Towards a Framework for Understanding KM Governance

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Towards a Framework for Understanding KM Governance

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Abstract

This paper contributes to KM research by building a framework for analyzing governance arrangements of KM programs and by exploring the relationship between the organizations and their KM approach. Multiple case research is employed in order to identify the mechanisms used by 12 international organizations to govern their KM programs. The research identifies a range of structural, process and relational aspects which contribute to the governance of the KM programs. These aspects are integrated into a KM governance framework.

The suggested framework extends current IT based frameworks by integrating KM specific governance aspects. Findings include the low use of formal governance processes and the high dependence on relational mechanisms to guide the KM programs. Moreover, relationships are identified between the KM governance configuration and the size, structure and industry type of the organizations. Recommendations are made for further use of the KM governance framework.

Keywords: KM Governance, KM Function, Knowledge Management, IT Governance

Introduction

Knowledge has frequently been identified as a critical organizational resource (Drucker 1993). As a consequence, large numbers of organizations have established knowledge management (KM) programs to systematically facilitate the creation and sharing of these knowledge resources (Holden 2004). However, in spite of the high hopes for KM programs, many have not delivered the expected benefits, and a high proportion of failed knowledge related initiatives has been observed (Chua and Lam 2005). Several of these KM programs failed due to a lack of clear objectives and business alignment, inadequate top management support and unclear distribution of authority (Chua et al. 2005; Riege 2005; Storey and Barnett 2000) -- all of which are symptoms of inappropriate governance arrangements (Brown and Grant 2005).

In the IT domain a considerable body of research focuses on different governance arrangements, and establishing IT governance is a high priority for organisations. Sophisticated IT governance arrangements are attributed to improved business-IT alignment and the creation of significantly higher returns of IT investment (Weill 2004). A focus on IT governance has significantly improved IT performance in organizations. This suggests that an analysis of governance practices within the KM domain may improve the acceptance and value of KM programs in
organizations. Little research to date has focused on governance in the KM context. This paper reports one of the first rigorous studies of KM governance, with the objective of improving our understanding of KM governance practices, and of establishing a baseline for future research in this area.

This study contributes to KM research in two ways: it identifies the governance structures and processes for KM programs and explores their relationship to the organizational context. Based on data collected in 12 organizations, a framework is developed which allows for the systematic characterization of KM governance configurations in organizations. Moreover, the relationship between the KM governance arrangements and the characteristics of the organizations and their KM approaches1 is explored. The research is a first step towards a systematic analysis of governance as a critical factor in the success of KM programs, and offers new insights into organizational KM practice.

The remainder of the paper is structured as follows: first, definitions of KM and governance are outlined and existing literature on KM governance is reviewed. Secondly the research questions are presented and the research methodology is described. Third, the KM governance framework is developed and organizations are analyzed. Subsequently, the research findings are discussed and concluding comments outlining limitations of the study and further research are provided.

**Literature Review: Governance and KM**

KM is frequently defined as “the systematic, explicit, and deliberate building, renewal, and application of knowledge to maximize an enterprise’s knowledge-related effectiveness and returns from its knowledge assets” (Wiig 2000, pg.6). Hence, a KM program integrates IS tools and organizational initiatives in a concerted way to pro-actively support knowledge creation and knowledge sharing in an organization. Eighty percent of Fortune 500 organizations, for instance, have formalized their KM activities through the development of a KM strategy (Holden 2004) making KM a recognized organizational phenomenon across industries.

The governance of organizations’ IT initiatives is a thoroughly studied phenomenon in the IS domain. IT governance is generally defined as “the distribution of IT decision-making rights, and responsibilities among enterprise stakeholders, and the procedures and mechanisms for making and monitoring strategic decisions regarding IT” (Peterson 2004, pg.8). Since the IS disciplines constitutes one of the major contributing disciplines of the KM domain (Kim et al. 2003) and due to the lack of comparable literature on KM governance, research investigating IT governance is used here to conceptualize the governance phenomenon in a KM context.

IS research generally focuses on three perspectives in conceptualizing the governance phenomenon: the formal governance structures, the formal governance processes and the informal relational mechanisms which play a role in guiding and directing the IS program (Peterson 2004). The majority of these IS based studies focus on the investigation of formal IT governance arrangements, in particular on the configuration of centralized and decentralized structures (Sambamurthy and Zmud 1999). Governance processes have been a focus for maturity models which distinguish between different levels of formalization for strategy development and decision making arrangements (Luftman 2003). The relational mechanisms have received less attention in IT governance research even though it has been recognized that these informal discussions and alliances play a significant role in the formulation of organizational IT direction (Brown 1999).

Identifying and implementing the appropriate governance arrangements is considered a key element for the success of organizational IT programs (Van Grembergen 2004). Two research streams have developed in the IS domain to create the necessary theory and insights regarding IT governance. One stream of research seeks to explain the diversity of governance arrangements by focusing on the impact of contingency factors such as industry type or organizational size and structure (Brown et al. 2005). The other stream seeks to identify the impacts of particular governance arrangements on IT activities of the organization - for example, by looking at the role and impacts of steering committees (Torkzadeh and Xia 1992).

