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Abstract

Large Information Technology (IT) organizations that implement Knowledge Management (KM) strategies contend with a number of internal organizational constituencies whose creation and sustenance while facilitating business operations, also introduces important challenges in the social landscape from a KM perspective. Organizational members tend to identify themselves closely with a host of intra and inter organizational entities and often issues of 'identification' come to the forefront subsequent to the implementation of a KM strategy that demands organization-wide support. Here, we analyze the qualitative data collected from an in-depth case study of the KM implementation at Wipro Technologies, one of India's largest IT organizations and a KM pioneer, through the lens of the Social Identity Theory (SIT). Specifically, we looked at how the enactment and expression of group identities are embedded in the response of organizational members to KM. It emerged from the case that engineering an 'identity switch' among organizational members when they respond to information about organization-wide KM is the key to realizing the anticipated benefits from KM.

Keywords: Knowledge management (KM), Case study research, Group Identities

1. Introduction

Strategic organizational interventions bracketed under the rubric of knowledge management (KM) typically involve the implementation of one or more IT-based systems designated as knowledge management systems (KMS) (Alavi and Leidner 1999, 2001; Alavi and Tiwana 2002; Gray 2000; Schultze and Boland Jr 2000). It is argued that the response of the organizational constituents to the expectations of organization-wide KM depend on unique embedded social contexts in the various organizational constituencies (Davenport et al. 1998; Gold et al. 2001; Hansen 2002). Particularly so, in the case of organizations with highly decentralized multiple organizational units where organizational members, in addition to their identification with the organization, also closely identify with various local entities such as professional work groups. Researchers point out that the membership of each of such social entities or categories provides members with unique social identities, which guide their behavior in various organizational contexts (Ashforth and Mael 1989; Hogg and Terry 2001; Tajfel 1981). This study attempts to understand the tensions inherent in the relationship between the organization-wide KM initiative and the multiple social identities enacted in everyday organizational life. Particularly the study

addresses two research questions. 1. How are group identities expressed in the context of organization-wide KM initiatives in large IT organizations? 2. How can IT organizations position their KM strategies so that the expressions of multiple social/group identities are smoothly accommodated in organization-wide KM?

We adopt the case study methodology (Myers 1994; Orlikowski 1993) and consider the implementation of an organization-wide KM initiative at Wipro Technologies, India. As pointed out by Benbasat et al. (1987, p.370), the relevance of the case study method is further enhanced in the light of the shift from purely technological issues to organizational issues, such as the ones discussed in this paper. Further, the potential of the case study to generate rich data places it in a good position to explain complex social phenomenon in organizations (Yin 1994). The paper is organized as follows: After a brief introduction, we look at the existing literature on knowledge management approaches followed by a brief review of the Social Identity Theory and its applicability in organizational research. A note on the research methodology and the description of the case follows. Subsequently, we present the important findings of the case and conclude by highlighting the important theoretical and managerial contributions of the research.

2. Social Identity Theory in Organizational research

KM in organizations involves the implementation of IT-based knowledge management systems (KMS), which are equipped to capture, store and disseminate various forms of organizational knowledge (Alavi and Tiwana 2002; Massey et al. 2002; Newell et al. 2003). While KM initiatives promise to channel dispersed knowledge resources towards more effectively meeting business objectives, researchers have also pointed out that realizing benefits from KM processes is contingent upon local socio-cultural factors in the organizational milieu (Brown and Duguid 2001; Pentland 1995). Unique subcultures are seen to represent an opposing force when attempts are made to integrate large enterprises (that hitherto functioned as autonomous powerhouses within the organization) through strategic initiatives like KM (Ghoshal and Gratton 2002). Thus the challenge of a formal KM strategy is seen as the smooth integration of the KMS into the organizational mainstream such that it is not perceived as a head-on cultural intrusion. While numerous studies have linked concepts of organizational culture/subculture with KM (De Long and Fahey 2000; Ruggles 1998), a less examined idea that offers useful insights into drivers and limitations of KM is to relate organization-wide KM to issues of identity in organizations, which are increasingly viewed as important in explaining human behavior in different contexts (Bouchiki and Kimberly 2003; Zaheer et al. 2003).

