



Forming Innovative Project Teams: Uncovering the Value of Learning Processes

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The notions of organizational innovation and learning have been heavily investigated in the management literature for several decades. The increasing interest in these fields stems from the premise that competitive success in changing business environments requires continuous innovative endeavors geared by formal or informal learning procedures. The innovation and creativity as well as the organizational learning literature, primarily include both organizational-level and individual-level theories to explain innovation process, knowledge generation mechanisms, and complex inter-personal relationships in organizations. These levels of analysis have emphasized different phenomena, giving rise to complementary but disconnected pictures of how innovation and new knowledge creation occurs (Edmondson, 2002).

Within this line of reasoning, a group-level approach is an emerging and very popular research path among scholars, due to the rising importance of team and group-based structures in modern enterprises. Group work has long been an effective approach to solving organizational problems and making high-quality management decisions. Nowadays, in particular, increasing competition resulting from global and technological nature of markets has amplified the need for businesses to rely on cross-functional new product development teams to produce innovations in a timely manner (Ancona & Caldwell, 1992). For example, 82% of international companies with 100 or more employees reported that they use teams, while 68% of Fortune 1000 companies documented that they use self-managing work teams, and 84% of over 5000 European organizations recently surveyed rely on semi-autonomous or self-managed teams (Benders *et al.*, 1999). Admittedly, we witness an ever-growing tendency to restructure work from individual-based to group-based activity. Therefore, since organizations have become more reliant upon group-based structures, ad-hoc project teams and multidisciplinary design and development teams, understanding group effectiveness but also ineffectiveness is one of the most challenging and important questions that strategic management and organizational psychology need to address (Lovelace *et al.*, 2001).

Several practical management studies indicate the important role of teams in the innovation and knowledge creation processes. For instance, according to the Guide for Managing Innovation (CIDEV, 2002), establishing a working team is the second step in the innovation process, following managerial commitment and leadership, with the team being multidisciplinary and composed of members of staff that work in the departments related to the innovation process.

In their influential book, Nonaka and Takeuchi (1995) admit that knowledge creation is an individual process, while organizational knowledge creation can be viewed as a process that amplifies the knowledge created by individuals and crystallizes it as a part of the knowledge network of the organization. This process takes place within an expanding 'community of interaction', interpreted in terms of a cross-functional new product development team. To exemplify their argument, they refer to the product development process, which involves a community of interacting individuals with different backgrounds and mental models. The product created by the collective and cooperative interaction of the team members is reviewed and another process at a higher level is required in order to maintain the integrity of the whole. Thus, teams play an imperative role in the knowledge creation process.

Despite the wide use and acceptance of the group rationale, there is considerable variation in how teams are formed and managed (e.g., team composition, leadership, communication mechanisms), as well as relatively limited focus on what determines their performance especially in the context of an innovative project (Anderson & West, 1998). In light of these challenges, the Management Sciences Laboratory under the scientific supervision of Assistant Professors Yiannis Spanos and Klas Eric Soderquist, in cooperation with postgraduate students conducting their master dissertation (Field Study Project), initiated and completed a research project aiming at the identification of group related factors that influence team learning processes as well as the impact of group learning on team innovative performance.

This study was both theoretical and empirical. Building upon the analysis and comparison between the most updated and promising conceptual frameworks regarding group learning (or cognition) and innovation processes, Crossan's *et al.* (1999) 4's conceptual framework was selected as the fundamental research model. This framework suggests that organizational learning is realized through the dynamic interaction of four socio-psychological sub processes linking learning from the individual level to group level and then to the organization: i) *intuiting*, a process occurring at the individual level, ii) *interpreting*, occurring at both the individual and group level iii) *integrating*, occurring at both group and organizational levels and iv) *institutionalizing*, occurring at the organizational level. On that sense, the empirical research's objective was to examine how different determining factors influence the whole learning process and how the process, per se, effects team innovative performance.

For the empirical survey, the sample was comprised by mainly Greek organizations operating in the ICT and Pharmaceutical sectors. The data were collected through the completion of a questionnaire, which was entirely voluntary, and explicitly specifying that the responses will be treated with complete confidentiality. The total number of teams participating in this project was 102, summing up to 631 individual responses, and the response rate was 57%.

Initially, several research hypotheses were formed. These hypotheses involved two levels of analysis. Firstly, the objective was the investigation of the relationship between group cognition and group social conditions, psychosocial traits and enabling factors. Group cognition was a cumulative variable, consisting of the four learning processes described above, group social conditions encompassed the decision making processes, conflict, interpersonal connections (ties' strength) and knowledge explicitness, while group psychosocial traits involved cohesion, efficacy and psychological safety and group enablers were the quantity of the acquired information, leadership, organizational supportiveness, autonomy and organizational climate. The second level of analysis was focused on the examination of the determinants that mostly affect group innovative performance. The variables under study were group cognition, efficacy and firm climate.

Using advanced statistical techniques and tools, the present research project offered several implications for practitioners trying to construct, manage and increase team learning and innovative performance. Initially, the findings suggest that educational diversity has a negative effect on group performance. This practically means that managers need to reconcile the trade-off between diversity's benefits - which are mainly concentrated on the first sub process of the 4s model - and its drawbacks - mainly lying at the latter sub processes of the model.

Team performance is positively affected by the effectiveness of group learning and therefore managers should recruit individuals with strong cognitive potentials but also try to continuously reinforce them (e.g., through specialized training programs). Moreover, managers ought to concentrate on creating appropriate conditions for psychological safety to occur and enhance the provided organizational supportiveness. Rewards and recognition of the group's outcomes, for instance, can play the role of motivators and can lead to increased potency and psychological safety. Since the profusion of information plays a significant role in the outcome of the learning process, executives should support the implementation of brainstorming techniques and provide the technical tools for quick, free and accurate accumulation and dispersion of information among the team members. Easily accessible information could be translated into elaborative information systems and sophisticated intranet networks.

Within this context we can realize that organizations can apply many methods and use several tools to achieve increased group cognition and innovative performance, but the most significant principle is to recognize the team's learning potentials and be dedicated and supportive towards this aspiration, thus adapt a learning/knowledge orientation.

References

- o Ancona D. and Caldwell D., 1992, 'Demography and design: Predictors of new product team performance'. *Organization Science*, 3(3), 321-341
- o Benders J., Huijgen F., Pekruhl U. and O'Kelly K. P., 1999, 'Useful but Unused - Group Work in Europe: Findings from the EPOC Survey', Dublin: European Foundation for the Improvement of Living and Working Conditions
- o CIDEV, 2002, Guide for managing innovation, Generalitat de Catalunya, Department of Industry, Trade and Tourism, Center for Innovation and Business Development.
- o Crossan MM, Lane H.W. and White R.E., 1999, 'An Organization Learning Framework: From Intuition to Institution'. *Academy of Management Review*, 24 (3), 522-537
- o Edmondson Amy C., 2002, 'The Local and Variegated Nature of Learning in Organizations: A Group-Level Perspective', *Organization Science*, Vol. 13, No. 2, 128-146
- o Lovelace K., Shapiro D.L. and Weingart L.R., 2001, 'Maximizing cross-functional new product teams' innovativeness and constraint adherence: A conflict communications perspective', *Academy of Management Journal*, Vol. 44 (4) 779-793
- o Nonaka I. and Takeuchi H., 1995, *The Knowledge - Creating Company*, Oxford University Press