To remain competitive, organizations must efficiently and effectively create, locate, capture, and share their organization’s knowledge and expertise. This increasingly requires making the organization’s knowledge explicit and recording it for easier distribution and reuse. The paper is based mainly on theory, literature review and borrows some practical examples of knowledge management theories in trying to understand business performance. Knowledge management together with mindful application of the business technology can be of extreme importance for performance in organizations. Human capital with effective use of the available technologies could play a more important role in growth and performance of any organization. However, questions of what technology to use and the process of its use are paramount in understanding its application in businesses. Note should be taken that massive investment in sophisticated technology is not a prerequisite to organizational performance.

Introduction


The concept of knowledge management is not new in information systems practice and research. However, with the increased complexity in the business environment, there is need to provide business executives and scholars with pragmatic understanding about integrating knowledge management strategy and technologies in business processes for successful performance.

There is not yet a common consensus on the concept of knowledge management; however, the shared theme is that increasingly, knowledge in the minds of organizational members is of greatest value as the organizational resource. Knowledge Management comprises a range of practices used by organisations to identify, create, represent, and distribute knowledge for reuse, awareness and learning. Various governments and Organizations are showing a tremendous interest in implementing knowledge management processes and technologies, and are even beginning to adopt knowledge management as part of their overall business strategy in Africa. The new branch of management (KM) is important for achieving breakthrough business performance through the synergy of people,
processes, and technology; with its focus on management of change, uncertainty, and complexity. Although knowledge management is becoming widely accepted, few organizations today are fully capable of developing and leveraging critical organizational knowledge to improve their performance (Heibeler, 1996). There is a general agreement on the importance of organizational wealth of knowledge. As we transition from an era of information scarcity to information superfluity, there is need for re-focusing on human sense making processes underlying decisions, choices, and performance. In this new paradigm for increasingly uncertain and complex business environments, effective performance and outcomes must be a result of how human capital and technology are integrated in a business enterprise to leverage strategic opportunities and challenges.

**Stopped:** In the recent past, Knowledge Management (KM) has evolved into a mature reality from what was merely a plague on the “good idea” radar only a few years ago. Growing pervasiveness of KM in worldwide industries, organizations, and institutions marks a turning point event for what was called a fashion just a few years ago. KM has become embedded in the policy, strategy, and implementation processes of worldwide corporations, governments, and institutions. Doubling in size from 2001, the global KM market has been projected to reach US$8.8 billion in a few years to come. Likewise, (Malhotra, 2004a) notes that the market for KM business application capabilities is expected to grow to $148 billion by the next year. The broader application context of KM, which includes learning, education, and training industries, offers similarly sanguine forecasts.

One can see the impact of knowledge management everywhere but in the KM technology-performance statistics (Malhotra, 2003). This seems like a contradiction of sorts given the pervasive role of information and communication technologies in most KM applications. Some industry estimates have pegged the failure rate of technology implementations for business process reengineering efforts at 70 percent. Recent industry data suggest a similar failure rate of KM related technology implementations and related applications (Darrell et al., 2002). Significant failure rates persist despite tremendous improvements in sophistication of technologies and major gains in related price-performance ratios. These failures are as a result of performance problems that have been attributed to technology implementation being too costly and slow. Interestingly, just a few months ago, some research studies had found negative correlation between technological investments and business performance (Alinean, 2002; Hoffman, 2002).

Strassmann (1997), based upon multi-year macroeconomic analysis of hundreds of corporations, had emphasized that it is not computers but what people do with them that matters. He had further emphasized the role of users’ motivation and commitment in IT performance. Relatively recent research on implementation of enterprise level KMS (Malhotra, 1998a; Malhotra and Galletta, 1999; Malhotra and Galletta, 2003; Malhotra and Galletta, n.d. a; Malhotra and Galletta, n.d. b) has found empirical support for such socio-psychological factors in determining IT and KMS performance. An earlier study by Forrester Research had similarly
determined that the top-performing companies in terms of revenue, return on assets, and cash-flow growth spend less on IT on average than other companies.

