Phenomena Driving Knowledge Management Practice

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Abstract
Literature and experience suggests practitioners are faced with numerous challenges when planning knowledge management projects. There are a daunting number of theories and concepts to choose from, little clear and consistent guidance, many solutions claim to be KM, requirements are often vague, and contexts are complex and unique. This poses an interesting research question as to what guides practitioners in the absence of a consistent, coherent and universally agreed KM model or theory.

Influencing theory, influencing context and choices made on knowledge management projects in four large South African organisations were investigated to answer this question. Project solutions were mapped against models of the diversity, or variety, of KM concepts and perspectives; revealing that the wealth of theoretical options is largely ignored and only a narrow set of theory is relied upon. The projects' context was then analysed to identify specific factors that should have affected the choices made; finding projects did not respond significantly to their complex, unique and imposing context.

Influences of project choice were then investigated using a Grounded Theory Method that was applied to project documentation, correspondence and participants' recollections. Twenty phenomena were found to have influenced practice. These were grouped and modelled into the five categories of foundations, rigour, commerce, searching for success, and the big picture. Few of these phenomena appear in academic KM literature and many limit adoption or consideration of diverse theory.

Findings were surprising and contradict many of the assumptions that literature appears to be making about how knowledge management is implemented. Practice makes poor use of the wide range of theory, diffusion of knowledge between practice and research is low, context has far less influence than expected, arguably mundane factors have more influence than theory, and some blame for this situation can be ascribed to a lack of clear theoretical guidance.

1 Introduction

Practitioners are faced with a daunting array of theories, models, perspectives and concepts when planning knowledge management projects (Aidemark, 2009). Numerous frameworks have been found, with Sheffield (2009) identifying over 50 and Heisig (2009) analysing 160. Frameworks are not consistent either; although Heisig found an 'underlying consensus', Sheffield was of the opinion that few models represent the plurality of knowledge management. Theoretical activities have been described as "*all over the map*" (Stewart, 2002), difficult to clarify and delineate (Spender, 2006), incoherent and unstructured (Land *et al.*, 2005) and an irreconcilable collection of concepts and techniques (Hazlett *et al.*, 2005).

This variety and lack of agreement unsurprisingly leads to practice finding it difficult to implementing theory (Wong and Aspinwall, 2005; Dominguez *et al.*, 2003; Moffett *et al.*, 2002; Wilson, 2002). Spender (2006) and Bouthillier and Shearer (2002) noted a paucity of coherent, comprehensive and commonly agreed frameworks or models to assist in selecting and implementing theory. The theory-practice situation may even be dire, as indicated by Malhotra (2005) who said that KM does not practice KM. Practitioners do not have the time to widely research uncoordinated theory and hence may develop home-grown solutions or relabel existing solutions; an assertion supported by personal experience and observations of others (Schwikkard and du Toit, 2004; Newman and Conrad, 1999).

This raises the interesting research problem as to what guides knowledge management practitioners. Assumptions that KM theory performs this role are contradicted by the absence of a consistent, coherent and universally agreed KM model or theory to guide practice; by the diversity of theory to choose from; by often-vague requirements caused by poor subject understanding; by complex and unique contexts; and by experience.

2 A method for researching project choices

Methodology selection was guided by the nature of the phenomena and available data. Phenomena were expected to be vague and situational since physical or theoretical laws do not govern knowledge management, its practice is complex, and organisation activities are ordinarily quite difficult to research. Research access to detailed data from entire project lifecycles is normally limited, so projects bearing an emic (insider) relationship with the researcher were chosen. Projects were investigated primarily through their documentation and correspondence since activities were historical, most participants had dispersed and tangible evidence was desired.

The research sample consisted of four knowledge management implementation projects undertaken between 2002 and 2005 in large South African public and private sector organisations. These four were selected on the basis of being representative of knowledge management practice in large organisations in that country. South African KM was chosen for two reasons. First, this researcher's emic (insider) role on the projects ensured comprehensive, detailed evidence was available in the form of strategies, plans, designs, correspondence, project reviews, insights, anecdotes, reflective experiences and access to other participants. Second, the country exhibits a unique context and legislative requirements that facilitate determining whether choices considered or solutions adapted to this context; or whether 'generic' Western and technology led paradigms prevailed.

