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LEVERAGING KNOWLEDGE THROUGH KNOWLEDGE MANAGEMENT IN KNOWLEDGE INTENSIVE ORGANIZATIONS

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ABSTRACT

In present competitive climate where the only certainty is uncertainty, knowledge is seen to be the most important strategic resource and many organizations realize that the value incorporated in their products and services is mainly due to the development of organizational knowledge resources The aim of this paper is to explain how to leverage this strategic resource ' Knowledge', for knowledge–intensive organizations like R & D organizations. For this reason, an analysis of the management literature on KM was conducted .The analysis of theoretical contributions is used to analyze and to drive the implementation of KM to improve knowledge use and decrease knowledge wastage in R & D projects.

Keywords: Knowledge, Knowledge Networks, Chief knowledge Officer

Introduction

In present competitive climate where the only certainty is uncertainty (Nonaka, 1991), knowledge is considered the main distinguishing factor of business success and is seen as the foundation of competitive advantage (Davenport & Prusak, 1998). Infact many organizations credit their capability differential to their intangible resources and consider knowledge as the differentiating element in a knowledge society (Drucker, 1993). Knowledge is seen to be the most important strategic resource and many organizations realize that the value incorporated in their products and services is mainly due to the development of organizational knowledge resources. In fact the capability of any organization to produce outputs can be considered as integration and application of the specialized knowledge held by individuals in the organization. In such an environment organizations need to know what they know and how they can use their knowledge more effectively to gain or sustain competitive advantage. Over the past decade, there has been increasing focus on knowledge management, resulting in many related contributions both theoretical and practical. Despite the wide acknowledgement of knowledge as a strategic resource, it is still not well understood how to leverage it effectively for knowledge–intensive organizations like R & D organizations.

The aim of this paper is to explain how to leverage knowledge for knowledge–intensive organizations like R & D organizations. For this reason, an analysis of the management literature on KM was conducted .The analysis of theoretical contributions is used to drive the implementation of KM to improve knowledge use and decrease knowledge wastage in R & D projects.

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Understanding Knowledge Management in R & D organizations

As the word itself speaks for itself, Knowledge Management is, but the management of knowledge. The knowledge is available in the form of documents, books, research papers; presentations, proceedings etc or it is available in form of human perceptions, experience or learning, which is embedded, tacitly in human minds. Both types of knowledge are available in large amounts within as well as outside the organization. This knowledge can be called as knowledge assets. These knowledge assets need to be managed so that they can be leveraged to meet organization goals. And it is here where Knowledge management comes into play.