Despite the prominence of governance research in the IT domain generally, only a few studies have explicitly focused on the governance phenomenon within the KM context. Smith & McKeen (2003a), for instance,

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1 We will use the phrase “KM approach” in this paper to mean the set of KM tools and practices adopted by the organization in question.
investigated the maturation of KM as a discipline and identified a shift from purely ‘centralized’ or ‘decentralized’ KM governance configurations towards a ‘federal’ model in organizations. Zyngier, Burstein & McKay (2004; 2005; 2006) focused on the development and implementation process of KM strategies and developed a framework which conceptualizes aspects of risk management and evaluation processes. Further KM based studies mention individual aspects of governance configurations such as the role of the Chief Knowledge Officer (Maier 2002) but do not explicitly analyze these to identify the impact on the KM approach.

The research

The lack of governance research in the KM domain constitutes a significant research gap which the present study seeks to fill. For the purpose of this study KM governance is defined as the structures and processes which have been put in place and the relational mechanisms which were developed in order to steer, coordinate and control the explicit and deliberate knowledge management initiatives in the organization. In particular, the present research aims at identifying how KM is governed in organizations, how the governance of KM relates to the characteristics of the organization, and how the KM governance arrangements relate to the KM approach adopted by the organizations. In line with a range of established IT governance research (e.g. Sambamurthy et al. 1999) the present study follows a contingency theoretical research approach which focuses on the identification of patterns among KM governance configurations and its context (vgl. Brown and Magill 1994). Multiple case research (Yin 2003), with data drawn from 12 case organizations, has been identified as appropriate methodology to address the research questions. Case selection was based on polar types (Yin 2003) and focused on organizations of different sizes and different industries (see table 1). Both context variables represent important contingency factors which have been established in prior IT governance research (e.g. Ein-Dor and Segev 1982; IT Governance Institute 2004). Moreover, a criterion-based case selection strategy (Miles and Huberman 1994) was followed, which required participating organisations to have a formalised KM program (ie, to have formal KM roles established) for more than two years to ensure sufficient experience with the respective governance arrangements. Case sites were drawn from Europe and Australasia to obtain an international sample of organizations.

Data collection consisted of semi-structured interviews and document review (Yin 2003). Semi-structured interviews were conducted with the KM leaders and with up to five additional KM staff per organization. The interview questions focused on the decision making processes and allocation of responsibilities for the KM programs and individual initiatives. Overall 41 hours of interview data were collected across all organizations. Each interview was transcribed by the first author and transcripts were returned to participants for verification and additional clarifications. In addition, the interviewees provided organizational documents on their KM approach including information on KM strategies, internal discussion papers and presentations. Data collection was carried out over a period of three months with initial analysis performed alongside the data collection process.

<table>
<thead>
<tr>
<th>Organization</th>
<th>Characteristic of the organizations and nature of the KM approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>ManuOrg1</td>
<td>Australasia based raw material manufacturer with around 20,000 internationally distributed staff. The KM program includes business intelligence and research services, the management of a collaboration platform and in-house consulting services.</td>
</tr>
<tr>
<td>ManuOrg2</td>
<td>Europe based high tech manufacturer with around 40,000 internationally distributed staff. The KM program focuses on organization and facilitation of knowledge sharing events and facilitation of communities of practices.</td>
</tr>
<tr>
<td>ConsultOrg1</td>
<td>International technology consulting organization with around 50,000 staff. The KM program is focused on the management of the knowledge repository and the provision of research services.</td>
</tr>
<tr>
<td>ConsultOrg2</td>
<td>Europe based technology consulting organization with around 30,000 staff. The KM program is focused on the management of the knowledge repository and collaboration system.</td>
</tr>
<tr>
<td>ConsultOrg3</td>
<td>Europe based technology consulting organization with around 500 staff. The KM program is focused on the management of the knowledge repository and the provision of research services.</td>
</tr>
<tr>
<td>ConsultOrg4</td>
<td>Europe based technology and policy consulting organization with more than 1000 staff. The KM program focuses on management of the KM system and projects targeted at reengineering of</td>
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</tbody>
</table>
Knowledge Management

<table>
<thead>
<tr>
<th>Business Processes</th>
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</thead>
<tbody>
<tr>
<td>ConsultOrg5 Australasia based consulting organization with around 500 staff distributed over a number of offices. The KM program is focused on the management of the knowledge repository and the provision of research services.</td>
</tr>
<tr>
<td>PublOrg1 Australasia based public administration with around 200 collocated staff. The KM approach focuses on the provision of research services and the management and provision of KM tools for the organization.</td>
</tr>
<tr>
<td>PublOrg2 Australasia based public administration with around 300 collocated staff. The KM program focuses on promoting good knowledge sharing practices and provides assistance in the use of knowledge sharing tools.</td>
</tr>
<tr>
<td>ServiceOrg1 Europe based industrial service provider with around 3000 mostly collocated staff. The KM program focuses on the development of individual KM tools (intranet, wikiserver).</td>
</tr>
<tr>
<td>ServiceOrg2 Australasia based service provider with around 500 nationally distributed staff. The KM program focuses on the implementation and management of KM tools (document management system, organizational taxonomy, intranet).</td>
</tr>
<tr>
<td>ServiceOrg3 Europe based service provider with more than 50,000 internationally distributed staff. The KM program focuses on individual in-house consulting projects (targeted collaboration platform, development of debriefing methodology).</td>
</tr>
</tbody>
</table>