**Started Knowledge Management:** The Information Processing Paradigm: The information-processing view of knowledge management has been prevalent in information systems practice and research over the last few decades. This perspective originated in the era when business environment was less vacillating, the products and services and the corresponding core competencies had a long multi-year shelf life, and the organizational and industry boundaries were clearly demarcated over the foreseeable future. The relatively structured and predictable business and competitive environment rewarded firms’ focus on economies of scale. Such economies of scale were often based on high level of efficiencies of scale in absence of impending threat of rapid obsolescence of product and service definitions as well as demarcations of existing organizational and industry boundaries.

For a period of time, the information-processing paradigm has been prevalent over three phases that include 1) Automation: increased efficiency of operations; 2) Rationalization of procedures: streamlining of procedures and eliminating obvious bottlenecks that are revealed by automation for enhanced efficiency of operations; and, 3) Re-engineering: radical redesign of business processes that depends upon information technology intensive radical redesign of workflows and work processes.

These have been characterized by technology intensive, optimization-driven, efficiency-seeking organizational change (Malhotra 1999c, 1999d, in press). The deployment of information technologies in all the three phases was based on a relatively predictable view of products and services as well as contributory organizational and industrial structures.

Based on the convergence-oriented view of information systems, the information processing view of knowledge management is often characterized by benchmarking and transfer of best practices (cf: Allee 1997, O’Dell and Grayson 1998). The key assumptions of the information-processing view are often based on the premise of the generalizability of issues across temporal and contextual frames of diverse organizations. Such interpretations have often assumed that adaptive functioning of the organization can be based on explicit knowledge of individuals archived in corporate databases and technology-based knowledge repositories (cf: Applegate et al., 1988):

"Information systems will maintain the corporate history, experience and expertise that long-term employees now hold. The information systems themselves -- not the people -- can become the stable structure of the organization. People will be free to come and go, but the value of their experience will be incorporated in the systems that help them and their successors run the business."
There is a simplistic storage of knowledge in Africa, a factor of the past, with simplistic assumptions on which individuals and firms have based themselves to form a rule-of-thumb and best practices for guiding their future actions.

As Malhotra (2006) stated, some of the recent past simplistic assumptions with their interpretations of knowledge management include but not limited to the following in Table 1.

### Table 1. Knowledge Management: The Information Processing Paradigm

<table>
<thead>
<tr>
<th>Description</th>
<th>Source</th>
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<tbody>
<tr>
<td>The process of collecting organizing classifying and disseminating information throughout an organization so as to make it purposeful to those who need it.</td>
<td><em>Midrange Systems</em>: Albert 1998</td>
</tr>
<tr>
<td>Knowledge management IT concerns organizing and analyzing information in a company’s computer databases so this knowledge can be readily shared throughout a company instead of languishing in the department where it was created inaccessible to other employees.</td>
<td><em>CPA Journal</em>: 1998</td>
</tr>
<tr>
<td>Identification of categories of knowledge needed to support the overall business strategy assessment of current state of the firm’s knowledge and transformation of the current knowledge base into a new and more powerful knowledge base by filling knowledge gaps.</td>
<td><em>Computerworld</em>: Gopal &amp; Gagnon 1995</td>
</tr>
<tr>
<td>Knowledge management in general tries to organize and make available important know-how wherever and whenever it’s needed. This includes processes procedures patents reference works formulas “best practices” forecasts and fixes. Technologically intranets groupware data warehouses networks bulletin boards videoconferencing are key tools for storing and distributing this intelligence.</td>
<td><em>Computerworld</em>: Maglitta 1996</td>
</tr>
<tr>
<td>Mapping knowledge and information resources both on-line and off-line; Training guiding and equipping users with knowledge access tools; Monitoring outside news and information.</td>
<td><em>Computerworld</em>: Maglitta 1995</td>
</tr>
</tbody>
</table>

In the above stated notion of knowledge management, there is much emphasis on machinery than the way people in organizations acquire, share and create new knowledge for the benefit of the organization. There is by far, considering the meaning of knowledge as “unproblematic, predefined, and prepackaged” (Boland 1987), less focus on human dimension of organizational knowledge creation in this whole notion of knowledge management.

