TOWARD A COMPREHENSIVE FRAMEWORK OF THE CAUSES OF KNOWLEDGE MANAGEMENT SUCCESS OR FAILURE - A COMPARATIVE CASE STUDY

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Abstract

Knowledge management (KM) initiatives have been implemented with diverse results in many organizations. Although there has been substantial inquiry into the conditions for KM success or failure, prior findings need careful systematization before engaging into rigorous empirical investigation. Theory development is still emergent; interesting ideas can be found dispersedly, but signs of comprehensive, convergent theory are rather weak. Thus, the relevant literature can meet at the concept of 'knowledge-leveraging processes', the (at least desirable) 'essence' of KM interests. Accordingly, in order to tackle the deepest causes of KM outcomes, complex, underlying knowledge-related organizational dynamics ought to be considered. In this paper, a qualitative-method based, exploratory case-supported comparison of two contrasting KM experiences is provided. After an integrated discussion of both cases, a comprehensive framework is tentatively suggested, encompassing a number of key issues for KM (project) effectiveness. Future research is needed to develop this framework and undertake further empirical analyses.

Keywords: knowledge management, success, failure, case study.

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Suggested track: A - Managing organizational knowledge and competence

1 Introduction

The outstanding impulse to knowledge management (KM) during the last decade has been fostered by business and socio-economic pressures, along with an evolution of academic thought and research. A synthetic account of these causes is outlined below.

The decay of the learning organization (LO) discourse. This fact paralleled the rise of KM (Scarbrough and Swan, 2001; Swan, 1999), a discourse meant to appear as more attractive and 'marketable' (and usually IT-oriented) than the LO one.

The 'renewed' entry of the organizational learning (OL) tradition in the mainstream management agenda (e.g., Argyris and Schön, 1996; De Geus, 1988; Stata, 1989), particularly enriching a number of issues (e.g., culture, change, leadership). In this con-

text, Nonaka and Takeuchi (1995) aimed at explaining innovation-related dynamics that OL and the LO (besides other trends) had not (in their opinion) approached effectively.

The increasing recognition of knowledge as a key strategic asset to sustain competitive advantage in today's dynamic, complex and globalized economy. This idea is shared by a diversity of approaches: the knowledge-based view of the firm (e.g., Conner and Prahalad, 1996; Grant, 1996b; Spender, 1996), the (dynamic) capabilities stream (Kogut and Zander, 1992; Teece and Pisano, 1994; Teece et al., 1997), or a heterogeneous array of more normative proposals on managing 'knowledge' (assets) (e.g., Davenport and Prusak, 1998; Sveiby, 1997) or 'intellectual capital' (e.g., Edvinsson and Malone, 1997; Stewart, 1997) toward an improved organizational performance.

The increasing importance of knowledge work(ers) and the 'knowledge-based organization' (e.g., Alvesson, 1993; Davis and Botkin, 1994; Edvinsson and Sullivan, 1996; Starbuck, 1992; Tampoe, 1993; Ulrich, 1998; Winch and Schneider, 1993) as key elements toward competitive edge in the developed societies and leading firms.

The disappointment with prior managerial fashions (e.g., Business Process Reengineering [BPR], quality circles), to which KM is often presented as a more comprehensive 'tool-kit' or even 'antidote' (e.g. to prevent 'brain-drain' from downsizing policies) (Scarbrough and Swan, 2001). Although KM has often served as a new label for pre-existing (at most re-shaped) (usually IT) tools (ibid.), it has jointly benefited from —beyond this consultancy-driven 'tool-kit' approach— (critical) academic responses, and also from serious, self-aware organizational experiences. Thus, the KM debate is invariably enriched —even by authors who refuse the 'knowledge management' expression (e.g., Takeuchi, 2001).

The existence of KM keen allies in specific management functional specialists —maybe more than in any prior managerial fashion. Information Systems and Information Technology (IS/IT) professionals flooded the emergent KM field at its dawn; Human Resource (HR) ones are progressively getting seriously involved in it.

To sum up, KM has benefited from a number of academic fields, managerial trends and broader contextual circumstances. Perhaps, the way in which KM has evolved —with its interdisciplinarity, combined proximity to 'down to earth' issues and philosophical depth, and simultaneous interest to both practice and academia, also from an outstanding variety of viewpoints— cannot be paralleled by any prior organizational trend.

In this paper, the concept of *knowledge-leveraging processes* is proposed as an organizational analysis meeting point between OL and LO interests, knowledge-based views

to develop organizational capabilities, knowledge work(er) concerns, 'knowledge creation' models, 'intellectual capital', as well as any other KM (labelled or not *as such*) contributions. Having this in mind, and consciously giving a significant role to KM (as an expression and a 'field'), knowledge-leveraging processes are regarded as the ultimate essence of KM. Hence, (formal) KM initiatives may (in principle) help to improve the effectiveness of such processes. Indeed, KM explicit interventions can be necessary under many circumstances, especially where the organizational conditions are not the most intrinsically favourable to the requirements of 'naturally-fostered' knowledge-leveraging processes. That is why the specific focus of this research is the *KM initiative* or *KM project*. In fact, many types of KM initiatives can be found in business practice, and the investigation into the key factors affecting their performance appears as an interesting inquiry area. Therefore, two *research questions* are formulated:

- *Why can a KM initiative end up in failure?*
- *How must a KM initiative be designed and implemented in order to be successful?*

To tackle these questions, relevant literature was reviewed. In fact, this task helped in the first place to posit the research questions —as will be implicit in the next section, where a brief synthesis of the conceptual background is provided. In the third section, the methodology applied is explained and justified. With an exploratory aim, the investigation consisted of a case-supported comparison of two contrasting KM experiences. Qualitative methods were used for data collection and analysis, critically interpreting the evidence to get rich details about the processes involved, especially regarding KM project design and implementation dynamics. The fourth section consists of an integrated discussion of the cases, systematically following a conceptual map established after the literature review. As a result, a number of key issues to be considered for KM (project) effectiveness are synthesized in a (tentatively proposed) comprehensive framework. This paper concludes by acknowledging a reasonable achievement of the intended goals, whilst pointing out some of the investigation's limitations, suggesting possible lines of subsequent inquiry and raising new, more challenging questions.

2 The KM challenge: Theoretical underpinnings and prior research

The conceptual background is presented in two stages: (i) a preliminary clarification of the concept of knowledge-leveraging processes in the context of KM, (ii) a brief (field-based illustrative and empirical) literature review.

