Individuals learning in work teams: Support to knowledge management initiatives and an important source of organizational learning

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Abstract

The aim of the paper is to describe and explain the team-level determinants of learning behavior in work teams. Learning behavior is explained as an integral part of individual and organizational learning process and as an important part of knowledge management in organizations. The paper proposes that team’s job characteristics (task variety, significance and identity), and team leadership (people and task oriented behaviors) have a positive contribution to the occurrence of learning behavior in work teams. The study performed in two Slovenian service organizations, on a sample of 105 employees - members of fifteen quality management teams, partially confirms the hypothesis. The occurrence of learning behavior of team members is determined by task variety and significance, and by people-oriented leadership. Task-oriented team leadership has a negative influence on the learning process of team members. The results are discussed and new directions for the research are presented.

Keywords: organizational learning; knowledge management; teams; learning behavior

1. Introduction

The efforts of companies to manage knowledge have not achieved their objectives, showed the results of a study performed in Slovenia in 2004 (Fister, 2004). The inquiry was done as part of another research project, during the

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first telephone or personal contact with human resource managers of 15 large Slovenian organizations. The answers of some Slovenian human resource managers clearly point out the perception of knowledge management as the human resource management practice of education (planning and organizing various courses and seminars, financing formal education of employees) and acquisition of highly qualified employees, and a rather Cartesian understanding of knowledge, that privileges “pure” knowledge and thinking and neglects forms of social life which sustain particular type of knowledge (Tsoukas & Vladimirou, 2001). These HR activities are certainly important for acquisition of knowledge, but they are not enough. Such activities present one knowledge management function, and neglect the system level knowledge, the tacit, how-and practical, problem or action oriented learning and knowledge. Moreover, they are usually associated with high costs for organizations. The economic crisis that has affected the organizations also involved in the cited study (Fister, 2004), has deepened the problems of knowledge management in organizations. The answer on successful knowledge evaluation, creation (through formal or informal learning, innovation), acquisition, transfer, utilization, and retention in organizations lies in other forms of knowledge management initiatives – in individual and organizational learning as a process of social exchange and individual and organizational development. As pointed by Dermol (2013), also the organizational learning literature rarely includes knowledge creation or experimentation as learning processes. Nevertheless, Levitt and March (1988), for example, recognize organizational learning as a consequence of deliberate organizational information seeking and learning from direct experience, experimentation, and trial and error learning. Within organizational learning conceptualization information storage, retrieval, application, contribution and sharing (Gold, Malhotra, & Segars, 2001) are all related to cognitive and behavioral changes (Dimovski, 1994; Huber, 1991; Slater & Naver, 1995). Kim (1993) bases his ideas on experiential learning cycle (Kolb & Fry, 1975), and links together individual and organizational learning, suggesting that only individuals can learn. They are the agents of an organization observing things around them and learn from their own experiences - think about them, evaluate them, form abstract concepts, create individual and shared mental models and transfer the concepts into different work contexts.

The aim of this paper is to describe and explain the team-level determinants of learning behavior in work teams. Learning behavior is explained as an integral part of individual and organizational learning process and as an important part of knowledge management. Based on the study performed in Slovenia in 2004 (Fister, 2004), and on work of Edmondson (1999; Edmondson, Bohmer, & Pisano, 2001), the authors performed a research on team-level determinants of learning behavior in work teams, in two Slovenian service organizations.

1.1. The missing link for effective knowledge management

Three dimensions of knowledge in organizational context make knowledge management initiatives very complex and not at all an easy endeavor. The creation, dissemination, and utilization of knowledge in organizations, isn’t possible without constantly managing four basic modes of knowledge creation (Nonaka, 1994): “socialization” (from tacit to new tacit knowledge), “articulation” (from tacit to explicit knowledge), “combination” (from explicit to explicit knowledge), and “internalization” (from tacit to explicit form); without application of both basic organization’s strategies for knowledge transfer (Hansen, Nohria, & Tierney, 1999): “codification” that relies on utilization of knowledge databases, on connecting employees with reusable, codified knowledge, and “personalization” that relies more on direct collaborative interaction between experts and peers in small groups of people (Kogut & Zander, 1992), and without giving proper recognition to both knowledge acquisition and “by doing” creation of knowledge (Argyris, 1993).