There are primary contexts in which knowledge management will have on the organization’s performance. One of these is Technology context (Zack, 1999), which addresses the existing information technology infrastructure and capabilities supporting the knowledge management architecture. While the adage is that knowledge management is 10% technology and 90% people, without the ability to collect, index, store, and distribute explicit knowledge electronically
advances in systems modelling and ICT applications and seamlessly to where needed when needed, the organizational capabilities and incentives will not be fully exploited.

**Sophistication of KM technology implementations and its failures.** The important question here is whether more sophisticated technologies often deliver. However, (Zack, 1999) states that the technology need not be complex or leading-edge to provide significant benefit. Its absence, however, would have prevented both from effectively managing their knowledge. It is true that Knowledge management promises much, but often delivers very little. Knowledge management is not simply a matter of installing new software or changing a small aspect of the business. KM is about knowledge sharing amongst people in the organization, technologies that help the sharing and mechanisms for bringing new knowledge into the organization (Birkinshaw, 2001).

In addition, Malhotra (2004b) notes that despite increasing sophistication of KM technologies, we are observing increasing failures of KM technology implementations. It is important to note that such failures result from the knowledge gaps between technology inputs, knowledge processes, and business performance. Malhotra (2004b) also highlights evidence that business organizations and companies spend less on technology and are not leaders in adoption of most hyped Real Time Enterprises (RTE) technologies succeed where others fail. The RTE enterprise which is considered the epitome of the agile adaptive and responsive enterprise capable of anticipating surprise; hence the attempt to reconcile its sense making and information processing capabilities is all the more interesting. However, the theoretical generalizations and their practical implications are relevant to IT and KM systems in most enterprises traversing through changing business environments.

Management and coordination of diverse technology architectures, data architectures, and system architectures poses obvious knowledge management challenges (Malhotra, 1996; Malhotra, 2001a; Malhotra, 2004b). Such challenges result from the need for integrating diverse technologies, computer programs, and data sources across internal business processes. These challenges are compounded manifold by the concurrent need for simultaneously adapting enterprise architectures to keep up with changes in the external business environment. For this to happen, changes in the existing technologies or their replacement with newer technologies must be done. Growing business enterprises often have too much (unprocessed) data and (processed) information and too many technologies. However, for most high-risk and high-return strategic decisions, timely information is often unavailable as more and more of such information is external in nature (Drucker, 1994; Malhotra, 1993; Terreberry, 1968; Emery and Trist, 1965).

As a result, most organizations have incomplete knowledge of explicit and tacit data, information, and decision models available within the enterprise. In other words, often they may not know if the available data, information, and decision models are indeed up to speed with the radical discontinuous changes in the business environment (Arthur, 1996; Malhotra, 2000a; Nadler and Shaw, 1995). Therefore,
incomplete and often outdated data, information, and decision models drive the realization of the strategic execution, but with diminishing effectiveness.

The mechanistic information-processing orientation of the technology push-model of KM generally does not encourage diverse interpretations of information or possibility of multiple responses to same information. This model has served the needs of business performance given more manageable volumes of information and lesser variety of systems within relatively certain business environment. However, with recent unprecedented growth in volumes of data and information in almost all sizes of organizations, the continuously evolving variety of technology architectures, and the radically changing business environment, this model has outlasted its utility. The limitations of the technology-push model are evident in the following depiction of IT architectures as described in Information Week by LeClaire and Cooper (2000):

The infrastructure issue is affecting all businesses . . . E-business is forcing companies to rearchitect all or part of their IT infrastructures – and to do it quickly. For better or worse, the classic timeline of total business-process reengineering – where consultants are brought in, models are drawn up, and plans are implemented gradually over months or years – just isn’t fast enough to give companies the e-commerce-ready IT infrastructures they need . . . Many companies can’t afford to go back to the drawing board and completely rearchitect critical systems such as order fulfillment and product databases from the bottom up because they greatly depend on existing infrastructure. More often, business-process reengineering is done reactively. Beyond its disruptive effect on business operations, most IT managers and executives don’t feel there’s enough time to take a holistic approach to the problem, so they attack tactical issues one-by-one. Many companies tackle a specific problem with a definitive solution rather than completely overhaul the workflow that spans from a customer query to online catalogs to order processing.

