The Role of Knowledge Management Governance

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Abstract—This paper aims to explore how governance of knowledge management (KM) can lead to successful delivery of KM strategic benefits and the critical issues pertaining to it. Through a case study method using secondary data of IBM Corporation, the author argues that KM governance plays a critical role in providing a balance between people, process, and technology in KM strategy. Governance of KM is described as an executive framework which includes authority, strategy development, organizational culture, risk management and evaluation and measurement in relation to KM deployment. In the study, it is revealed that governance mechanisms were fitting to support the realization of KM objectives through decision rights arrangements, culture of intelligent collaboration, and nurturing of communities of practice. Finally, this paper suggests that KM governance evolves toward changes in KM strategy. Further research should investigate how the interplay of IT, business, and KM strategies affect the archetypes of KM governance.

Index Terms—Governance, IBM, knowledge management, strategy.

I. INTRODUCTION

Knowledge has been regarded as the most important asset for organizations in the last decade. This is also supported by the knowledge-based view of the firm which looks at intangible resources of a firm such as intellectual capital as the source of competitive advantage [1]-[2]. Nonaka and Takeuchi [3] outline how knowledge is likely to be the only resource within a firm, which is hard to imitate by competitors. Thus, inimitable knowledge makes a superior source of sustainable competitive advantage.

Having realized the strategic role of knowledge, organizations have attempted to leverage knowledge in order to enhance their performance. Managing knowledge has become a recurring theme in organizations of various industries. Wiig [4] describes knowledge management (KM) as self-realizing the potential that an entity has over its knowledge asset towards effectiveness and accomplishment. KM has increasingly been recognized as a business approach which uses technology as an enabler, despite the fact that early KM research saw KM as a strong technology-driven initiative [5].

To effectively deploy KM in organization, deliberate KM strategy must be developed [6]. This refers to identifying areas in which knowledge is critical and setting up actions, tools, and methods that can best leverage knowledge. This also means the development of KM strategy which considers

the aspect of people, process, and technology [7]. KM strategy is seen as a selection of framework to achieve the strategic benefit of leveraging knowledge towards the achievement of organizational goals [8].

While the importance of having enunciated KM strategy has received considerable attention in the literature, little have been known about how the governance of KM strategy is acted upon. Governance of KM is meant to ensure the delivery of KM strategic benefits. It broadly deals with the framework of decision rights, organizational structure, policy guidelines, risk management, performance measurement, and feedback mechanisms in relation to KM deployment [9]-[11].

This paper aims to explore how governance of knowledge management can lead to successful delivery of KM strategic benefits and the critical issues pertaining to it. It also looks at how governance of KM can contribute to realizing the balance amongst people, process, and technology within KM strategy. A case study from a secondary data source is presented to illustrate the application of KM governance. In a larger picture, this paper is expected to contribute to understanding what roles governance of KM can play in a successful KM initiative.

The paper is structured into five sections which starts with background and introduction of the topic then followed by a brief literature review of KM governance and strategy. Next, a case study of KM initiative in IBM is presented along with the findings and discussions in the next section. Finally, a conclusion and further research are presented.

II. LITERATURE REVIEW

A. Governance of KM

In the literature, governance of KM is discussed fairly variably with respect to its conceptualization. Zyngier et al., [11] conceptualize KM governance in a strategic context which provides links between KM strategy and its implementation. In their study, KM governance is regarded as evolutionary as shown by the availability of feedback mechanisms to improve governance processes. With this, governance is broadly characterized to include authority, risk management, and evaluation and measurement [12]. Governance of KM is exerted to ensure the delivery of KM strategic benefits through leadership, risk mitigation, and feedback mechanisms.

On a more pragmatic view of governance, Schroeder and Pauleen [13] delineate KM governance in light of explaining how structure and processes in organization can be honed to support coordination activities in KM deployment. Governance of KM in this definition largely deals with incorporating appropriate coordination and control to enable effective KM. Leadership, organizational structure, and relational mechanisms among stakeholders are the common themes of governance under this conceptualization [14].

