

Chapter 88

Knowledge Integration in Problem Solving Processes: A Case Study – Perceptions of Workers

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ABSTRACT

This article analyses the knowledge integration in problem-solving situations which requires a high level of interaction and trust among workers. Literature review explores the main barriers associated to knowledge integration and use and even if most problem situations are solved in an unconscious way, automatically and in a few seconds, others situations requires more time, effort, teamwork, collaboration and extensive abstract knowledge. This research goal is to analyses the perceptions of the workers from Alpha Organisation. The research findings allow us to conclude that depending on the complexity of the workstation, the Operator decides if he has the knowledge and the tools to solve the problem or if he needs help from Managers. The use and share of employees' knowledge is an important factor to solve problems and strengthen performance. However, several organisational and individual barriers condition the process.

INTRODUCTION

This research was developed in one innovative organisation from Bosch group and specialized in thermotechnology (that we will designate as Alpha Organisation). This organisation is responsible for all activities involving heating technology and hot-water solutions and is located in Portugal.

Bosch created an innovation centre in thermotechnology with workers from several countries with the goal to improve and create new heat

water solutions. This products are tested in the plant and all the anomalies and problems are analysed using a dynamic methodology. All workers participate in the process and share their experiences and knowledge in order to achieve high quality products. This research main goal was to analyse the perceptions of organizational actors regarding knowledge integration trough problem solving processes in organizations activities and practices. The research was conducted in the Alpha Organisation located in Aveiro, Portugal and

DOI: 10.4018/978-1-4666-9562-7.ch088

involved operators, technicians and managers in separate group recall sessions where they shared experiences, ideas and gave suggestions about the knowledge integration processes.

Five employees participated in each group recall session - totalizing 30 persons from the company. For data analysis we used analysis grids based on employee's quotations. We did not want to find out percentages or values and it was not our goal to make any kind of measures, but to understand the processes for knowledge sharing and integration in the company in problem solving situations.

After the introduction, the literature review on knowledge sharing processes is reviewed, followed by the research methodology and the findings from the research.

LITERATURE REVIEW

The literature review will include the following topics: knowledge concept, knowledge sharing integration and types of knowledge used in problem solving situations.

In the knowledge concept topic we will discuss the main ideas of reference authors as Nonaka et al. (2000) they assume that knowledge can be an enabler or a disabler of problem solving.

The idea of knowledge sharing and integration is explored in the next topic with the same designation with the goal to understand how employees use their knowledge and what kind of individual and organisational barriers arise in order to limit the knowledge sharing process.

Finally we will explore the types of knowledge used in problem solving situations: Situational knowledge, Declarative knowledge, Procedural knowledge or Strategic knowledge.

KNOWLEDGE CONCEPT

The goal of this research is to analyse the knowledge integration processes in problem solving situations. To analyse this association it's important to mention that we have supported our research in the knowledge management literature and It shows us that knowledge can be an enabler or a disabler of problem situations because individual knowledge transfer and use is a very complex social interaction process (McAdam & McCreedy, 1999; Nonaka, et al., 2000).

According to this idea it's important to analyse the concept of knowledge, as the nuclear element of this study. Thus (Davenport & Prusak 2000) refers that knowledge is a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. On another perspective, (Polanyi, 1958) associates knowledge to action, saying that knowledge is the ability to act. Nonaka & Takeuchi (1995) explain that knowledge is created by the flow of information associated with the beliefs and commitment of those who possess it. In their perspective, knowledge is created within the company to make it more successful, to keep it on the market, to increase competitiveness and to keep it ahead of its rivals.

To make a more wide analysis to the concept, (Coulson-Thomas, 2002) remarks that today's organisations do not compete in terms of products, services or technology but in terms of know-how, processes and values.

The analysis of the concept leads us to conclude that the immaterial nature of knowledge difficult the process of sharing and integrating knowledge in new practices and products and even in problem situation solving.

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