Does Information technology substitute human interaction? The Internet revolution has caused some writers to make absurd claims about how the world of work will change. One popular article by Tom Malone and Robert Laubacher (1998) foresaw the emergence of the “e-lance economy” in which individuals would work as freelancers rather than members of firms. Another line of thinking talked about the “paperless office”. These arguments are not plain right for the reason that people need social interaction- both for its own sake and because it provides a powerful vehicle for learning and sharing information and knowledge. The Social Life of Information (Brown and Duguid 2000) provides an excellent counterpoint to the argument that technology is going to change the way we work. It explains the importance of the social interaction between people that lies at the heart of knowledge management.
This simple insight has important implications for the management of knowledge. First, it helps to explain why most knowledge databases are so poorly used. And secondary, it cautions us that IT tools and “social” tools such as communities of practice are complementary. A recent article by Morten Hansen and colleagues (2000) suggested that firms should focus on either a “codification strategy” which involves putting the firms’ knowledge unto IT databases, or on a “personalization strategy” which involves building strong social networks.

**What drives performance in business?** Knowledge Management programs are typically tied to organisational objectives and are intended to achieve specific outcomes, such as shared intelligence, improved performance, competitive advantage, or higher levels of innovation. The gap between IT and business performance has grown with the shifting focus of business technology strategists and executives. Over the past two decades, their emphasis has shifted from IT (Porter and Millar, 1985; Hammer 1990) to information (Evans and Wurster, 2002; Rayport and Sviokla, 1995; Hopper, 1990; Huber, 1993; Malhotra, 1995) to knowledge (Holsapple and Singh, 2001; Holsapple, 2002; Koenig and Srikantaiah, 2000a; Malhotra, 2004b; Malhotra, 2000b; Malhotra, 1998c) as the lever of competitive advantage. Many industry executives and most analysts have incorrectly presumed or pitched technology as the primary enabler of business performance (Collins, 2001; Schrage, 2002).

The findings from the research on best performing companies over a given period of time (Collins, 2001) presented in terms of the inputs-processing-outcomes framework used for contrasting the technology-push model with the strategy-pull model of KM implementation. Given latest advances in web services, the strategic framework of KM discussed here presents a viable alternative for delivering business performance as well as enterprise agility and adaptability (Strassmann, 2003). These findings, according to Collins 2001, were presented as Lessons learned from some of the most successful business enterprises that distinguished themselves by making the leap from “good to great” (Collins, 2001)

The technology-push model of Knowledge Management embraces the following; input driven paradigm of KM (IT-based systems developed to support and enhance the organizational processes of knowledge creation, storage/retrieval, transfer, and application” (Alavi and Leidner, 2001), process driven paradigm of KM (helping people share and put knowledge into action by creating access, context, infrastructure, and simultaneously reducing learning cycles” (Massey et al., 2001) and outcomes driven paradigm of KM.

**Some Lessons about outcomes paradigm: strategic execution, the primary enabler**

(1) How a company reacts to technological change is a good indicator of its inner drive for greatness versus mediocrity. Great companies respond with thoughtfulness and creativity, driven by a compulsion to turn unrealized potential into results; mediocre companies react and lurch about, motivated by fear of being left behind.
(2) Any decision about technology needs to fit directly with three key non-technological questions: What are you deeply passionate about? What can you be the best in the world at? What drives your economic engine? If a technology does not fit squarely within the execution of these three core business issues, the good-to-great companies ignore all hype and fear and just go about their business with a remarkable degree of equanimity.

(3) The good-to-great companies understood that doing what you are good at will only make you good; focusing solely on what you can potentially do better than any other organization is the only path to greatness.