Data analysis followed established techniques for early analysis and cross-case analysis (Miles et al. 1994). Early analysis included the use of contact summary sheets and document summary sheets were initial impressions following the interviews and document reviews were recorded by the researcher. Individual case write-ups were developed to summarize information of the organizational background, the KM program and various KM governance aspects. Interview transcripts, collected documents, summary sheets and case write-ups were entered into a case database (NVivo v.2) which assisted with data management and the subsequent coding process.

Code development was based on an initial list of candidate code which was further expanded (Miles et al. 1994). Candidate codes were derived from the IT governance literature and were applied to the data of three case organisations (PublOrg1, ManuOrg1 & ServiceOrg3) which represented a diversity of several core characteristics. Through several iterations the list of candidate codes was adjusted to the KM governance situations of the case organisations. This initial coding scheme was then used to code the additional case organisations, in the process of which further codes emerged. The final coding scheme formed the basis for the KM governance framework below.

Cross-case analysis focused on the identification of patterns among the case organisations and KM governance configurations (Miles et al. 1994). The data analysis focused on established tools for data reduction and data display. This includes the use of meta matrices to categorise the case organizations with regard to their various KM governance aspects. Scatterplots were used to relate the KM governance configurations to the characteristics of the case organisations and to identify patterns in the relationships.

An emerging framework for KM Governance

The analysis identified a high diversity among the case organizations’ KM governance configurations. The analysis has identified a range of critical aspects which differentiate the KM governance configurations of the case organizations. A framework has been developed which integrates these different KM governance aspects into structural aspects, process aspects and relational mechanisms (following Peterson, (2004). Some of these aspects have been adopted from the wider governance literature while others emerged from the data. Table 2 summarizes the KM governance framework and explains the origin of the governance aspects and specific variations which have been identified among the case organisations. The major aspects of the KM governance framework are subsequently explained.
**Table 2. A framework for KM governance**

<table>
<thead>
<tr>
<th>Structural aspects of KM governance</th>
<th>Specific variations of the structural aspects of KM governance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distribution of KM authority</td>
<td>Centralized, Federal, Decentralized</td>
</tr>
<tr>
<td></td>
<td>(derived from Brown 1999; Friedler et al. 1996; Kahai et al. 2001-2002; Sambamurthy et al. 1999)</td>
</tr>
<tr>
<td>Reporting point of KM</td>
<td>Support function, Business function</td>
</tr>
<tr>
<td></td>
<td>(emerged from case data)</td>
</tr>
<tr>
<td>Form of KM organization</td>
<td>Standing organization, Hybrid organization, Community based organization</td>
</tr>
<tr>
<td></td>
<td>(emerged from case data)</td>
</tr>
<tr>
<td>KM governance groups</td>
<td>Internal director group, Focus group, Customer group, No governance group</td>
</tr>
<tr>
<td></td>
<td>(derived from Brown 1999; Doll and Torkzadeh 1987; Drury 1984; Karimi et al. 2000; McKeen and Guimaraes 1985; Torkzadeh et al. 1992)</td>
</tr>
<tr>
<td>Process aspects of KM governance</td>
<td>Specific variations of the procedural aspects of KM governance</td>
</tr>
<tr>
<td>KM strategy development process</td>
<td>Formal process, Informal process, No strategy</td>
</tr>
<tr>
<td></td>
<td>(derived from Patel 2002; Van Grembergen et al. 2004)</td>
</tr>
<tr>
<td>Planning &amp; decision making process</td>
<td>Internally focused, Externally focused</td>
</tr>
<tr>
<td></td>
<td>(derived from Sabherwal and King 1992; 1995)</td>
</tr>
<tr>
<td>Reporting &amp; monitoring process</td>
<td>Advanced reporting, Simple reporting, No reporting</td>
</tr>
<tr>
<td></td>
<td>(derived from Ali 2006; Karimi et al. 2000)</td>
</tr>
<tr>
<td>Funding process</td>
<td>Fixed budget, Project based budget, No budget</td>
</tr>
<tr>
<td></td>
<td>(derived from Olson and Chervany 1980)</td>
</tr>
<tr>
<td>Relational aspects of KM governance</td>
<td>Specific variations of the relational aspects of KM governance</td>
</tr>
<tr>
<td>KM : Top management</td>
<td>Personal network KM leader, KM sponsor</td>
</tr>
<tr>
<td></td>
<td>(emerged from case data)</td>
</tr>
<tr>
<td>KM : Business</td>
<td>Physical collocation, Account management structure, Staff transfer schemes, Frequent operational interaction, Personal network KM leader</td>
</tr>
<tr>
<td></td>
<td>(derived from Blanton et al. 1992; Brown 1999; Zmud 1984)</td>
</tr>
<tr>
<td>KM : Support function</td>
<td>Physical collocation, Liaison roles, Staff transfer, Communities of practice, Personal network KM leader, Integration KM leader in other initiatives</td>
</tr>
<tr>
<td></td>
<td>(emerged from case data)</td>
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</tbody>
</table>

**Structural aspects of KM governance**

Four structural aspects were identified as important governance arrangements from the case data: the distribution of KM authority, the reporting point of KM, the form of the KM group, and the nature of KM governance committees.

