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ABSTRACT

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Knowledge Management (KM): A Revolution Waiting for IR
AIR 2001 Forum Paper

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Knowledge Management (KM): A Revolution Waiting for IR
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Abstract

This paper shares a vision of the future of institutional research (IR) for the 21st century, in which institutional researchers learn to see themselves as the critical knowledge workers in the higher education industry. To take on this role, IR needs to: (1) understand the concepts of knowledge management (KM); (2) use new tools to meet the onslaught of information requests; (3) incorporate personal knowledge management; (4) view networking as a way of life; (5) help transform management by the use of stories in decision-making; and (6) take risks and become data entrepreneurs and infomediaries.

Knowledge Management (KM): A Revolution Waiting for IR
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Introduction to KM

The emerging study of Knowledge Management (or KM) has much to offer institutional research. KM principles recognize that it is important for organizations to "know what they know." This knowledge:

> *resides in many different places such as: databases, knowledge bases, filing cabinets and peoples' heads and are [sic] distributed right across the enterprise. All too often one part of an enterprise repeats work of another part simply because it is impossible to keep track of, and make use of, knowledge in other parts. Enterprises need to know: what their knowledge assets are; how to manage and make use of these assets to get maximum return (AIAI, 1999,* http://www.aiai.ed.ac.uk/~alm/kamlnks.html*).*

KM projects are not always called KM. "Knowledge management done well is good business, regardless of what it is called" (Kay, 2000, p. 8). Knowledge assets within an organization are not measured by individual employee's skills, knowledge, education, and experience, but by their "capitalization as members of an organization" (Strassman, 1999, p. 14). It is this "organized complexity" of collaborative work to share and use information across all aspects of an institution which marks the effective use of knowledge and which KM tries to promote.

KM in Higher Education

All institutions inherently store, access, and deliver knowledge in some manner. They could not exist without it in the marketplace. The question is what value is added to the products and services they deliver by the effective use of that knowledge capital. "Almost any institution in this country will make reference to the capturing of knowledge, the sharing of knowledge and the delivery of knowledge from faculty to students," explains Joseph M. Stevenson, vice president of academic affairs at Jackson State University. "But I have not seen an institution of higher learning that uses knowledge management as a way to operate the institute" (Graham, 2001, p. 11).

Stevenson is attempting to implement KM principles at Jackson State and hired James Maddirala, who has a background in planning and IR, as the vice president for knowledge management systems and solutions. Jackson State is looking at benchmarking and sharing best practices in a variety of contexts, from post-tenure review to online learning. Stevenson finds it ironic that he had to leave the business world of California and New York to implement KM at an "historically black institution with a wealth of experience and heritage attached to it" (Graham, p. 11).

KM Initiatives

Companies with a focus on KM pay close attention to issues of collaboration, organizational learning, best practices, workflow, intellectual property management, document management; customer-centric focus, and using data effectively. KM initiatives include portals that use the web to span communication across an entire enterprise and to promote business to business relationships (Roberts-Witt, 1999; Ruber, 2000). The Internet is also used intensely for team collaboration and groupware; natural language queries of data; sharing information on best practices; and anytime/anywhere online learning (Delio, 1999; Sherman, 2000).

The Knowledge Worker Initiative at Xerox is an example of how companies are embracing KM. Recognizing that "knowledge is our lifeblood" (Barth, 2000a, p. 33), this initiative identifies ten domains in which organizations can leverage knowledge concepts:

- Sharing knowledge and best practices
- Instilling responsibility for sharing knowledge
- Capturing and reusing best practices
- Embedding knowledge in products, services and processes
- Producing knowledge as a product
- Driving knowledge generation for innovation
- Mapping networks of experts
- Building and mining customer knowledge bases
- Understanding and measuring the value of knowledge
- Leveraging intellectual assets

These domains parallel the results of a survey conducted by *Knowledge Management* magazine about the state of KM (Dyer and McDonough, 2001). The primary business uses or domains of KM are to