Lessons about processing paradigm: how strategic execution drives technology utilization

(1) Thoughtless reliance on technology is a liability, not an asset. When used right – when linked to a simple, clear, and coherent concept rooted in deep understanding – technology is an essential driver in accelerating forward momentum. But when used wrongly – when grasped as an easy solution, without deep understanding of how it links to a clear and coherent concept – technology simply accelerates your own self-created demise.

(2) No evidence was found that good-to-great companies had more or better information than the comparison companies. In fact both sets of companies had identical access to good information. The key, then, lies not in better information, but in turning information into information that cannot be ignored.

(3) 80 percent of the good-to-great executives did not even mention technology as one of the top five factors in their transition from good-to-great. Certainly not because they ignored technology: they were technologically sophisticated and vastly superior to their comparisons.

(4) A number of the good-to-great companies received extensive media coverage and awards for their pioneering use of technology. Yet the executives hardly talked about technology. It is as if the media articles and the executives were discussing two totally different sets of companies!

Lessons about technology inputs: how strategic execution drives technology deployment

(1) Technology-induced change is nothing new. The real question is not What is the role of technology? Rather, the real question is How do good-to-great organizations think differently about technology?

(2) It was never technology per se, but the pioneering application of carefully selected technologies. Every good-to-great company became a pioneer in the application of technology, but the technologies themselves varied greatly.

(3) When used right, technology becomes an accelerator of momentum, not a creator of it. The good-to-great companies never began their transitions with
pioneering technology, for the simple reason that you cannot make good use of technology until you know which technologies are relevant

(4) You could have taken the exact same leading-edge technologies pioneered at the good-to-great companies and handed them to their direct comparisons for free, and the comparisons still would have failed to produce anywhere near the same results

Can knowledge management work? The technology evangelists, criticized by Stewart (2000), have endowed the KM technologies with intrinsic and infallible capability of getting the right information to the right person at the right time. Similar critiques (cf. Malhotra, 2000a; Hildebrand, 1999) have further unraveled and explained the ”myths” associated such proclamations made by the technology evangelists. Specifically, it has been underscored that in wicked business environments (Churchman, 1971; Malhotra, 1997) characterized by radical discontinuous change (Malhotra, 2000a; Malhotra, 2002b), the deterministic and reductionist logic (Odom and Starns, 2003) of the evangelists does not hold. Incidentally, most high potential business opportunities and threats are often embedded within such environments (Arthur, 1996; Malhotra, 2000c; Malhotra, 2000d). Such environments are characterized by fundamental and ongoing changes in technologies as well as the strategic composition of market forces. What brings any increase in failure rates of KM technologies is often the rapid obsolescence given changing business needs and technology architectures. Skeptics of technology have observed that real knowledge is created and applied in the processes of socialization, externalization, combination, and internalization (Nonaka and Takeuchi, 1995) and outside the realm of KM technologies. Scholarly research on latest information systems and technologies, or lack thereof, has further contributed to the confusion between data management, information management, and knowledge management.

Hence, it is critical that a robust distinction between technology management and knowledge management should be based on theoretical arguments that have been tested empirically in the “real world messes” (Ackoff, 1979) and the “world of re-everything” (Arthur, 1996). We are observing diminishing credibility of information technologists (Anthes and Hoffman, 2003; Hoffman, 2003; Carr, 2003). A key reason for this is an urgent need for understanding how technologies, people, and processes together influence business performance (Murphy, 2003). Explicit focus on strategic execution as the driver of technology configurations in the strategy-pull KM framework reconciles many of the above problems. The evolving paradigm of technology architectures to on demand plug-and-play inter-enterprise business process networks (Levitt, 2001) is expected to facilitate future realization of KM value networks. Growing popularity of the web services architecture (based upon XML, UDDI, SOAP, WSDL) is expected to support the realization of real-time deployment of business performance driven systems based upon the proposed model (Kirkpatrick, 2003; Zetie, 2003; Murphy, 2003).

