

Knowledge Management as a useful tool for implementing projects

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Key words: Knowledge Management, project management, customer related management, document server, public sector reform, digital government projects.

SUMMARY

This paper discusses the key factors for applying knowledge management as a tool for implementing projects. The increasing economic pressure within the public sector resulted in reform based on applied new technology for an improved service. Finally however the key factors for success are based on shifting the mindset. This public sector reforms had an impact on internal communication within governmental agencies but also increased the exchange of data and communication between institutions of the public sector in general.

This development started with increased sharing of data, and continues with promising initiatives on sharing knowledge. The European Union provides even funds for knowledge transfer bringing the public sector service providers closer together and facilitating developments for harmonized European public sector information. Relevant directives are a trigger for pushing that development.

1. INTRODUCTION

1.1 Terminology

Information is “knowledge which can be transmitted without loss of integrity once the syntactical rules required for deciphering it are known” (Kogut & Zander 1992:386), i.e. information knows what something means.

Know-how is “the accumulated practical skill or expertise that allows one to do something smoothly and efficiently” (Kogut & Zander 1992:386).

Knowledge Management (KM) is a term applied to techniques used for the systematic collection, transfer, security and management of information within organisations.

KM-System (KMS) is a distributed non-linear medium for managing knowledge in organizations to support capture, storage and dissemination of expertise and knowledge.

1.2 General observations

This paper discusses mechanism and experiences from Knowledge exchange between organizations, even when KM is per definition something to be applied within

organizations. New public management needs knowledge exchange across organization and inter-institutional cooperation. In government there should be a special interest in best practice exchange, as unlike commercial enterprises there is no competitive incentive to keep best practices secret.

The most visible and active exchange efforts focus mostly on public management: e-democracy, e-government and related source code. Some, notably best practice exchange among municipalities (Federation of Canadian Municipalities - InfraGuide), focus on very detailed procedures and operational processes required to manage sustainable municipal infrastructure.

Recently a study analyzed the situation on KM within the governmental sector in Switzerland and USA [Binz-Scharf, C.M. 2003]. Knowledge sharing processes are a central feature of the functioning of government. The importance of knowledge sharing has become even more evident with the rise of digital government initiatives, as these have a networking effect on bureaucracies, by bringing together individuals from different organizational units, with different skill sets, and different mental models, to work on a common goal – the implementation of the project. With multiple agencies and multidisciplinary knowledge coming together, it is necessary to combine and reconnect the required knowledge.

A manager of a digital government project formulated as follows:

The technology is not the challenge. That's really pretty easy. It's the people, and it's the policy... People are going to have to undergo a fundamental change, a total change in the way that they think about their jobs and deliver service, to make this work.

1.3 Paving the way: Public sector reforms

The public sector reforms demanded to focus public administration's attention on citizens' interests, advocating a customer orientation comparable to the private sector. Digital government initiatives comprise a wide range of ICT-enabled applications which require a new way of thinking about government processes in order to achieve efficiency gains by taking advantage of the possibilities that new technologies offer. These initiatives have remarkable improvements on the level of data sharing. Knowledge sharing however is a more complex process, which has to focus on explicit knowledge that is verbalized, written, drawn or otherwise, articulated. Tacit Knowledge, on the other hand is knowledge that has been defined as hard to communicate, deeply rooted in action, as a continuous activity of knowing or as "the way things are done around here".

A large variety of tacit-explicit knowledge categorization schemes can be found in the literature. Knowledge is categorized as simple or complex, teachable or not teachable, observable or not observable; divided in *knowing how something operates* and *knowing that it exists*; and recently defined in three aspects of knowledge: *Cognitive knowledge* in the form of mental constructs and precepts, *skills*, and *knowledge embodied in products*, well-defined services or artefacts.

	explicit knowledge	tacit knowledge
Polanyi (1966)	written, drawn or otherwise articulated	intuitive and unarticulated
Nonaki (1994)	discrete, captured in records	continuous activity of knowing
Spender (1996)	objectified	collective
Winter (1987)	simple, teachable, observable	complex, not teachable
Ryle (1949)	knowing that something exists	knowing how something operates
Kogut & Zander (1993)	information	know-how
Weiss (1998)	rationalized	embedded

Table 1: knowledge taxonomies along the tacit-explicit continuum,
Source:[Binz-Scharf, C.M. 2003].