- Capture and share best practices (77.7%)
- Provide training, corporate learning (62.4%)
- Manage customer relationships (58.0%)
- Deliver competitive intelligence (55.7%)
- Provide project workspace (31.4%)
- Manage legal, intellectual property (31.4%)
- Enhance web publishing (29.9%)
- Enhance supply chain management (20.1%)
- Other (5.5%)

E-learning is one of the most important KM practices, something which one would expect higher education institutions to have as an advantage. Yet these e-learning opportunities are geared most often to students as online customers, not to employees as part of capitalizing on their knowledge as an intellectual asset. The e-learning focus in KM is on "just-in-time knowledge," delivered anytime and anywhere, with the traditional "course" disaggregated into "knowledge chunks." Two-thirds of 700 companies polled in a Delphi Group study use online resources

for training employees. These companies invest in e-learning for a variety of reasons, including to retain existing employees, because of a lack of qualified employee capital, to develop additional employee skills, and to increase sales force effectiveness (Survey Tracks, 2001).

Data warehouses, data mining, and virtual reality modeling are used as new ways to visualize and transcend extraordinarily complex, transaction-based data (Knowledge Integrity, 2000; Nylund, 2000). The concept of the "executive information system" is taken much further with the use of digital dashboards for monitoring critical processes and performance measures (Angus, 1999a; Karlenzig, 1999; Microsoft, 2000, 2001). The Microsoft White Paper entitled "Digital Dashboard Business Process Assessment Guide" provides a useful description of this tool:

> *A digital dashboard is a customized solution for knowledge workers that consolidates personal, team, corporate, and external information and provides single-click access to analytical and collaborative tools. It brings an integrated view of a company's knowledge sources to an individual's desktop, enabling better decision making by providing immediate access to key business information... A digital dashboard consists of Web Parts, reusable components that can contain any kind of Web-based information... By customizing Web Parts, you can tailor a digital dashboard solution to meet the specific needs of your company (Microsoft, 2000, pp. 1-2).*

The goals for the digital dashboard are to focus on critical information, integrate information from a variety of sources, use company knowledge fully, and work with the same information in the office or on the move. In addition, there is a special new focus on "attention management tools" that are designed to address the problem of information overload and help executives focus with personalized web portals to monitor their unique priorities and mission.

Finally, perhaps the most pervasive focus in KM is on being customer-centric, something shared with the TQM and CQI management philosophies but much more pragmatic and data-driven when approached within KM. Much of customer care is moved to the web, where this involves "improved customer satisfaction by meeting their needs at the first point of contact;" more efficient operations that combine call centers and the web; and increased site traffic "eyeballs" and "stickiness" that help build a cohesive online community (Ward, 2001).

The point of KM in customer relations is to retain "institutional memory." With a variety of software tools, the "knowledge base pushes relevant information – such as product announcements, special offers, industry news and regional updates 0 to these customers and partners, based on rules... These rules set parameters such as customer location, relative profitability, purchase history, and business size" (Anderson, 2001, p. 64).

Reasons to Adopt KM

Two organizations with identical numbers of employees and financial assets may vary widely in how successful they are in the same industry. The difference is often intangible value that is added by effective knowledge management. Peter Drucker explains that "Knowledge has become the key economic resource and the dominant - and perhaps even the only source of

competitive advantage" (1999). Organizations that reward collaboration and information sharing are "outperforming companies that discourage these practices..." (Microsoft, 2000, p. 1).

The 2001 survey by *Knowledge Management* found that of those companies that adopt KM, the top reasons are to:

- Retain expertise of personnel (51.9%)
- Increase customer satisfaction (43.1%)
- Improve profits, grow revenues (37.5%)
- Support e-business initiatives (24.7%)
- Shorten product development cycles (23.0%)
- Provide project workspace (11.7%)

In her article "KM Pays Off," Delio explains that while "knowledge does not result in a physical product... it can yield demonstrable results" (2000b, p. 36). These include increased speed of processes, improved quality, better customer service, and rapid innovation. Using new types of metrics to measure the impact of KM, former MIT/Sloan professor John Vardon argues that "Enterprises have the proof that these new technologies are improving their bottom line" Delio, 2000b, p. 38).