The technology-push model is attributable for the inputs – and processing – driven KM implementations with emphasis on pushing data, information,
and decisions. In contrast, the strategy-pull model recognizes that getting pre-programmed information to pre-determined persons at the pre-specified time may not by itself ensure business performance. Even if pre-programmed information does not become out-dated, the recipient’s attention and engagement with that information is at least equally important. Equally important is the reflective capability of the recipient to determine if novel interpretation of the information is necessary or if consideration of novel responses is in order given external changes in the business environment. The technology-push model relies upon single-loop automated and unquestioned automatic and pre-programmed response to received stimulus. In contrast, the strategy-pull model has built in double-loop process that can enable a true sense-and-respond paradigm of KM. The focus of the technology-push model is on mechanistic information processing while the strategy-pull model facilitates organic sense making (Malhotra, 2001b). The distinctive models of knowledge management have been embedded in KM implementations of most organizations since KM became fashionable.

Therefore, what is actual enabler of business enterprise? The issues of technology deployment, technology utilization, and business performance need to be addressed together to ensure that technology can deliver upon the promise of business performance. Interestingly, most implementations of KM systems motivated by the technology-push model have inadvertently treated business performance as a residual: what remains after issues of technology deployment and utilization are addressed. This perhaps explains the current malaise of IT executives and IT management in not being able to connect with business performance needs (Hoffman, 2003).

Deployment of intranets, extranets, or, groupware cannot of itself deliver business performance. These technologies would need to be adopted and appropriated by the human users, integrated within their respective work-contexts, and effectively utilized while being driven by the performance outcomes of the enterprise. To deliver real-time response, business performance would need to drive the information needs and technology deployment needs. This is in congruence with the knowledge management logic of the top performing companies discussed earlier. These enterprises may not have created the buzz about the latest technologies. However, it is unquestionable that these best performing organizations harnessed organizational and inter-organizational knowledge embedded in business processes most effectively to deliver top-of-the-line results. The old model of technology deployment spanning months or often years often resulted in increasing misalignment with changing business needs. Interestingly, the proposed model turns the technology-push model on its head. The strategy-pull model treats business performance not as the residual but as the prime driver of information utilization as well as IT-deployment.

As noted before, there are three paradigms of KM which seem to be in contrast at a point. The inputs-driven paradigm considers information technology and KM as synonymous. The inputs-driven paradigm with its primary focuses on
technologies such as digital repositories, databases, intranets, and groupware systems as been the mainstay of many KM implementation projects. Specific choices of technologies drive the KM equation with primary emphasis on getting the right information technologies in place. However, the availability of such technologies does not ensure that they positively influence business performance. For instance, installing a collaborative community platform may neither result in collaboration nor community (Barth, 2000; Charles, 2002; Verton, 2002).

The processing-driven paradigm of KM has its focus on best practices, training and learning programs, cultural change, collaboration, and virtual organizations. This paradigm considers KM primarily as means of processing information for various business activities. Most proponents of RTE belong to this paradigm given their credo of getting the right information to the right person at the right time. Specific focus is on the activities associated with information processing such as process redesign, workflow optimization, or automation of manual processes. Emphasis on processes ensures that relevant technologies are adopted and possibly utilized in service of the processes. However, technology is often depicted as an easy solution to achieve some type of information processing with tenuous if any link to strategic execution needed for business performance. Implementation failures and cost-and-time overruns that characterize many large-scale technology projects are directly attributable to this paradigm (Anthes and Hoffman, 2003; Strassmann, 2003). Often the missing link between technologies and business performance is attributable to choice of technologies intended to fix broken processes, business models, or organizational cultures.

The outcomes-driven paradigm of KM has its primary focus on business performance. Key emphasis is on strategic execution for driving selection and adaptation of processes and activities, and carefully selected technologies. For instance, if collaborative community activities do not contribute to the key customer value propositions or business value propositions of the enterprise, such activities are replaced with others that are more directly relevant to business performance (Malhotra, 2002a). If these activities are indeed relevant to business performance, then appropriate business models, processes, and culture are grown (Brooks, 1987) as a precursor to acceleration of their performance with the aid of KM technologies. Accordingly, emphasis on business performance outcomes as the key driver ensures that relevant processes and activities, as well as, related technologies are adopted, modified, rejected, replaced, or enhanced in service of business performance.