Diverse and inconsistent theory was deemed unsuitable as underpinning for a deductive approach of testing hypotheses, so inductive logic was used to allow explanation to emerge from data. A case study approach was used to frame the investigation by building a clear and consolidated model of each project that offered a consistent platform for analysis and comparison. Each project, context and background was described under a series of headings derived from Yin (2003) and Tellis (1997). Individual project solutions were assessed

according to models produced by research into the diversity of KM theory (Onions, 2010).

Project decision making was then examined using a Grounded Theory Method (GTM) proposed by Charmaz (2006). GTM allows for emergent theory, grounding in the data and neutral questions; and Charmaz' variant offers clarity and a 'Glaserian' approach to GTM that produces theory rather than a 'grounded description' (Onions, 2006). Evidence was a collected and hand-coded, and emerging memos recorded on a template that gathered descriptions (definitions and *in vivo* terms used); analysis (critical discussion, illustrative discussion and emerging questions); and theoretical propositions (related memos and codes, and contribution to the research problem). Prevalent memos were substantiated through iteration and comparison across projects. They were then subjected to focused coding and finally contrasted with literature to ensure their significance and representation.

Validity of analysis and interpretation was driven through rigorous application of the methods, use of *in vivo* terminology, and taking care to infer causality and associations only when such relationships were specifically indicated by the data. This research may be generalised beyond the South African context and sample of cases. Participants were internationally (mainly Western hemisphere) informed or trained, international literature and skills were available, international solutions providers were involved, and the projects involved multiple and different influential participants.

3 Findings of the influence of context

Knowledge management practice may be complicated by project context. Research has established links between environmental context and project outcomes (Detlor *et al.*, 2006; Lam, 2005) and Bwalya (2009) draws links between local needs and the selection of knowledge management policies and paradigms. Organisation size, technology, environment, strategies and culture influence knowledge management (Jafari *et al.*, 2008), and situation specific, best practice and environmental knowledge influence organisational decision-making (Cortada, 2009).

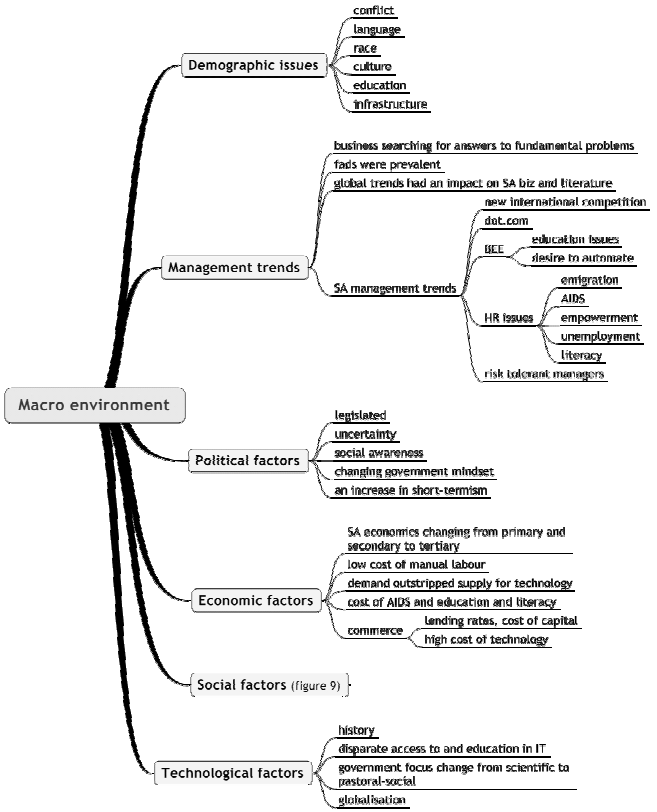

Figure 1. Potentially influential context factors

Document analysis was used to discover relevant themes and discussions in trade magazines, academic publications, official publications, news and topical publications, and a variety of online sources. These documents were selected on the basis of being contemporary and available to the four case study projects. Emerging concepts were grouped into historical, cultural, management and PEST (political-economic-social-technological) categories.

