AN INTRANET AS A STRATEGIC TOOL WITHIN A KNOWLEDGE MANAGEMENT STRATEGY

Reflecting on the evaluation of an Intranet

A Working Paper

By U Averweg and S Jory, University of Stellenbosch Business School

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Abstract

An Intranet is well suited for use as a strategic tool in Knowledge Management (KM) owing to its ability to support distribution, connectivity and publishing. The Intranet should be viewed as integral to an organisation's KM strategy, which in turn must be aligned critically with the organisation's business strategy.

The authors set out to argue that the Intranet should be used as a strategic tool within a Knowledge Management strategy. The question arises: To what extent does an organisation's existing Intranet facilitate this function? The eThekwini Municipality in Durban, South Africa, provides a useful context for the application of this question.

The importance of the Intranet, a theoretical framework encompassing the significance of knowledge in corporate society, the defining of Knowledge Management and its sub-categories, and the clarification of the meaning of knowledge are explored.

This paper seeks to reflect upon the existing Intranet used by eThekwini Municipality and to provide an evaluation thereof. The research results, derived from an online questionnaire, reveal an opportunity for improvement, so that the Intranet may be more effectively utilised as a strategic tool.

Keywords: Intranet technology, Knowledge Management, knowledge-sharing

1.   Introduction

Upon reflection of the domain of knowledge: Knowledge Management (KM), Zack (1999: 125) describes "the primary focus of these efforts has been developing new applications of information technology to support digital capture, storage, retrieval and distribution of an organisation's explicitly documented knowledge". The line of argument in this paper serves to propose that, when aligned, organisational strategy and technical resources (e.g. information technology (IT)) provide a sound framework to support KM within an organisation. However, the question arises as to whether an organisation is making the best investment in its IT resources and whether it is managing knowledge in the right way. One technical IT resource in an organisation is an Intranet.

Tiwana and Ramesh (2001) contend that the Intranet is well suited for use as a strategic tool within the domain of KM owing to its ability to support distribution, connectivity and publishing. According to these authors, the Intranet should be seen as integral to an organisation's KM system and should therefore be designed and tailored to enhance an organisation's knowledge-sharing activities. This rationale raises the question whether an organisation's existing Intranet facilitates knowledge-sharing and KM processes. The exploration of this question creates an opportunity for research within a field of application that seems particularly appealing: a metropolitan municipality – eThekwini Municipality in Durban. The appropriate context and appeal arose from the fact that the first author is situated within the organisation's Information Services Department. Furthermore, given eThekwini Municipality's Integrated Development Plan (IDP), this study was considered pertinent and relevant. In

surveying the parameters of the question, the overriding premise was established as follows: If knowledge is used effectively, it may well provide meaningful utility to the organisation. Clark (2001: 189) notes that "knowledge management initiatives are unlikely to be successful unless they are integrated with business strategy".

2. Background

Given that this research falls within the domain of KM and the field of application is eThekwini Municipality, the authors deem it necessary at this point to explore briefly the following concepts and realities: Knowledge, Knowledge Management, IT, Intranet technology and eThekwini Municipality.

2.1 Knowledge

2.1.1 Significance of knowledge in corporate society

Managing knowledge appropriately is at the centre of many discussions around competitiveness and sustainability. Many current theories and practices indicate that knowledge (and the management thereof) may prove useful if the scope and utility of knowledge is aligned with an organisation's strategy. For this reason KM must have a business focus. It is therefore critical that knowledge management aligns with the organisation's business strategy and that it is structured in such a way that it articulates with the organisation's purpose and goals. It may be further argued that knowledge should be viewed as a resource in the business, and that it should therefore tie in with the resource-based approach to strategy.

Although this paper seeks to review the role of the Intranet and its contribution to a KM strategy, it also proposes that KM should be set on a broader scale than merely IT. In other words, it is argued that the management of knowledge should go beyond a narrow technical focus and encompass other less tangible themes within an organisation. In relation thereto, Zack (1999: 125) clarifies the intangible "as the knowledge existing within people's heads, augmented or shared via interaction and social relationships". This paper draws on the ability to draw together the technology, the notion of shared interaction and the creation of an opportunity for knowledge transfer.