2.1 Knowledge-leveraging processes as the 'essence' of KM

Amongst the great variety of KM definitions, the one by Offsey (1997) seems appropriate for the specific goals of this investigation: '[…] the broad processes of locating, organizing, transferring, and more efficiently using information and expertise within an enterprise' (Offsey, 1997: 113). This definition (and indeed most definitions of KM) do not imply the need of engaging in formal KM initiatives or projects for knowledge-leveraging processes to take place. Such processes happen continuously (Nevis et al., 1995) through complex dynamics that by different authors have been explained in conceptually different but complementary terms (Balbastre et al., 2003).

Nonaka (1994) explains knowledge creation dynamics through the well-known knowledge-spiral model of epistemological and ontological knowledge conversion. In this context, knowledge itself cannot be really managed (Takeuchi, 2001). Otherwise, what chiefly counts is its relevant tacit dimension (Grant, 1996a; Leonard and Sensiper, 1998) and the facilitation of 'knowledge-enhancing contexts' (Nonaka and Konno, 1998; Von Krogh, 1998). Grant (1996a) stresses the role of the organization as an agent for knowledge *integration*, a concept that genuinely implies the possibility of building a competitive advantage based on utilizing knowledge as a strategic resource. Besides, Crossan et al. (1999) present an OL framework strongly compatible with a knowledge-centred approach to organization, since the 'feedforward' and 'feedback' processes[1] can be interpreted as another (complementary) way to explain knowledge-leveraging dynamics. Accordingly, Crossan et al. (1999) describe specific processes (the '4 i', namely intuition, interpretation, integration and institutionalization) which bridge the three intra-organizational ontological levels presented by Nonaka and Takeuchi (1995) (individual, group and organization). Moreover, these (sub)processes (of OL) are closely linked to the overall dynamics of knowledge *integration* across the organization[2], thus connecting with the point made by Grant (1996a). Balbastre et al. (2003) make an effort to integrate Nonaka's (1994) and Crossan et al.'s (1999) frameworks, explicitly assuming that OL and 'knowledge creation' are, after all, two ways of looking at closely related (if not the same) organizational dynamics —here labelled as *knowledge-leveraging processes*.

[1] A reformulation of the 'exploration' and 'exploitation' OL dynamics previously proposed by March (1991).
[2] Although Crossan et al. (1999) explicitly label only one of these four processes as integration, the other processes are needed for the integration to occur, since the four of them constitute an inter-dependant system which triggers a continuous knowledge-leveraging (meta)process. Moreover, Grant's (1996a) concept of integration can be understood as more comprehensive and far-reaching that the (narrower) one of Crossan et al. (1999) —whose overall framework is, in any case, highly complementary with the organizational needs to promote knowledge integration in a comprehensive sense.

2.2 KM initiatives: What does the literature say?

There has been substantial inquiry regarding the facilitating and inhibiting factors regarding knowledge-leveraging processes (in general) and KM outcomes (in particular). This review focuses on two basic areas: (i) contributions from different approaches to knowledge-leveraging processes, (ii) works from a (more explicit) KM perspective.

KM effectiveness from a knowledge-leveraging perspective. De Geus (1988) illustrates that the process of 'institutional learning' (the key to sustainable competitive advantage) relies heavily on managerial training and development and culture management. Likewise, Stata (1989) shows the importance of managing culture toward the achievement of shared values, teamwork and open communication across the organization, as key elements for developing effective OL processes. In these early stages (prior to KM popularization *as such*), KM relied primarily on Organizational Development, 'soft' issues, consistent with the main interests of the LO discourse and the practitioner-adapted OL ones. Similarly oriented contributions followed (e.g., Donegan, 1990; Lines and Ricketts, 1994; Smith, 1999), emphasizing employee empowerment and participation, creativity fostering, and a strong focus on training and development. In this sense, Senge and Sterman (1992) insist on the need of innovation-rewarding incentives, and highlight the relevance of the change of managerial frameworks of reference and systemic thinking as key prerequisites for any of the above mentioned policies to be successful[3].

Other case studies need mention as they are based on especially consistent conceptual frameworks. Leonard-Barton (1992) highlights a number of people management orientations that facilitate learning across the organization: (i) performance rewards toward interpersonal justice, (ii) training toward effective knowledge sharing, and (iii) rigorous learning-potential-based selection and internal labour markets (toward the fostering of positive risk-taking). On the other hand, Nonaka and Takeuchi (1995, ch. 4) and Nonaka et al. (1998) provide illustrative evidence of the relevance of taking into account HR-related prescriptions implicit in Nonaka's (1994) knowledge-creation framework: participation, risk taking, creativity, open communication, training, etc. Similar results are achieved by more clearly academic works. Inkpen and Crossan (1995) apply the Crossan et al.'s (1999) OL '4 i' framework (see previous subsection), whereas Edmondson (1999) inquiries into team psychological security as a key determinant of successful OL at the team level. Crossan et al.'s (1999) framework is also used (con-

[3] In fact, Senge and Sterman (1992) is a case study grounded on the LO framework by Senge (1990).

veniently adapted) by Bontis et al. (2002) to create the Strategic Learning Assessment Map (SLAM framework), thus empirically proving the positive link between OL and organizational performance —with mediating variables in line with issues raised above (creativity, critical thinking, teamwork, participation in goal setting, innovative culture, experience sharing, fluent communication, etc.).

Other rigorous empirical studies can also be highlighted. Lynn (1998) emphasizes the importance of teamwork, a clear shared vision, and employee commitment with continuous improvement in new product development processes. Arthur and Aiman-Smith (2001) implicitly suggest that OL dynamics play a significant role in the positive impact from gainsharing on organizational performance. DiBella et al. (1996) highlight the relevance of 'OL enhancing' HR systems. From an organizational capability perspective, Zander and Kogut (1995) implicitly suggest the need of designing appropriate HR systems —especially reward systems— that prevent 'brain drain' and thus minimize the negative outcomes of the 'knowledge codification paradox' (i.e., maximizing internal transfer whilst also facilitating external leakage of knowledge). Also from a capability approach, Kusunoki et al. (1998) link appropriate capability development to sound results in product development.