Many contextual factors emerged that could impact the choices made in the four organisations. They also represent a unique context, which was not unexpected given that the effect of national culture and local environments on knowledge management has been observed (Ang and Massingham, 2007; Yoo and Ginzberg, 2003). Many of the factors found were legislated or deeply entrenched in culture and so should have had a discernable impact on choices made. The project solutions should therefore have been distinguishable from 'global' solutions described in literature.

4 Findings of the influence of theory

Research of the use of theory by practice was impeded by the lack of a universal model or framework to guide and underpin the investigation and analysis. Parallel research identified and modelled the broad range of knowledge management perspectives and theories (Onions, 2010). Projects were then compared with these models.

Comparison revealed the entire sample of projects exhibited variety in only five of the seventeen areas in theory as circled in Figure 2. Differences between projects were slight in these five areas; and a process school, technology applications, focus on automation and explicit views of knowledge underpinned most solutions. Of the remaining theoretical areas, most projects did not engage with issues such as KM strategy, some consistency was exhibited across all projects in areas such as a technology paradigm, and some areas like culture were too subtle to differentiate.

Projects were then mapped on a model of knowledge management perspectives, drawn from frameworks described in theory (Onions, 2010). This mapping is circled in Figure 3 and shows half of the projects exhibited a narrow, specific and mainly technological approach to KM, and broader perspectives that regarded KM as a toolbox of solutions by the other half. Despite the broader perspectives, all projects failed not engage with the available variety of KM concepts described in literature, despite some of these appearing to be ideal solutions to requirements imposed by the context. Even projects that adopted broad perspectives then opted for narrow and mainly technological solutions in implementation.

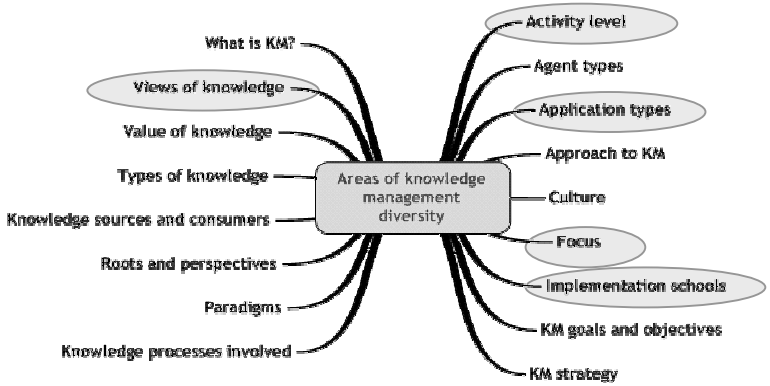

Figure 2. Practice mapped against diversity areas

Regarding the context, these findings contradicted the expectation that the uniquely South African context would have strongly influenced the solutions. There was a preference for generic 'Western' solutions, such as choosing sophisticated portals instead of specialised personalisation techniques. Adopting a technological perspective is incongruous given the prevailing low literacy levels, low diffusion of technology, low access to technology, high relative cost of technology, oral traditions prevailing in Africa, the need to manage indigenous knowledge (Ngulube, 2002), African intellectual property (Ismail and Fakir, 2004), and to address South African social aims (Cloete, 2007; Mabudafhasi, 2002).

More general conclusions can also be drawn. The findings appear to support the assertions that practice finds it difficult to implement theory (Wong and Aspinwall; Dominguez *et al.*; Moffett *et al.*; Wilson) and that at least KM practice does not practice KM (Malhotra). Findings also point to factors that may have influenced the design process. Understanding of the subject could be narrow. Practitioners may not have access to

or interest in the theory. Many of the solutions published in theory could be unfeasible in practice or extremely niche. The internal and environmental context may also have less of an effect on design than was anticipated. In keeping with the inductive nature of this investigation, research turned to examining the uniqueness and intensity of context and to examining practitioners' choices to ascertain whether theory and context played a part in design decisions.