Rowley and Moldoveanu (2003, p 208) define identity as "A set of logically connected propositions that a person uses to describe himself/herself to himself/herself and to others." This description can either be in absolute terms which broadly constitute the individual's 'personal identity' or can be in relation to another entity, which constitute the individual's 'social identity' (Brickson 2000; Tajfel and Turner 1986). Thus 'personal identity' refers to the personal attributes of a person where as the person's 'social identity' is derived from membership of various groups (Brown 1997) A well known theorization of the identity concept is the Social Identity Theory (Tajfel 1981; Tajfel and Turner 1986; Turner 1975, 1982). At the root of the

Social Identity Theory is the concept of social identification and social identity. While Ashforth and Mael (1989, p 20) define social identification as "the perception of oneness with or belonging to some human aggregate", Rowley and Moldoveanu (2003, p209) view social identity as "A set of elemental propositions about the individual's social embeddedness or image that (role, position, prestige and relationships) the individual holds to be true about himself or herself." According to the Social Identity Theory, social categories (e.g., organization, work group, race, religion etc.) to which one belong provides a definition of who one is, in terms of the defining characteristics of the category (Hogg and Terry 2000). The membership of each social category is represented in the mind of the individual as a unique social identity, which prescribes and regulates the individual's behaviors in various contexts of everyday life (Ashforth and Mael 1989). Thus the Social Identity Theory is often used to explain behavior at the collective level also as groups hold on to and identify with unique multiple social identities, which provide them a frame of reference for conducting themselves in everyday life (Pratt and Foreman 2000).

Social Identity Theory, by virtue of being a theory that seeks to explain group processes and intergroup relations (Hogg et al. 1995) is found to offer insights into the complex dynamics of organizational life and finds increasing application in organizational research (Dutton and Dukerich 1991; Peteraf and Shanley 1997). Particularly so since within an organization there are various social categories/entities whose membership leads to the presence of a number of social identities (Hogg and Terry 2001). Organizational research looks at the social categories from 2 main perspectives, either from a 'demographic' perspective that considers categories such as race, ethnic groups, sex etc. (Brickson 2000; Chattopadhyay 2003) or from a 'professional category' perspective that considers work groups within an organization and also considers the larger organization as a unique social category (Brown 1997; Humphreys and Brown 2002). Thus the Social Identity Theory also effectively accommodates members' identification with the organization (leading to the theory of organizational identity) viewing it as one kind of social identification. In this research, we look at group/social identities from the 'professional category' perspective and not from the 'demographic' perspective.

Thus, in organizational life in addition to the obvious organizational identity (Dutton and Dukerich 1991; Scott and Lane 2000), members also hold on to a number of other social or group identities such as identities corresponding to one's work group, department, unit, project team and so on (Hogg and Terry 2000). One way of categorizing these group identities is to view them as comprising of higher order identities - referring to categories which are a part of the broader picture - and lower order identities - referring to entities in the immediate narrower organizational environment (Ashforth and Johnson 2001). Extrapolating from this categorization, we view the organizational identification as a 'higher order identification' and identifications corresponding to business units, departments and other forms of work group as 'lower order identifications'. Thus the range of the social identities, which organizational groups evoke in various circumstances, extends from their own group identity to other higher identities of which the groups form a part. When specific social identities are evoked, group members tend to enact behaviors that favor the evoked social identity and counter groups that are perceived as infringing upon their evoked social identity (Ashforth and Mael 1989). Here we look at the unfolding of four social identities - the project team identity, the business unit identity, the client

identity and the organizational identity, during the implementation of an organization-wide KM initiative.

3. Research Methodology

We adopted the case study methodology to understand the major issues surrounding the implementation of the KM initiative at Wipro Technologies. In Information Systems Research, the case study method remains one of the frequently adopted research methods, and the felicity of the method is well documented (Cavaye 1996; Myers 1994; Orlikowski 1993). In particular, our study follows the traditions of interpretivist research that underscores and recognizes the difficulties of objectively accessing reality in organizational research. We utilized different sources of evidence. We conducted 41 open-ended interviews with the KM implementation team (consisting of the head of the KM implementation team and 6 knowledge managers) and with project team members and middle-level managers from 4 different organizational units – V1, V2, V3 and V4.