KM effectiveness from a KM perspective. Within the explicit KM domain (i.e., literature that explicitly uses the KM expression), inquiry into the causes of KM success or failure abound, although works with high scientific rigour are not so frequent. Descriptive surveys (e.g., KPMG, 2000; PwC, 2001) have emphasized managerial blindness for human and cultural issues when developing KM initiatives. Indeed, most companies still rely heavily on IS/IT as the fundamental core of any KM project, situation pointed out (and often criticised) by many authors (e.g., Dougherty, 1999; McDermott, 1999; Newell et al., 2001; Scarbrough and Swan, 1999; Soliman and Spooner, 2000; Swan et al., 1999; Thomas et al., 2001), and more specifically a keen interest is developing in linking KM to HR concerns (e.g., Carter and Scarbrough, 2001; Hislop, 2003; Kamoche and Mueller, 1998; Nerdrum and Erikson, 2001; Robertson and O'Malley Hammersley, 2000; Ryan, 1995; Scarbrough, 2003; Starbuck, 1992; Storey and Quintas, 2001; Yahya and Goh, 2002). Empirical research on KM is usually consistent with these concerns, with conclusions close to those of the investigation on knowledge-leveraging processes discussed above. Martiny (1998) describes a practitioner-oriented experience which highlights the key role of a knowledge-leveraging friendly culture, extensive employee participation in knowledge-leveraging responsibilities, a self-critic and reflective attitude, and so on. Similarly, McCampbell et al. (1999) are critical with the limits of

narrow IT approaches to KM and pinpoint the need to distinguish information (fostered by IS/IT) from knowledge (fostered by social interaction). These authors also analyze how KM *technical tools* can be effectively leveraged as the core of a KM strategy, suggesting a number of systematic steps to be taken in order to develop a successful KM strategy, seeking to complement technical issues, human-cultural concerns, and assessment and feedback requirements.

A number of simultaneously practice-driven and academically relevant case studies have also emphasized the key role of human and cultural issues as key triggers (or inhibitors) of KM (initiatives). Eppler and Sukowski (2000) focus on KM as embedded in team product development processes, stressing the need of team autonomy and the inclusion of knowledge-sharing concerns in reward systems, along with the use of sound IS/IT systems. On the other hand, Davenport et al. (1996) emphasize the need, in a knowledge-work context, to pay serious attention to issues such as job design, teamwork or 'better' people management. Specifically focused on KM *projects*, Davenport et al. (1998) identify eight KM project success factors, namely: link to economic performance or industry value; technical and organizational infrastructure; standard, flexible knowledge structure; knowledge-friendly culture; clear purpose and language; change in motivational practices; multiple channels for knowledge transfer; senior management support[4].

On the other hand, Scarbrough and Swan (1999) collect several case studies as illustrations of KM good and not so good practice, systematically reinforcing the key importance of human and cultural issues for KM success. Many issues highlighted elsewhere are grouped together and field-evidence illustrated (changes in 'the way people work', culture management toward KM-friendly values, fostering of communities of practice and social networking, culture-fit minded selection, training and development, etc.), along with other especially thoughtful implications, such as the need of assigning HR responsibilities to people in charge of (KM-related) projects, some reluctance to an excessive reliance on friendship-based trust, or an emphasis on symbolic recognition (to KM commitment) rather than knowledge-sharing direct incentives. In addition, more academic accounts of some of these cases (Newell et al., 2001; Swan et al., 1999) conclude that an (over)emphasis on an IT-based network structure, whilst neglecting social interaction, may inhibit knowledge-sharing. Finally, Storey and Barnett (2000)

[4] This account of key factors seems particularly interesting, since it appears to end up (implicitly) combining general (broadly speaking) HR concerns raised by the OL and LO empirical literature (motivation, communication, empowerment, etc.) with some aspects of the (well-known) 'enabling conditions' of the 'dynamic theory of knowledge creation' (Nonaka, 1994; Nonaka and Takeuchi, 1995).

present a case study which focuses on the *process* of implementation of a KM initiative, complementing issues raised by prior research and also bringing up especially thoughtful factors, such as: *uninterrupted* (through *all* implementation) senior management commitment, generous resource allocation, seriously being aware and tackling cultural differences across the organization (thus preventing fatal inconsistencies in KM implementation), and a keen effort to make sure that the KM (project) need and goals are understood by everyone involved.

The need of a comprehensive and conceptually sound framework. All the above mentioned (and other) works add value to the inquiry into the ultimate sources of KM success or failure. However, most of them are still of an illustrative or at most exploratory nature, also focusing on particular behavioural issues or on the contrary being rather broad —and therefore superficial— in their scope. All this imposes considerable limitations for achieving prompt results in a desirable quest for a comprehensive and conceptually sound framework of the causes of KM success or failure. Having these concerns in mind, this investigation consists of a comparative case study which, assuming prior findings as a starting point, tries to find out especially relevant, specific issues that are evidenced as triggers or inhibitors of two different KM initiatives.

2.3 Preliminary conceptual map

A conceptual map is useful, prior to engaging in empirical material scrutiny, so existing insight is (broadly) systematized to facilitate the rigour and comprehensiveness of the (inductive) analysis process (Johnson, 1998; Maxwell, 1996). In this way, careful study of prior literature led to the proposal of a number of key areas (i.e., *conceptual categories*) relevant for KM project performance, expecting that the field data examination will help to find out specific key factors within each category.

KM basic assumptions. It is important to consider what the organization understands as knowledge and KM and how KM is formally defined. These may well play a relevant (but often neglected) role in the way KM is dealt with and the complex dynamics leading to its final success or failure.

IS/IT concerns. Obviously, IS/IT infrastructure (often at the core of many KM projects) soundness, has been evidenced to play a key role in KM outcomes.

HR-related concerns. Emphasis is observed on a number of concerns especially related to people management, such as the KM role of the HR function or a high diversity of HR-related practices (teamwork, empowerment, participation, creativity and critical

thinking, selection, training and development, reward and incentive systems, interpersonal justice, internal labour markets, communication, job design, etc.).

Broader organizational concerns. Many organizational issues that imply more than (strict) people or IS/IT management can be included here. Organizational culture plays a key role, as does cross organizational communication and coordination issues or senior management support, among other themes of this (especially) open category.

Strategic concerns. The link between KM and (broader) organizational performance is extensively assumed but not too often tackled seriously. Although the detailed look at this relationship exceeds the scope of this investigation, it is reasonable at least to take into account the awareness of the strategic significance of KM or the explicit link of this initiatives to the achievement specific organizational goals.

3 Research strategy

The basic methodological issues affecting this investigation are dealt with along three subsections. First, the overall research approach (exploratory case study) and the bases for case choices are outlined. Second, the methods of empirical material collection and analysis are described (qualitative-based interviews, document analysis and some observation, with an important role of critical interpretation). Finally, validity concerns are accounted for.