With respect to leadership, it is defined as the characterization of authority which focuses on guiding and directing organizational strategy to support the value proposition of the organization [6]. The governance aspect in authority means rules and exercise of authority are subject to good practices. As leadership and authority transpire in organizational practices, they cannot be liberated from the notion of organizational culture [15].

Organizational culture is an important factor which defines the performance of KM system [16]. Zyngier and Burstein [6] argue that leaders substantially influence the creation of organizational culture through their attitude, management style, and organization structure. The culture itself can be in form of corporate values, professional attitude, ethical conduct, or simply the positive climate to foster collaboration and task achievement.

Governance of KM is also perceived as a means to ensure that KM system meets the desired performance. Onions and de Langen [10] convey KM governance as an attempt to maintain performance management of KM in order to match or exceed the predefined standards and objectives. Thus, it emphasizes more on the quality of performance and the standards employed in the KM initiative. The implementation of KM, therefore, needs to be governed in a way that ensures the achievement of performance standards.

Drawing from the various definitions of KM governance above, the main areas of governance in KM can be summarized to include authority, strategy development, risk management, organizational culture, and evaluation and measurement. These are the domains of KM governance which influence the impacts that KM initiatives in an organization will engender.

B. The Role of IT in KM Strategy

IT has traditionally been seen as the most important driving force in enabling KM. The incorporation of IT in KM system was one factor that triggered profound discussion on how KM could significantly bring impact in business [17]. IT was considered eminent in enhancing firm's capability to leverage knowledge. It could tremendously improve people's access to knowledge, faster transfer of knowledge, and efficient knowledge reuse. Technologies in form of information repositories, central databases, intranets, and record management systems have become an overpowering discourse in early KM research and practice [18].

However, long gone has the era where IT was considered the sole critical driver of successful KM system. Many KM projects failed to deliver its promised benefits and IT alone was found insufficient to bring impact in KM effectiveness [16]. IT can only support KM programs so much, but the effectiveness of KM systems relies on much more complex situations [19]. Social behavior of human is another success factor in KM systems – and in any IT/IS project – that is often overlooked. The users of such systems are people who have different motivational factors in taking part in and benefiting from the system.

The role of IT in enabling KM systems has transitioned. The early periods where IT occupied considerable attention to KM was known as the first generation of KM [20]. IT was, at that time, focused on codifying and manipulating explicit knowledge and facilitating better access to knowledge. Thus,

KM strategy at that period had revolved around the idea of exploiting IT for knowledge reuse. The second generation of KM is marked by the changing focus of KM into the induction and nurturing of communities of practice. KM is evolving and shifting further to facilitate the networking of knowledge [20]-[21]. IT in this regard contributes to developing social capital to enable organizational learning within and across communities. Collaboration software, groupware, discussion forums, and virtual communities are examples of the emerging IT applications in this era. Finally, the third generation of KM is thought of as the transformation of KM into embedded system that organically lives within organizations. It is seen as the encapsulation of previous KM capabilities with synergies of learning, innovation, and knowledge creation into the organizational structure [21]. IT is regarded as inherent in KM activities with its applications such as e-business, business platforms, and other strategic IT applications. Thus, technologies will paradoxically return to its critical role in the early KM, only this time becomes integrated in a socio-technical system.

III. THE CASE STUDY

A. Background of the Organization

IBM Corporation is a global company which provides integrated business solutions with more than 380,000 employees working in 170 countries [22]. Founded in 1924, IBM has gone through dramatic changes in its business. It has transformed from a global powerhouse in mainframe computing to become an innovative provider of integrated business solutions [23].