Typically each interview lasted for an hour and was conducted at 5 different development centers locations of Wipro Technologies in the southern Indian city of Bangalore, which is also the corporate headquarters of Wipro Technologies. The interviews were conducted in 2 separate phases with each phase lasting about 7 weeks. Most of the interviews were taped with prior permission and transcribed. A few interviews were not taped since the informants were reluctant to share their views on record. The open-ended interviews were typically followed by more informal discussions (not taped) with organizational members and these guided us towards understanding the often understated, but obvious themes that underlay the language and actions used by the informants to explain their responses to the organization-wide KM initiative. Clarifications regarding those points of the interviews that were unclear were obtained via e-mail correspondence and telephonic discussions. Following the first phase of data collection, we invited the Head of the KM initiative at Wipro Technologies to our university to present and share Wipro's KM experiences with our research team. During his visit, we discussed our initial findings and obtained further inputs about the challenges of implementing an organization-wide KM initiative. Other qualitative data that assisted the case analysis included the transcripts of the taped interviews, KM artifacts made available to us and the notes made during informal discussions.

4. The Case

Wipro Technologies is the global IT services and products segment of Wipro Limited, an India based IT organization headquartered in Bangalore, India. At present, Wipro Technologies employs close to 25,000 people and accounts for more than 75% of the Wipro Limited revenues. Wipro Technologies operates as an autonomous entity headed by a CEO, who reports directly to the Chairman of Wipro Limited. In this paper, all references to the "organization" refer to Wipro Technologies. Wipro Technologies has more than 300 global clients, offering them a host of IT solutions including software application development and maintenance, research and development services, package implementation, systems integration and Business Process Outsourcing (BPO) services. Organized into a number of strategic business units called verticals (defined, based on the industry segment of the customer, e.g. Retail, Manufacturing etc.) and

horizontals (defined, based on the technology focus), Wipro Technologies has offices spread across countries in Asia, Europe and North America and employs people from as many as 14 different nationalities.

4.1. *Organization-Wide KM implementation*

In late 2000, a top management driven organization-wide KM initiative was initiated and a dedicated, full-time knowledge management (KM) implementation team was set-up. At present, the head of the KM implementation team reports to the CQO (Chief Quality Officer) of Wipro Technologies and holds complete responsibility for implementing KM at Wipro Technologies. Reporting to the Head of the KM team are knowledge managers responsible for implementing and managing the knowledge management activities in each of the strategic business units. The knowledge managers also report to the heads of their respective business units. In addition, part-time volunteers in each strategic business unit assist respective knowledge managers to manage KM related activities in their units. The KM initiative, riding on the strong IT capabilities of the organization aimed to enhance the ability to access existing information in real time and shorten product and project life cycles. It was also anticipated that the KM initiative would foster a collaborative work culture and capture the explicit and tacit elements of the dispersed organizational knowledge. Over the past three years the KM initiative has evolved gradually and at present and revolves around the organization-wide knowledge portal called KNet (see Figure 1 and Table 1).

A full-fledged KM development team headed by a development team leader takes up responsibility for developing and maintaining the KM applications. In the implementation of the KM initiative at Wipro Technologies, we identified three key recurring and overlapping phases, namely 1) Planning and Refining the IT-based KM infrastructure 2) Awareness and Acceptance phase 3) Benefits measurement phase. The KM implementation team plans for new IT-based KM applications while refining the existing ones on a continuous basis based on the feedback from the organizational constituencies (Phase 1). The implementation team also employs various metrics that track the participation of organizational members in the KM initiative and in the process, attempts to measure the benefits of the organization-wide KM initiative (Phase 3). However, the most vital phase of the organization-wide KM initiative is the ‘Awareness and Acceptance phase’ during which the end-user responses to the KM initiative unfold.

By ‘Awareness and Acceptance phase’, we refer to the phase in the organization-wide KM implementation where the knowledge managers engage themselves fully in spreading awareness about the KM initiative within their respective business units. Knowledge managers speak with project teams and middle-level managers in their units in an effort to convince them of the need to participate in the building of an effective organization-level KM apparatus. Thanks to the ongoing efforts put in by the KM implementation, the four-year old KM initiative has been accepted at a broad level in the various organizational units. While in some units, this acceptance is restricted to merely acknowledging the presence of the KM initiative, in others it has taken the shape of active participation. Considering that the organizational work force is 25,000 strong and still growing, this phase of the organization-wide KM initiative remains a continuous process

with the knowledge managers attempting to reach out to more and more project teams and individuals everyday.