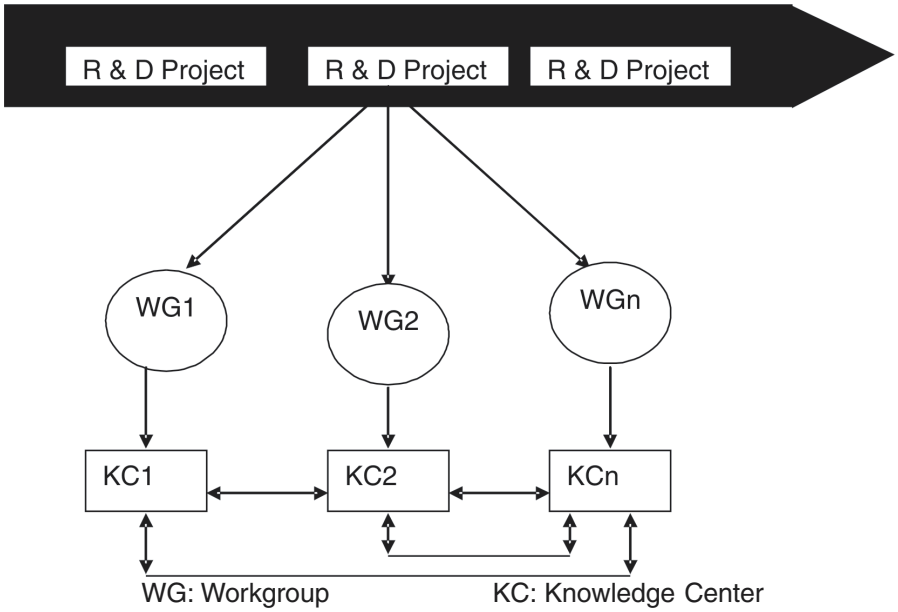

Figure 1: Leveraging Knowledge in R& D Projects

We know that R & D projects are divided into a large number of workgroups. Huge Heap of knowledge both explicit and tacit is available within each workgroups. If we want to use this knowledge for excellence, we need to manage these heaps. The Fig 1 shows how to manage huge amounts of knowledge available inside workgroups and to share that knowledge with other workgroups. Each workgroup is related to a particular technology area. Each workgroup has a knowledge center associated with it. Knowledge Centers of all the workgroups are connected to each other to form Knowledge Network. The concept of knowledge networks is supported by the work of Stefan Koruna (2004) says, for R & D projects, network organization is needed. He says that the various sections within R&D compete against each other for resources. This competition is detrimental to collaboration within the department. The network organization will ease collaboration and eliminate internal competition without causing loss of competitiveness.

Establishing Knowledge Center

In order to implement knowledge management in an organization, first a knowledge center need to be established. Knowledge center is a group of dedicated people who are responsible for acquiring, capturing, storing and sharing of knowledge. Now just like any plant, which has inbound logistics and outbound logistics. Similarly, Knowledge center also has inbounds

3 Leveraging Knowledge in R & D projects

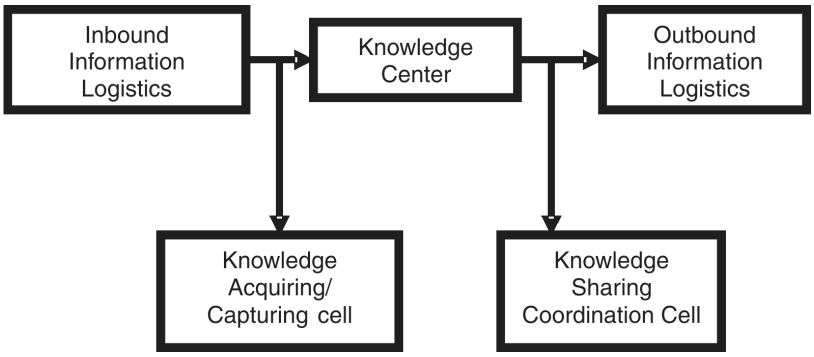

Figure 2: Knowledge management within workgroups

information logistics and outbound information logistics. Inbound information logistics are the knowledge assets acquired or captured by the knowledge center. Outbound logistics are the knowledge assets, which are shared by the knowledge center with other people of the organization. The activities of the knowledge center will be supported by information and communication tools.

Establishing Knowledge Acquisition ion/Capture Cell

In order to support knowledge center in the activity of inbound information logistics, a 'Knowledge Capture/Acquisition Cell' must be established. The functions of this cell involves the following:

- Creating a knowledge inventory. In order to do so, the knowledge capture and acquisition cell needs to find out answers to certain questions: (Kamara et. al., 2002) which knowledge is needed? What/Who are the knowledge sources? In what medium is the knowledge source holding the knowledge? Is the knowledge complete and authentic? How can that knowledge be converted into structured knowledge if not already present in that form? If knowledge acquisition/Capture cell has answers to these questions, the process of inbound information logistics becomes simple.
- Maintenance of Knowledge Holder Inventory Maintaining a knowledge holder inventory is not an easy task. It requires continuous updating as the expertise and knowledge of people may change with time. Updating of the inventory can be done on yearly basis or so.
- Providing knowledge from knowledge holders to the Knowledge center for storage. After knowledge holder inventory has been created by the Knowledge Capture /Acquisition cell, it must collect all the explicit knowledge from the knowledge holders and pass it on to the knowledge center for storage. Also the knowledge holder inventory must be provided to the knowledge center for storage, so that the knowledge holders can be easily located as and when required for the tacit knowledge they have.

Establishing Knowledge Sharing Coordination Cell

In order to support knowledge center in the activity of outbound information logistics, a Knowledge Sharing Coordination Cell must be established. The functions of this group will be to:

- Provide knowledge from the knowledge center to the person who has requested for the knowledge.

