a lower rate of return. Reshef, Bemmels, and Wolfe (1993) show how unions resist innovations which are perceived as efforts to increase management and decrease union control and influence only up to such a level of unionization power. Most recently, Bradley, Kim, and Tian (2016) show how unionization reduces R&D expenditure, productivity of inventors, and increase in departures of innovative inventors, resulting in lower firm innovation. They analyzed that passing a union election results in an 8.7% (12.5%) decline in patent quantity (quality) three years after the election. They even found that firms move their innovation activities away from where union elections win.

Only a few show how unionization could either promote or show no significant effect on firm innovation. Fang and Ge (2012) showed how unionizations promoted firm innovations in China, by shocking the management into adopting more systematic practices which could introduce new products and/or new processes. On the other hand, Machin and Wadhwani (1991) found no significant effect

of unionism on investment or the introduction of innovation, such as new technology adoption. Schnabel and Wagner (1992) argued that the effect of union on innovation depends on types of innovation. They show how product innovation might be welcomed, whereas process innovation might be opposed if they imply a loss of jobs in the short run.

The critical gap in extant research on union and innovation is that all of these research was conducted at the firm-level. By only considering the effect of the degree of unionization at the firm-level on firm-level innovation, previous research has neglected the micro dynamics that unionization create to work with respect to innovation. Moreover, by analyzing the firm-level innovation, most of these researches naturally assumed innovation as firm-initiated efforts, making unionized members as the receiver and follower of these innovations. This passiveness to innovation could potentially make union members not receptive to firm-initiated innovation. Research on proactive vs. responsive creativity also show how responsive creativity, which could be rephrased as compulsory in-role behavior exert disparate consequences on innovation (Sung, Antefelt & Choi, 2015).

However, more and more new ideas are usually proposed and pursued toward implementation by work teams (Hülsheger et al., 2009). In addition, much research show how firm-level innovation was achieved through meso-analytical influences from work teams (Shalley & Gilson, 2004; Shalley, Zhou, & Oldham, 2004; West, 2002). Hence, it is imperative to study the union effects on innovation at the team-level, and also situate union members could become the part of initiators of innovation implementation at work teams.

1. Voice of union members and team innovation

Union members are known to have a voice mechanism to express dissatisfaction with current work context, which leads them to identify vast amount of

current condition that should be improved (Hirschman, 1970; Medoff & Freeman, 1984). It is also known that voice is not created instantly and do not vanish instantly. Unionized members will gradually learn how to voice their dissatisfaction as their union experience increases. Gomez and Gunderson (2004) called this as "the experience good model of trade unionism", arguing that union membership is "an experience good since it takes time for the worker to truly understand the value and characteristics of union membership" (Artz, 2010). Based on how voice mechanism is learned gradually through labor experience, Artz (2010) show how this union members' voice mechanism learned in union could last for a long time, even after they left the unions.

In organizational behavior research, voice is defined as "constructive change-oriented communication intended to improve a situation" (Van Dyne & LePine, 1998). Voice entails the potential to disrupt the current status quo, and has potential to be risky (Liu, Zhu, & Yang, 2010). It is known to be critical for innovation, because it disrupts the status quo, provides teams with timely insight into potential obstacles, and allows teams to adapt to dynamic environments (Liang, Farh, & Farh, 2012). Hence, voice in organizational behavior research is used in different context than voice in union research because voice in union is mostly discussed as ways to voice up their rent-seeking behavior. Although different, the underlying traits developed through voicing, which are questioning current status and suggesting the potential improvements, could be similar in both organizational behavior research and labor union research. By examining manufacturing sector in China, Fang and Ge (2012) showed how the 'voice face' of unions led to the independent 'questioning' of the management by unions, which led to better, more creative and productive solutions. Hence, through union activities, union members learn how to voice their dissatisfaction on their work, and given that this learning of voicing lasts for a while, this tendency to voice could be extended to voicing on product and process improvements in their work teams, which might become a great potential to be innovative.

Proposition 1: Union members learn how to "voice" through union activity, and this learning of voice could be extended to voicing on their work team context (e.g., product and process improvements n work teams).

However, how voicing of union members in work team context could affect team innovation could depend on the types of content of voice. I argue that depending on the types of voice that union members make, its impact on team innovation could vary (Schnabel & Wagner, 1992). If the voice that union members make within a team is merely the extension of union's voice on their territorial rights and boundaries to protect their status and security, then their voicing will be regarded as a threat to non-union members in a team. In this case, voice of union members could enhance team dissonance, and given that team innovation could only be achieved through team's close cooperation (Anderson et al., 2014; Hülsheger et al., 2009), team innovation could less likely to be achieved.

Proposition 2a: Voice of union members within a team could negatively associated to team innovation, if voice is toward union members' rent-seeking in working conditions.

Proposition 2b: Team's dissonance mediates the relationship between voice of union members within a team and team innovation, if voice toward rent-seeking.