The knowledge-based view of an institution derives from the resource-based view and claims that knowledge is the key productive resource (Grant 1996):

- Knowledge is the key productive resource of the firm in terms of contribution to value added and strategic significance.
- Knowledge comprises information, technology, know-how, and skills. A critical distinction is between explicit and tacit knowledge.
- Knowledge is acquired by individuals, and in the case of tacit knowledge is stored by individuals.
- Because of the cognitive and time limitations of human beings, individuals must specialize in their acquisition of knowledge: increased depth of knowledge can normally only be attained through sacrificing breadth of knowledge.
- Production typically requires the application of numerous types of specialized knowledge. Organizations can either learn from their own experiences or from the experiences of others

According to a growing number of practitioners, knowledge cannot be managed (e.g., Streatfield & Wilson 1999; Darr & Kurtzberg 2000), but knowledge sharing can be supported by acting on certain contextual and organizational variables that influence knowledge flows.

2. PRINCIPLES FOR SUCCESSFUL KNOWLEDGE MANAGEMENT

2.1 Communication as basis for knowledge transfer

Whenever people communicate they convey knowledge and skills highly contextualised to their current work situation and adapted to their partner's level of expertise. Usually, knowledge artefacts (e.g. a protocol of a meeting) are generated, edited and communicated in the organisation as (side) products of work processes or communication. This is where probably the most efficient and most effective knowledge transfer happens. But this is also the place where it is the hardest to unobtrusively capture knowledge, i.e. capturing knowledge without affecting people and their communication habits to an unacceptable

degree. To a large extent, this transfer is based on knowledge that shows up only in the process of generating and editing artefacts as well as in communication but does not show up directly in the artefacts.

In order to maximise the usefulness of existing knowledge artefacts they have to be enriched with information about their creation, evolution and usage within communication processes.

2.2 Knowledge-Base

In a competitive environment the mentor – trainee relationship does not work in the same way as provided within a university framework. Still knowledge is shared.

2.2.1 Categories of knowledge to be shared

- knowledge about customers and partners
- knowledge about the own organization: which experience and results can be used for next project
- knowledge about the work approaches and developing solutions
- Knowledge about area of expertise.

2.2.2 Categories of knowledge

- Knowledge which can be stored as information and maintained in software systems.
- Implicit knowledge, which is based on experience of individuals and groups from joint activities (projects)

2.2.3 Applied tools for knowledge management

- Classical document management, compound document management and software for automatic classification of content.

The following approaches facilitate access to the skills of the experts in an organization:

- Maintaining a „Skill“-Database“, which provide links to the relevant experts. This database shall be linked with the outcome of previous projects as well as with the human resource development.
- Meetings for briefing and exchange of experience focusing on special topics.
- Incentive system for those who actively contributing to the knowledge base.
- Coaching experts, who are new in that field of interest, training on the job by senior experts.
- Facilitating open communication between employees in order to achieve an optimized use of available resources.

3. CHANGING SYSTEMS, CHANGING MINDS

3.1 The way to the aim of knowledge management

Effective results require a preparation phase of 2-3 years. Awareness is the most crucial part of that phase:

- KM shall be incorporated into the targets of an organization with an impact on the corporate culture.
- The advantages shall be well understood by all players.
- KM has to be actively applied
- Required resources have to be ensured (Software, training)
- Workshops, Jour-Fixe and regular meetings shall support KM
- The positive experience from using these tools is the best way to convince.
- Any input shall be voluntarily and not forced
- Quality of input goes for quantity

The following topics have to be considered too:

- Managing old and outdated information,
- “Freedom of data”: everybody shall be permitted to contribute
- Know-how-transfer needs time,
- Statistics on top pages shall be provided: "Top-Hundred-Knowhows"

4. KNOWLEDGE-MANAGEMENT IN PRATICE

The willingness to share knowledge is often in fully contradiction to the traditions and professional experience. To be leading in knowledge is the basis of our business. This applies also for employees of a governmental agency being in contention with each other.

The traditional script “Withdrawing knowledge is power” is in full contradiction with the new approach “shared knowledge” within a network increases the value of knowledge based on the fact that coordinated activities applied by a group of people are more successful than the sum of activities performed by individuals.