2.1.2 Concept of knowledge

From a review of the management of knowledge literature, there are many definitions of the concept of knowledge. Much of the literature also promotes/advances the notion that there is a distinct difference between the concepts of data, information and knowledge. However, if organisations are to utilise data, information and knowledge effectively, and in so doing formulate sound KM strategies, this requires clarification. For the purpose of this paper, it is considered that data, information and knowledge all emerge from the same social process and that they may therefore be described as global properties of an organisation. Data may be described as a type of information, and the conceptual context of such information allows for observations, commitments and interpretations which evolve into knowledge.

Categorisation of the concept of knowledge is now presented:

Belief description

- "Justified true belief" (Goldman, 1991; Nonaka & Takeuchi, 1995: 58);

- "Knowledge is understanding based on belief" (James, 1907); and

- "Knowledge can be thought of as a body of understandings, generalizations, and abstractions that we carry with us on a permanent or semi-permanent basis and apply to interpret and manage the world around us ... we will consider knowledge to be the collection of mental units of all kinds that provides us with understandings and insights" (Wiig, 1998).

Pragmatic description

- "The most essential definition of knowledge is that it is composed of and grounded solely in potential acts and in those signs that refer to them" (Cavaleri & Reed, 2000: 114);

- "Knowledge is social acts" (Stacey, 1996); and

- "Knowledge is the capacity for effective action" (Argyris, 1993: 2-3).

Communal description

- "Knowledge is experience or information that can be communicated or shared" (Allee, 1997: 27).

Contextual description

- "Information in context" (Aune, 1970);

- "Knowledge, while made up of data and information, can be thought of as much greater understanding of a situation, relationships, causal phenomena, and the theories and rules (both explicit and implicit) that underlie a given domain or problem" (Bennet & Bennet, 2000: 19); and

- "Knowledge is a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of knowers. In organisations it often becomes embedded not only in documents or repositories but also in organisational routines, practices and norms" (Davenport & Prusak, 1997: 5).

The pragmatic, communal and contextual categories of defining knowledge are drawn on for the purpose of this research and are applied in the discussion of results further along.

2.2   Knowledge Management

Precisely what is KM? Kwalek (2004: 23) suggests that "the literature on knowledge management is disjointed and disconnected". Pfeffer and Sutton (2000: 22) indicate that KM "tends to treat knowledge as a tangible thing, as a stock or quantity, and therefore separates knowledge as some *thing* from the use of that thing". While there are different views on what KM is, Nomura (2002: 266) suggests that the "objective of KM is to directly enhance corporate value according to business strategy". From a review of the literature, some definitions of KM are given in Table 1.

Table 1. Some definitions of Knowledge Management

Researcher(s)	Definition of KM
Ezingeard, Leigh and Chandler-Wilde (2000)	KM directs acquiring, storing, adding value to and deploying the intellectual capital of the organisation's professionals
Liebowitz (2000)	KM deals with creating, securing, capturing, coordinating, combining, retrieving and distributing knowledge
Abell and Oxbrow (2001)	KM is a discipline that promotes an integrated approach to the creation, capture, organisation, access and use of an enterprise's IC on customers, markets, products, services and internal processes
Mack, Ravin and Byrd (2001)	KM refers to the methods and tools for capturing, storing, organising and making accessible knowledge and expertise within and across communities
Gray (2006)	KM is the organisational process for acquiring, organising and communicating both tacit and explicit knowledge (so that people may use it to be more effective)

For the purposes of this paper, Gray's definition (Gray, 2006: 118) will be adopted. The argument for this selection is based on the recognition that the combined knowledge and expertise of the people within an organisation is what makes the organisation unique. It allows the people to add value so that they become more effective in the organisation.

KM is not a centralised database that contains all the information known by an organisation's workers. It is the idea of gaining business insights from a variety of sources – including databases, websites, employees and business partners – and cultivating that information wherever it resides into corporate value. Business insight emanates from capturing information and giving it greater meaning via its relationship to other information in the organisation. It should be stated that KM is not about making plug-and-play workers dispensable because all they know is recorded for the next person who fills their shoes – it is about delivering information to knowledge workers, business processes and technology to make organisations and people successful and effective. The Intranet, the in-house version of the World Wide Web (the Web) browser based on Internet technology, creates a common corporate communications and information-sharing system (Brelade & Harman, 2003).

