Social Networks for Knowledge Management in Management Consulting Firms

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Abstract. This paper seeks to review the role of social networks in knowledge management in the business context of consulting firms. Real cases are used to illustrate knowledge management efforts in consultancies. Based on the case study findings, we identify social networks as key ingredients of knowledge management in consulting firms. Therefore, we discuss social networks aspects and provide an account of relevant collaborative knowledge management tools supporting knowledge sharing within social networks.

1. Introduction

Management consulting firms are business services that are based on the application of highly specialized knowledge and expertise [Daw00]. These firms have three core assets: their people; the client relationships their people build; and the intellectual capital that members of the firm work hard to develop. All three assets have one characteristic in common: each is knowledge-based. It is knowledge that extends beyond knowing how to do a particular job. It is knowledge of how to deploy people to make the best use of their talents, how to make decisions that help build a strong client base, and how to guide change as markets and conditions change. Since relevant knowledge in enterprises does not already exist in individuals, but is continuously produced and revised in a social process, knowledge can be defined as a dynamic social construction of reality dependent upon the specific experiences made by individuals [HK05].

In this paper we review the role of social networks in knowledge management (KM) within management consulting firms considering knowledge as a social construction. First, we analyse the KM efforts within consultancies in a number of real cases. Based on the findings of the case study, we identify social networks as key ingredients of KM in consultancies. Therefore, we study social networks aspects and provide an account of relevant KM tools supporting social networks. We conclude with a discussion of related research issues and outlook directions.
2. KM Efforts in Management Consulting Firms

2.1. Survey of KM in Management Consulting Firms

In our case study, seven examples (Arthur Andersen, Booz-Allen & Hamilton, Ernst & Young, KPMG, IBM consulting, McKinsey & Company, Cap Gemini) of KM efforts in consultancies from the literature were examined. In the following, we present our findings, following the three main KM processes (knowledge generation, knowledge organisation and development, knowledge distribution).

Knowledge generation

When we refer to knowledge generation, we mean the knowledge acquired by the firm as well as that developed within it. The most direct way that firms use to acquire knowledge is to buy it - that is to buy an organisation or hire individuals that have it. In addition to being purchased, outside knowledge is usually leased or rented. For example, IBM Consulting has developed and uses a Research Database with information acquired primarily from external organisations such as the Economic Intelligence Unit and the Centre for Information Systems Research at MIT.

A usual approach that we identified in our study for knowledge generation is the establishment of units or groups specifically for that purpose, e.g. Research and Development departments. Ernst & Young’s Centre for Business Innovation is a typical example of some kind of R&D department.

By far the most common process by which knowledge is generated in consultancies is through fusion between knowledge networks. Networks of knowers, usually talk together in person, on the phone, and via e-mail and use groupware technologies to share expertise and solve problems together. Arthur Andersen is building communities of practice, seen as the primary source of new knowledge. Usually such networks are being administered by knowledge editors or facilitators. For example, KPMG uses integration manager’s to motivate, co-ordinate and manage projects where multiple communities of practice are involved.

Knowledge organisation and development

We found that a common practice is for knowledge codification projects to have more specific aims than just making knowledge generally available. IBM Consulting has adopted a customer-centric approach and has set as a specific objective in its KM programme to capture customer information and utilise it in context in areas such as distribution and marketing.

Mapping corporate knowledge sources is an important part of the knowledge organisation process. Once knowledge is found, someone must
evaluate it to assess its usefulness and importance to the organisation, and to determine its type. Knowledge maps, pointing to people or documents and databases, are widely used in order to provide pointers to sources of knowledge. For example, Arthur Andersen’s knowledge map allows for a top down navigation based on competency area.

Organising the richest tacit knowledge in consultancies is limited to locating someone with the knowledge, pointing the seeker to it, and encouraging them to interact while providing the necessary technological aids to enable a rich communication. Arthur Andersen provides the AA Online system for linking communities of interest across the globe. KPMG’s Knowledge On Line includes a database-driven expert skills directory. The assembling of virtual teams to work on a project also addresses the same issue. Multimedia computing and the hypertext capabilities of intranets provide the capability of effectively capturing at least some meaningful fraction of an expert’s knowledge, making tacit knowledge explicit. Mentoring or apprenticeship is often seen as way to transfer tacit knowledge from one person to another.

Another effort to support primarily organisation of tacit knowledge are the communities of practice. In Cap Gemini for instance, these work teams are specialised in any professional area of interest for Cap Gemini such as Applied Knowledge Management (AKM), Oracle applications, Microsoft products, etc. Communities of practice are also used for knowledge sharing, innovation, and capturing of opportunities by the employees in the specific areas.

An identified challenge for the cases we examined is the very loose coupling of the processes that produced the highly structured, explicit knowledge with the owners of the tacit knowledge. In most cases, the management of tacit and explicit knowledge was not addressed in a holistic manner.

**Knowledge distribution**

Transferring knowledge through personal conversations is being threatened by the increasing mobility of the consultants. Field consultants who work daily on the site are less likely to pass on knowledge and insight on clients and problems handled to their colleagues. Information technology, and in particular intranets and Lotus Notes-based applications are seen as substitutes to personal communication although they lack the idea generation capability and serendipity of personal, face-to-face conversations.