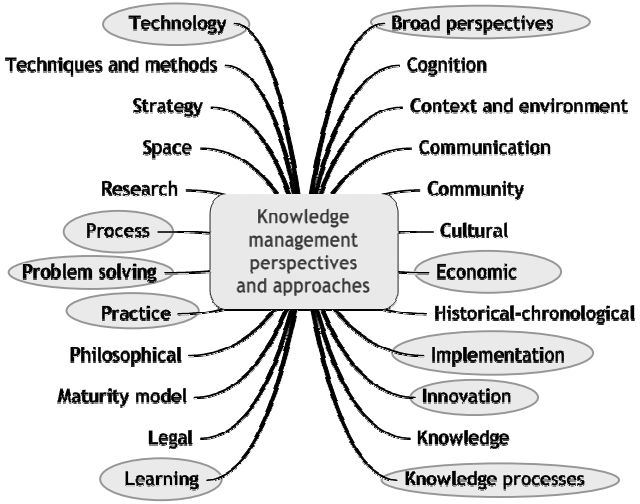

Figure 3. Practice mapped to perspectives

5 Phenomena influencing practice choices

Practice was investigated to identify and explain what influenced the knowledge management choice made on each of the four projects. The Grounded Theory Method revealed twenty phenomena that were modelled into five categories (Figure 4) and described in the sections below.

In most situations these phenomena (singly or combined) had more effect than theory or context. KM literature however has only observed some of these phenomena, cited in the descriptions. More general management literature such as Handy (1993) does engage with influential behaviours that KM literature does not appear to recognise, such as culture and power.

Figure 4: Phenomena influencing project choices

5.1 Foundations

Knowledge management projects are influenced by foundations, or the background to knowledge management project decisions. Practitioners construct their understanding from internalised knowledge, some contemporary practice, and to a very limited extent from contemporary theory. This category is consistent with research that finds practitioners' backgrounds may constrain their outlooks (Moteleb and Woodman, 2007).

- Practitioners were *borrowing* (1) concepts, solutions and terminology from other domains, principally information systems. Borrowing subtypes consisted on reuse of

approaches or adopting a perspective, relabelling a concept as KM, drawing concepts from another domain into KM, reusing work experience and applying KM concepts to another domain. Borrowing is analogous to 'relabelling', a term used by and a phenomena discussed by Gumbley (1998), Beckett *et al.* (2002), Wilson (2002) and Malhotra (2005).

- *Philosophising* (3, 4) about the nature of knowledge and its management occurred on one project but was abandoned as a futile exercise. This phenomenon reflected what literature refers to as excessive philosophical debate (Hsieh and Yik, 2005; Smart *et al*., 2003).
- Many of the solutions were *homegrown* (11); they were invented or highly modified for that project, often by muddling through, borrowing or ignoring the body of literature. Discussion about this phenomenon occurs in literature (Schwikkard and du Toit, 2004; Newman and Conrad, 1999).

5.2 Rigour

Rigour refers to analysis conducted prior to implementation of solutions.

- In *proving a point* (2), practitioners would have embarked on testing and evaluation of approaches and solutions before implementation. Novel solutions were implemented without testing on two projects, and IT was deployed without pilot testing or prior evaluation on the other two projects. Poor appetite for analysis and testing appeared to be linked to time constraints, culture, a desire for low risk solutions and diversity-limiting phenomena.
- *Trotting out the old favourites* (6) was prevalent. This refers to frequent reuse of theories, concepts, models, literature and case studies. Examples include reference to Davenport and Prusak (1998) and often-incorrect interpretations of Polanyi's tacit-explicit model. Combined with *borrowing*, this provided evidence of practitioners acting to limit their exposure to theory. Combined with narrowness of solutions (the big picture), this leads to the conclusion that choices tended to be informed by, understood in terms of, and favoured approaches that confirmed internalised views of the subject.