One of the most widely cited examples of KM in business is Cisco Systems, sustaining double digit growth for years (until recently) by "extending knowledge-sharing beyond the enterprise to customers, partners and suppliers" (Sherman, 2000, p. 42). "While other companies talk about knowledge management, Cisco has turned theory into practice without adopting KM jargon. Its success speaks volumes about the importance of knowledge initiatives to a company's bottom line," explains Sherman (p. 47).

As public, private, and for-profit higher education institutions alike respond to the phenomenal growth of online courses, cybercolleges, and virtual universities, these same reasons to adopt KM apply. It is in the application of KM principles that colleges will be better able to increase student retention and graduation rates; retain a technology workforce in the face of severe employee shortages; expand new web-based offerings; work to analyze the cost effective use of technology to meet more enrollment; transform existing transaction-based systems to provide information, not just data, for management; and compete in an environment where institutions cross state and national borders to meet student needs anytime/anywhere.

KM Leadership

By leveraging knowledge capital, the nature of organizations changes as they become more effective. A new dynamic of information versus data comes into play. This is possible in even the most traditional and hierarchical of institutions, as describes Richard Danzig, Secretary of the Navy:

> *One of the attractions of the information revolution is that it moves us away from a top-heavy structure... Information acts like a force of gravity that pulls the decision-making power lower into the organization, so it has more freedom, flexibility and vibrancy. The*

gravitational pull is toward greater freedom and flexibility for junior personnel, and I think that's very healthy (Delio, 2000, p. 50).

In her analysis of grassroots initiatives for KM, Delio found that even when there is support in top management for a project, the KM leader is "not a top dog in the organization." Of 3,500 IT executives surveyed, only a small fraction (7%) had CEOs who support KM. Most of the companies implementing KM do it at a grassroots level, with only 8% driven from the top (Delio, 2000).

Many of the roles, responsibilities, and tools of KM are those already assumed by the profession of IR. Institutional research is found everywhere in the higher education enterprise, from student affairs to parking. It is a mindset about data, regardless of the topic. Institutional researchers are the knowledge workers that KM leaders in business and industry are talking about. IR professionals are tasked to respond to any and all information needs; collecting, extracting, editing, analyzing, and presenting enrollment, finance, course, admissions, facilities, human resource, assessment, and other types of complex historical and current data for management decision-making.

However, institutional researchers cannot sit waiting for top down leadership that will value the IR function because it is at the heart of organizational knowledge. IR has always been somewhat at odds in the power hierarchy, regardless of reporting relationships. Since most KM initiatives do not start at the top anyway, IR professionals are uniquely positioned to be grassroots leaders in KM. While other mid-level managers are bogged down in operations and day to day crises, institutional researchers should see themselves as having the experience, knowledge, and vision to help transform their institutions through KM.

Challenges to Implementing KM

There are obvious challenges to the implementation of KM. The 2001 survey by *Knowledge Management* magazine (Dyer and McDonough, 2001) documents the following:

- Employees have no time for KM (41.0%)
- Current culture does not encourage sharing (36.6%)
- Lack of understanding of KM and benefits (29.5%)
- Inability to measure financial benefits of KM (24.5%)
- Lack of skill in KM techniques (22.7%)
- Organization's processes are not designed for KM (22.2%)
- Lack of funding for KM (21.8%)
- Lack of incentives, rewards to share (19.9%)
- Have not yet begun implementing KM (18.7%)
- Lack of appropriate technology (17.4%)
- Lack of commitment from senior management (13.9%)
- No challenges encountered (4.3%)

In considering the politics of data, too often there is a "kill the messenger" syndrome at work in which IR is blamed for providing data about a problem. The issue is not that IR has un-

covered a problem that the institution and administrators is concerned about, but that the data are somehow incorrect or inadequate for explaining the situation. No one likes to hear bad news and IR is somehow blamed as if it is its fault. The key is pushing data to executives so that they are enabled by tools such as digital dashboards and executive information systems to monitor critical performance indicators before they become a problem.

As IR professionals move to promote knowledge management, there is a subtle restructuring of hierarchies. Information has the potential to completely change the power dynamics in an organization. Don't expect everyone to be pleased about this phenomenon, though, especially those who seem to currently wield the most power with data.