The new paradigm shall be:

- “Sharing knowledge is power”
- “Sharing knowledge acts as seed with potential for grow and benefit
- “Put knowledge into a network to ensure growth of a key asset for providing benefit to customers.

Knowledge sharing processes are a central feature of the functioning of government. The importance of knowledge sharing has become even more evident with the rise of digital government projects (DGPs), as these have a networking effect on bureaucracies, by bringing together individuals from different organizational units, with different skill sets,

and different mental models, to work on a common goal: the implementation of the project. With multiple agencies and multidisciplinary knowledge coming together, it is necessary to combine and reconnect the required knowledge. The implementation of inter-institutional projects require a balanced mix of exploration and exploitation of knowledge, where exploration is more important in the conceptual phase, and exploitation becomes more fruitful in the implementation phase.

5. EXPERIENCES FROM PROJECTS

5.1 Cadastre project in the Autonomous Republic of Crimea, Ukraine

Implementation of this SWISS-funded project in the mid of 1990ies caused already in the first steps enough difficulties to result in an attitude of believing in a problem solving approach based on technology. This belief was, of course, combined with the established expectation that all other than technical aspects of the project would be solved by decree.

But it can be assumed that many governmental units on all different levels will be involved in applying the cadastre base in the future and that there will be competing interests among these different actors.

From a planning point-of-view the number of actors involved would call for a strategy of early coordination of competing interests. This point was difficult to communicate in the deliberations concerning our contract.

The effects of a lack of coordination, fomented by administrative units primarily defending their “homebases” did not seem to be a concern although they could eventually cause immense friction and loss of efficiency. Should we assume that this emphasis we noted on technical approaches is typical of and common to fast changing economies?

Conclusions:

- It is very helpful to combine other resources in a network at the homebase, for example by integrating Swiss universities in the project in both side’s interest (of private offices and of public universities).
- Involving competent local partners seems to be the best way to keep pace with all the uncertainty caused by rapid
- change and to close the cultural gap
- A high level of courage and of risk acceptance is indispensable. Immersion in a widely different political and sociocultural context requires adaptability.

5.2 Research-Information-Documentation-Evaluation-System, Vienna, Austria

The **WU-FIDES** (*Research-Information-Documentation-Evaluation-System*) at the Vienna University of Economics and Business Administration based on databases and ERP systems (BACH, SAP, etc.) <http://bach.wu-wien.ac.at/bachapp/cgi-bin/fides/fides.aspx> provides

search tools for Departments and research institutes, researchers, research projects, project partners, financiers and publications.

5.3 Knowledge-Management at BEV

Within BEV the following tools are currently in use:

- Customer related management (CRM). Information about partners and customers,
- Document-server: International: management reports resulting from international activities, meetings, projects.
- Document-server: Workflows, Guidelines and Rulebooks
- Document-server: QM Business-Processes

5.4 A project on Knowledge-sharing

The EU funded twinning project between the National Mapping and Cadastre Agencies (NMCAs) in Austria and Hungary: “Improving the Sustainability of the Land Administration System” focused on sharing experience and knowledge on managing tool. The main objective of this project was to improve the effectiveness of the land registration process and to assure the sustainability of the service. By exchanging organisation strategies and management strategies between the partners involved supports adapting and supplementing the existing processes with special attention on strengthen the client-orientated data services. The focus was on utilising existing IT tools, establishing a logical framework for benchmarking and Customer Satisfaction Index based on current trends and good practice within Europe.

6. CONCLUSION

There are good examples of knowledge management within institutions. However this process can also be applied on knowledge sharing between institutions, which is just at the beginning and will become a crucial element for success in an competitive environment.

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BIOGRAPHICAL NOTES

Gerhard MUGGENHUBER has some 20 years of professional experience in management of Cadastre and Geo-Information from projects in Austria as well as from consultancy abroad with recent project involvements in Serbia, Hungary and BiH based on activities of World Bank, EU and Austrian Development Agency.

In his present function as Vice-head of dept. S6 - International Relations at *BEV – Federal Office of Metrology and Surveying*, He contributed to numerous international initiatives in Eastern- and Central Europe like the World Bank “Initiative on Real Property Rights”. From 2002-2006 Gerhard Muggenhuber is elected Chairman of FIG-Commission3. From 1996-2001 he was member of bureau of the Working Party on Land Administration, an advisory body to the UN-ECE in Geneva.

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