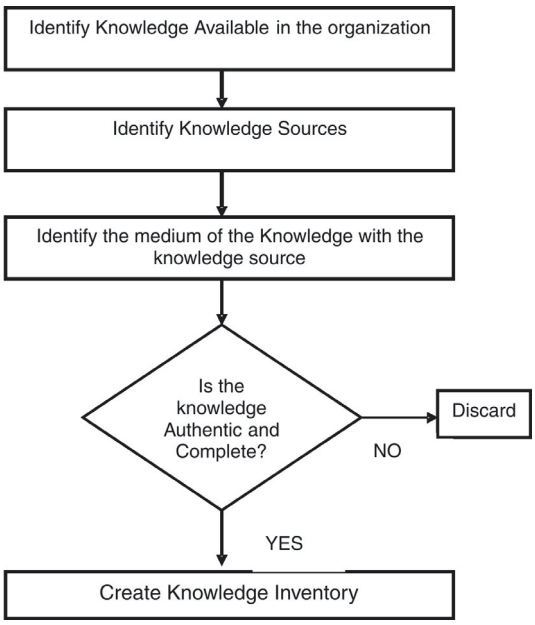

Figure 3: Creation of Knowledge Inventory

- Take care of security of the knowledge by deciding the accessibility level of knowledge available in knowledge center.

Appointing a Chief Knowledge Officer

In order to coordinate the activities of knowledge center; a Chief Knowledge Officer is required. The Chief Knowledge officer along with an advisory committee will formulate the policies for the knowledge center and help it to do its job in most efficient and effective manner. According to Davenport (1996), the CKO must embody the following roles:

- Advocate for knowledge and learning.
- Design, implement, and overseer organizations knowledge infrastructure.
- Primary liaison between external providers of information and knowledge.
- Lead the design and implementation of an organization's knowledge architecture.

Establishment of Knowledge Networks

Knowledge networks may be understood as networks between people, resources and relationships among them, which allow the creation and transfer of knowledge among individuals, groups, organizations, and between hierarchical levels. These networks are supported by Information and communication technology (Back et al, 2005). Knowledge network should consist in an integrated collaboration based both on tacit and explicit knowledge. A knowledge network based only on explicit knowledge limits the knowledge generation process: it impedes the proper advantage from collaboration, because knowledge tends to be tacit in the formative phases of knowledge creation. On the other side, a knowledge network based only on tacit knowledge does not encourage the knowledge sharing and application processes. Through networks, organizations receive several advantages. The access, transfer and integration of knowledge are improved. Knowledge networks also enable to increase Competencies, to use co-developed technologies and to share common tacit knowledge. (Canzano & Grimaldi, 2004).

In large, complex R & D projects, the project is divided into a large number of workgroups dispersed over large number of places. What we can do is have a knowledge center for every work groups. These knowledge centers must then be networked as they may be dispersed at various places both within the lab and outside the lab. Knowledge Manager must be appointed to see if the knowledge network is working fine or not. Knowledge network must be designed by the project experts along with the Knowledge Management expert. This network will be project / product specific, making it more effective and efficient.

Establishment of Communities of Practice for Leveraging Tacit Knowledge

Communities of Practice are the oldest elements used by organizations to leverage tacit knowledge. Communities of practices are a group of people who share information, insight, experience, and tools about an area of common interest (Wenger, 1998). A community's focus could be on a professional discipline - like reservoir engineering or biology - a skill - like machine repair-or a topic like technology, an industry, or a segment of a production process. In a manufacturing company, for example, communities would be formed around steps in the production process, which is organized into cross-functional teams, formed them around key disciplines and topics that cross individual teams. Communities of practice have always been part of the informal structure of the organizations. They are formed spontaneously as people seek help, try to solve problems, develop new ideas and approaches, Some say that spontaneous communities of practice have always been the real vehicle through which technical knowledge spreads through organizations. Spontaneous communities of practice are informal. People participate in them as their interest, time and energy dictates. Although they usually gel around a particular topic or domain, the specific issues they focus on change over time, as the need and interests of their members change.

Conclusion

Knowledge management plays an important role in R& D projects. Knowledge Management can be leveraged for R&D projects in various ways. A knowledge center along with knowledge acquisition/capturing cell and knowledge sharing coordination cell can be established. A Knowledge Inventory can be created. The Chief Knowledge officer along with an advisory committee must be appointed to formulate the policies for the knowledge center and help it to do its job in most efficient and effective manner. Knowledge networks must be established so that knowledge between various workgroups of the R & D projects can be shared throughout the project. In order to leverage tacit knowledge, communities of practices must be established.

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