Organizing for innovation in a product development project Combining innovative and result oriented ways of working – A case study

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Abstract

This case study investigates how leadership and management support creativity and innovation in the operative work of a product development project team. The aim of the study was to investigate factors that support the generation of new and innovative ideas as well as the efficient evaluation and implementation of ideas into a product. The aim was also to enhance the understanding of innovation when a project is characterized by pressure in terms of tight schedules, the need for progress, and a shortage of competencies. The investigated project provides an example of how innovation in a PD project benefits from pressure. The result shows how the following support a project team's performance and enhance innovation: a clear vision – accompanied by freedom in the realization of that vision, transparency in the product architecture, enhanced communication and problem ownership. The results show also the interplay between leadership skills, individual characteristics (such as competence, attitude and motivation) and project characteristics (such as sense of urgency and a unique product).

1. Introduction

This paper presents a study that investigates how leadership and management support creativity and innovation in the operative work of a project team within a product development (PD) project. The leading idea in this paper is that successful projects of this type depend on the generation and implementation of new ideas in a project and on opportunities for explorative work. The case presented provides an unusual example of how a project can achieve creative solutions and innovations and at the same time maintain a strong orientation toward results and progress. The case is an example of how new knowledge and solutions were developed and managed during the execution phases.

Many companies treat innovation as an issue for the early phases of a project, separate from execution phases. This is an approach in accordance with the principles of established linear project models in new product development [1]. However, in this case creativity and innovation were critical to maintain throughout the whole PD project for developing new knowledge and testing new solutions. Exploitation and explorations were managed simultaneously and the creative processes were stimulated while at the same time they were held "within the box".

A flexible organization, with high levels of freedom and risk taking, is commonly proposed as a way to support innovation. However, not only is that difficult to achieve,

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modifications are needed for the PD project context. Project organizations face a tough but necessary challenge: to have projects that run efficiently according to plan but that still leave room for exploration and the creation of new knowledge. Some researchers argue that too much formalization can be detrimental for innovation [2,3]. The study presented in this paper was made with the purpose of investigating how organizational and product-related factors encourage or hinder creativity and innovation in a PD project team.

2. Theoretical framework

Although, innovation has been widely discussed and still attracts extensive research efforts, there is limited knowledge of how internal (organizational) and external factors affect innovation in product development teams. In order to facilitate and enable these identified factors for innovation projects are also highly dependent on the execution of leadership.

Creativity is an important dimension of innovation and of particular interest when studying the interactions between people in product development and their work. Creativity is the start of innovation because creativity encompasses the creation of new ideas, with the implementation of these ideas being a part of innovation [4].

The following theoretical framework presents important factors to consider when analyzing innovation at a project team level.

2.1. The innovative organization

Strengthening the capacity for innovation in PD organizations has been a focus of research and could be summarized in 10 factors [5]. Effective innovation has to be based on a clear and firm *customer focus*. Companies must possess a *will to innovate* backed by vision and leadership consistent with a focus on explorative thinking in both products and organizing. *Structures* need to provide a balance between organic and mechanistic approaches in combination with a *creative work climate*. Innovation often needs to be promoted or protected by *key individuals* acting as champions. Innovation must be a collective effort using *effective teamwork,* with carefully selected cross-functional teams based on *extensive communication* internally and externally and with a high *involvement in innovation*. High involvement, in this paper, means that each and every person is responsible for taking part in continuous improvements and securing *individual development* along with contributions to the *learning organization*.

One important external factor affecting innovation is the surrounding technological landscape [6]. The technological landscape influences what products are developed and what technology is used. An organization's success in innovation depends on its ability to navigate both technological and market developments [7]. There is no formula on how to make sure that an organization

achieves the right balance between looking to future opportunities and taking advantage of present opportunities. No organization can focus on just radical innovation or incremental improvements of existing products. There is a need to manage different levels and types of innovation [8]. Projects can be means to detect valuable ideas for new products and services. The reason is that it is in the project environment where customer requirements or feedback meet the technical opportunities and where applications outside the project scope can be identified, if asked for. It is crucial for organizations to understand that knowledge to understand future needs has to be acquired within on-going projects.

2.2. Creativity and innovation in PD projects

Although it cannot be proved exactly how specific efforts at the operational project team level relate to the successful introduction of an innovation in the market, many researchers have pointed out the need for a creative climate and extensive communication and co-operation between disciplines for successful innovation [9–11].

According to West [4] three themes are identified in research on creativity and innovation in project teams. The first theme addresses product characteristics, the second diversity in competence, and the third, team integration. One more theme has been neglected, however, that of contextual demands and the way such demands hinder or encourage creativity and innovation [4]. Contextual factors, such as external pressures on progress and lack of product specifications, have to be considered in addition to organizational factors if opportunities for idea generation and the implementation of those ideas in a project are to be understood.

Creativity is a human process that enables a person to think outside the pre-assumed scope of what would be expected [12]. A working climate that is supportive of creativity is characterized by risk taking, trust, and challenge in work tasks [13–15]. A greater focus on control, as opposed to flexibility, in leadership and structures could affect creativity negatively [13]. Structures, organizations, and planning should therefore be flexible and encourage individual accountability for outcomes, such as technical solutions, for example [16]. Individual project members have to feel that they can influence project plans if they find alternative and more suitable solutions to problems.

Project management or formalized PD-processes can support progress as well as development, but there is a risk that explorative work and innovation could suffer. Projects are generally managed in accordance with a process, proposed or mandatory within the company, that has a number of well-defined decision points or tollgates with clear input and output data. A pre-defined process and a clear product specification are of support when planning activities and deliveries [17,18] and increase the probability of meeting goals and abiding by plans [19].