The first structural aspect refers to the ‘distribution of KM authority’ which characterizes the division of KM decision making rights in the organization. Following the popular IT governance trichotomy (Brown et al. 2005) the KM authority patterns identified in the case organizations can be distinguished as centralized, decentralized and federal KM governance structures. In six of the twelve case organizations a centralized organizational body was established which held the authority for the KM program of the entire organization. Two organizations had adopted a decentralized configuration where KM responsibility was distributed across different parts of the organization. In four organizations the KM responsibility was shared between a central organizational body and decentralized parts of the organization in form of a federal KM governance structure. Similar to the interpretation of most IS literature.
The distribution of KM authority was found to be one of the key distinguishing factors among the case organizations.

The ‘reporting point of KM’ describes the location of KM in the organizational structure. Among the organizations an interesting diversity was observed with the KM authority being either located with headquarter support functions, operational business functions or a combination of the two. In eight case organizations the KM leader reported to headquarters while in one case the KM leader reported to a business function. In three cases the distributed nature of the KM function led to several reporting relationships with support and business parts of the organization. The ‘reporting point of KM’ was found to be an important governance dimension since the close association between KM and the business was repeatedly pointed out as an important factor contributing to the business alignment of the KM program.

The third structural aspect refers to the ‘form of the KM group,’ which describes the institutionalization of KM responsibilities in the form of full-time KM functions or community based part-time KM roles. It was found that in seven of the twelve case organizations, the KM program was run by a standing KM function composed of full-time KM staff. In two cases the KM program was run by a community-based group whose members had other full-time responsibilities in the organization. Three case organizations had established a hybrid form with an established KM function and part-time KM supporter roles. This allocation of part-time KM responsibilities was also considered as an important structural mechanism which significantly contributed to the development of the KM program through opportunities for business alignment and user acceptance due to local presence of the KM staff.

The fourth and final structural aspect refers to the establishment and form of ‘KM governance committees’. It was found that only six of the twelve case organizations had a dedicated governance group to guide their KM program. In four organizations the KM governance committee was composed of senior managers, who were expected to provide strategic input and execute decision making authority as an internal board of directors. In three cases the KM governance committees had the form of focus groups in which members represented the diversity of KM stakeholders in the organization. In one case the KM governance committee operated as a customer group where major users of KM services were brought together on a regular basis to clarify their particular requirements. However, regardless of their composition, these governance groups were identified by the interview partners as major factors in the strategic development of the KM program which also provided critical political support necessary for the establishment and approval of individual KM initiatives.

**Process aspects of KM governance**

In addition to these four structural aspects, four process aspects were identified from the case data: KM strategy development, KM planning & decision making, reporting & monitoring, funding & budget allocation.

The first process aspect refers to the ‘KM strategy development.’ The case data revealed an interesting diversity in the organizations’ formulation of KM strategies distinguishing between formal and informal development processes, or even the lack of an explicit KM strategy. Four of the twelve case organizations had employed a formal strategy development process including intensive stakeholder consultation and the facilitation service of external consultants. In three organizations the KM strategy was largely developed among KM staff with little consultation of external stakeholders and no use of formal strategy development processes. Five case organizations reported that no explicit KM strategy was developed and only mission statements were formulated to guide the KM program.

‘KM planning & decision making’ describes the activities through which individual KM initiatives are selected and prioritized. The case organizations differed considerably in the way non-KM staff was involved in these processes, which led to the categorization of KM organizations being focused on either external or internal decision making processes. Six of the case organizations were found to rely on external planning and decision making processes, meaning that outside stakeholders were involved in the selection of KM projects. In the remaining six case organizations the selection and prioritization of projects was largely carried out within the KM groups itself with only little feedback from the wider organization.

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2 In a community based KM group staff from various departments who have been assigned specific KM responsibilities meet regularly to coordinate the different aspects of their organization’s KM program.

3 ConsultOrg2 and ServiceOrg3 had two different KM governance committees each.
The third process aspect concerns the ‘reporting & monitoring processes’ - the mechanisms through which the KM organization gives account to its respective reporting points. Different levels of sophistication of the reporting process have been encountered among the organizations leading to a differentiation between simple vs. advanced reporting & monitoring processes, and even absence of reporting processes. Nine case organizations were categorized as following simple reporting & monitoring processes as they were limited to standard performance indicators, such as systems usage and number of customer requests as well as budget and project progress reports. Only one case organization made use of advanced reporting processes by using balanced scorecards to determine the KM benefits created and by focusing on putting a monetary value on them. In two cases no regular KM reporting was carried out and only the progress of specific projects was monitored.