2.3   Information technology (IT)

Given that advances in IT have made it easier to acquire, store and disseminate knowledge than ever before, many organisations are employing IT to facilitate sharing and integration of knowledge (Kankanhalli, Tanudidjaja, Sutanto & Tan, 2003: 69). There is clearly a need for KM practices in the workplace to enable managers to promote the sharing of knowledge and allow the organisation to acquire and retain IC. For example, eThekwini Municipality is "committed to using Information Technology to make a real difference … municipal decisions have to be based on sound research and information management in order to ensure [service] delivery" (eThekwini Municipality, 2006: 28). KM initiatives in organisations are increasingly becoming important as organisations are making significant IT investments in deploying KM systems (Hahn & Subramani, 2000: 302).

2.4   Intranet technology

An Intranet (or internal Web) is a network designed to serve the internal informational needs of an organisation (e.g. a municipality) using Internet concepts and tools (Turban, McLean & Wetherbe, 2004: 130; Averweg, 2007: 46). The cost efficiency of utilising Internet technology has opened the door for organisations to use this same technology to share information within the organisation (Botha, 2004). In other words, more efficient utilisation of this technology generates increased value derived from it. Technology thus plays an important role in organisations. The basic role of technology in KM can be briefly summarised in functional terms into the areas of:

- facilitating communication;

- enabling collaboration

- collecting information;

- storing information;

- analysing information;

- disseminating information; and

- updating information (Brelade & Harman, 2003).

Intranets create a common communications and information-sharing system. Brelade and Harman (2003) suggest Intranets can be used on a "push" basis, where information is presented to employees, and on a "pull" basis, where employees may seek out and retrieve information for themselves. These mechanisms are described more fully as follows:

- "Push" technology is used when it is important that certain material is presented to employees at their workstation. It ensures that no other function takes place until all the information is correctly accessed; and

- "Pull" technology allows employees to decide when to pull down information from the Intranet that they wish to view. The "views of the end users are more important than in most other studies" (Skok & Kalmanovitch, 2005: 736).

To provide a seamless experience between viewing pages on the Web and viewing information on an Intranet, access is usually via a standard Internet browser. The commonly used Internet browser in eThekwini Municipality is Microsoft Internet Explorer.

2.5   eThekwini Municipality

eThekwini Municipality comprises six clusters/service units (Office of the City Manager, Treasury, Governance, Sustainable Development and City Enterprises, Corporate and Human Resources and Health, Safety and Social Services) and employs approximately 20 000 employees. The Information Services Department is located in the Office of the City Manager. eThekwini Municipality has some 6 000 networked desktops (personal computers, thin clients and laptops) and electronic communication (i.e. eMail) takes place via Novell's GroupWise (Client version 6.5). A total of 6 654 GroupWise accounts exist in eThekwini Municipality. There are approximately 1 500 Internet accounts utilising either Microsoft Internet Explorer or Netscape Navigator Web browsers.

3. Research methodology

3.1 Research approach

Research is varied. Hence disparate approaches are taken and shown in dissimilar research. For this research, a mixed-methods research approach is adopted:

- Knowledge claim – pragmatism;

- Strategy of inquiry – transformative procedures; and

- Methods of data collection and analysis – secondary data and analysis are used. The data for eThekwini Municipality's Intranet have recently been collected by an independent research company, Ask Africa. The rationale for using secondary data is that (1) they are considered relevant to the study; and (2) there are savings of time and money by using available data rather than collecting original data.

3.2 Data collection process

On 13 June 2006 the eThekwini Municipality employees were invited – by eMail invitation from the Communications Department – to participate in an online Intranet survey. The aim of the survey was "to identify areas where the Intranet may need improvements" and "to allow positive user experiences to be obtained". eThekwini Municipality employees who expressed an interest in participating in this survey received an online questionnaire, which was eMailed to them by Ask Africa's research partner, MicroIces. Data collation was handled by Ask Africa. The data used in this research are sourced from the eThekwini Municipality Intranet Research Report (July 2006), which was compiled by Ask Africa. The reported findings inform this study.

3.3 Sample size

From the 150 eMails sent to eThekwini Municipality employees, thirty-nine responses were received. This represents 26 per cent of the total number of employees who originally expressed interest in participating in the survey. The first author did not participate in this online Intranet survey.

