An Applied Knowledge Framework to Enable Knowledge Reuse in Consulting firms

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Abstract: Knowledge is a core product of management consultancies. Consulting firms consider knowledge management to be a core capability for achieving competitive advantage. Knowledge management, especially in project management, faces a lot of challenges that are crucial for the efficiency of work and as a result the success of the projects. According to ISO 30401, there are some knowledge management enablers like human capital, knowledge processes, technology and infrastructure, governance and knowledge sharing culture. Among them are corporate sharing culture, technology and the structure of knowledge which is the most important for companies. The challenges of knowledge management in a consulting business, for example, time saving and efficiency can be solved within the creation of a structured and target-oriented knowledge framework which enables the reuse of knowledge in the whole consulting company. Qualitative methods were used to conceive, design, and to implement the knowledge framework. The approach has involved workshops that included associates, managers, senior consultants, and project directors. This approach enabled the author to record internal requirements and pain points in the current knowledge management base approach, conduct analysis, set priorities, and conceive a new knowledge framework that was able to solve the pain points of consultants and project managers and support them in their daily business. The new framework includes the following components: a flexible structure that adopts itself to defined tagging structure, the storage of knowledge according to the allocation of the content format, and automatically generated statistics to newly upload and download as well as most used files and documents. The results of conducted feedback workshops and interviews showed that the alignment of the new knowledge framework information architecture to the company's service portfolio and user-friendly design enabled a quick and target-oriented search for the documents and awareness of relevant and important information and knowledge and as a result lead to the increased efficiency of project work in the consulting company.

Keywords: knowledge management in consulting firms, knowledge framework, management consultancy knowledge management

1. Introduction

Knowledge management has gained a lot of attention in recent years, not least because of the revolution in communication technology. Information can be distributed faster and faster and employees have more and more options for communication at their disposal. Knowledge management is the core competence of international consulting companies because knowledge is their core asset (Hansen, Nohria and Tierney, 1999) that has been recognized by consulting firms as a key capability to their success (Martiny, 1998).

A relatively large research area of knowledge management is knowledge management in management consultancies or management consulting firms. The literature provides some insights into this field of knowledge management and discusses the differences between knowledge management in consulting firms and knowledge management in general (Wagner, 1992; Wojda and Schwedenwein, 2000). Wojda and Schwedenwein (2000) also deal with knowledge management in consulting firms and define project teams, how they function and how they are usually put together. Additionally, according to ISO 30401 the knowledge management enablers like human capital, knowledge processes, technology and infrastructure, governance and knowledge sharing culture have an impact on the success of knowledge management in the company. To delineate the concept of consulting firms, their tasks and responsibilities must be considered: a consulting company facilitates an interaction process between clients and employees of the consultancy, which is mainly carried out in the form of time-limited projects (Munchus, 1989). The consultant initiates change processes in the client's organisation by providing his expertise in the form of methods, procedures, concepts, problem-solving techniques, and studies (Munchus, 1999).

Knowledge is a key to value creation in almost all industries and organisations and is a key aspect of consulting firms (Sarvary, 1999; Fincham, 1999) because they rely on knowledge as a resource and as a product offering to their clients. During the emergence of the knowledge economy in the 1990s, most international consulting companies placed knowledge management at the core of their strategic agenda (Dunford, 2000; Hansen, Nohria and Tierney, 1999; Lowendahl, Revang and Fosstenlokken, 2001; Sarvary, 1999; Werr and Stjernberg, 2003; Haas and Hansen, 2005). Consultants are the most important asset of their companies and are considered the main

resource, as the company's competitive advantage lies in the consultant's ability and creativity to solve problems and provide solutions for clients (Lowendahl, Revang and Fosstenlokken, 2001). Yet project-based organizations face many challenges to achieving project effectiveness (Ruuska and Teigland, 2009). Since they are unique, goal-oriented systems, where technical, procedural, organizational, and human elements are incorporated, they are therefore composite in their nature (Frame, 1995). Knowledge thus forms a key component of their intellectual capital (Apostolou and Mentzas, 1999). Given their dependence on knowledge as a source of value creation for their customers, efficient knowledge management is a critical aspect in this context (Mas-Machuca and Martínez-Costa, 2012; Powell and Ambrosini, 2012).

To be successful in today's world, global advisory firms need to be knowledge-intensive, apply reuse economies, create knowledge, and deliver quality to keep pace with constant change. They need to learn faster and use knowledge faster than their competitors. To achieve this, they need to organise and manage the processes of knowledge sharing within the organisation effectively and efficiently. Knowledge in the advisory business consists of different forms, depending on the characteristics of the mandates (standard or specific), the sectors concerned (industry, trade, services), the client segments (large, medium-sized, or small enterprises) and the type of advice (management consultancy, auditing, legal advice, financial advice, etc.) (Janicot and Mignon, 2012). For Morris and Empson (1998), knowledge can take one of two different forms: technical knowledge and client knowledge. They claim that technical knowledge includes industry-specific knowledge (generic, generally available and shared with other companies in the industry, formally codified in professional examination curricula), organisation-specific knowledge (company-specific, related to different processes, procedures or products, may be formalised or tacit) and individual knowledge (resulting from the individual's previous experiences, training and unique combination of client engagements).