‘KM funding & budget allocation’ describes the arrangements through which resources for KM projects and services are acquired. The case organizations differed with regard to the source of the funds as well as the mechanisms through which these funds were obtained. In seven of the twelve case organizations a general KM budget was made available to the KM organization to finance the ongoing operations and most KM projects (in no case was ‘KM usage’ charged back to the users). In three cases no general funding was provided to the KM organization and all projects had to be resourced by an organization-wide fund competing with other projects such as core IT projects. In three cases no funding for KM initiatives was provided by the organization and resources had to be provided by the direct beneficiary department of the requested KM project or service.

Relational aspects of KM governance

A third aspect of the KM framework outlined here is ‘relational aspects of KM governance’. In addition to the structural and processes aspects, a number of relational mechanisms were found to play a significant role in guiding and directing the KM program. Relational aspects of KM governance arrangements describe the mechanisms outside the formal structures and processes which contribute to the development of the KM program and the integration with the rest of the organization. Three levels of strategic relationships emerged from the case data: the relationship between KM and top management, the relationship between KM and business part of the organization, and the relationship between KM and the other support functions. These levels of strategic relationship are subsequently described together with the individual relational mechanisms which supported these relationships.

Relational mechanisms between KM and top management are important for allowing senior management to guide the development of the KM program. Two relational mechanisms between the KM organization and top management were identified from the case data. One of these mechanisms comprises the personal relationships between the KM leader(s) and senior management member(s). In three cases this was reported as significantly assisting in the development of the KM program by helping to secure funds and obtain approval for KM projects. The other relational mechanism centres on the KM sponsor at the top of the organization who has a genuine interest in KM without having formal responsibility for it. In two organizations the importance of such a KM sponsor was highlighted for the provision of valuable political support and the identification of potential project sites. Only three of the twelve case organizations reported informal relationships of this kind between the KM leader(s) and top management, while in the other cases formal governance arrangements existed.

The relational mechanisms between KM and the business comprise the arrangements through which representatives from the business side of the organizations contribute to guiding the development of the KM program. Five relational mechanisms have been identified which facilitate the relationship between KM and the business: physical co-location, account management structure, staff transfer schemes, frequent operational interaction and the personal network of the KM leader. The physical co-location of KM staff with the business function was reported to significantly contribute to an understanding of business requirements among KM staff. An account management arrangement where KM staff focuses on particular KM users was associated with the same benefits. Other mechanisms include job rotation between KM and business staff, which helped the development of informal networks. Frequent operational interaction between KM staff through the provision of ongoing regular KM services also contributed to the development of strong networks between KM and the business. Moreover, the personal relationships of the KM leader through previous business roles in the wider organization were reported to be a significant factor in the development of the KM program in the organization. Among the twelve organizations, it was found that in nine cases one or more of these relational mechanisms helped the development of the KM program while in three cases no informal relationship between KM and business had been established.
Finally, relational mechanisms between KM and support functions include the arrangements through which representatives from the other support functions contribute to guiding and developing of the KM program. The analysis of the case data identified six relational mechanisms which facilitate the relationship between the KM groups and other support functions. Similar to the KM-business dimension these include the collocation of KM staff with other support staff and the personal network of the KM leader. Further mechanisms which emerged as important in the alignment between KM and other support functions included the nomination of dedicated liaison staff that explicitly focuses on integrating KM initiatives with those of other support functions. The exchange of staff between KM and other support functions was also found to contribute to an alignment of interests as well as the pro-active integration of the KM leader in projects run by other support functions. Finally the establishment of communities of practice with other support staff with KM related roles was also identified as important avenues for the alignment of KM projects with other organizational initiatives. It was found that all of the KM groups made use of at least one of the relational mechanisms, even though some made only infrequent use of them.

The governance structures, processes and relational mechanisms have been identified as important elements of the KM governance framework. This framework serves as the basis for the systematic categorization of the KM governance configurations of the twelve case organizations (see Table 5 in appendix). Based on this categorization, the relationship between KM governance configuration and KM approach are subsequently analyzed.

### Relationship between organizational characteristics and KM governance

In order to analyze the relationship between the organizational characteristics and the KM governance configuration the case organizations are categorized according to industry type, organizational size and structure. The classification of industry type focuses on the nature of the main business processes and distinguishes between manufacturing, public administration, service provider and consulting organization. The classification of organizational size is based on the number of employees and distinguishes between small & medium (<1000 staff) and large (>1000 staff) organizations (Ahituv et al. 1989). The classification of organizational structures focuses on the predominating arrangements and distinguishes between divisional, functional and matrix structures (Ahituv et al. 1989). The characteristics of the organizations and the KM governance configurations have been cross-tabulated to identify the emerging patterns and relationships (see Table 5 in appendix).