Tacit and ambiguous knowledge is especially hard to transfer from the resource that creates it to other parts of the organisation. Some
Consultancies are addressing this challenge by putting knowledge into circulation and transferring people in and out of the dedicated resource. Knowledge managers, for example, can spend a period of time in one domain helping to generate new knowledge before they are replaced by newcomers. However, there exists a challenge for most firms to make knowledge distribution an easier and, if possible, transparent process: Consultants should be faced with the minimum possible overhead in sharing the knowledge gained in assignments with their colleagues.

2.2. Discussion

Existing KM efforts in consultancies can be typically characterised as “management-driven”. Senior management, faced with strong market (such as internalisation of business) and internal forces (such as mobility of workforce), is recognising KM as a management practice to gain competitive advantage. This approach guarantees senior management support which is a key enabler for KM success. Senior management is also driving the overall change management process that should accompany any major “management-driven” initiative: They try to foster a knowledge-sharing culture; provide incentives and motivate professionals to capture, share and use knowledge and reward them for doing so. Moreover, senior management can assist the KM effort by clarifying what type of knowledge is most important to the company and focusing the effort in the core business priorities; removing barriers and providing funding for the infrastructure; and making sure that the organisation’s commitment to the KM effort is widely communicated throughout the firm.

The management-driven KM approach has merits and in many cases yields results. It provides clarity of purpose and vision, two critical factors in any type of organisational change project, but also two particularly important elements of successful KM projects. Senior management also assures that the KM project is linked to economic benefit or company success. However, on one hand it is costly and on the other hand it is not easily sustainable: It requires significant investment in change management, in establishing formal knowledge processes and organisational structures and in deploying expensive technology.

Because of the aforementioned limitations of the management-driven KM approach, there exists a trend among consultancies of capitalising on existing, usually informal social structures that reside in the company. Social networking among employees constitutes the backbone for tacit knowledge sharing. Moreover, social networking is pertinent to KM because of the following two reasons [SGB99]. First, KM should comprise
a holistic view of knowledge, that is to say, the integration of explicit and tacit knowledge. Secondly, KM should comprehensively regard where or rather how knowledge is being created and transferred. To focus on explicit knowledge only, or still to take a confined view of work, learning and innovation areas would incur the risk of erecting barriers of various kinds, functional and hierarchical. Barriers to KM should be overcome by “networking”, and knowledge islands should be cross-linked in order to stimulate the evolution, dissemination and application of knowledge.

Taking advantage of social networks in order to improve organisational KM is a highly demanding task that involves, among others, understanding their inhibitors and levers, and establishing a set of clearly defined roles and expectations. In the following section we outline the main characteristics and aspects of social networks and provide an account of relevant KM tools supporting social networks.

3. Social Networks

3.1. Social Networks and Social Network Analysis

Definition and their importance

Social networks are based on the idea that there is a determinable structure to how each person is connected to another, whether directly or indirectly, which became popular due to notions such as “six degrees of separation” [CH05]. The term “Social Network”, used first by J. A. Barnes in 1951, can be interpreted as the social structure between actors, mostly individuals or organizations, as well as between collectives of organizations, communities or even societies. A “Social Network” can be seen as: “a specific set of linkages among a defined set of actors, with the additional property that the characteristics of these linkages as a whole may be used to interpret the social behaviour of the actors involved” [SGB99]. Social Network Analysis (SNA), a key technique in many modern research fields such as sociology, anthropology, social psychology and organizational studies, analyzes social networks through network theory, which views social relationships in terms of nodes and ties [CH05].

In the modern economy environment, social network concepts have become increasingly interesting to many companies, since the evolution of network relationships within and between firms affects most companies. Social networks are used to examine associations and connections between individual employees at different companies, as well as how companies interact with each other. SNA helps researchers to understand how people
communicate and cooperate and to identify knowledge flows at the intra-organizational level as well as the inter-organizational level [SGB99]. Several firms are offering services based on SNA, promising optimization of information flow as a way to improve efficiency, reduce costs, and improve productivity [CH05].

3.2. Characteristics of Social Networks

According to [SGB99], the main characteristics of social networks are related to the nature of the relationships formed within them, the network shape and the mechanisms and forces which affect networks development:

- The relationships between network actors are founded upon personnel-organizational or technical-organizational interconnections on a long-term basis and can be understood as deriving from their autonomy and interdependence, the coexistence of co-operation and competition as well as reciprocity and stability. The relationships evolving between actors of social networks can be categorized according to contents (e.g. products or services, information, emotions), form (e.g. duration and closeness of the relationship) and intensity (e.g. communication-frequency). The form and intensity of the relationships establishes the network structure.

- The shape of the social network is a determining factor for the network’s usefulness to its individuals. Social networks with a lot of connections to individuals outside the main network are more useful to their members than smaller, tighter networks, because the participants of “open” networks have access to a wide range of information and therefore are more likely to have new ideas and opportunities.