With the headquarters located in New York, USA, IBM articulates its vision as a "globally-integrated-enterprise" [24] which no longer sees itself in a traditional way of multinational business. It aims to operate as a unified business which consolidates its line of functions throughout worldwide business units and subsidiaries. One example of this vision is the delivery centers of technological solution in India, which not only is aimed to deliver services in Asia but also worldwide [25].

The description over KM implementation in IBM, however, illustrates the distinct characteristics it has between early and current times. It is thus considered important to distinguish KM deployment based on the time periods.

B. Governance of KM in IBM

KM in IBM was known as early as in 1994 when it was first initiated in the Global Business Service business units [23]. The objective of KM at that time was to facilitate knowledge reuse amongst IBM global workers for higher speed and more accuracy on delivering solutions to clients [25]. This has come to be labeled as Intellectual Capital Management where the company began to realize the benefit of providing better access of knowledge from and to its business consultants worldwide. In 1998, the KM program was brought as a corporate-wide KM program and thus secured top management support more widely [23]. In this paper, KM program in IBM was divided into two distinct periods, i.e., the early KM program (1994-2008) and the current KM program (2008-now).

In 1994-2008, KM program in IBM was pretty much a

resemblance of what most practices and research have prescribed in setting up a successful KM initiative. It started from a bottom-up initiative which was then brought up as a global KM program under the auspices of the CIO [25]. The headquarters was then providing KM leadership, defining KM strategic direction, and selecting the technologies to be used [23]. These were all made by taking into account the risk management approach. It was realised that for the KM program to be successful, adequate participation from the users must be maintained [25]. Following this, the implementation and monitoring of KM were made based on a top-down approach towards regional offices. Thus, little variations were seen in the implementation of KM globally despite the presence of KM managers in local level [25].

Organizational culture and measurement of KM revolved around the issue of how to engage IBM's global workers to reuse knowledge and share best practices throughout the globe. Knowledge sharing was explicitly written as a requirement in the job description of each employee and a reward scheme for employees who actively contributed to the KM system was made available [23]. Measurement of KM effectiveness was designed to include both quantitative (e.g. number of contributions, number of access) and qualitative aspects (e.g. satisfaction, perceived benefits).

The selected KM technologies to support KM in these times were characterized as highly focused on content. Although there were numerous virtual communities support available, e.g. discussion forums in form of Knowledge Café, the central theme of the technologies was to enable capturing and storing knowledge in central repositories for later reuse [23]. Employees were encouraged to share their knowledge through intranet portals. The technological architecture was made to enable other employees to easily access and reuse the knowledge [25].

Although there is no precise time of when the KM focus in IBM has transitioned, the current KM practice in IBM (2008-now) illuminates the shifting focus from initially intending to manage knowledge as a content to currently connecting people with their communities and fostering collaboration. This is shown by the growing adoption of enterprise social software in IBM [26]-[27].

Enterprise social software that is being incorporated in IBM is a product of its research and development as well as part of the KM solutions offered by IBM to its clients [27]. It facilitates collaboration among employees, workgroups, and geographic business units using a range of technology such as wikis, blogs, microblogs, and social networking tools [25]. Being the social software is commercially offered to its clients, IBM also aims to exemplify how social software can be leveraged to improve collaboration and knowledge creation in its own organization.

Interestingly, the initiative of the social software adoption in IBM to date is undertaken by IBM Software Group, a technological innovation business unit in IBM [28]. The group has recruited volunteers throughout IBM worldwide to act as ambassadors in adopting social software in their work routines. The technology and framework of adoption, however, are still decided by the headquarters only to include the role of local IBM ambassadors, i.e. BlueIQ, as evangelists of such program [27]. Top management support is also present rather unconventionally through the reverse mentoring imposed by the IBM Software Group [27]. Senior executives are trained and passed on the benefits of enterprise social software through mentoring by the ambassadors and then are expected to be part of the top-down support of the adoption program [27].