There are three ways to combat these problems of "kill the messenger" within organizational dynamics. The first is to move out of the role of "manager" into that of "knowledge worker." Managers will always be blamed when data do not work out the way other people intended them to, either because of missed deadlines or inadequate time to prepare complex analyses. The trick is for IR professionals to see themselves as knowledge workers who are valued because of the intellectual capital or knowledge assets they contribute to the institution. One must be involved in analyzing and presenting data to do this. It is not enough to supervise staff who do this function. Everyone must have unique skill sets, competencies, and topical areas in which they uniquely contribute to knowledge management. Everyone must become engaged in telling critical stories that will help transform the organization.

A second way to combat these problems is to promote the use of teams. Very few higher education organizations encourage teams, at least as more than an occasional exercise in brainstorming. Yet teams and collaborative arrangements are very successful in business and industry. What few people realize is that teams are very messy. There is a great investment required in promoting the kind of group process and work that will encourage true collaboration across titles and roles and position descriptions. Groupware software has much to offer in facilitating virtual teams, but requires the same type of commitment, sharing, openness, and built-in reward structure for participation and self-management. The most difficult aspect of implementing collaboration is "changing the culture," explains Fowler (2001).

Finally, IR professionals need to realize that there are fundamental political tensions inherent in getting access to data and sharing information. There are the obvious tensions – internal use versus external scrutiny and legislative accountability versus academic freedom and governance. The real issues involve power and sensemaking and telling the stories of the institution. It is important not to get too attached to whether institutional research data appear to be used by major administrators in decision-making. There is a cumulative process at work. Deflect this traditional model with the concepts of knowledge management. Find ways to illustrate how institutions could better compete and address critical problems such as student retention and technology worker shortages by focusing on KM principles.

Using New Tools to Meet the Onslaught of Requests

It is impossible to keep up with the onslaught of data requests and needs by doing things the same old way. "Information overload is a fact, not a theory," argues Barth (2000b, p. 31).

Most professionals have to handle approximately 220 messages a day in different formats, from email to phone calls (Barth, 2000b). The number of admissions guides, state and federally mandated reports, and ad hoc queries which IR offices must respond to is at an all time high and this reporting burden will not diminish, only grow larger.

This problem is described in KM as one of "quaquaversality." Quaquaversal motion occurs "when matter radiates out in all directions simultaneously," such as what occurred in the "Big Bang" theory of how the universe was started. Angus expects that this "coming-apart-in-all-directions force is certain to grow more extreme" in organizations (1999b, p. 17). Too often, the work of IR feels as if requests and demands are coming from all directions at once.

While the typical response to overload is to request more staff, resources, software, and training – these solutions will never be enough because they do not address the fundamental nature of the problem – information processing and the need for better knowledge management.

What do IR professionals need to do instead? They need to think about the entire IR function as an example of KM.

Many will argue that their offices do not have the luxury of taking on another task, even one that is expected to work at such a high level to transform the organization. It is at this point that institutional researchers must question their most fundamental assumptions about what is important and begin to look at new tools as a way to redistribute work. What business are we in? Is it completing surveys for admission guide vendors to make money with new publications or helping to improve and guide our institutions?

The Web as a Portal to KM

The Internet is the primary tool used by KM initiatives to transform the nature of collaboration, sharing best practices, and organizational learning. IR needs to consider web-enabling almost everything it does.

If it is impossible to respond to all admission guides and ad hoc queries, an alternative is to complete the Common Data Set (CDS) and put this on the web. When someone calls for information, give them the URL. If they are unable to get access to the web, offer to print it out and have them come pick it up. Consider the option of not providing any additional data to vendors unless the publication they produce is somehow critical to the mission of your institution.

If the cycle of annual factbook production is taking longer and longer, consider making the factbook a database-driven web product. With clean extracts of unit record reports and relatively free web database software such as ColdFusion and ASP, it is possible to dynamically generate factbook tables and charts on the web when new data become available (Milam, 1999). Use the cost savings of not printing a factbook to purchase a web server.