2. Knowledge Framework

Companies are continuously looking for ways to make their products more attractive and effective. In a study undertaken by Lim (2002), it was found that organizational culture, knowledge management process and technology provide strong support for effective knowledge reuse. As indicated earlier, other researchers also agree that the main components of knowledge management include organizational culture, processes, and technology (Lee and Hong, 2002). One strategy that is frequently deployed is to gather as much information as possible to understand how the user interacts with the product. However, the real challenge lies in how to effectively process this information to identify potential for improvement and opportunities.

Prior studies (Birkinshaw, Nobel and Ridderstrale, 2002) have shown that knowledge management provides challenges in every firm's context. The first general challenge for a consultancy firm that wants to build an effective knowledge management system is to ensure a high quality of information in the system (Mezher, et al., 2005). If employees of a consulting firm do not feed information into their company's system (Dunford, 2000), this quality can be compromised at a very basic stage. A speciality of a consulting firm is lack of time for knowledge work due to time consuming project work. Consultants should feed lessons learned or solutions they have developed into the databases and make them available to other employees - but "they just don't do it because the main problem is to find the time" (Davenport and Prusak, 1998, p.43).

The second general challenge for a consulting firm seeking to establish an effective knowledge management system is to ensure that the system, once established, is used (Mezher, et al., 2005). Despite the significant commitment of resources to set up such systems, not all consultants are willing to use the systems that have been implemented (Dunford, 2000).

Taking into account these challenges and additionally the knowledge management enabler, according to ISO 30401, the author attempted to find an approach to create an appropriate knowledge system e.g., a knowledge framework that ensures the appropriate format of gained knowhow on the consulting projects, storage in a user-friendly and clear structure as well as providing accessibility and reuse across the whole consulting company.

3. Methodical approach to conceptualize and implement the knowledge framework

This paper proposes an approach on how to conceive, create and implement a target-oriented knowledge management framework that offers a structure of corporate knowledge to enable the accessibility and the effective reuse of corporate knowledge in consulting companies. To obtain a holistic picture of the creation of a

knowledge framework, the author's aim was to conduct the workshops with the employees from different hierarchical levels in the Germany based consulting company to cover all requirements for knowledge and develop an appropriate structure.

3.1 Step 1 - Requirements assessment

The author aimed to include respondents across different hierarchical levels from the most junior up to the senior management level to reflect knowledge management practices and requirements from different perspectives. In this context the employees were divided into groups according to their seniority level. The approach has involved workshops that included associates, managers, senior consultants, and project directors. This approach enabled the internal requirements for knowledge to be recorded as well as the pain points in the current knowledge management base approach in the consulting company. This approach resulted in three workshops being conducted. The first one with the associates, the second with managers and the third one with senior managers and directors. The minimum number of participants in each workshop was 5 employees. The goal was to understand what kind of knowledge, in which format and for which seniority level was needed to reduce work efforts through the reuse of information and knowledge and therefore to increase productivity on the projects. The main questions during the workshops were which search terms does this specific target group use? Where does it look for information? What is important to this group in its research? The results of this comprehensive analysis and workshops turned into the initial concept of the knowledge framework for storage and therefore reuse of information across the whole consulting company.

3.2 Step 2 - Develop information architecture

In the proposed procedure the next step is to develop the information architecture of the knowledge framework based on recorded requirements for knowledge. The design or visualisation does not matter - it is all about the basic framework. The categories, such as, information, content and functions are effectively and efficiently findable and understandable in a good information architecture. The information architecture forms a basis for the design of the framework to ensure its best usability and user experience. To avoid misunderstandings in terminology, the knowledge framework should be aligned to the company strategic service portfolio. This provides the overall understanding of what kind of services the company provides and full transparency of knowledge that can be reused in daily business work. The knowledge framework should ensure not only a sophisticated structure but also enable the search and filter options. The search bar can be used to filter the dedicated documents by applied redirection to a separate search page with new filters. To reduce the costs of any adjustments as a result of the rapidly developing market situation and therefore changing service portfolio, the structure of the knowledge framework should be flexible and adjust itself according to a flexibly defined tagging structure. The structure of the framework is divided into three main clusters: technologies, services and expertise and related to them, a subcluster as shown in Figure 1. The storage of documents takes place according to the allocation of each of the following content formats that were defined during the workshops with employees as required: training, literature, pitch, fact pack, client ready, guideline and methods, templates.