Social software in IBM is not merely a matter of technology. It has been transformed to support the nurturing of communities of practice in IBM. With more than 900 communities worldwide, IBM puts a critical role for communities of practice to work behind the scene in supporting IBM to achieve its strategic goals [26]. With the use of social software, communities of practice are more empowered in their collaboration activities within and across communities. Community members are getting more effectively interconnected and thus promote innovation through the increased capability of the communities.

Other than the traditional quantitative measurement, evaluation of the current KM systems also takes into account the notion of communities of practice. IBM has developed and used a Community Capability and Maturity model in assessing the state of its communities of practice [29]. It includes assessing what levels the communities are in and helps to define what type of support the company will need to provide to each community.

IV. FINDINGS AND DISCUSSIONS

The case of KM in IBM has shown that governance mechanisms were in place to ensure the realization of KM strategic benefits. The governance domains which are described to include authority, strategy development, organizational culture, risk management, and evaluation and measurement were fitting to support the KM strategy throughout different time periods.

In early times where the KM focus was on managing knowledge as content in repositories, governance of KM was made to ensure that employees were actively contributing to the KM system whereas current KM program has brought governance of KM to shift into ensuring effective interconnection between people and content as well as people and people. This shows the evolving nature of KM governance toward changes in KM strategy.

Governance of KM also helps to strike the balance between people, process, and technology. It is almost too common that KM systems will end in failure when there is insufficient attention geared towards the people side of the system [16]-[17], [30]. It also needs to be recognized that IT is indeed helpful in empowering KM initiatives. Thus, finding the right balance to address both human and technology aspect is critical [17]. KM governance as shown in IBM case helps defining the rules of thumb and support needed to make that happens. Social software, for example, does not stand in isolation from the wider KM strategy. Risks relating to the adoption of social software such as information leakage, employees' behavior and resistance have all been addressed and directed toward the achievement of IBM's KM strategy [27].

Similar to IT governance, there is a relationship between IBM's business strategy and KM strategy which then defines the best arrangements of KM governance. Currently, IBM is pursuing a transnational strategy which puts emphasis on the

innovation capability throughout its business units worldwide. Global knowledge workers are expected to collaborate intelligently to make rooms for innovation. Thus, the KM strategy is developed to nurture the communities of practice as well as the adoption of social software for better collaboration support. The KM governance also follows the centralized design of KM technology infrastructure to allow for standardized KM platform worldwide. Similar form of IT duopoly is also present which is resembled by the joint role of IBM Software Group and IBM top executives (CIO) in making the decisions regarding KM technology selections.

The fact that KM strategy cannot be liberated from business and IT strategy makes it worthwhile to pay greater attention to the interplay between business, IT, and KM strategy. KM initiatives are considered as business approach which makes use of IT to achieve its objectives [31]. Thus, the formulation of KM strategy will involve partly business and IT strategy like what is shown in IBM. Following this, KM governance should inform whether it has archetypal arrangements in relation to business and IT decision rights. In the case of IBM, there is currently no designated KM position taking up the decision rights structure, but it can be different in other organizations.

V. CONCLUSION

This paper has demonstrated how KM governance takes place in the studied organization and what principles are applied in each of the governance domains. With the domains defined to include authority, strategy development, risk management, organizational culture, and evaluation and measurement, KM governance has proved to be useful in ensuring the delivery of KM strategic benefits. In the case of IBM as described in this paper, the goal of the current KM system is to promote innovation through collaboration. Thus, the governance mechanisms were fitting to support the realization of KM objectives through decision rights arrangements, culture of intelligent collaboration, and nurturing the communities of practice. It also helps to strike the balance between people and technology in a KM initiative.

Further research of this topic should include exploration of the interplay of KM, IT and business strategies. This is particularly due to the interdependency among them that affects the arrangements of KM governance. A reference model can be built to describe the interrelationship amongst them which could explain how KM governance embodies IT and corporate governance. Empirical research with more number of studied organizations is also suggested to extend the findings in this paper.

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