As discussed earlier, success in strategic execution of a business process or business model may be accelerated with carefully chosen technologies. However, in absence of good business processes and business model, even the most sophisticated technologies cannot ensure corporate survival.

Why do some businesses succeed (while others do not)? From related literature review, specific companies were chosen based on their visibility in the business technology press and popular media. The reviews of industry cases studies were
guided by our interest in understanding the link between investments in advanced technologies and resulting business performance.

Wal-Mart: RTE business model where technology matters less: Wal-Mart has emerged as a company that has set the benchmark of doing more with less. Wal-Mart did not build its competitive advantage by investing heavily or by investing in latest technologies (Schrage, 2002). A McKinsey Global Institute reports:

The technology that went into what Wal-Mart did was not brand new and not especially at the technological frontiers, but when it was combined with the firm’s managerial and organizational innovations, the impact was huge.

Wal-Mart systematically and rigorously deployed its technologies with clear focus on its core value proposition of lowest prices for mass consumers. With that singular focus, it went about setting up its supply chains and inventory management systems to accelerate business performance. This was facilitated by the Real Time Enterprise (RTE) based on the hub-and-spoke model of truck routes. The new business model created the strong linkages with suppliers, which not only heavily subsidized the costs of technology investments but also pre-committed the partners to the success of the shared systems.

Dell: RTE business model that does more with less

Dell has developed and perfected its business model by developing strong ties with its customer base over the past two decades. It perfected its business model over several years before accelerating its business performance with the aid of carefully selected technologies. It has cultivated outstanding relationships with its virtual supply chain partners including outsourcing providers (such as Solectron) and technology vendors (such as HP, Sony, and EMC). Dell also benefits from technologies developed by its technology partners. It has been developing and extending the real time logic over the past several years first for selling and servicing desktop computers, and later to aggregation and distribution of value-added products and services servers, storage, networking, printers, switches, and handheld computers. According to a survey of 7,500 companies conducted by Alinean (2002), Dell is an economic IT spender. Dell is equally frugal in its R&D spending (1.5 percent of revenues), according to a recent Business Week report, despite its continuing forays into new products and services. Therefore, lessons learned from the world’s greatest organizations, as noted in part, show that even simple technologies can generate great performance when empowered by smart minds of motivated and committed humans.

Conclusion

Technologists never evangelize without a disclaimer: “Technology is just an enabler.” True enough – and the disclaimer discloses part of the problem: Enabling what? One flaw in knowledge management is that it often neglects to ask what knowledge to manage and toward what end. Knowledge management activities are all over the map: Building databases, measuring intellectual capital, establishing
corporate libraries, building intranets, sharing best practices, installing groupware, leading training programs, leading cultural change, fostering collaboration, creating virtual organizations -- all of these are knowledge management, and every functional and staff leader can lay claim to it. But no one claims the big question: Why? (Tom Stewart in The Case Against Knowledge Management, Business 2.0, February 2002).

Just as managing a business depends on deciding what business you are in so knowledge management must begin by selecting the knowledge to be managed. It’s no good assembling a library full of everything anybody could conceivably want to know about everything. The important and fundamental questions that must be answered in KM efforts include; What is the work group?, What does the group need to know?, Are you a standardizer or a customizer? Production strategies for which you mostly know what knowledge you need -- and for which the tasks are mostly well understood, the processes mostly routine, and the problems mostly familiar -- lend themselves to a knowledge management strategy of codification, automation, and librarianship. However, note should be taken of the danger that technology can be an enabler in the same sense that an alcoholic’s spouse can be one.

Andrew Michuda, the chief executive of Sopheon, which provides knowledge management software and manages a network of thousands of technical experts and analysts, perfectly describes how knowledge management goes wrong: “KM hits a wall when it is generically applied. You need the richness of human interaction with the efficiencies of technology, focused on a knowledge-intensive business application. Knowledge management is much more effective if it is not a stand-alone button on somebody’s PC but is integrated into a key business process.”

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