5.3 Commerce

Commerce affected practice by imposing influential conditions, motives and social environments. Strong competition, limited demand, powerful political motives and intellectual property rights concerns particularly affected the choices made, and commercial interests only served to lessen variety and the adoption of theory.

- Solutions providers were forced into making tradeoffs, or *commercial compromises* (10), in order to ensure the projects brought them commercial success. Examples include preferring expensive IT solutions to teaching low cost personalisation methods.
- *Sharing work products* (13) with clients or project partners involves disseminating often proprietary or hard-won knowledge. Clients were not always engaged with strategies, designs and specifications at a detailed level, so knowledge transfer had to entail preparing often-lengthy documents that conveyed ideas and provided evidence of consultant's work product. These ideas were however intellectual property that practitioners also sought to control.
- *Controlling intellectual property* (15) refers to the lengths that commercially motivated participants will go to in protecting and maximising the returns from the competitive advantage that IP represents. In some cases this manifested as limiting access and knowledge transfer. In others it appeared as conflict over contracts,

the reuse and ownership of solutions, or access to the client.

- *Working within a power culture* (14) refers to the effect of organisation power systems, power cultures, structure and hierarchy on choices made. Some cultures are risk tolerant and open to new ideas. Other cultures are risk intolerant, escalate decisions to senior management and prefer apparently risk-free solutions particularly those sold by global brand names.
- *Political motives* (18) affected choices where participants try to manage their position, exposure or image within the project, organisation or on a larger stage. Typically projects that experienced strong political activity departed from original objectives, borrowing increased, risk-taking diminished, creativity dwindled and collaboration was stifled.

5.4 Searching for success

The search for success led participants to structure their relationships with other parties and seek objectives that were self-serving or not aligned with the project. This category of phenomena tended to counter commercial pressures and widen the foundations; and so were the strongest drivers of diversity and the strongest force bringing theory and practice together.

- In *finding the magic bullet* (5), participants seek to build solutions that solve an overly broad and usually irrelevant range of more general organisation problems. Examples include financial control over expenses, resolving administrative inefficiency through workflow, and performance management of human resources. Often these were related to organisations using the KM budget to solve problems lacking a budget. Magic or silver bullets have been alluded to in literature discussing KM as a solution to a wide range of organisation problems (Ward and Aurum, 2004) or where technology is a 'panacea' for KM (Mohamed *et al*., 2006).
- *Driven to publish* (9) describes a variety of attempts to broadcast achievements or outcomes for public relations or academic purposes. This phenomenon caused some participants to seek novel solutions and develop new commercial opportunities that provided a platform for their ideas.
- There is a need to *rein in the ego* (17) where a field is new and most project participants do not have the knowledge or experience to challenge consultants and suppliers. This led to ignoring customers, ignoring requirements and increasingly dominant personal perspectives.

5.5 The big picture

The outlook of participants on the problem and on the solution is reflected in *the big picture*. Decision makers with narrow vision tended to settle on trusted narrow solutions, aim to resolve conventional (meaning non-KM) problems in the organisation, limit diversity, and increase the divergence of practice and theory. Big picture (broad, open) thinking on the other hand led to increased variety, greater use of theory and greater specialisation.

- Participants' visions varied, with some *embracing diversity* (7) and taking a broad approach to KM. Whilst the ambition may be lauded, the practitioners involved were often unaware of the extent of changes and effort, cost and time required.
- In *taking an overly narrow approach* (8) some practitioners were demonstrating the 'myopic focus' referred to by Dove (1999). Visions could be selective and even deceptive, with projects demonstrating discrepancy between stipulated requirements and what was delivered.
- *Hidden expectations* (12) were prevalent and often manifested late in projects. In one example, a senior stakeholder expected the system to improve his control

over staff activities but was unable or unwilling to disclose this early in the project for fear of political repercussions.