Figure 1. A Snapshot of KNet

4.2. *The enactment of Group identity dynamics in organization-wide KM*

The knowledge manager responsible for managing the KM initiative in V1 (a unit related to the telecom sector) said: “I am putting in a lot of time and effort trying to brand our KM initiative within the unit. I attend most of the review meetings and communicate to the middle level managers the progress we have made on the KM front. They in turn strongly encourage their team members to have a look at and utilize the KM setup. But I would say that how supportive teams are depends to a great extent on the culture of that team.” He felt that some project teams were so inward looking that they hardly bothered about anything that went on outside their team and business unit and consequently were not interested in organization-wide KM. This view was echoed from the opposite side by a senior software engineer, who is a part of a 20 member project team in V1. He found it difficult to relate to the organization-wide KM initiative: “I don’t mind sharing my expertise with people from outside my team and from other business units, but the emotional satisfaction I get out of seeing some one in my own project team benefit from my expertise beats everything. So naturally I am guilty of sharing information and exchanging notes

mostly with my own team members. Yes, I understand that we have a KM initiative at the organizational level but for me to feel a sense of ownership towards that is not very easy."

KM initiative (KNet)	KM system	System description
Connecting people to content 5500 knowledge artifacts are spread across 150 categories & 20 document types. On an average 400 knowledge artifacts are added every month	Sales support knowledge base	Provides key information to sales personnel
	Technology support KM system (TecKnet)	Captures and allows for sharing of technical knowledge artifacts, which reduces rework and also improves time-to-market
	Reusable components repository	Eliminates redundancies and allows for sharing of components
	Project data bank	Provides instant access to all project information
Connecting people to people	Communities and special interest groups (KNetworks)	Leverages tacit knowledge by getting people to come together and share
	Yellow pages/Find-the-expert (KoNnect)	Profiles employees with regards to their area of expertise making it easier to contact experts
	War rooms	A virtual space for top management and middle level managers at different physical locations to collaborate
KM sustenance programs	KM effectiveness and engagement index	Uses Six Sigma methodologies to gauge engagement and effectiveness of all KM systems
	Rewards and recognition	Attempts to institutionalize the KM initiative across the organization and motivate employees through virtual cash points, certificates of recognition etc.

Table 1. Knowledge management systems (KMS) at Wipro Technologies

The knowledge manager of business unit V2 explained that in many cases, project teams become actively involved in the organization-wide KM initiative when a senior manager connected to their team speaks up in support of KM. She introduced us to a senior project-manager in V2, who headed a 60 member strong software development team and was reputed within the organization as being as a strong votary of the KM initiative. The senior manager, in response to a query from us about his team's KM related activities noted: "At least in my team, I do not see any resistance to the KM initiative. But what we need to overcome is the indifference, which I am able to do by articulating to my team how we can benefit from the KM initiative. Now, for people in my team KNet is a part of their everyday work, whether it is with regards to uploading documents or sharing information or re-using artifacts. So we just need to clearly explain to people how they as individuals can benefit and how their project team or business unit benefits from KM."

According to a software engineer in V3, the onus of getting buy-in from the organizational units lay on the shoulders of the knowledge managers: "In units where people just don't care or don't

see any value in KM, the role of the knowledge manager is critical. He/she has to do some serious selling of the KM initiative in the unit. Also, whenever heads of the strategic business units and senior project managers drive KM from the top, teams are quite enthusiastic about sharing their know-how and contributing to the KM initiative. In my team, since my manager is very keen on KM, it has become a habit for us to access KNet regularly for our needs. I guess it's a part of the culture of our team."

The knowledge manager with V4, who has 3 years of experience in his current KM role, provided a contrasting view: "In our offshore development centers (ODC) here in India we have our people developing software for large client organizations. In many cases, our clients' biggest competitors also happen to be our clients for whom (too) we develop software. So the clients are very particular that our teams working for them don't share vital information outside the team. Of course, we have very strong policies to ensure and protect the intellectual property of our clients. But in a KM scenario, what happens is that some of our people working in these teams tell us that they can share nothing at all with the rest of the organization claiming that everything they do is the intellectual property of the client. So in such a situation there is very little that a knowledge manager can do."