If a new round of assessment surveys are needed to address some issue facing the institution, such as freshmen retention, consider collecting these online. Web database applications

may be created to collect, clean/edit, analyze, and display survey responses as they are completed.

If the data integrity of extracts is a problem, consider rebuilding the information landscape of the institution with an online data dictionary from your office's perspective. This web application could allow users to post notes and even code to explain problems and changes in data entry, value labels, editing, lookup codes, and table entity relationships.

The tools of IR have never been more plentiful or cheaper. Cross-tabs originally done with SPSS or SAS may now be done as Excel pivot tables that allow users to "paint" a report structure by playing with different fields in columns and rows and different levels of aggregation, grouping, and sorting. Access, with its built-in structured query language (SQL) feature allows for complex reporting with merges between tables, recodes, and referential integrity between fields maintained in different tables.

Many IR offices have moved beyond static HTML pages for factbooks and online versions of reports to dynamically creating pages "on-the-fly" with web database tools. An excellent example of this approach is now open to the public at George Mason University (see https://data.gmu.edu/cfm/openinfo.cfm).

It is possible to webify almost everything that an IR office does with inexpensive and user-friendly solutions such as Internet Information Server and Microsoft Office 2000. Paper and pencil instruments are no longer needed as the collection, analysis, and distribution of data on the web becomes standard. Offices that still maintain a large code base are able to use open database connectivity (ODBC) and OLE drivers to go against Access, Excel, and SQL Server databases with SAS and SPSS to have the best of both programming worlds.

Similarly, the growth of the web has provided unprecedented access to every state, national, public, and private entity with which an institution interacts. Institutional research, budget, assessment, student affairs, and state higher education executive (SHEEO) offices on the web provide invaluable models for sharing data and for collecting peer comparison information and ideas for best practices. The ERIC Clearinghouses for Higher Education; Assessment and Evaluation; Community Colleges; Adult, Career, and Vocational Education; Counseling and Student Services; and Information & Technology are invaluable online resources that now contain much more than bibliographic information.

IR has access with the cost of a $100 subscription to the full-text, full-search site of the *Chronicle of Higher Education*, invaluable if only for its data almanac and job listings. The Association for Institutional Research (AIR), Society for College and University Planning (SCUP), National Center for Education Statistics, IPEDS, and National Science Foundation sites have never been more integral or accessible to the knowledge management of higher education. These sites provide numerous web applications, such as membership directories for networking, full-text documents, data analysis systems (DAS), and peer analysis tools. The members only services of association sites, especially that of AIR, are well worth it just for the online resources.

The advent of relatively inexpensive hand-held devices such as the Palm Pilot and Pocket PC has fueled the vision of KM, especially its focus on anytime/anywhere access. In addition to the obvious applications such as web and email and scheduling, special data applications can be written in a variety of software tools for wireless users on the road. Whether connected or not, any application for the desktop can essentially be ported to the hand-held computer (Sherman, 2001). As IR professionals consider their investment in web resources, they need to be prepared for the next phase – putting the personalized, digital dashboard of performance indicators into the hands of managers via the Palm Pilot and PocketPC.

Incorporating Personal Knowledge Management

In his article "The Power of One," Barth interviews Jon Sidoli of Knovus Communications, who explains that "Work is getting more fluid and serial. The individual knowledge worker needs to look at himself [sic] as an enterprise of one in a community of many" (2000b, p. 34). The principal of "Personal knowledge management" (PKM) means " taking responsibility for what you know, who you know – and what they know" (p. 30).