On the other hand, if the voice of union members could be extended from their own rent-seeking to improvements in product or processes for the team, then this could be more receptive to other team members. Moreover, this kind of voice could be appreciated when union members' voice is taking initiative to risky behaviors to disrupt the status quo which other team members were

afraid to initiate. In this case, union members' voice could amplify other team members' voices, allowing team to take more risk-laden actions based on their voices. The unique thing about innovative implementation is that risk-taking is necessary (Lashinsky, 2006). When a team's context encourages team members to partake in potentially sharing risky ideas and actions, the potential for achieving innovation becomes higher (Kim, 2015).

> *Proposition 3a: Voice of union members within a team could positively associated to team innovation, if voice is toward product/ process innovation.*
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> *Proposition 3b: Team's risk-laden actions mediates the relationship between voice of union members within a team and team innovation, if voice toward product/process innovation.*

2. Contingent role of team psychological safety

Although how union members' voice could affect team innovation directly, I argue that its direct effect could be contingent upon the team climate. Team climate has been regarded as the most critical antecedent for achieving higher team-level innovation (Hulsheger et al., 2009). Based on the meta analysis of three decades of primary studies on the antecedents of team-level innovation, Hulsheger et al. (2009) show how team climate-related variables, such as support for innovation and cohesion, impact team-level innovation most significantly. Among various team climate measures, I argue team psychological safety, team members' perceptions about the consequences of interpersonal risks within their team (Edmondson, 2004), could provide boundary conditions to the main effect of union members' voice on team-level innovation.

Psychological safety shows "taken-for-granted beliefs about how other team members will respond when one puts oneself on the line, such as by asking a
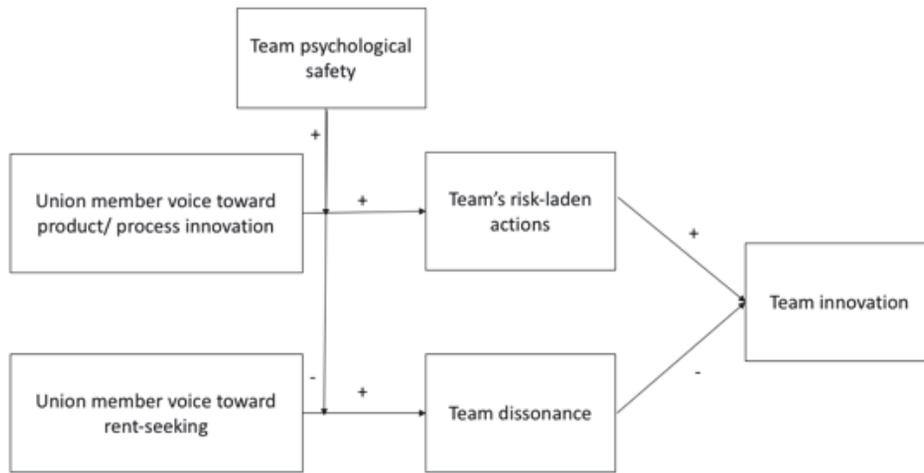
⟨Figure 1⟩ Conceptual Framework

question, seeking feedback, reporting a mistake, or proposing a new idea"
(Kim 2015, p.79). I argue that when team psychological safety is high, team
members can voice up to lead union members to voice product/process innovations,
not the rent-seeking. In the case of union members voicing for rent-seeking,
team members will feel safe to speak up without being rejected or punished
(Baer & Frese, 2003) under high team psychological safety, and they will argue
against union members to restrain rent-seeking demands, and lead them to
more constructive voicing on product/process innovation. Team psychological
safety will contribute to leading teams to be constructively exchange ideas
toward effective innovation implementation. Hence, it could be estimated that
when team psychological safety is high, voice from union members could be
greatly appreciated, and other non-union team members could constructively
engage in voicing up their thoughts with regard to union members' voice. This
constructive discussion could allow team to engage in more innovation-oriented
activities, which will as a result affect higher team-level innovation. Hence,
I propose:

Proposition 4: *When team's psychological safety is high, voice of union members within a team could positively associated to a voice toward product/process innovation rather than toward rent-seeking, resulting in higher team innovation.*

Ⅲ. Suggestions for empirical based study

1. Research setting and data collection

I propose that the follow-up research should be conducted to test these propositions in empirical setting. If conducted in empirical setting, this study should be designed as team-level study based on surveys from team leaders and team members. In order to avoid common method bias (Campbell & Fiske, 1959), team members should response all the measures and will be aggregated to team-level to measure team-level constructs and team innovation should be measured by team leaders' responses. Ideal setting for the data collection will be teams with diverse union rates across varying industry background to confirm the generalizability of findings.

2. Measures

If I suggest some ways to measure these constructs, I recommend that all the measures will be assessed with multiple items based on 5-point Likert type scale for each construct, if not specified in different ways. Cronbach's alpha should be calculated to assess reliability of the measures. All the team-level construct assessed by team members will be aggregated and the validity of aggregation will be tested using ICC(1), ICC(2), r_{wg}.

