

KNOWLEDGE WITHIN GROUPS – FORMATION OF COMMUNITIES  
AND NETWORKS



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# ABSTRACT

Today's modern enterprises are entities that strive to create, share, and consume knowledge effectively with the least amount of overhead possible. The endeavor is to enable business performance using all the resources that are available to it. Businesses organize themselves into different groups, each performing specific tasks or projects, and each member defined by the roles and responsibilities of its management. Individuals and groups clearly make use of knowledge, both explicit and tacit, in what they do.

Communities of practice, or CoPs, are custodians of knowledge that an enterprise aspires to, but which they do not directly create. Individuals within the communities create the knowledge; it is the job of communities to integrate and institutionalize it. Even though organizations think of knowledge in organization, groups, and CoPs, it is necessary to focus in this study on individuals in the context of knowledge creation. Enterprises roll out knowledge management initiatives for these purposes but have met with limited success because individuals are incentivized to use the knowledge to achieve business goals; there is no (or very little) incentive to share or seek knowledge.

Most of the knowledge management systems have an emphasis on the codification of knowledge. Codified knowledge is important, but real productivity enhancers in groups and organizations are sources of tacit knowledge that exist within the groups and individuals within those groups.

In this study, the knowledge within CoPs, groups, and individuals, is examined. Primarily, a knowledge ontology is defined that is appropriate in the context of CoPs, groups, and individuals while keeping in mind creation, codification, and usage of knowledge by individuals within the context of CoPs and groups.

It is established through quantitative analysis that organizations and their members miss the knowledge which goes along with employees who leave an organization. Enterprises cannot codify all the knowledge that they desire. One of the ways to access the tacit knowledge of an individual is socialization. A mechanism is defined to build knowledge networks based on the communication patterns across individuals as part of their interaction in a CoP. These knowledge networks are then examined using social network analysis reveals the fact that each group has leaders, matchmakers who hold on to their position for long periods based on their contribution. These results are valid across multiple domains.

Enterprises may have their taxonomies it makes the content unsuitable for natural language processing. Even synonyms for words may be unsuitable. We define the concept of knowledge adjacency to find more appropriate alternative phrases for a candidate query that user may want to search. The information communication system is sometimes used by the organization members to advance their aims giving rise the phenomenon of cliques. We look at communities of practice for the existence of the similar phenomenon. Additionally, a methodology is proposed to identify these cliques and evaluate their characteristics.

We also look at what is holding these communities of practice alive. We define a mechanism to identify these individuals whose attrition may be most damaging to the community.

Finally, we propose a system architecture that can be the foundation for next generation of knowledge management systems which is more helpful in identifying the knowledge and source of knowledge within a community of practice.

Keywords: Communities of Practice, Groups, Knowledge, Tacit Knowledge, Knowledge Management, Explicit Knowledge, Codified

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