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Towards effective knowledge transfer in high-tech project environments: Preliminary development of key determinants

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Abstract

Effective knowledge transfer for project success is examined in this paper. Particular emphasis is placed on the determinants of organizational culture that endorse value driven activities. This paper reports on the preliminary results of a study targeted at knowledge workers operating in a high-tech dynamic environment. The aim of the research is to promote better knowledge transfer in order to improve project success. We synthesize the relevant literature in an attempt to isolate key determinants for success based on best practice. From this, a comprehensive audit tool containing explicit statements is developed. The goal of this tool is to facilitate leaders and decision makers to assess current performance regarding knowledge transfer against published best practice. The contributions of this research are threefold. First, it answers calls for further work in a neglected but essential area in project management. Second, the study synthesizes relevant literature and adds to the academic debate in the space. Third, the development of a new audit tool acts as an independent validation resource for leaders and decision makers and thus helps to bridge the gap between theory and practice.

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1. Introduction

Scientific research acknowledges that knowledge management as a key determinant of project success^{1,2,3}. Effective knowledge transfer has been found to have a significant impact on project performance^{4,5,6}. More specifically, researchers have found that it can improve the relationships between employees, improve technical and problem solving skills and also enhance key decision making skills⁷. Effective knowledge transfer can positively influence an organization's long term success^{8,9,10} and has been found to be the most important strategic resource for an organization within a project environment³. Nevertheless, managers and leaders within project organizations have found knowledge transfer to be difficult to endorse in organizations^{4,6,11}. Perhaps this is because knowledge transfer is a multi-dimensional concept; is a core factor in the creation of new knowledge and it can also be viewed as an asset that can be managed, applied and absorbed^{3,12}. Researchers also indicate that knowledge transfer in a project environment is an insufficiently explored topic^{13,14}. In particular, the literature highlights a research gap in softer side or people oriented factors of knowledge transfer and their relationship with project success^{3,12}. Therefore, it is critical that this topic is investigated in more depth in order to deepen our understanding of the area and address the research deficits.

Our study addresses these calls for empirical work to be conducted in the area of effective knowledge transfer in project environments. This paper reports on the preliminary developments in the study. More specifically, it examines the critical success factors of knowledge transfer that are related to project success in high-tech manufacturing organizations. This topic is essential for leaders and decision makers to understand exactly what factors can help or hinder project performance. Our research isolates critical constructs that are essential for success. We found that organizational culture is a key determinant to effective knowledge transfer. Consequently, we analyze and synthesize the literature in the area and generate a conceptual model based on good practice. From this, we design and develop an audit tool that allows an organization to assess its current performance vis-à-vis knowledge transfer against published best practice. Findings of our work to date are presented in this paper.

2. Conceptual model

Organizational culture has been isolated as a critical enabling factor for effective knowledge transfer^{10,15}. Possession of positive cultural characteristics provides an organization with the necessary ingredients to share and absorb knowledge. It is important to note however that organizational culture can be both an enabler and a barrier to knowledge transfer and sharing. While best practice is en-cultured, so too are bad habits and incompetence as cultural practices within companies often present significant obstructions to the sharing of knowledge. However, it is possible to create an organization that has an appropriate culture to promote knowledge creation, transfer and reuse. This is achieved by developing a culture of openness and sharing, by motivating and engaging people and embedding knowledge management activities in the day to day business processes, internal systems and structures. We found that people centered issues such as the quality of human interactions, their motivations and decisionmaking processes have a stronger enabling effect when compared to other factors such as the organizations' processes, systems or structures^{4,16}. In order to create such a culture for knowledge transfer astute organizations will focus their attention on identifying and managing these determinants. There are many different cultural factors that have an effect on knowledge transfer which have been the subject of numerous studies completed in recent times. Table 1 synthesizes some of the key findings. While it is apparent that there are many culture oriented determinants within organizations, some key issues and themes emerged from our analysis. These are synthesized, categorized and discussed in more detail in the following subsections.

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