

Staffing approach and conditions for collective learning in project teams: The case of new product development projects

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Abstract

In the contemporary competitive environment, it becomes crucial for companies to master, promote and keep the collective learning developed during new products development projects. This research discusses the extent to which the approach of staffing the new products development projects' teams and the logic of career development of project managers have an influence on the collective learning conditions during these projects. After having pointed out the main dimensions of learning in new product development projects and the main dimensions of the logic of project managers' career development, the empirical data analysis of this research demonstrates that job rotation in projects for functional staff, as an approach of staffing the projects' teams, makes up favourable conditions for collective learning during the projects.

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1. Introduction

The evolution of the competitive environment has highlighted the ability of companies to develop new products both quickly and under good economic conditions – products which not only seek to satisfy the needs of clients but also bring them increased value – as a key factor of competitiveness [1]. In this new business context, fast and cost-effective product development has become a crucial organizational capability for a company's performance and survival [2]. In addition, the evolution of the competitive environment explains the necessity of the firms to implement quick and efficient organizational learning and why they show greater interest in the theme of organizational learning [3,4].

In a context where the changing environment results in accelerated development and where the launch of new products is an important competitive issue, it becomes cru-

cial to master, promote and keep the knowledge learnt through R&D projects [5]. If new product development projects have been extensively identified as learning tools for the companies, little attention has been paid to the influence of team composition on organizational learning in this particular context.

This research examines the extent to which the approach of staffing the teams of new product development projects and the career development of the project managers has an influence on the organizational learning conditions during these projects.

Firstly, it is demonstrated that, under certain conditions, new product development projects constitute privileged organizational spaces for collective learning and that the management of attention is playing a paramount role in these learning processes. Secondly, the methodology used in this research is outlined. Finally, the results of the data analysis are presented and discussed in the last section of this paper. They demonstrate the critical link between what is called in this research 'orthogonality' (staffing approach of projects guaranteeing the rotation of functional actors in

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the projects and the alternation of the duties carried out by the project managers) and the favourable character of the conditions for organizational learning during the projects.

2. New product development projects: critical areas for learning and knowledge creation

New product development projects constitute paramount organizational spaces for learning, experiments and knowledge creation. By its very nature, this activity was characterized by Carlsson et al. [6] as a learning system. Learning systems are the formal and informal mechanisms the project team use in the process of developing knowledge and “the mechanisms by which learning is perpetuated and institutionalized in organizations” [7]. These mechanisms may include the methods required for detection, storage and extraction of knowledge gained [5]. The ability to detect and to correct errors in time appears to be dependent on the efficiency of the learning system of the project team [8]. But knowing the cause of the problem (error detection) is only useful when prior action is taken to prevent the problem reoccurring (error correction). The members of the project team also depend on learning systems for making decisions as well as for detecting and correcting errors [9].

Moreover, the project, which by definition is limited in both time and cost, and which has a defined organizational space appears to be a potential place for learning experiments on a reduced scale in terms of time, space and cost for the whole organization [10,11]. The project also constitutes the test of the firm’s capability to succeed in managing cross-actions and can be used as a tool to reinforce relations between functional departments while, at the same time, giving them the space necessary to improve their own expertise [12].

During a project, non-routine tasks, characterized by a high level of complexity and uncertainty, lead the teams to create processes which can deal with these problems; problems that cannot be resolved by a single player or unique function [13]. In this perspective, the emerging deliberation appears as a way of dealing with the complexity of non-routine tasks; it involves various and sometimes temporary members and transcends the organizational boundaries defining the project space [8].

Finally, the new product development projects are by their very nature knowledge-intensive. The competencies developed through such projects can be defined as the development of a knowledge base [8]. But the creation of new knowledge does not come about by disregarding already acquired competencies. The learning processes, like the projects, are the products of the firm’s combined capabilities and the emergence of new combinations of the firm’s capabilities produce knowledge. By “combined capabilities”, Kogut and Zander [14] mean the intersection of the firm’s capabilities with unexplored technological potential or technological opportunities. These new combina-

tions are obtained through trial-and-error sequences that constitute the cross-fertilization phenomenon.

The project actors seconded to a project by the different functional departments gather two types of knowledge. The first type of knowledge is relative to the information gathered in their own specific functional area of expertise and know-how developed by the actors during the project resolving problems and accomplishing tasks pertinent to their specialized competencies. The second type of knowledge is relative to the keeping or sharing of necessary information and know-how in order to complete the tasks required by the project (or the knowledge of “Who knows what?”) and the know-how of project management [14].

At the beginning of a project the knowledge of the project team is made up of the knowledge of its members and other available contributions [5]. Learning by detection and correction of errors – such errors must be understood as problems, challenges, crises and other events occurring during the development of the project – would serve to enrich this knowledge by the end of the project. Therefore the project constitutes an area of learning by doing [15].

The role of the project manager consists in ensuring that all the members of the team are involved in the realization of a participative learning system [7]. So the setting up of a learning system – or conditions favouring learning – in a new product development project would appear to be a critical factor in the success of a project [8].

3. Collective learning during projects: the critical role of attention’s management

The organization of new product development projects is a result of the setting up of multi-functional teams in charge of leading projects that have been assigned certain objectives. Each project is wholly geared towards realizing these delegated objectives through optimal use of allocated resources, especially human resources. Individuals are transferred from their original functional department for a defined period of time in order to take part in and bring their expertise to the project. The project’s success – that is the realization of the objectives assigned to the project – depends on the ability of the project leader to manage the various forms of available expertise, to enable individuals who are not used to it to work together in a team, thus creating the desired added value through the best possible integration and cooperation – or at least the best adapted to the specificities of the project [16] – and finally to favour collective learning.

Because individuals play a paramount role in these projects, it is crucial to take into account the contributions of cognitive psychology. The psychological limits of the individuals restrain them to paying attention to non-routine problems and lead them to look for simple causal models [17]. Furthermore, the inertia they show in organizational life restricts their capability to get involved in learning processes [18,19]. Moreover, it was empirically shown that the individuals have a limited capability to deal with complex-

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