The analysis of the case data revealed a number of interesting relationships between corporate structure and KM governance (see Table 3). First, it appears that the divisionalised organizations have mostly adopted a centralized KM governance structure and have established a standing KM function. The matrix organizations, on the other hand, were found to make extensive use of KM governance committees and were found to have adopted the most sophisticated KM governance processes. For the functional organizations no particular relationship to aspects of KM governance emerged.

Furthermore, relationships between firm size and KM governance configuration were identified. The analysis showed that smaller case organizations were lacking KM governance committees and were found to have overall less formal governance processes in place. For the larger case organizations the analysis showed that they had established KM governance committees and an overall higher sophistication level of KM governance processes.

The analysis of the industry type revealed a further relationship between organizational characteristics and KM governance configuration. Especially the consulting organizations exhibited particular KM governance characteristics in a way that they established KM largely as a separate function and also illustrated particularly sophisticated KM governance processes. The service organizations, on the other hand, exhibited a relatively low sophistication of KM governance processes and were also found to make only little use of relational mechanisms to guide their KM program.

<table>
<thead>
<tr>
<th>Table 3. Summary of observed relationships between organizational characteristics and KM governance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Organizational characteristics</strong></td>
</tr>
<tr>
<td>Corporate structure</td>
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</tbody>
</table>
Matrix organizations
- have established KM governance committee
- have adopted a high level of KM governance process maturity

No relationship between functional structure and KM governance has been observed

Firm size
Smaller organizations
- have less governance groups established
- have overall less formal reporting processes

Larger organizations
- have mostly established KM governance committee
- have generally adopted a high sophistication level of KM governance processes

Industry type.
Consulting firms
- have established KM as a separate support function
- Have more sophisticated KM governance processes

Service organizations
- Use relational mechanisms only very little

No relationship between KM governance structure and the other industry types has been observed

**Relationship between KM governance and the Organization’s KM approach**

The analysis of the relationship between the organizations’ KM governance configuration and their KM approach is based on the cross-tabulation of KM governance configurations and the KM approach of the organizations, similar to the analysis above (see Table 5 in appendix). The KM approach describes the particular range of technical tools and organizational practices which form part of the KM initiative of an organization. The KM approaches encountered in the organizations are categorized as either codification focused, personalization focused or comprehensive (Choi and Lee 2003). A codification focused KM approach focuses on IT systems such as knowledge repositories to support the externalization of knowledge, while a personalization focused approach focuses on the stimulation of knowledge sharing through a range of initiatives such as the establishment of communities of practice. A comprehensive KM approach, on the other hand, includes aspects of both codification and personalization focused approaches.

A number of relationships between KM governance configuration and KM approach have been identified in the 12 case organizations (Table 4). It was observed that the majority of those organizations that had adopted a codification focused approach have also established a centralized KM governance structure to oversee the KM approach. The data also show that organizations with codification focused KM approaches generally maintain a standing KM group, which operates as a support function for the organization.

Organizations that had adopted a personalization approach, on the other hand were found to have few formal KM governance processes. Furthermore, these organizations make very limited use of relational mechanisms to guide and develop the KM program. Organizations that have adopted a comprehensive KM approach did not exhibit any significant patterns with regards to their KM governance configurations. These findings are discussed in more detail in the next section.

**Table 4. Summary of observed relationships between KM governance and KM approach**

<table>
<thead>
<tr>
<th>KM approach</th>
<th>Relationship to KM governance aspects</th>
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<tbody>
<tr>
<td>Codification focused approach</td>
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</table>
- have centralized KM governance structure
- have been established as standing KM group
- have the status of a support function |
| Personalization focused approach |
- have the lower KM governance maturity levels
- have a limited KM relational mechanisms |
Discussion

It was the aim of the present research to identify the governance arrangements which guide the organizational KM programs and to explore the relationships between the KM governance and the organizational characteristics as well as the KM approach. The review of the KM governance arrangements has generated a number of interesting findings. The discussion first focuses on the structural, process and relational elements of the KM governance framework, then considers their relationships with the organizational characteristics and the KM approach.

The KM governance framework

The KM governance framework developed here categorizes the KM governance arrangements into structural aspects, process aspects and relational aspects. Four structural KM governance aspects have been identified which distinguish the case organizations: the distribution of KM authority, the reporting point of KM, the form of the KM group, and the nature of KM governance committees. The distribution of authority and the nature of governance groups are both aspects which have received considerable attention in the IS domain. The present investigation has shown that the distribution of authority in the KM domain can be accurately categorized as centralized, decentralized and federal authority patterns similar to the IS domain (Brown et al. 2005). The KM governance committees could also be categorized as internal board of directors, focus group or customer group – categories which have been derived from the IS domain (Meyer 2004). Hence, based on these two aspects the governance characteristics of KM and the IT domain clearly share some similarities.