The discussion above stresses the importance of socialization, face-to-face relationships, and cooperative interaction among individuals for the purpose of knowledge creation, sharing and utilization (Janz & Prasarnphanich, 2003). Bringing people together to work on the same task or for the same goal in a collaborative environment, so that ideas, experiences and reflections can be shared and enhanced is an imperative of knowledge management (Alavi & Leidner, 2001). Team orientation and dialogue is the key to effective organizational learning and a key characteristic of the learning organization (Lähteenmäki, Toivonen, & Mattila, 2001; Nonaka, 1994; Offenbeek, 2001; Preskill & Torres, 1999; Tsoukas & Vladimirou, 2001), and it seems reasonable to assume its importance within the context of knowledge management (Janz & Prasarnphanich, 2003). Team oriented work environment provides opportunities for employees to learn from each other through working together, sharing information, creating new ideas through dialogue and discussion (Nonaka, 1994). Organization is an institution
aimed to integrate and utilize individual knowledge. A team or group is therefore an essential structural form pertinent to i) externalization and integration of individual knowledge (Huysman, 2000) and to ii) value creation through knowledge utilization (Grant, 1996). Presented ideas and arguments and previous researches suggest that knowledge management and organizational learning are integral to each other (Schulz, 2001). Knowledge management, and especially its knowledge creation, dissemination and utilization function cannot be properly described and explained without knowing and understanding how does learning happen (the learning process), what factors affect learning (elements and characteristics of the learning organization), and without paying attention to the level where learning occurs, that is to the level where knowledge is created, utilized and shared. In addition we will focus on the concept of learning behavior in work teams (Edmondson, 1999; Savelsbergh, Van der Heijden, & Poell, 2009). Our aim is to focus the attention on many times neglected side of knowledge management – naturally occurring learning activities in teams and work groups that themselves represent good agents of learning. The underlying assumption is that interaction and cooperation are necessary elements of knowledge management; the missing link for effective knowledge creation, dissemination and utilization. Moreover, we want to describe and explain team-level variables that foster such spontaneous behaviors.

1.2. Learning in teams

Today, organizations rely on work groups and teams. Through facilitating the building of mutual trust among members, providing opportunities to share information, create new ideas through dialogue and discussion, teams act as core agents of learning and generators of innovations (Offenbeek, 2001). Guzzo and Dickson (1996) define a team as made up by individuals, who see themselves and are seen by others as a social entity, who are interdependent because of the task they perform, and who are embedded in one or more larger social systems. Team type varies across three dimensions: cross-functional versus single function, time-limited versus enduring, and manager-led versus self-lead. The combination of these dimensions form different types of teams: project teams, autonomous work groups, team CEOs etc. We make no distinction between the term group and team. Both labels apply to the type of entity defined. In last three decades several causal models of group effectiveness were developed (Guzzo & Shea, 1992). Although the proposed models differ, they are all based on the input–process–output way of thinking about performance. Structural and social features of the group and the organization are usually included as input variables. Group process is represented by intragroup process variables (interaction between team members) and boundary management variables (interaction between group members and their environment). Outcome variables depend upon specific research problem. We adopt a similar approach to explain learning behavior in teams. Learning behavior is an interactive process on-going between group members and with their environment that mediates the effects of organizational, team and individual characteristics on work performance.

In literature a process oriented approach to organizational learning is well recognized. Argyris and Schon (1978) define learning as a process of detecting and correcting errors. Such approach to organizational learning has its roots in John Dewey’s theory of learning from experience. Dewey defines learning as a continuous reorganization and reconstruction of experience; an iterative process of planning, carrying out, reflecting upon, and modifying actions (Elkjaer, 1999). By learning behavior in work teams, the appeal is on this kind of activities. Activities carried out by team members through which they create, share, and utilize knowledge (Argote, 1999). Examples of learning activities are (Edmondson, 1999; Preskill & Torres, 1999): seeking feedback, asking for help, asking questions, talking about errors, sharing information, discussing, experimenting, action planning and implementing. Based on the work of Edmondson (1999), Savelsbergh et al. (2009), developed, and validated a “Multidimensional Measurement Instrument for Team Learning Behaviors”, that includes five dimensions of team learning behaviors: i) exploring and co-construction of meaning, ii) collective reflection, iii) error management, iv) feedback behavior, v) experimenting. Although such group dynamics has positive effect of individual and team performance (Fister, 2004; Argote, Gruenfeld, & Naquin, 2001), it is often unrealized (Edmondson, 1999). Observations of teams give similar results (Fister, 2004): team member’s discussion consists mainly of jointly held information, problems are rather hidden than solved, help or information seeking is perceived as a sign of in-competency. Learning behavior exemplify the kind of activities that pose threat to face, image costs, and potential embarrassment (Argyris, 1993;
Lee, 1997). Therefore people tend to act in ways that inhibit learning, even when doing so would provide benefits for the individual, team or organization.

1.3. Team-level determinants of learning behavior in work teams

In this paper we present a study that based on the previously done work in Slovenia on learning behavior in work teams (Fister, 2004), tries to identify structural and social features of teams that foster learning behaviors in work teams. In the first figure (Fig. 1) we present the studied team-level variables of learning behavior of team members.