The information architecture must be visualised through design, and this is the next step in the process.

3.3 Step 3 - Design and implementation

According to Pahl, et al. (2006) the main stages in the lifecycle of every product are: product planning and task setting; design and development; production, assembly and testing; marketing, consulting and sales; use, consumption and maintenance; and recycling or disposal.

3.4 Design

Design makes the products easy and intuitive to use and save the time. A good, well-thought-out design helps in the understanding of a product. The purpose of creating a knowledge framework is not only to ensure the storage of important knowledge across the company and make it accessible but also to ensure the usage of the whole product e.g., knowledge framework. To ensure the qualitative design of the final product, the author proposes the following procedure that consists of three main steps:

Step 1 Find a stakeholder and align on expectation level and deliverables
Step 2 Make a review and quality assurance on the first drafts
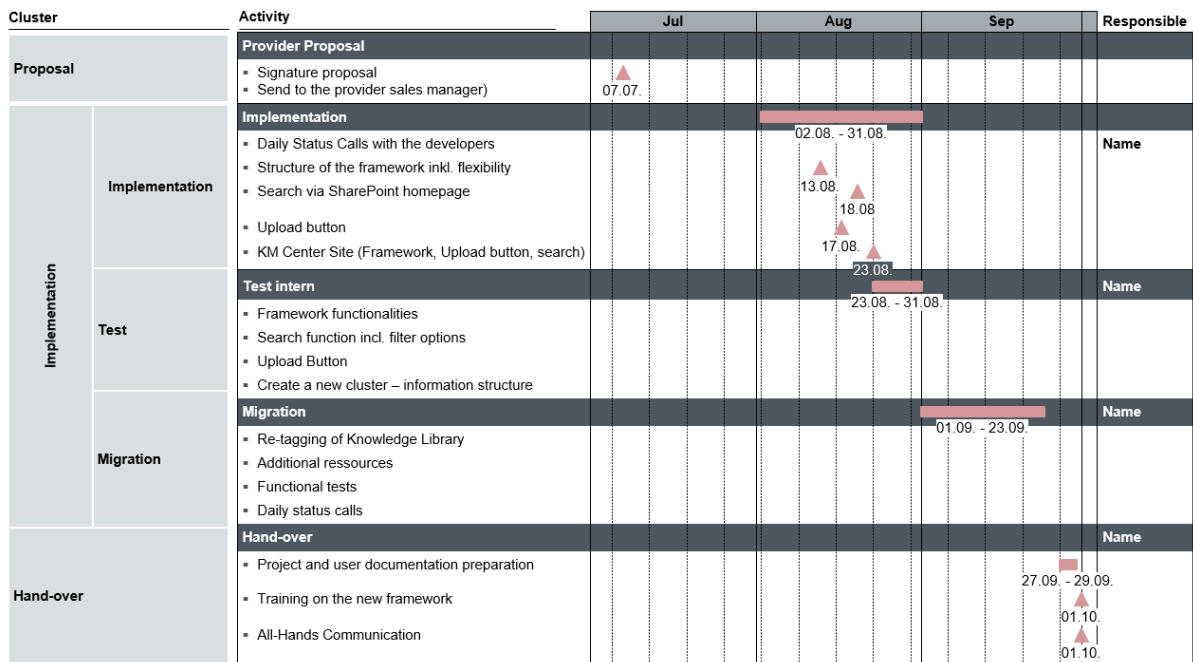Step 3 Accept the final design

Figure 1: Knowledge framework

3.5 Implementation

The framework shown in Figure 1 is an exemplary solution from a German consultancy. The procedure serves as a methodical basis for creating a knowledge structure as well as an exemplary design which can be applied to all entities.

The final step is implementation of the knowledge framework. To ensure the high quality of the knowledge framework, not to go over budget, the following recommendations are given to reach the result.

Stage 1 Develop a roadmap The roadmap enables visualisation of the overall project, gives an overview of the important milestones, the defined responsibilities for the tasks and the deadline, which enables progress tracking.

Cluster		Activity	Jul	Aug	Sep	Responsible
Proposal		**Provider Proposal**				
		▪ Signature proposal ▪ Send to the provider sales manager)	▲ 07.07.			
Implementation	**Implementation**	**Implementation**		▬▬▬▬▬ 02.08. - 31.08.		Name
		▪ Daily Status Calls with the developers ▪ Structure of the framework inkl. flexibility ▪ Search via SharePoint homepage ▪ Upload button ▪ KM Center Site (Framework, Upload button, search)		▲ 13.08. ▲ 18.08 ▲ 17.08. ▲ 23.08.		
	Test	**Test intern**		▬▬▬ 23.08. - 31.08.		Name
		▪ Framework functionalities ▪ Search function incl. filter options ▪ Upload Button ▪ Create a new cluster – information structure				
	Migration	**Migration**			▬▬▬▬▬ 01.09. - 23.09.	Name
		▪ Re-tagging of Knowledge Library ▪ Additional ressources ▪ Functional tests ▪ Daily status calls				
Hand-over		**Hand-over**				Name
		▪ Project and user documentation preparation ▪ Training on the new framework ▪ All-Hands Communication			▬ 27.09. - 29.09. ▲ 01.10. ▲ 01.10.	