However, with the identification of the ‘form of the KM group’ and the ‘location of KM in the organization’ two new structural governance aspects for the KM domain emerged from the present research. Unlike IT which is mostly established as a standing function, this research has shown that in a KM context the roles & responsibilities are either allocated as full time or community based part time roles. This difference between KM and IT functions can be explained by the larger size and complexity of IT in organizations which often require highly specialized staff to oversee the diverse operations. Since KM groups are considerably smaller, community-based or hybrid forms become possible alternatives for organizing the KM group. Based on the case data a number of benefits of these community based or hybrid forms have been suggested, such as increased business alignment and local ownership of the KM program. These benefits can be attributed to the dual business-and-KM responsibilities of the KM group members. On the other hand, a number of downsides of these community based or hybrid forms have also been identified in this research, such as the difficulty for staff to balance the requirements of business and KM responsibilities, as well as the risk that KM responsibilities are assigned to low performing staff since high performers often already hold too many other responsibilities.

Another factor that is often not considered in the IT domain but which has emerged as an important aspect for categorizing KM governance structures is the ‘location of KM in the organization’ 4. The KM leaders of the case organizations have been found to report to HR, IT, corporate strategy or various business functions. A similar diversity has been observed with the eBusiness function which either reported to IT, business unit or marketing (Niederman 2005). For the case organizations no direct relationship between the reporting point and the nature of the KM approach could be identified even though the interview partners have reported of several instances where the nature of the reporting point interfered with the development of particular KM initiatives. The observation that the reporting point of the KM function does not seem to directly impact the overall KM approach of the case organizations can be attributed to the range of other governance mechanisms which contribute to the development of the KM approach. Both the ‘form of the KM group’ and the ‘location of KM in the organization’ are aspects of governance which have been identified here for the KM context and which do not apply to an IT governance context to the same extent.

In addition to these KM governance structures, four governance processes have been identified in the case data: KM strategy development, planning & decision making, reporting & monitoring, funding & budget allocation. These governance processes describe important mechanisms for the development of the KM program and provide insights of the overall sophistication of the KM governance processes. Similar governance processes have also been identified for an IT context (Peterson 2004).

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4 Such discussions with respect to IT were more common in the past, when IT was sometimes located within the accounting or finance function (Van Grembergen 2004).
It has been observed that the overall sophistication of the governance processes in the KM domain is considerably lower than for the IT domain. While most organizations have elaborate planning and decision making processes to prioritize IT initiatives (Van Grembergen 2004), most of the case organizations were found to have very simple mechanisms for decisions on KM initiatives. A possible explanation for this overall low level of KM governance sophistication is provided by one of the interviewees: “you govern where the money is”. Since KM programs require considerably less investment than IT programs, a lower formalization level is established for the governance of the KM program. Another explanation for the lower sophistication of governance processes is provided by the lower level of urgency for KM programs and their individual initiatives. A considerable number of IT systems in organizations are mission critical while most KM tools and initiatives do not have such an immediate impact on the organization. The low sophistication level of the KM governance processes is likely to be a combination of these factors.

The relational mechanisms have been analyzed as a third governance perspective. A number of relational mechanisms have been identified which significantly contribute to the development of the KM program outside the formal decision making structure. These relational mechanisms were found to facilitate the relationship between the KM group and senior management, the business part and the other support functions. Governance research in the IS domain has also focused on the relationship between the IS organization and senior management or between IS and the business (Enns et al. 2007). However, in the IS domain the relationship between the IS function and other support functions has not been considered to be as important. For KM as a meta-discipline which integrates tools and concepts from other established disciplines (such as IT, HR and organizational strategy (Raub and Rüling 2001)), extensive coordination with other support functions is crucial. And the present research has identified that governance of a KM program not only needs to focus on alignment with the business but also on alignment with other support functions, which puts a particular emphasis on the relational mechanisms that facilitate the relationship between KM and the other support functions.

In addition to identifying the importance of the relational mechanisms between KM and other support functions the research also illustrated that the relationship between KM and IT is particularly critical for the development of the KM program. IT forms an integral part of most KM initiatives and the case data has shown that in a number of instances the success or failure of KM initiatives have been attributed to the nature of the relationship between KM and IT department. Hence, the relational mechanisms which contribute to the relationship between KM and IT are critical elements for the development of a KM program.

In general, the analysis of the case organizations has indicated that the KM groups are highly dependent on the relational mechanisms to develop and maintain their KM program. In particular, due to the low sophistication level of the formal governance processes the KM groups which have been analyzed here are heavily relying on informal mechanisms to obtain approval or funding for their individual initiatives. Informal relationships have also been identified as critical elements in the IT domain but due to the low sophistication level of formal KM governance processes these informal relationships seem to have a much higher importance for the KM domain than in an IT context.

The KM governance framework which has been developed here integrates the diverse aspects which have emerged from the analysis of the case organizations. This framework identifies KM governance as a multi-facetted phenomenon which is characterized by a rich variety of structures, processes and relational mechanisms. Through this multi-faceted perspective the present framework extends other descriptions of KM governance which only focus on structures (Smith et al. 2003a) or process aspects (Zyngier et al. 2004; Zyngier et al. 2005; Zyngier et al. 2006).

**Discussion of the KM governance relationships**

A second focus of this study was on the relationship of the relationship between KM governance and the organization, as well as the relationship between KM governance and the KM approach.