3.1 Overall research approach and case selection

The investigation has been conducted through a case study strategy (Hartley, 1994; Platt, 1988; Stake, 1995; Yin, 1994). The emergence of the *specific* area of inquiry (KM project success or failure factors), along with the relative scarcity of systematic and integrated theory building, suggests that conducting case studies can help to further explore, clarify and systematize the field. What is more, case studies are especially appropriate to get *rich insight* about specific issues which need a careful *attention to detail*, especially when the phenomenon under study consists basically of *processes* — with research questions starting with ‘why’ and ‘how’ (Yin, 1994), as this investigation puts forward. Likewise, the (double) case study described later, whilst being illustrative, also reaches an exploratory nature (Yin, 1994), since it tries to tentatively develop the necessarily broad and flexible (Maxwell, 1996) conceptual map proposed above.

Two knowledge-intensive organizational units (Alvesson, 1993; Davis and Botkin, 1994; Starbuck, 1992; Winch and Schneider, 1993) belonging to Spanish subsidiaries of multinational companies were selected as the case-study settings, taking into ac-

count their potential to shed light over the phenomenon researched (Stake, 1998). Consultancy Organizational Unit (COU) is a consultancy division of a professional service organization; Engineering Organizational Unit (EOU) is the knowledge-work section of the industrial (product development) department of an energy-related manufacturer. Both firms are leaders in their markets and are heavily dependant on their knowledge-workers' (Davenport et al., 1996; Edvinsson and Sullivan, 1996; Newell *et al*., 2002; Tampoe, 1993; Ulrich, 1998) skills and expertise. Also, contextual elements derived from case (industry-related) idiosyncrasies may bring insightful results on a theoretical replication (Yin, 1994) basis.

3.2 Methods

Qualitative methods were employed, as they fitted well with both the nature (processes) and the (embryonary) theory-development stage of the phenomenon studied. The field research was designed, the empirical materials collected and analyzed, and validity-check steps conducted, after the indications of a number of methodologists (e.g., Cassell and Symon, 1994; Guba and Lincoln, 1989; Maxwell, 1996; Miles and Huberman, 1984; Stake, 1995; Yin, 1994).

Semi-structured interviews were carried out (see details in table 1), complemented with on-site (mostly informal) observations and the analysis of appropriate documentation. The people most directly responsible for the KM projects at the organizational units studied were interviewed. Other people with managerial responsibilities were also interviewed, along with other lower-level management and non-managerial employees. By dialoguing with people across hierarchical levels and linked to different departments, a high accuracy and comprehensiveness of data was sought by means of triangulation. On the other hand, although the companies were reluctant to hand over too confidential materials, the researcher applied interpretative techniques to critically analyze any documents available[5]). Indeed, systematic cross-interview and cross interview-document triangulation are believed to have increased the validity and overall quality of the empirical materials. Beyond the basic 'truth achievement' utility, triangulation helped to highlight more critical, interpretative issues (e.g., inconsistencies and

[5] Basically, internal presentations about the KM project from COU, organizational charts from EOU, and in both cases brochures and other corporate public information, given from the firms and also retrieved from the companies' webpages. Moreover, the *lack* of certain documents provided relevant insight as to organizational culture and the firms' approaches to KM (the researcher was astonished when EOU showed him but later denied to facilitate a copy of KM project materials which after all consisted of quite standard 'consultancy-package' stuff).

contradictory accounts between participants[6], differences in cultural values and mind-sets) that derived into more refined and insightful materials and outcomes.

COU Interviews	Lengths	EOU Interviews	Lengths
COU's company (Spain) CKO	180'	HR Manager at EOU's company (Spain) main factory (also EOU headquarters)	150'
COU's business unit knowledge manager	90'	EOU's senior manager	180'
COU senior consultant, also part-time COU's knowledge manager	150'	EOU's middle manager	150'
COU mid-level consultant (two interviews)	180' + 150'	EOU's front-line manager	150'
COU's junior consultant	90'	EOU's *trainee* graduate (engineering)	90'

Table 1. Interview details

3.3 Validity concerns

Consistent with a rather eclectic philosophical approach, (post)positivist *quality* indicators (Yin, 1994) were combined with the constructivist *trustworthiness* ones (Guba and Lincoln, 1989, 1998). Thus, Yin's (1994) proposal (*construct validity, internal and external validity*, and *reliability*) is slightly adapted toward its constructivist (trustworthiness) counterpart (respectively, *confirmability*, *credibility*, *transferability* and *dependability*). However, following Yin's (1994) advice, internal validity is not considered, since this case study is not explanatory but exploratory —and accordingly confirmability is also removed from this investigation's quality criteria.

On the other hand, an inclusion of assumptions typical of (broadly speaking) critical and interpretative perspectives is also made. In this way, two complementary quality criteria need to be added —strongly grounded on the assumptions and goals underlying this research, as well as the (implicit) indications of a number of (qualitative and case study) methodologists (e.g., Maxwell, 1996; Hartley, 1994; Yin, 1994). *Theoretical-interpretative consistence* derives from the combination of the second and third of three areas of interest for research quality that Maxwell (1996) pinpoints (description, interpretation and theory). Interpretation and theory concerns need to be tackled, being aware that insightful theory advancement needs an integrated and balanced reflection upon different actors' experiences and frameworks of reference. Finally, *socio-cultural contextualization* results from the need of taking into account many idiosyncrasies of

[6] The partly interpretative nature of this study would not fit well with the labelling of interviewees as informants. In fact, some 'misinformations' given and also lacks of information were very informative!

the phenomenon researched. Indeed, contextual elements are *not* determined on an *ex-ante* basis, but they are an intrinsic part of the dynamics under analysis, reinforcing the use of case studies in such a way that examines a phenomenon in its own context (Hartley, 1994; Yin, 1994). Several were applied in order to guarantee decent quality standards regarding the different criteria; table 2 shows examples of such tactics.

Research quality criteria	Examples of optimization tactics
Construct validity (Confirmability)	Various methods and sources of empirical material collection Review of preliminary case study reports by key informants
External validity (Transferability)	Case selection made upon learning potential Theoretical replication logic throughout both cases
Reliability (Dependability)	Systematic use of case study protocol Self-awareness of basic conceptual and methodological assumptions
Theoretical-interpretative consistence	Critical interpretation and cross-comparison of data collected Flexibility and trust-building regarding interviewee dialectic initiative
Socio-cultural contextualization	Critical assessment of evidence through socio-cultural context 'filtering' Eagerness to consider 'non-programmed' idiosyncrasies

Table 2. Research quality criteria. An (eclectic) exploratory case study adaptation

4 Case study results

This section starts with a preliminarily description of each case. Then, a joint discussion of both cases is provided.