The head of the KM initiative noted: "I do not agree with this argument about intellectual property all the time. Yes, in some cases we do need to be careful about what we share and what we don't, but it is true that people use that as an excuse. To give you an example, the way a telecom switch works is same irrespective of who the manufacturer is. Now I have seen people unwilling to share even general, but useful insights into the working of a telecom switch claiming that they are not allowed to do so by the client. Now this kind of an attitude is not good and needs to change soon." A senior software engineer with one of the project teams in V3 argued that it was natural for his project team to have a frame of reference that was predominantly local. He said: "There is a strong bonding among people in our project team. So generally when everything's going on well here, we are happy about everything and KM is not on top of our minds. Furthermore, the technology that we are working on is an uncommon one and not something which the rest of the units are in to. So why anyone else would be interested in what we are doing."

This argument was countered by a senior project manager in V2 who said: "We have to guard against complacency. The IT industry is such a dynamic one that the very technology which is giving us our bread today may become obsolete tomorrow and some little known technology may become hot. So it is doubly important for people working on rare technologies to share their expertise with others. It need not mean they have to document everything they do. But it certainly makes sense for people to at least share their tacit experiences through KNet applications." Knowledge managers further opined that the KM strategies to be adopted in such unique circumstances were still at an evolving stage and felt that the organization needed to find ways in to accommodate the increasing number of isolated organizational units which appeared to function as organizations within the organization. In the words of a software developer in V3 who is also a KM volunteer assisting the knowledge manager in his unit: "Some project teams and people are put-off by the term 'KM'. They tell us that they already have a knowledge repository of their own just like KNet and suggest that KNet may not be very useful either for

them or their clients. In fact, they also seem to think that they are better off staying away from any KM related activity. In such cases to make them aware of the possibilities, we avoid the use of the term KM and instead talk about 'Making your life much easier' and 'sharing things that you can share'. This is another approach that we have taken towards making the KM initiative popular."

A project manager heading a 30 member project team in V1 felt that the organization with initiatives like KNet was responding to the challenges of managing knowledge in a time of rapid growth and would surely come up with effective strategies to address the problem areas of KM implementation: "The KM platform is a vibrant place that offers scope for sharing both tacit and explicit knowledge. With KNet we have made a start. Slowly, I am sure people will come around to the view that it is a very important component of everyday organizational life and the organization-wide KM apparatus in years to come, will be the main contact point for seeking, contributing and sharing knowledge."

5. Discussion

Our study aimed to understand the different ways in which group identities were expressed in the context of the knowledge management initiative, and the organizational efforts to manage the issues surrounding the expressions. The study brought to the fore the tensions inherent in the relationship between organizational business units/project teams and the organization-wide KM. We discuss three important findings of the study below.

5.1. *The challenge of group identities in KM contexts*

The centralized IT-based KM infrastructure demanded that the various units identify themselves strongly with the organization's intention to create a central knowledge resource. The idea being that such a strong positive identification often would lead organizational members to actively support and contribute to the KM initiative. The metrics made available to us by the KM implementation team suggest that the usage and contribution to KNet is on the rise and that more and more members are getting involved in the KM initiative. However qualitative data from the case suggests an important challenge, which the organization needs to address. In the KM contexts, members faced difficulties in visualizing the organizational benefits of KM, and often thought only at the level of their own project team and business unit. In other words, the lower order identities (Ashforth and Johnson 2001) were enacted more frequently than higher order ones as members' frame of reference for behavior were predominantly local. The need to share and contribute through an organization-wide platform such as the KM initiative often clashed with the underlying belief that the rightful owner of the information is the unit/team/client.