The analysis of the industry types revealed that especially consulting firms had adopted a high sophistication level of their KM governance processes. This high sophistication level can be explained by two factors: first, consulting organizations were among the first organization to establish KM programs (Smith and McKeen 2003b) and hence they have developed a considerable experience in governing their KM. Secondly, due to the knowledge intensive nature of the consulting business and due to the importance of knowledge sharing and reuse (Hansen et al. 1999) the KM programs are very critical for this type of organization, which may have led to the establishment of more
sophisticated governance mechanisms. These findings are not in line with IT governance research which did not identify a strong influence of the industry type (Brown et al. 2005).

The analysis of the firm size showed that the smaller case organizations have less formal governance processes in place than the larger ones, and the former tend not to have governance groups established. This difference in the level of formality can be explained by organizational theory which stipulates that processes in large organizations generally become more formalized (Miller 1987). The establishment of a governance committee is a phenomenon which can be explained by the general tendency of larger organizations to establish committees to cope with the complex decision making and information flows (Mintzberg 1980). Hence, both findings may not be specific to the KM context but describe general organizational phenomena.

The review of the corporate structure showed that divisionalised organizations overall tend to have a lower degree of KM governance process sophistication, while matrix structured organizations have adopted the highest sophistication level of the governance processes. This observation can be explained by the generally high level of management sophistication matrix organizations have developed, which is caused by their high coordination requirements (Mintzberg 1980). Therefore, this finding may not be specific to the KM context.

In addition to the relationships between organizational characteristics and KM governance, the research has also identified relationships between KM governance and the KM approach. The case data showed that personalization approaches were related to a lower sophistication level of KM governance processes than codification focused KM approaches. This finding can be attributed to the higher investment level required for the codification focused approach which stimulates the development of formal governance to maintain the oversight of the investments. Also, a codification focused KM approach such as in the form of a knowledge repository has an immediate impact on the organizational work-processes while the establishment of communities of practice has only a long-term impact. Since organizations seek to minimize disruptions, a stronger oversight and more sophisticated governance processes are established for codification focused KM approaches.

The analysis of the case organizations further revealed that codification focused KM approaches have a high tendency to be set up in a centralized form. This finding can be explained by the cost and scalability of such a KM approach. Since considerable resources are involved in implementing and managing a knowledge repository, organizations benefit from a centralized structure to minimize the investment.

**Concluding comments**

Research focusing on the governance of KM is still in its early stages. Although a large number of organizations have established dedicated KM programs, little is known about the structures and processes which have been put in place to direct and guide these KM programs. In order to play an effective role in an organization and to obtain the expected benefits, KM programs need to establish appropriate governance arrangements. However, exactly which governance arrangements are most appropriate for guiding such a program and which factors need to be considered for the development of governance arrangements is not yet known.

This study contributes to KM research by exploring the role of governance in the KM domain in two ways: by identifying how KM programs are governed in organizations, and by exploring some of the ways in which the governance of KM relates to the characteristics of the organization and to the adopted KM approach. Drawing on findings from 12 case studies, a KM governance framework has been developed which integrates critical aspects of governance in a KM context and which is used to systematically analyze the various KM governance configurations. The relationships between the KM governance configuration and the organizational context and KM approach have been explored, and several emerging pattern have been described.

This research contributes to management practice in a number of ways. First, it raises awareness of the importance of governance and helps to draw the attention of management away from the immediate focus of developing the KM program towards the establishment of valuable governance arrangements. The framework illustrates some of the alternatives for designing the governance of KM programs and can serve as a benchmarking tool for KM governance arrangements. As well, practical recommendations for designing KM governance configurations have been derived in this research. For example, one of these design recommendations refers to the importance of informal relationships between KM and the wider organization, and suggests that management should focus on using appropriate mechanisms which facilitate the development of these critical relationships.
This research has limitations. The case selection strategy emphasized variety among the case sites, which also has the effect of limiting the representativeness of each category. By exclusively focusing on a single type of organization, more insights regarding a specific relationship might have been created. Moreover, the number of interviews per organization was limited and further interviews might have provided additional insights. However, being one of the first investigations on KM governance, we believe that our study creates a range of further research opportunities. Further studies might not only aim at testing our findings but could extend their research scope to further explain the various relationships which have been identified. Future research could focus on the identification of best practices or even performance measures of KM governance, by investigating the quality of fit of governance configurations within particular contexts, and to ultimately identify the relationship to firm performance. We hope that the present research can serve as a starting point for these investigations.

References


Niederman, F. "Staffing and management of e-commerce programs and projects," ACM SIGMIS CPR, Atlanta, Georgia, 2005.


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<tr>
<th>Organization</th>
<th>Org. characteristic</th>
<th>KM</th>
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</table>

**Table 5 KM governance configurations of case organisations**

**Key to relational mechanisms:**
1. Personal network KM leader
2. KM sponsor
3. Account management structure
4. Frequent operational interaction
5. Integration of the KM
6. Line roles
7. Transfer
8. Communities of practice