- Social networks can result through internalization or externalization. Internalization means an intensification of cooperation, while externalization is a limited functional outsourcing, which is reached by loosening hierarchical co-ordination mechanisms. Both internalization and externalization may take place at the same time within a company. Moreover they can occur not only horizontally, i.e. on the same level of the value chain, but also vertically between actors on different levels of the value chain, e.g. between suppliers and customers.

Social networks within enterprises assembled to accumulate and use knowledge mainly by means of knowledge creation and transfer processes, for the purpose of creating value, i.e. knowledge networks, can be informal as well as formal [BFD03]. An informal networks is a loosely-knit group consisting of individuals who share a common interest and comes into existence bottom-up [Fon01], while a formal network represents a group of
people having a specific issue or a problem to solve occurs as a result of a specific goal and its development is prompted by the management [WMS02].

3.3. KM Tools supporting Social Networks

Social networks members belong to multiple organization units or even organizations and work in dispersed locations. Therefore, they have a strong requirement for collaborative tools supporting them working together and sharing knowledge and information in a decentralized, distributed environment. We serve the following selected technologies contributing to knowledge sharing within business networks to give a picture of the currently most important technologies supporting knowledge sharing and collaboration in social networks within enterprises.

Large distributed, global organizations have a hard time locating experts in given subject areas. Since the most efficient way to transfer skills and knowledge is from one person to another, this presents a problem for many of today’s virtualized and geographically distributed organizations hindering collaboration or reuse of expertise. Expertise Location Management Tools provide help in finding the expertise needed. Expertise management combines expertise capture and expertise profiling applications, identifying experts and their areas of expertise, and presenting it to users in a searchable format [Log06a].

Wikis, relative newcomers to the commercial collaboration space, constitute an extreme form of ”Web democracy”, since they are Web pages that can be edited by any reader or can have authentication set by the site owner [LA06]. Enabling shared authorship and delivering facilities for multiple authors to work on content, exchange ideas and connect information in a potentially sophisticated network of pages, Wikis can foster rapid and easy collaboration within business networks and can be used to create multiple workspaces with page hierarchies and page linking for projects or topics [Har06].

Visualization tools have been developed to investigate the structure of knowledge domains and knowledge within domains and include tools like taxonomies and knowledge maps [OZL04]. Taxonomies, i.e. shared classification scheme of terms, provide assistance for the classification and structuring of knowledge. Customers typically receive a predefined taxonomy and therefore, not only are saved the extra work and trouble of manually categorizing, but they also avoid the risk of creating inconsistent, non-comprehensive and badly-organized taxonomies. Knowledge maps can provide assistance in identification of knowledge that falls between tacit and
implicit leading to its codification, and therefore they represent a route to
overcoming the taxonomies’ hierarchical limitation.
Social tagging as a form of metadata management has interesting
implications for KM. Also known as “folksonomies,” social tagging is a
way to obtain user-created metadata that doesn't rely on the tedious, error-
prone and notoriously expensive method of having document authors or
editors supply it. Social tagging sources metadata creation to communities
of users, reflecting what people really think and call things, rather than what
an editor “thinks” they should be called or what an author "knows" these
things as [Log06b].

4. Research Issues and Outlook
In the modern, knowledge-based economy, hardly any company remains
unaffected by the evolution of network-like relationships within and
between firms. The complexities in tasks and the demand for creative work
from the workers have shifted the style of work from, historically, one of
coordination and cooperation to collaboration and the management’s focus
from the traditional “process-based” framework to a “teams-based” network
structure [Tsu02].
Social networks members belong to multiple organization units or even
organizations and work in dispersed locations and therefore, they have a
strong requirement for flexible and easy to deploy collaborative KM tools.
While in the last years comprehensive sets of tools including a mixture of
different technologies supporting communication have increased, the
individual components are not always well integrated [Har06]. Since the
trend grows among users who are seeking to support a broad range of
collaboration capabilities for the purposes of collaborating and sharing
knowledge, the integration of collaboration technologies is vital.
Collaborative software must, also, be flexible enough to support informal as
well as formal networks [Woo03]. While informal collaboration is typically
defined bottom-up by the requirements of the team or community
supported, formal collaboration is more often defined top-down in
accordance with the needs of the organization for process control. As
[Woo03] notices, collaborative KM tools should balance the different
requirements of informal and formal collaboration, that can also be
understood as a relationship between practice (how people work together to
get the job done) and process (the explicit or formal definition of how work
should be done).
Furthermore, the metadata management, the semantic technologies and the application of ontologies in KM tools are important topics affecting the development of collaborative software. Metadata management provides a complementary approach in better organization of data in cases in which search and analytical functions are not working well enough due to inconsistencies and ambiguities in the data and makes it much easier for machines to process and interpret the data automatically. New semantic architectures bring together information sources, which, previously, would have been more difficult [Cal06]. Finally, the application of ontologies in information systems in the area of KM allow the integration of heterogeneous information items within the corporate memory [Mik06].

References


References of KM consultancies' cases

Arthur Andersen:

Booz-Allen & Hamilton:
**Ernst & Young:**


**KPMG:**


**IBM Consulting:**


**McKinsey & Company:**


**Cap Gemini:**