Brown and Starkey (2000, p105) argue that organizational members often 'deny', 'rationalize' and 'idealize' to maintain and protect their perceived collective self-esteem and that such 'ego defenses' (Laughlin 1970) can often prove dysfunctional for organizational learning. Extending this argument to the project team level and looking at the involvement in organization-wide KM as a new learning process, we saw that project team members at Wipro Technologies often used

these ego defenses to explain their non-involvement in the KM initiative and to counter any suggestions that they must get involved in the KM initiative. For instance, comments like "I don't contribute much to the KM portal because I don't see how what I know will be of use to anybody outside my unit" showed their rationalizing tendencies. In the case of long-duration projects with a single client, members appeared to idealize the client organization. They seemed to enjoy their association with the client organization and the perceived unique status it gave them within the organization to the extent that their emotional attachment with the client clashed with the demands of organization-wide KM. Project team members, in spite of the continuous efforts of the KM implementation team, often took recourse to 'denial' by refusing to believe that organization-wide KM could benefit them in everyday work. Thus, the inclination of organizational members to invoke various forms of ego defenses to protect their group identities in the KM context is one of the important challenges for the organization to overcome.

5.2. *Identity switching through Middle-level managers*

Identification with their own project teams, business units and client organizations often dominated members' thinking and came in the way of members' getting involved in organization-wide KM. They were then guided in their KM behaviors by their lower order identities. However, KM managers, have been successful in eliciting the support of middle-level managers in promoting KM in their respective units. In fact, the extent to which KM has made inroads into the organizational milieu has depended to a large extent on the middle-level managers in the various units. Many middle-level managers have able to generate interest towards KM among members in their project teams and business units. The data made available to us suggest that project teams where middle level managers such as Project leaders, Project managers and Technical managers have articulated to their subordinates the benefits of KM, did exceedingly well in terms of contributing to the KM initiative.

In teams where a strong case for KM was made out by their immediate superiors, notwithstanding the inhibitions and restrictions created by their inclination to identify with their own project teams, business units and clients, members got actively involved in the KM initiative. From a managerial viewpoint, managers appeared to be in the best position to overcome the problems created by group identities. They seemed to be able to engineer what we shall refer to as 'identity switching' among members whereby members were able to switch over from their strong identification with their groups to a mental mode in which they became more receptive towards organization-wide KM. Organizations thus need to bring communicate to middle-level managers the need to support the KM apparatus and encourage its usage among their project team managers.

5.3. *Conflicts of Social comparison*

One of the important concepts of the Social Identity Theory (SIT), is Social creativity, which according to Tajfel and Turner (1986, p20) involves "Comparing the ingroup to the outgroup on some new dimension." It tells us that groups with strong social or group identities in the organization (the ingroup) compare themselves with other groups (the outgroup), and generally see themselves in a favorable light (Hogg et al. 1995). In the case of organization-wide KM,

some members' language and actions suggested that their staying away from KM in a way was a consequence of comparing themselves with the KM implementation team.

They felt that while they were the breadwinners for the organization, the KM group was merely a support group in the organization and therefore did not merit serious consideration. In other words, members again rationalized their behavior in relation to the KM initiative by evoking their respective lower order social identities (e.g. project team identity) and viewing themselves in a favorable light in comparison with the KM team. While the comparison with the KM team did not give them good logical reasons to refrain from participating in KM, it nevertheless further reinforced their multiple social identities. One way in which organizations can seek to avoid the problems arising out of such a social comparison is by involving many more project team members in alternative KM roles so that they may appreciate the importance of KM.

6. Conclusions, Contributions and Future research

Our case study has attempted to address the major issues surrounding the implementation of an organization-wide KM initiative at Wipro Technologies. It emerged from the case that organizational members are engaged by a host of group or social identities (e.g., business unit identity, project team identity, client identity) in everyday organizational life. Further, organizational members often choose to enact their lower order identities, which in the context of strategic initiatives having organizational relevance like KM, is an important barrier to overcome. Middle level managers play a crucial role in clearly articulating the benefits of organization-wide KM to members in their constituencies and ensuring that end user communities relate better to KM.

Traditionally, researchers have tried to explain KM behaviors by using concepts of organizational culture and subcultures. In utilizing the concept of identities, specifically a simple framework having its origins in the Social Identity Theory (SIT), this study has attempted to move towards a theoretical explanation that has the potential to offer greater depth when understanding issues of organizational KM implementation. From a managerial viewpoint, a key challenge in organizational KM implementation is to articulate to organizational members very clearly the benefits of the KM initiative. KM implementation teams need to co-ordinate better with the organizational units and convince middle-level managers to push the initiative in their respective business units and project teams. Further research needs to be conducted to explore other issues of social and organizational identities that impact and interact with organizational KM strategies.

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