PKM does not require sophisticated new software, but a vision of how to use existing tools to their advantage to:

> *acquire, create and share knowledge, extend personal networks and collaborate with colleagues without having to rely on the technical or financial resources of the employer. Implemented from the bottom up by one knowledge worker at a time, these techniques can increase productivity and enthusiasm and help to build momentum that can overcome the technological and social barriers to town-down, enterprise-wide KM initiatives (Barth, 2000b, p. 31).*

PKM skills include:

- Time control
- Workplace wellness
- Speedy research
- Document structuring
- Information design
- Target writing
- Processing infrastructure
- Filtering techniques
- Speedy reading
- Speedy notation (Barth, 2000b)

The tactics of a PKM strategy include:

- Clarify your information needs
- Develop a sourcing strategy
- Clarify what you want "pushed" at you vs. what you want to "pull"
- Work out how and when to process information

- Set criteria for what you want to file and save
- Create a personal filing system with a well-designed structure appropriate to your work activities and areas of knowledge
- Refine your information
- Review your information periodically (Barth, 2000b)

These skill sets are very comparable to those identified by Borden, Massa, and Milam (2001) in their forthcoming chapter about the "Technology and Tools for Institutional Research" for the AIR *Resources in Institutional Research* monograph series. These broad skills include: (1) managing information flow; (2) operating system competency; (3) software application competency; (4) systems planning and management; (5) administrative systems; and (6) information design.

Perhaps the most critical of these, managing information flow, involves:

the contextual grasp of how data and information enter the realm of institutional research and flow through storage, analysis and processing, output (as in reports) and into new storage. It includes the following more specific skills:

- *Understanding the "business rules" for a specific organization...*
- *Ability to locate stored information ...*
- *Track the evolution of a unit record through multiple relationships with the institution...*
- *Deconstruct higher-level information (such as complex aggregations) to verify accuracy...*
- *Develop and maintain contacts in 'data custodian' offices that are responsible for the data with which the institutional research office deal...*
  (Borden et al, 2001, p. 16).

Viewing Networking as a Way of Life

By nature of being part of academic institutions, IR has had access to some of the Internet's most cutting edge tools for years. Email and listservs transformed networking in the 1980s. Yet these tools are still growing in use, with an average of 10 billion emails per day in 2000, expected to rise to 35 billion by 2005 (Levitt, 2000). Institutional researchers must take advantage of the web for everything they do. Other free, ubiquitous Internet tools such as chat rooms or "e-rooms", threaded discussion groups, newsgroups, FTP, and instant messaging should not be ignored, but experimented with for a variety of daily communication needs.

IR professionals need to keep up with changes on the NCES, NSF, SHEEO, and peer websites and there are dozens of free web tools to help them do this. In an age of shrinking travel budgets, there is no reason why IR cannot take advantage of the many virtual conference offerings which are available. Using RealPlayer or Microsoft Media Player, anytime/anywhere access to e-learning is a reality with speeches and presentations available on a myriad of topics of interest to IR, from learning to use a statistical technique to learning to run a web server. If a national association does not offer its conference proceedings online, be sure to check regional

and state meetings. As institutional researchers find sites that are useful to their work, such as are listed in Internet Resources for Institutional Research, they should promote them and encourage others to make effective use of them. The capacity to stay in touch with colleagues, professionals, and organizations is expanding almost exponentially.

Back on campus, IR professionals need to force themselves to build the same kinds of networking relationships. It is important to befriend anyone who understands the data dictionary your office relies on, from fellow data users to the data entry managers who stand at the first line of cleanup and editing. The web has facilitated a mindset about sharing knowledge which crosses organizational boundaries and breaks apart hierarchical reporting. If you have questions about a new report or study conduced by a researcher at another university, send the person an email. Similarly, if central computing doesn't want to support your using a web server to serve databases, create an informal support or users group with several offices to help yourselves work through problems together. Long after AIR workshops and presentations are over, participants continue to email facilitators with questions and ideas. There is no reason to feel isolated or alone in facing a work problem when there are so many competent professionals at the end of an email or phone call who are glad to help. Use the national, regional, and state membership directories to find them or go to the institution's website and use the people lookup feature.

The threaded discussion groups which are available on the AIR, SAIR, and other association websites are, like many listservs and newsgroups, much underutilized. Yet this service is free, immediate, and works extremely well in some contexts. The key to success is the presence of a small group of institutional researchers who are committed to using technology for networking. Use these tools, promote their use at conferences, and you will be amazed at how much they can offer. Comparable arrangements are in place for sets of peer institutions such as Urban Universities, the AAU Data Exchange, and the Southern University Group for communicating about data issues and responding to ad hoc requests.