4.1 Preliminary description of the cases

Consultancy Organizational Unit (COU). This business unit is a consultancy division of the Spanish subsidiary of one of the largest global organizations offering professional services. It is present in most of the countries all over the world and has well over 100.000 people employed. This corporation —with clients from many different industries— is made up of a number of business units offering a vast array of professional services, such as auditing, many kinds of consultancy and advisory services (strategy, HR, IS/IT, financial, etc.), as well as outsourced tax and legal services. Within a complex matrix structure, COU can be identified as a second-level business unit within the Spanish subsidiary. Specifically, COU offers services related to issues such as e-business, change management, environmental concerns, and broadly speaking many kinds of value-creation and process improvement activities.

In the late 90s, a KM project was launched worldwide by COU's (parent) global corporation. The explicit main purpose of this initiative was to optimize the use of the information dispersed across a large number of independent databases, scattered through-

out different subsidiaries, associate companies and departments —involving many inefficiencies and opportunity costs. The Spanish subsidiary was responsible for the project at a local scale. Indeed, this KM project was one of the first attempts in Spain to tackle KM issues seriously. A Spanish KM corporate unit was created and a Chief Knowledge Officer (CKO) appointed. A full-time knowledge manager was appointed at each of the first-level business units (one of them the one to which COU belongs). Finally, a senior consultant shared the (main) consultancy activity with a (part-time) assignment as COU's knowledge manager.

Initially, the KM initiative had a strong technology-driven impulse, with the creation of a sophisticated and comprehensive corporate intranet as its cornerstone. In fact, in the company's internal jargon, intranet and KM were often used as interchangeable terms. Nevertheless, the CKO recognized that 'KM is not just about technology, in fact people and culture are really at the heart of it'. However, despite the technical soundness of the intranet developments, the obstacles to effective knowledge transfer were overwhelmingly dominated by cultural issues, such as low mutual trust and high fear to share —in the context of a fiercely competitive 'up or out' career system—, or the chronic employee turnover, which often impeded individual knowledge transfer into organizational memory. Even so, despite the drawbacks, the great effort invested in the KM project finally paid off and was assessed by the company's management as highly successful —since the initial goals of database integration and widespread and versatile intranet-based information management were achieved.

Engineering Organizational Unit (EOU). This business unit is the industrial division of the Spanish subsidiary of a large multinational company specialized in manufacturing and maintenance of a vast array of electricity-related products and industrial systems. This enterprise is present in well over a hundred countries and employs more than 70.000 people. Specifically, this investigation has focused, within EOU, on the KM roles and implications regarding the most qualified personnel (mostly engineering-trained), either with managerial responsibilities (or potential) or with non-managerial but high value-added assignments (e.g., R&D employees). Still, since the KM project was initially designed as a cross-organizational experience, the overall context of the whole Spanish subsidiary has been taken into account.

EOU's company is a truly global organization; production centres, dispersed worldwide, specialize in specific products which are then distributed to many countries. Nonetheless, KM in the Spanish subsidiary was launched in the late 90s as a strictly national project, developed thanks to the services of a KM-specialized consultancy. From the

beginning, the KM project was identified with the implementation of a KM tool based on intranet technology. The corporate HR department was responsible for the initiative, and defined it (following the consultancy IT-package definition) as 'a system to foster the sharing of critical knowledge by any employee across the organization' (as an HR manager in charge of KM said). In other words, the KM *software* (rather than a comprehensive KM *project*) aimed at incorporating into an intranet-supported database any kind of work-related relevant ideas and suggestions of employees that could be later retrieved by others to help them do their job better. After a pilot project limited to certain departments and hierarchical levels, the KM tool was progressively extended to other parts of the organization. In fact, EOU's management were highly involved in the pilot experiences, with direct assignments for KM leadership —especially taking into account that many HR responsibilities were decentralized to line managers.

The HR department assessed the KM initiative as a moderate success. However, views from other parts of the organization were mixed, even contradicting the official position. In a way, the KM tool was, *technically speaking*, a success. A different story would be the assessment of the extent to which it helped to improve day-to-day work. Certainly, many people were eager users of the KM tool (although with extreme differences among departments), but too often the (so-called) 'critical knowledge' introduced into the database were irrelevant data, seldom retrieved —let alone applied— by anyone else than the initial creator of that 'knowledge unit' —apart from the hierarchical supervisor of the KM tool evolution. Therefore, the results of this study lead to posit serious doubts as to the extent to which the KM initiative had at EOU any significant role in improving knowledge-leveraging processes (the ultimate goal of any KM initiative) —let alone broader organizational performance.

4.2 Discussion

A comparative discussion of the main results of the cases is presented below building on the conceptual map established in section 2. Specifically, five were the analytical categories proposed: KM basic assumptions, IS/IT concerns, HR-related concerns, broader organizational concerns, and strategic concerns.

KM basic assumptions. At the time of asking for a KM definition, different interviewees at COU did not respond *literally* the same. However, their definitions were close to

the (operational) one provided above (see section 2)[7]. Focusing on the two extremes, the CKO had the most comprehensive view of KM, and lower-level employees at first identified KM with the IT project. However, digging into deeper issues, all interviewees seemed to share a consistent KM philosophy (without neglecting the existence of many limitations, which *all* employees were, in the algid moments of the interviews, eager to recognize and critically reflect upon!). As to the concept of knowledge, CKO's reflection was not really deep. It consisted basically of an equation between information and explicit knowledge, thus 'comprehensive knowledge' being information plus 'other stuff' (tacit knowledge, experience, etc.). However, *the KM initiative fostered by this CKO was perfectly consistent with such conceptual assumptions*. Furthermore, a CKO is (usually) not an academic, and what counts after all is not their ability to theorize about the epistemology of knowledge, but to apply KM effectively so as to improve organizational processes —what this particular CKO was doing quite successfully.

On the other hand, the HR manager interviewed at EOU's company defined KM as 'a *system* to foster the sharing of critical knowledge by any employee across the organization'. When asked about the definition of knowledge, this interviewee highlighted, in a 'good student' fashion, the conceptual differences between information and knowledge (the latter being more adapted to organizational needs, action-oriented, having a tacit dimension, and so on [cf., Nonaka, 1994; Nonaka and Takeuchi, 1995]). However, disappointment arrived when this HR manager responded that KM relied on one core concept, the *critical knowledge unit*, defined as 'any software-supported material which can be regarded as critical knowledge'. The next question was '*how* such material is regarded or not as critical knowledge?' The answer was that there were a number of 'system facilitators' who had to 'validate' the information uploaded into the system. An EOU senior manager interviewed was one of such facilitators, a person openly critical with the KM project, and in fact the one that —among all interviewees—most honestly recognized that 'KM has basically nothing to do with the KM IT tool'. Definitely, *a KM project which regards KM just as a system (not a process), does not include any systematic, goal-achievement methods to detect 'true' (critical) knowledge, and (even worse) includes heavy rhetoric vs. practice contradictions on basic conceptual assumptions, quite probably holds winning cards for the project to crash*.