![Fig. 1. Team-level determinants of learning behavior in work teams](image)

A set of structural and social features – job design, team leader behavior, and group composition – has been shown to affect team effectiveness, through their impact on intragroup processes and members interaction with external environment. Three job characteristics are included in the study of learning behavior in work teams: task variety (group’s member chance to perform different tasks, use different skills), task significance (the belief that group’s work has significant consequences for others inside the organization or its customers) and task identity (differentiation) - the degree to which the group completes a whole and separate piece of work (Campion, Medsker, & Higgs, 1993). These job characteristics increase a group sense of responsibility (Hackman, 1987), facilitate and stimulate group member’s interaction and cooperation (Campion et al. 1993; Gladstein, 1984), and stimulate internal motivation of group members (Fried & Ferris, 1987).

Studies (Edmondson, 1999; Edmondson et al. 2001; Sarin & McDermott, 2003) suggest that leader behaviors and style significantly affect learning in teams. Leadership styles can differ along several dimensions. We focus on two (Yukl, 1994): people-oriented (facilitation) and task-oriented (initiation of structure) leadership. People-oriented leadership has two underlying elements – consideration and participation. Consideration represents the degree to which the team leader demonstrates concern and interest for the well-being of team members, and creates a sense of support, concern and appreciation (Sarin & McDermott, 2003). Participation explains the degree to which the team leader encourages members’ active involvement in decision making process, the amount of consultation and delegation used to empower group members (Yukl, 1994). Initiation of structure is defined (Yukl, 1994) as the degree to which the team leader clearly and explicitly define goals and objectives (goal structure), and prescribes procedures, activities and tasks in order to accomplish these goals (process structure). Such behaviors improve communication and understanding among team members, and foster learning due to better transference and use of information among team members (Sarin & McDermott, 2003). The lack of goal and process clarity increases potential for dysfunctional conflict and communication breakdowns (John, Northcraft, & Neale, 1999).

According to the model in Fig. 1, we propose that team’s job characteristics – task variety, significance and identity, and team leadership (people and task oriented behaviors) have a positive contribution to the occurrence of learning behavior in work teams.
2. Method

2.1. Research site and sample

We present a study done in two Slovenian service organizations. The sample consists of 105 employees; members of fifteen quality management teams. All teams are manager–led, with the average of six members. Teams are cross–functional and enduring and their function is to control the quality of their services and to develop new ideas and/or concrete practices to guarantee the improvement of their work. In the sample, both genders are relatively equally represented. The majority of participants was aged between 35 and 45 years, and had been employed in their respective organization for over 12 years, and completed university education.

2.2. Measures

Although Savelsbergh et al. (2009) developed and validated a “Multidimensional Measurement Instrument for Team Learning Behaviors” we adopted a Slovenian questionnaire for team learning behaviors (Fister, 2004), previously validated on Slovenian group of team members, and developed upon focus groups of team leaders and the work of Edmondson (1999). The questionnaire shows adequate internal consistency of the scale (Cronbach’s alpha 0.92), with two correlated learning behavior factors, that represent two dimensions of group processes: learning activities on-going between group members (e.g. “We (team/ group members) implement planned activities and control the effects and effectiveness of them.”), and learning activities on-going between group members and their environment (e.g. “We (team/ group members) search feedback about our work from customers or other business partners.”) (Fister, 2004). Task characteristics were measured with 6 items survey adapted from the authors Campion et al. (1993); we utilized two items for every dimension (task significance, variability and identity). Team leadership was measured with 13 items, adapted from the Sarin and McDermott’s (2003) instrument: six items for people–oriented dimension (three items for participation and three for consideration) and seven items for task–oriented dimension (three items for goal structure and four for process structure). For all team-level scales a six–point response scale was used (from one: “never” to six: “always”).

3. Results

The first table (Table 1) summarizes the descriptive statistics for the studied variables: learning behavior in work teams, task significance, task identity, task variability, people–oriented team leadership, task-oriented team leadership.
Table 1. Descriptive statistics of the variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>M</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning behavior in work teams</td>
<td>3.708</td>
<td>1.005</td>
<td>105</td>
</tr>
<tr>
<td>Task significance</td>
<td>4.614</td>
<td>1.052</td>
<td>105</td>
</tr>
<tr>
<td>Task identity</td>
<td>4.362</td>
<td>1.001</td>
<td>105</td>
</tr>
<tr>
<td>Task variability</td>
<td>3.662</td>
<td>1.073</td>
<td>105</td>
</tr>
<tr>
<td>People–oriented team leadership</td>
<td>3.747</td>
<td>1.235</td>
<td>105</td>
</tr>
<tr>
<td>Task-oriented team leadership</td>
<td>3.819</td>
<td>1.014</td>
<td>105</td>
</tr>
</tbody>
</table>