- In *asking for the unknown* (16) clients in particular did not know what to ask for, or did not realise the extent of what they were asking for. Examples include broad requirements to improve an organisation's financial position or the efficiency of their workforce. Even requirements to '*prevent all the knowledge leaving out the front door each night*' ultimately turned out to be uninformed and overly ambitious.
- Some *adopted a mindset* (19), or a particular (usually technological) understanding of KM. In one case a stakeholder was adamant that portal and web solutions were capable of supporting any KM requirement.
- Other project participants interpreted evidence or requirements in a manner that suited them or reinforced their mental models, or merely ignored certain perspectives, thereby *seeing what they wanted to see* (20). In particular, some global solutions providers' demonstrated dogmatic behaviour in trying to alter the organisation to suit the solution, not visa versa.

5.6 Occurrence of phenomena

Phenomena ranged from subtle to obvious in manifestation, and causal relationships between phenomena and project outcomes ranged from tenuous to significant. Dynamics and relative significance of phenomena varied between projects, so occurrences were recorded for analytical, tracking and validation purposes (Table 1). Thirteen phenomena appeared in more than 75% or more of the projects and should be therefore considered as prevalent.

5.7 Enablers and limiters of diversity

Research revealed more phenomena tend to limit the diversity of solutions considered, impeding practice from engaging with the diversity of theory and limiting the response to contextual demands, than enable diversity. Of the twenty phenomena, thirteen of these or their corollaries were found to act under most circumstances as inhibiters of diversity in the four projects (Table 2).

Phenomena	Borrowing	Proving a point	Philosophising about knowledge	Philosophising about KM	Finding the magic management bullet	Trotting out the old favourites	Embracing diversity	Taking an overly narrow approach	Driven to publish	Commercial compromises	Home grown solutions	Hidden expectations	Sharing work product	Working within a power culture	Controlling intellectual property	Asking for the unknown	Reining in the ego	Political motives	Adopting a mindset	Seeing what they want to see
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Occur	**4**	**2**	**1**	**1**	**3**	**4**	**2**	**2**	**4**	**4**	**4**	**3**	**3**	**3**	**3**	**2**	**4**	**3**	**4**	**2**

Table 1: Occurrence of phenomena influencing project choices

No.	Phenomenon
1	Borrowing of concepts from other domains
2	(Failing to engage in) proving a point
3	(Lack of) philosophising about knowledge
4	(Lack of) philosophising about knowledge management
8	Taking an overly narrow approach
10	Commercial compromises
11	Home grown solutions built without extensive research
12	(Unresolved) hidden expectations
13	Sharing work product
14	Working with a power culture
15	Controlling intellectual property
18	Political motives
19	Adopting a mindset

Table 2. Phenomena limiting diversity in practice

6 Conclusions

Little research was found prior to this investigation as to what influences the choice of KM perspectives and solutions in organisations. Study of large knowledge management projects in four South African organisations found practitioners had a diverse range of perspectives, concepts, theories, models and frameworks at their disposal. The projects emerged from a complex and unique context that should have influenced project choices and encouraged widespread use of the diversity.

Despite the diversity and context, projects displayed a narrow set of generic solutions that were not tailored to suit their context, were strongly reliant on technology, and bore strong similarity to solutions described in international KM literature. Choices were mainly steered by twenty phenomena, most of which having a limiting effect on how practice engaged with theory and context. Although many are mentioned in general management literature, KM research does not appear to see these phenomena as influential. A number of inferences can be drawn:

- Use of inductive investigatory methods allows new understanding to emerge.
- Diffusion of knowledge between research and practice is extremely low.
- The wealth of theoretical solutions largely goes ignored and undervalued by practice.
- Research does not appear to appreciate the complexity and nature of practice decisions.
- Practitioners tend to understand KM in terms of their background and borrowed concepts.
- Practitioners have multiple and often non-KM objectives when designing KM initiatives.

This research sees diversity combined with the lack of a consistent, coherent and universal understanding of knowledge management as underlying most of the phenomena found. The way forward lies in knowledge management research and practice actually practicing knowledge management.

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