IS/IT concerns. The KM project at COU consisted of an IT-driven initiative highly integrated with the rest of the IT infrastructure —particularly the corporate intranet. Knowl-

[7] '[…] broad processes of locating, organizing, transferring and more efficiently using information and expertise within an enterprise' (Offsey, 1997) (The official corporate definition of KM is purposely not pro-

edge-enabled processes (at all the ambits of the organization), people (communities and networks), technology (cooperation-enhancing tools), and contents (experience, best practices, internal and external information) were synergized under the umbrella of the KM IT-tool. Conversely, EOU's formal KM tool was basically independent from the rest of the IT infrastructure. Despite the fact that EOU's company had had a powerful corporate intranet running for a few years (of which EOU's knowledge workers were eager users), the new KM tool was 'built from scratch', ignoring potential synergies stemming from an integration with corporate IT systems —particularly the intranet. Although the intranet was used as the gateway to access the KM tool, any user had to deliberately 'click' on the 'KM icon', thus disconnecting from the rest of the intranet services and utilities. In other words, the intranet and KM were two separate worlds; people, used to deal with the former, saw no usefulness in wasting their time with the latter. As a result, *KM integration with overall IT infrastructure is regarded as another important requirement toward KM project effectiveness*.

On the other hand, the extent to which KM was customized in the two companies differed substantially. COU's parent corporation developed internally its KM project, completely adapted to the firm's own processes and context. This approach seemed quite consistent, minimizing redundancies and helping easy access to knowledge repositories (e.g., expertise 'yellow pages' or best practice databases); in fact, daily-work needs continually urged people to access the (broadly defined) 'KM system'. Contrarily, EOU's experience showed many dysfunctions derived from the adoption of a consultancy-designed IT package that did not take into account organizational idiosyncrasies and contextual elements (e.g., the above mentioned pre-existence of a corporate intranet). Indeed, interviewees did not share a common understanding on what KM was; in fact, the HR manager was the only one to assert one supposedly 'truthful' definition, which (as seen above) simply reflected the one included in the consultancy-kit. Consistent with these explanations, the evidence observed suggests that, at least, *a deficient KM technical customization to specific organizational and strategic needs is a quite safe bet for the failure of a KM initiative*.

HR-related concerns. Some HR practices were not especially KM friendly at COU, with an aggressive 'up or out' system that often encouraged knowledge hoarding rather than sharing. In fact, consistent with top management's decision to create an entirely new KM corporate unit, HR specialists would *not* have a dominant role in the KM project, and as a result potential contradictions (e.g., diffusing knowledge-sharing values

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vided to avoid disclosing the firm's identity.)

whilst strongly rewarding individual performance) could be minimized. COU's immediate HR department was shared with other (sub)business units (all of them integrating one of the first-order business units) at a second-level within the Spanish branch organizational chart. This fact was seen by the researcher as potentially problematic, since many job design requirements and performance appraisal measures needed in different (sub)business units may differ substantially (e.g., based on creativity-related performance at many of COU's activities but on standard procedure conformance at an accountancy unit), with strong implications regarding HR-KM links. However, the firm decentralized many HR operational responsibilities to line managers (i.e., all consultants above the lowest level), thus minimizing risks regarding the above mentioned issues quite effectively.

COU's management were aware that, although the broad targets of the KM project were being achieved quite satisfactorily, there was still a long way to go in order to synergize the HR system with KM requirements. Specifically, KM tasks beyond intranet information retrieval for daily work and, particularly, KM involvement in knowledge feed forward (e.g., Crossan et al., 1999), were not considered as part of formal job descriptions. Therefore, employees did not have a sense of responsibility in the development of the KM initiative. Besides, personal devotion to KM (e.g., by inputting project results with specification of obstacles, drawbacks, solutions to contingencies, etc.) demanded time and effort that were not considered as part of the appraisable individual performance. In other words, employees were not keen on investing time and effort (and therefore substracting it from other more 'productive' activities) in tasks seen neither as part of their jobs nor as having any impact on their individual performance. However, *the multiple interpretations of the purposes (straightforward and 'hidden agenda' ones) of KM-friendly changes in HR practices, along with the potential perils of modifying highly consistent HR architectures, prevented any deep changes in the HR practices*. The researcher could grasp that what was thought as wisest (at least in the short-mid term) was that *HR people did not interfere with KM developments, whilst cooperating with the CKO to optimize the HR-KM synergy (with an awareness of the many limitations). Although basic dialogue and understanding did exist between the HR senior management and the CKO, both ambits and roles were clearly differentiated*.

The story was absolutely different at EOU. As it has been said above, the HR-function chart ended at a (second-level) factory ambit, and HR managers at this stage were held responsible for KM. The HR function was described as 'strategic' (at least as to the HR people 'espoused discourse' [cf. Argyris and Schön, 1996]), and in fact the cor-

porate HR director had a seat in the top management team —and so did factory HR directors regarding factories' top management teams. However, factory HR departments were mostly devoted to administrative personnel management and technical support to HR processes. In this sense, such departments had two clearly distinct areas, (literally) labelled as *pay administration* and *HR management*[8]. Within HR management (in the strict sense given at the company under study) there were the areas of *managerial staff management*, *training*, and *KM* (IT tool). Quite inconsistently (given the 'leadership' KM role appointed to factory HR departments), the first two of these latter responsibilities, the ones that really define (some of the issues regarding) a (strategic) HRM approach —beyond 'personnel administration'—, were nonetheless designed by corporate HR management and rapidly transferred to line managers (among them EOU's).

As a result, factory HR (EOU company's) departments were rather 'emptied' of strategic duties and ruthlessly devoted to 'pay administration'. This situation propelled an atmosphere of inconsistency as to the role played by HR specialists, something easily grasped by contradictory perceptions (mainly between EOU and HR-department interviewees). In other words, factory HR departments were leading the persuasion process for the KM tool to be accepted and utilized by as many people as possible. However, these HR people had been rarely perceived as 'strategic leaders', thus reinforcing scepticism toward the KM initiative. Having this evidence in mind, it can be presumed that *a key factor to take into account to avoid KM project failure is, at least, to guarantee the absence of HR department contradictions regarding people management and KM responsibilities*.