In order to test our model of team-level variables influencing learning behavior in work teams, we utilized multiple regression analysis. A multiple regression (method “enter”) was run to predict learning behavior in work teams from team task characteristics (task significance, task variability, task identity) and team leadership behavior (people- and task-oriented leadership). Variables included in the study statistically significantly predict learning behavior in work teams (\( F(5, 99) = 32.608, p < .0005, R^2 = 0.622, \) Adjusted \( R^2 = 0.603 \)). All variables, except “task identity” added statistically significantly to the prediction of team members learning behavior. “Task-oriented leadership” has a negative association with learning behaviors in work teams. Table 2 summarizes the results of the multiple regression analysis for the dependent variable “team learning behavior” (Standardized Coefficients Beta).

The proposed model of team-level variables influencing the occurrence of team learning behavior can be partially confirmed. Task characteristics (task significance and task variability) and people-oriented team leadership have a positive contribution to the explanation of the frequency of team members performing learning behaviors. In the group of studied variables, task identity and task-oriented leadership behavior do not have an expected contribution to the frequency of learning behavior.

Table 2. Multiple regression analysis for predicting team learning behavior on the basis of the team-level variables (task characteristics and team leadership)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Standardized Coefficients Beta</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task significance</td>
<td>0.192</td>
<td>2.641</td>
<td>0.010</td>
</tr>
<tr>
<td>Task identity</td>
<td>0.111</td>
<td>1.645</td>
<td>0.103</td>
</tr>
<tr>
<td>Task variability</td>
<td>0.173</td>
<td>2.387</td>
<td>0.019</td>
</tr>
<tr>
<td>People–oriented team leadership</td>
<td>0.592</td>
<td>8.018</td>
<td>0.000</td>
</tr>
<tr>
<td>Task-oriented team leadership</td>
<td>-0.171</td>
<td>-2.577</td>
<td>0.011</td>
</tr>
</tbody>
</table>

4. Discussion and Conclusions

Understanding how teams or groups learn to work effectively together provides the micro foundation for understanding organizational learning (Argote, 1999). Learning behavior in work teams (Edmondson, 1999) is one of the concepts that effectively connect knowledge management and organizational learning in a process of knowledge creation, sharing and utilization. It is the missing link between individual and organizational level knowledge, and between more static and more dynamic approach to knowledge management, that stresses socialization, face-to-face relationships, and cooperative interaction among individuals for the purpose of knowledge creation, sharing and utilization (Janz & Prasarnphanich, 2003).

The aim of the presented research was to describe and explain the team-level determinants of learning behavior of team members. Team members working in fifteen teams in two service organizations participated in the study. The proposed model of team-level variables influencing the occurrence of team learning behavior can be partially confirmed. Task characteristics (task significance and task variability) and people-oriented team leadership have a positive contribution to the explanation of the frequency of team members performing learning behaviors. In the group of studied variables, task identity and task-oriented leadership behavior did not have an expected contribution to the frequency of learning behavior. The results of the regression analysis show that learning behavior of team members is determined by the nature of the task – more the task is important for team members and more the job they perform, encompasses variable tasks, more frequent is team member’s learning behavior. Moreover, people-
oriented leadership, foster the occurrence of seeking feedback, asking for help, asking questions, talking about errors, sharing information, discussing, experimenting, action planning and implementing (Edmondson, 1999; Fister, 2004; Preskill & Torres, 1999). The positive relationship between people-oriented leadership with the frequency of performing learning behaviors in teams can be explained by the concept of psychological safety (Edmondson, 1999). Facilitative team leaders constantly challenge team members to new heights, encourage them to think freely, feel safe to take risk, openly admit, analyze, learn from their errors, and explore alternatives (Argote, 1999).

The findings generated from this study have implications for both academics and practitioners interested in better understanding of the nature of knowledge creation, dissemination and utilization as well as better understanding of how individual and group learning, and work performance, might be facilitated. The study suggests that both structural and socio-psychological characteristics of the work environment in which teams work influence learning behavior (Edmondson, 1999), and supports the suggestions of the learning organization and knowledge management literature, that for the improvement of learning and knowledge management, changes of the organizational structure and leadership style, are needed (De Long & Fahey, 2000; Fiol & Lyles, 1985; Senge, 1990). Moreover, the research done to determine team and group effectiveness is a good source of further understanding of individual and organizational learning process and knowledge management practices. One of the possible fields for further research is the dynamics of the learning process in teams with members from different generations.

References
Janz, B. D., & Prasamphanich, P. (2003). Understanding the antecedents of effective knowledge management: The importance of knowledge-