1) Union member voice

I suggest measuring union member's voice expressed to teams using three items adapted from Van Dyne and LePine's (1998) prosocial voice scale, rated by each team member on union member. Items should be adapted to include whether voice is toward innovative ideas or to rent-seeking behavior. Sample items for voice toward innovative ideas will be "Union members in my team develop and makes recommendations concerning our team creative task", "Union members in my team speak up and encourage others to get involved in creative task", "Union members in my team speak up with ideas for new projects or changes in procedures". These will be asked as a frequency scale ranging from 1 ("almost never") to 5 ("almost always").

2) Team's risk-laden actions

I failed to find the established measure for risk-laden actions related to creativity/innovation based on the literature review using ProQuest, PsyArticles, and Busienss Source Complete. However, several researchers used risk propensity measure to show risk taking behavior (e.g., Gomez-Mejia & Balkin, 1989). Hence, I suggest adopting items from risk propensity and adjust them to the team-level and creative task context. Sample items for the original scale is "I enjoy the excitement of uncertainty and risk" and "I am willing to take significant risk if the possible rewards are high enough". This could be adjusted to team-level and creative task context, such as "My team enjoy the excitement of uncertainty and risk in generating creative ideas" and "My team is willing to take significant risk if the possible rewards to have creative ideas are high enough." Given that these items are newly developed, I suggest that a pilot test should be conducted to assess the reliability of the measure in capturing risk-laden actions".

3) Team dissonance

To measure team dissonance, I suggest using six items from the dissonance scale developed by Stoverink, Umphress, Gardner, and Miner (2014). Their research setting on team dissonance was focused on supervisor-employee relationship. I recommend adapting these measures but change them to team dissonance related between team members. Sample items include "after interacting with my team members, I feel uneasy".

4) Team psychological safety

Team psychological safety should be assessed using the nine-item scale developed by Edmondson (1999). Example items include "If members make a mistake on this team, it is often held against them" (reverse scored) and "No one on his team would deliberately act in a way that would undermine anyone else's work".

5) Team Innovation

For measuring team innovation, I suggest using Klein, Conn, and Sorra's (2001) measure by shifting referent from "this employee" to "team". Example items include "By implementing our own ideas, my team's quality for product, service, or work process is improved." or "by implementing our own ideas, my team's performance is improved."

6) Control variables

Team size, team tenure, and company size, company industry should be included as control variables, which are usually controlled when conducting team-level study. In addition, union-related variables, such as percentage of union members in a company and in a team, whether or not union is cooperative or not, should be controlled.

Ⅳ. Conclusion

  I proposed how unions could affect innovation at the team level for the first time in research on unions and innovation. Having union members in a team means having a team member who are used to voice their dissatisfaction. If these voice is made toward rent-seeking in the team context, then it will not positively influence innovation with the increase in team dissonance. However, if these voice could be extended from rent-seeking to voicing for innovative ideas to improve current dissatisfaction in product/processes, then it will positively influence team innovation with the increase in team's risk-laden activities. This paper is the first research to propose contrasting estimation of positive effect of unions on innovation, compared to previous research that emphasized the negative effects of union on innovation. This was possible by shifting the level of analysis from firm-level to team-level, and analyze the same phenomenon by taking closer attention on the micro dynamics.

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팀 내 노조원의 존재: 팀의 혁신에 대한 역할

김 현 지*

요 약

노조가 혁신에 미치는 영향 관련, 대부분의 기존 연구는 조직 수준에서 이루어졌으며, 이는 자연스럽게 노조를 사용자 주도 혁신의 수동적인 실행자로 전제하게 되어, 노조는 지대추구(rent seeking) 현상으로 혁신에 부정적인 영향을 미친다고 결론 지어졌다. 그러나, 노조가 혁신에 미치는 영향을 팀 수준에서 연구를 하게 되면, 노조가 혁신에 미치는 영향에 대한 새로운 시각을 제시할 수 있다. 즉, 노조원들이 노조활동을 통해 배운 발언(voice)을 팀의 제품이나 프로세스상의 혁신을 낼 수 있는 발언으로 연장하면, 팀의 혁신을 이끌어내는 주도자로 참여할 가능성을 높여 팀의 혁신에 긍정적인 영향을 미칠 수 있다. 특히, 팀의 심리적 안정(psychological safety)이 높으면 노조원의 발언이 팀 전체의 발언으로 확대되어 팀이 위험을 각오한 행동(risk-laden actions)을 장려하여 팀의 혁신에 긍정적인 영향을 미칠 수 있다. 또한, 노조원의 발언 영역이 개인의 지대추구가 아닌 팀을 위한 팀의 제품/프로세스상의 발언이면 노조원이 팀의 혁신에 미치는 긍정적인 영향이 더욱 커질 것이다.

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