On the other hand, *although none of the companies implemented relevant, operational changes in their HR practices in order to make them more KM friendly, interesting patterns were found in the reasons for doing so and the way both companies approached the HR practice-KM relationship*. For instance, at COU, intrinsic requirements of the type of (knowledge) work developed by consultancy employees (e.g., intensive information exchange and interpersonal dynamics) appeared to facilitate a decently positive (or at least not negative) impact by the overall HR architecture on KM effectiveness. Rather than due to any 'ideal' *individual* HR practices, this impact seemed to be strongly driven by complex processes involving the way people used and applied information and expertise, and related to each other, within an HR system highly consis-

[8] The HR person interviewed was responsible for this (restricted meaning) HR management (sub)function at the main Spanish factory of EOU's company (where EOU's headquarters are located).

tent with the industry requirements, business strategy (cf., Miles and Snow, 1984) and (knowledge) worker characteristics (cf., Lepak and Snell, 1999). Conversely, the situation at EOU did not seem positive at all. When asked about any operational changes in HR practices in order to make them more KM friendly, there were contradictory explanations by interviewees. From those (especially in the HR function) who believed in an early introduction of a financial incentive scheme related to knowledge sharing (measured by 'knowledge unit' inputting into the KM database), to those plainly sceptical (some EOU line managers) about the appropriateness of paying for 'typing anything' into a database which, although was formally regarded as a KM tool, had not proved to have any ultimate positive impact.

Also, serious training efforts related to KM diffusion throughout the organization were effectively tackled at COU. KM training was systematically designed and conducted as a core part of the overall corporate training strategy (and indeed part of a consistent and smooth HR system). KM training addressed not only the indispensable skills to utilize the IT tool supporting KM, but also the strategic need of the initiative and a KM commitment-winning training underlying philosophy. Conversely, EOU, although did engage in training activities related to KM, narrowly reduced them to *technical* skills related to the utilization of the KM *tool*. Consequently, it looks like *KM-centred training actions within overall training planning are fundamental in any KM project, and also that such training goes beyond the narrow scope of IT-tool training*.

Broader organizational concerns. As said above, the KM 'unfriendliness' of some HR policies at COU seemed consistent with the creation of a 'brand new' KM corporate unit. Quite differently, at EOU the corporate HR department was in charge of the KM project, under a context in which such department showed inconsistencies regarding its people management and KM roles. Both organizational backgrounds —albeit due to somehow different reasons— suggested caution against giving a too important role to the HR people regarding the KM project. Therefore, *the creation of a new KM corporate unit seems to be a right decision for KM success, especially when the existing departments could be incompetent for this purpose, engage in perilous inconsistencies, or (more broadly speaking) foster any kind of negative perceptions from employees* — thus jeopardizing KM efforts.

Moreover, the researcher observed that the way in which a KM initiative is designed and implemented can also make a big difference toward its performance. EOU adopted a strictly pre-planned, top-down approach to KM project design. In this sense, it was communicated to the whole of the company's staff only after the decision to carry it out

(and the way to do it) had already been taken by top management. Again, contradictory accounts by interviewees and critical interpretations made by the researcher have been crucial. For instance, although EOU's company provided no KM project documentation, the researcher noticed that there was nothing so outstanding in these materials —he could quickly identify a quite standard IT-consultancy package when he had temporary access to them at the HR manager's office (basically quite elementary IS-oriented, 'KM-status' granted IT tool 'propaganda'). Certainly, this misunderstood 'information is power' (enacted) attitude was inconsistent with the (espoused) rhetoric of 'knowledge sharing' (the very essence of the KM tool!). Consequently, *in order to prevent the rejection of a KM project, there seems to be a high need for relatively participative and cross-organizational KM design and implementation —especially when a new KM tool is supposed to be aimed at fostering cross-organizational integration and synergy*.

This situation contrasted with COU's KM approach and (not less importantly) the attitude that the people responsible for the project showed toward the researcher. Even lower-level employees had a deep knowledge of the KM project, and those (full or part-time) devoted to KM tasks emphasized that the CKO was an extraordinarily accessible person (the researcher himself experienced this), always receptive to new ideas in order to improve the (continually evolving) KM implementation process. Also, interviewees across different hierarchical levels reported accounts absolutely consistent with each other (also a sign of a strong corporate culture), and the very CKO handed over relatively confidential internal KM project documentation to the researcher (this is 'walking the talk'!). Furthermore, the researcher eagerly provoked controversial issues (e.g., by mentioning the fashion character of KM and the 'image goal' attached to it, or insisting on some neglected 'softer', non-IT KM implications, and especially reward system inconsistencies that the researcher suspected that existed at COU). The invariable reaction by interviewees was to acknowledge all these limitations, and even to extend on them (especially the CKO!). Conversely, HR-people interviewed at EOU's case did *not* openly recognize the limitations of their KM approach —despite their crystal-clear existence. Again, this fact reinforces the researcher's systematic detection of abundant, counter-productive inconsistencies at EOU's KM experience. Accordingly, *being aware of limitations in the design and development of the KM project and having an honest attitude to tackle them looks like a must to prevent the project's crash* —and in any case to facilitate 'learning from mistakes', an attitude implicit in any serious KM attempt.

Also, the consideration of the organizational history of the unit responsible for implementing change programmes is too often neglected in business practice. For instance,

sometimes management are surprised that KM is not successful, despite that vast resources, technical expertise and keen effort are devoted to it. One fundamental aspect has been forgotten: *who* is responsible for KM and *how* they are perceived by the people supposed to support KM. The CKO at COU's company told the researcher the story of the HR department of one of their clients that had been previously in charge of a BPR effort, fact that provoked a strong negative response by employees to the new 'KM programme'. Unsurprisingly, *anything else* coming from these HR people would be sceptically received, no matter how attractively it was presented. Actually, the researcher could grasp a similar situation at EOU, where there was a general distrust toward the HR people. This fact, added to the above mentioned inconsistencies in the HR department's role and other KM pitfalls, helps to EOU's vicious circle toward KM project failure. Definitely, *the existence of negative past experiences linked to the organizational unit responsible for KM may be a crucial factor for KM project collapse*.

