Chapter 4.10

Knowledge Flow Networks and Communities of Practice In Business Process Management

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ABSTRACT

Business process management (BPM) is a common approach used in dynamic and complicated environment throughout the organizations' operation. Knowledge Flow Networks (KFN) and Communities of Practice (CoPs), especially that resulting from innovation needs, is regarded as a BPM issue. It involves both personal and organizational aspects, and is an iteration of the transmission between explicit and tacit knowledge. We discuss business process management in the context of Knowledge Management (KM) and knowledge flow networks. KFN, unlike workflow, can often transcend organizational boundaries and are distinct and different than workflow models. In this chapter, we develop, implement, and analyze a CoPs Centered KFN model in a multinational organization. The CoPs Centered KFN model is underpinned in a CoPs model built around four organization performance evaluation dimensions and sixteen criteria. Many criteria and clusters need to be taken into consideration while establishing a CoPs model. For this purpose, fuzzy multi-criteria decision making and cluster analysis techniques for evaluation of the CoPs Centered KFN model are employed in this chapter. A Dynamic Knowledge Flow Activity Analysis Model is also defined as part of our ongoing and future work.

1. INTRODUCTION

Organizations today exist in the knowledge era as against the information era of 1980 and 1990`s. They compete with each other on the basis of knowledge and innovation (OECD 1996, 1999). Thus organizational innovation through knowledge creation and flow is an important means of surviving as well as thriving in a highly competitive business environment. In pursuit of knowledge organizations of the future will not be constrained by traditional boundaries. Thus this research envisions organizations as a set of Knowledge Flow Networks (KFN) which can extend outside organizational boundaries as against conventional work flow networks. Human nodes used in workflow are not necessarily the same as nodes used in knowledge flow in an organization.

KFN not only falls within the scope of managers, information technologists and knowledge workers but involves Communities of Practice (CoPs) in an organization (Lesser, 2001). Most of the existing work on knowledge flow networks has centered around linking people based on organization structure, tasks, and knowledge compatibility (Zhuge, 2006). Existing research does not throw adequate light on the need that knowledge flow occurs between knowledge workers outside traditional organizational structure, business functions and organizational boundaries. In this chapter, the authors propose to enhance in design of KFN by modeling them based on CoPs in an organisation. In CoPs, like in KFN, people with a common goal come together to create, learn, process and share knowledge based on best practices. In this research, a CoPs model has been defined, which constitutes 16 criteria along four performance measurement dimensions. These criteria and dimensions are used to identify common interaction factors (beliefs and attitudes) which link and facilitate effective knowledge sharing between knowledge workers in a KFN. These factors and the CoPs model have been validated using a large multinational organization as a case study. Given that, knowledge flow is dynamic phenomena in an organization, we also define a dynamic model for analysing knowledge flow activities like knowledge sharing, knowledge discovery, and knowledge creation.

The chapter is organized as follows. Section 2 covers the theoretical considerations underpinning the definition and construction of KFN model. Section 3 describes implementation and Techniques of KFN model based on survey of R&D personnel in a multinational organization. Section 4 presents results and findings of the survey based on the fuzzy multi criteria decision making and cluster analysis techniques. Section 5 suggests the future research and trend. Section 6 concludes the chapter with future research directions.

2. THEORETICAL UNDERPINNINGS OF KFN MODEL

In this section we construct KFN model based on CoPs. We assume in this research that design of KFN is driven by the need to develop effective knowledge sharing and knowledge management (KM) mechanisms in order to enable organizations to compete in a knowledge based economy. In this context we, firstly, define a CoPs model, the criteria and dimensions it is based and the business strategies or benefits which can be evaluated using the model. We follow this with definition of CoPs centered KFN model which is used for implementation and analysis in our case study.

2.1 Communities of Practice

Despite the rise of technology-based Knowledge Management tools, implementations often fail to realize their stated objectives (Ambrosio 2000). It is envisaged that 70% of existing knowledge management tools have failed to achieve the anticipated business performance outcomes they had been designed for (Malhotra 2004). One of the primary reasons identified for the failure of existing KM tools has been that existing Knowledge

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