Figure 2: Roadmap for implementing knowledge framework

Figure 2 shows all the milestones of the implementation phase of the knowledge framework that serve as exemplary guidelines and consists of three main clusters: proposal, implementation and hand-over.

Proposal – to ensure the successful start of implementation, the deadline of provider proposal signature should be tracked.

Implementation – this cluster gives an overview of the activities such as the functionalities of the framework that must be implemented by the developer to ensure the following testing and adjustments, if there are issues. Daily status calls are mandatory for all implementation projects to ensure the progress of developers and to answer their potential questions. All functions and the whole structure of the framework should be tested in order to avoid unexpected bugs and issues. If the consulting company has any old software, the migration of files from the old one to the new one should be taken into account and included on the roadmap.

Hand-over – in this cluster, documentation of the project and user documentation should be created. The project can be closed as soon as the training in the new solution and communcation to the whole company has been given.

3.6 Stage 2 – User stories
Create a JIRA space for the product owner (someone who has a target picture of how the knowledge framework should look like and what functions it should have) and for developers. Any user stories that describe the functions of the knowledge framework, the progress of work budget and the time scope, should all be tracked. An exemplary JIRA space can be seen in Figure 3.
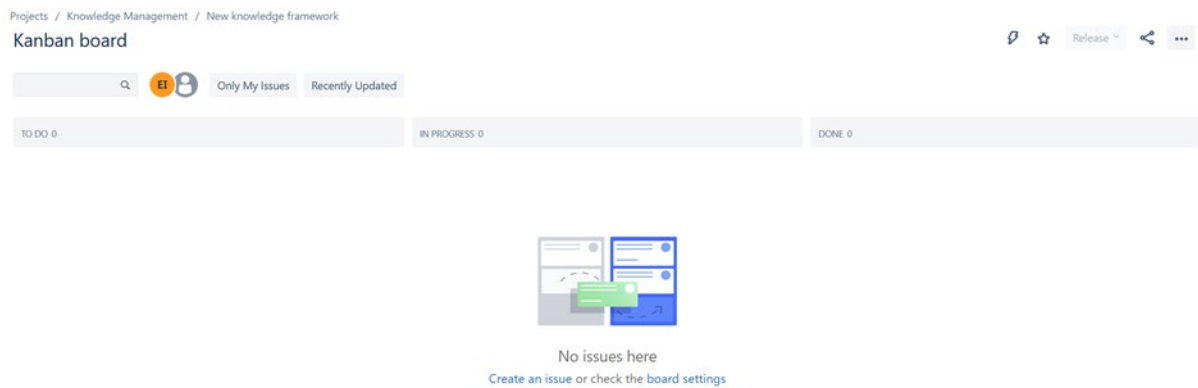
Figure 3: Exemplary JIRA board to track user stories

3.7 Stage 3 Kick-off with vendor and alignment on the expectation level and deliverables

This step can be run in parallel to steps 1 and 2 to reduce time and stay in scope. Research and analysis of a potential provider should be undertaken; select one who fulfils your expectation and who does not go over the budget. Additionally, align on the created user stories to ensure that developers understand the product and its functionalities.

3.8 Stage 4 Final quality assurance and acceptance

Ensure the quality of the developed knowledge framework, test all its functionalities, then the project can be officially closed.

4. Conclusion

The purpose of the paper was to provide a methodical approach for the successful conceptualisation and implementation of a knowledge framework. The research showed that knowledge is an essential part of management consultancy and has a direct impact on the success of the consulting firms. Therefore, it is even more important for companies to create a structured knowledge repository, where the project knowhow and overall knowledge is neatly stored. The challenge in creating such a system is the usability of the product. To achieve the best possible usability of the developed product, a multidimensional approach should be applied. In the first phase, the knowledge requirements must be determined. Since each seniority level at the consulting company has different requirements, employees from the different seniority levels should participate in the workshops to assess them. The next step is to define the information architecture of the knowledge framework, which is considered to be the base of the design. A user-friendly design ensures the successful usability of the product. After acceptance of the final design, the last step is to ensure the quality of the implementation, where the right vendor should be selected. Finally, to make the new product or the new knowledge framework visible across the whole company, a training series should be planned with all employees. The developed methodological approach for the creation of a knowledge framework was developed and successfully implemented at the Germany based consulting company and supported by the board of directors and all employees.

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