Strategic concerns. Whilst COU's corporation tried to address a well-defined, cross-organizational strategic challenge (global integration of thousands of databases), EOU's company was mainly dragged by a fashion-lit enthusiasm which resulted in a narrow and suboptimized approach to KM. In the first case, KM was systematically included in overall strategic planning, sufficient resources were allotted, and senior management shared a true, deep commitment to the initiative. In EOU's case, however, KM was formally a subfunction of one of the two HR department's main areas (see above under the 'HR-related concerns' section). What is more (and unsurprisingly), the researcher was not given any consistent explanation about the KM project usefulness for the company, beyond vague and too general justifications of the need of KM —which the researcher identified with a mechanistic and superficial 'intellectual appropriation' of the KM discourse, but lacking any kind of true and honest strategic reflection. Definitely, a *truly strategic motivation for KM, with the full inclusion of the KM project within the strategic priorities and the goal-formulation system, seems a basic prerequisite toward KM project success.*

Consistent with the above concerns, COU's corporation was starting to develop a KM output measurement system. That is, systematic tools to assess both the extent to which the KM project (and basically the KM IT tool) was achieving its objectives, and also whether KM was really contributing to improve ultimate organizational performance. Although no relevant results were available yet at the time of the field work, the researcher found at COU's company a *serious attitude toward linking KM with bottom-line outcomes, and consistently measure them*. Such an attitude contrasted with the

one at EOU's company, where the *technical* perfection of the KM *software* and the growth in the 'number of critical knowledge units' inputted were the only basis for the (misfocused) 'moderate success' assessment of KM.

Synthesis of the results. Having all these explanations in mind, table 3 summarizes the specific KM (project) success factors that have emerged throughout the case discussion. Also, in the cases studied most of the key factors were either adequately addressed or not. This evidence suggests a great importance of their interconnection. That is, there would be a reciprocal linkage among all categories, what would in principle mean a multiplied positive effect (resulting from their joint action) or otherwise an over-proportionate negative effect (resulting from the neglecting of any of them). This emerging framework is of course just the basis for subsequent critique, confrontation, refinement, extension, (case study) deeper analysis, and/or empirical testing.

KM areas of interest	Key factors for KM (project) success
KM basic assumptions	Realistic and pragmatic self-awareness of KM real possibilities
	Consistency between espoused and enacted[9] KM assumptions
	Consideration of KM as a process, rather than a system
IS/IT concerns	KM integration with overall IT infrastructure
	Technical customization to specific organizational and strategic needs
HR-related concerns	Creatively addressing self-aware KM unfriendliness in HR practices
	Caution toward deep changes in consistent and accepted HR architectures
	Maintain HR and KM ambits clearly differentiated (i.e., creating a KM department), especially where line management shares HR responsibilities
	Avoid HR department contradictions regarding HR and KM responsibilities
	Promote shared, positive view on any 'new' KM-fostering HR practices
	Plan KM training within overall training strategy, also including commitment-winning and underlying philosophy issues (beyond IT-tool training)
Broader organizational concerns	Creation of a new KM corporate unit (especially when none of existing departments seems competent, inconsistency-free of negatively perceived)
	Careful, participative, cross-organizational KM design and implementation
	Open, honest recognition of the limitations of own KM approach, and eager interest in tackling them with caution, consistency and wide agreement
	Absence of negative past experiences linked to unit responsible for KM
Strategic concerns	Truly strategic motivation for KM, including it in goal-formulation system
	Serious attitude toward linking KM with measurable outcomes

Table 3. Key factors for KM (project) success

[9] Cf., Argyris and Schön, 1996.

5 Conclusion

It is expected that this investigation contributes toward a better understanding of, on the one hand, the causes of failure of KM initiatives and, on the other, the key design and implementation issues to be tackled in order to facilitate their success. In this sense, although most themes raised are not really new, they have been systematized in a way that hopefully helps to build a conceptually comprehensive framework, useful to both academics seeking scientific rigour and practitioners interested in insightful advice. Specifically, a qualitative-method based case study comparison of two KM initiatives, has consistently supported the need to consider five conceptual (also managerial-interest practice) areas: KM basic assumptions, IS/IT concerns, HR-related concerns, broader organizational concerns, and strategic concerns. Within each of these ambits a number of aspects have emerged as especially relevant (go back to table 3). Special attention is given to specific details within the KM (initiative) design and implementation process that can, quite straightforwardly, form the basis of further research.

Anyway, this investigation had an exploratory aim, so subsequent inquiry could —using a variety of methodological approaches— improve the outcomes of this line of study. For instance, qualitative methods would be helpful for explanatory framework refinement, whereas (quantitative) surveys would be the way to undertake proposition testing and to assess the statistical generalizability of the results. Nevertheless, the researcher is aware of some limitations (of course among many others). For instance, a longitudinal study would have been helpful to identify changes in time regarding the overall KM (project) situation and, specifically, the evolution of KM outcomes. Future follow-up data collection could help to derive inter-temporal relevant results. On the other hand, as implied above, the methodology utilized does not tackle the empirical generalizability of the results, an unavoidable limitation unless different techniques (e.g., industry surveys) are applied. Nevertheless, this investigation's methodology (qualitative and case-study driven) has actually helped to pay careful attention to detail, thus leading to thorough explanations of the very organizational dynamics which are the key to critically understand and analyze KM (project) design and implementation processes.

Finally, this investigation opens up new opportunities for further research. Among them, a deeper analysis of the extent to which KM project effectiveness is a good proxy (or not) for knowledge-leveraging process effectiveness is needed. Although implicit ideas have been given about such concerns in this paper, a more elaborate reflection and inquiry is necessary. For instance, field evidence and its critical interpretation (not de-

tailed in this paper) suggest that, after all, quite effective knowledge creation and transfer processes did exist within EOU, although they were quite independent from the dynamics of the 'official' KM policy. EOU engaged in knowledge sharing and integration activities through the 'old ways', such as the previously existing and quite successful corporate intranet, or simply by the dynamics of informal communication existing within many departments and small teams. Similarly, although COU's case has been presented as the 'good practice' one, some doubts can be raised about its extreme pragmatism in KM formulation and output measurement. Long-term development of knowledge-related capability-building feeds from far broader, subtler an more complex dynamics (e.g., tacit knowledge issues, knowledge-sharing friendly context, widespread trust and commitment, balanced feedforward and feedback all-inclusive comprehensive knowledge integration) than the ones directly linked to a KM project. Again, although some of these concerns have been introduced in the case discussion, a deeper look at *knowledge-leveraging dynamics* (and critical comparisons with more 'pragmatic' KM *project* issues) may be an interesting challenge.

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