Using Stories in Decision-Making

As institutional researchers learn to facilitate KM in higher education, the ideal of "better data for better decisions" may, unfortunately, not meet the reality of the decision-making process. Too often, it is the politics of resource allocation and not the well-written analysis of an issue which guides major administrators.

While it is important to try anyway, the recommendation of this author is that IR professionals not be too idealistic about the appearance of rationality. There is much to be said for the organizational theories of ambiguous leadership, loosely coupled systems and sensemaking (Cohen and March, 1974; Weick, 1979). Rather than be discouraged that one's white papers and factbooks are not better used, try sensemaking instead. Tell stories with data that people want told. An example is freshmen retention, with a report that interweaves first person, qualitative narratives with tables and charts to dramatically tell the cost of attrition to an individual and to the institution.

In KM, storytelling serves two purposes. It can "quickly disseminate information and convey meaning at a high level of understanding," explains Scott Smith, global executive for KM at IBM Global Services, in an interview by Gill (2001, p. 27) .

> *The greatest benefit of using storytelling in KM may come from its ability to capture tacit knowledge, which many observers call the most valuable knowledge asset of an organization. Unlike explicit knowledge, which is written down in documents, manuals and other accessible sources, tacit knowledge is implicit in the minds of people, many of whom literally don't know how much their experience has taught them (Gill, 2001, p. 27).*

What makes a good KM story? Dave Snowden, director of IBM's Institute for Knowledge Management, believes that a good story:

- Is oral or tacit in nature
- Captures and holds the attention of the audience
- Can be told to all audiences regardless of educational background, role, or experience. All members of the audience will gain meaning from it at their own levels
- Conveys complex meanings simply. Important lessons do not need to be spelled out
- Is self-propagating. It will spread on its own through an organization, without altering its core meaning
- Is not linked to any individual and can be told in each storyteller's own unique style
- Is difficult to argue with because it is in narrative form
- Can provide a new language for new forms of understanding by tapping into the intellectual asset base of an organization (Gill, 2001, p. 28).

Taking Risks and Being a Data Entrepreneur and Infomediary

There is so much to balance in juggling competing priorities, moving forward with a KM approach, and learning to see the larger patterns in how an institution uses data and information. IR will not be able to take up these challenges if it remains in the box of existing expectations. It is important to take risks. Our work lives aren't usually that comfortable or settled anyway, with competing tensions and demands on time, staff turnover, and changing reporting relationships.

If employees rely on their job descriptions to guide them in their development of PKM, these serve only as the lowest common denominator for performance. Quite possibly, they are also wrong, written by people who barely understand what their employees actually do during the course of a day. IR must challenge all assumptions about the nature of the business it is in. What should you really be doing to serve the institution?

One way to look at this new institutional role is through the KM buzzword "infomediaries." The parallels to IR are apparent.

> *This demand for immediate access to relevant knowledge has given rise to a new business role: the internal infomediary, who creates or manages systems to connect employees with the knowledge they need. Infomediaries may bear any of a range of titles and may*

not be designated on the org chart as knowledge controllers; what matters is what they do. "Their responsibility is to keep their finger on the pulse of the knowledge flowing around the organization..." (Costello, 2000, p. 33).

During times of information overload, the last thing many professionals want to hear is that it is time for them to learn and implement something entirely new such as a web-based data mart or online surveys. Yet the web is transforming higher education and institutional research. Rather than be seen as one more item for the IR to-do list, effective leveraging of technology such as the web is the only way to keep up. The technology is so much cheaper and easier than most people think it is.

Businesses are learning that the next step in leveraging technology for KM is the use of internal infomediaries. "Anyone who can take and analyze, evaluate, package and disseminate information in this useful fashion is going to give somebody a business advantage" (Costello, 2000, p. 41). Institutional research professionals are already doing this.

What is needed for IR to take the next step into the 21st century is vision - the vision to explore and use the plethora of new and exciting new tools, particularly the web; the vision to embrace knowledge management as a way to rethink what educational organizations are all about; and the vision to accept change with all of the dissonance and rewards that it brings.

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