4. Survey and results

Extracted from the eThekwini Municipality Intranet Research Report (Ask Africa, 2006), the results are presented below:

The ranking in ascending order of Agree/Strongly Agree responses to benefits the Intranet holds is reflected in Table 2.

Table 2. Ranking in ascending order of Agree/Strongly Agree responses to benefits the Intranet holds

(Adapted from eThekwini Municipality Intranet Research Report compiled by Ask Africa (2006: 26))

Statement	Percentage (%) of Respondents (N=19)		
	Agree/ Strongly Agree	Neutral	Disagree
Useful platform to share and access inter-departmental information	87%	9%	4%
The Intranet is an effective way to conduct organisational interaction	81%	14%	5%
Quickest focal point to disseminate and get organisational communication	77%	14%	9%
Enhances departmental communication	72%	5%	24%
Helps the organisation improve its service to customers	65%	15%	20%
Helps with productivity	63%	14%	23%
Using the Intranet is necessary for employees to perform daily work functions	50%	5%	45%

From Table 2, the greatest perceived benefit that the Intranet holds for employees using it is as a platform to share and access inter-departmental (i.e. clusters/service units) information. The second highest reported benefit was as "an effective way to conduct organisational interaction". Van der Walt, van Brakel and Kok (2004: 4) emphasised the importance of evaluating an organisation's Intranet to ascertain its contribution to potential knowledge-sharing in an organisation. The third highest reported benefit was as the quickest "focal point to disseminate and get organisational communication" The lowest reported benefit was for employees to use the Intranet for their daily work functions.

The ranking in ascending order of Agree/Strongly Agree responses to the design of the Intranet is reflected in Table 3.

Table 3. Ranking in ascending order of Agree/Strongly Agree responses to design of Intranet

(Adapted from eThekwini Municipality Intranet Research Report compiled by Ask Africa (2006: 34))

Statement	Percentage (%) of Respondents (N=21)		
	Agree/ Strongly Agree	Neutral	Disagree
I am happy with the text and font used on the site	86%	5%	10%
I am happy with the colours used on the site	81%	10%	10%
I am happy with the layout and organisation of the site	67%	19%	14%
I am happy with the images and pictures used on the site	62%	19%	19%
Overall I am happy with the design of the Intranet website	57%	33%	10%

From Table 3, it appears that most respondents surveyed (86 per cent) were satisfied with the text, font and colours used, but there was some disagreement on the images, pictures and overall design of the Intranet Website. For respondents surveyed, this suggests that images and pictures used on the Website require improvement for eThekwini Municipality employees to obtain user satisfaction (Ask Africa, 2006: 35).

The ranking in ascending order of Agree/Strongly Agree responses to the usability of the Intranet is reflected in Table 4.

Table 4. Ranking in ascending order of Agree/Strongly Agree responses to the usability of the Intranet

(Adapted from eThekwini Municipality Intranet Research Report compiled by Ask Africa (2006: 39))

1. 2. 3. Statement	Percentage (%) of Respondents (N=20)		
	Agree/ Strongly Agree	Neutral	Disagree
The drop down menus are easy to use	70%	20%	10%
Overall I am happy with the functionality/usability of the site	67%	10%	24%
I am happy with the site labeling	62%	19%	19%
I am happy with the speed of the site	62%	14%	24%
I am able to navigate quickly and easily	50%	20%	30%
The site is self-explanatory – it indicates where I need to go to find the information I am looking for	43%	29%	29%

From Table 4, it appears that navigation improvements are required. Furthermore, while respondents surveyed agreed that they are able to navigate the Intranet Website quickly and easily, they felt that there was no clear direction provided. This suggests the navigation needs to be improved for beginner users so that they have a better indication of where to go to find the information they are seeking (Ask Africa, 2006: 41).

The ranking in ascending order of Agree/Strongly Agree responses to the content of the Intranet is reflected in Table 5.

Table 5. Ranking in ascending order of Agree/Strongly Agree responses to the content of the Intranet

(Adapted from eThekwini Municipality Intranet Research Report compiled by Ask Africa (2006: 44))

Statement	Percentage (%) of Respondents (N=18)		
	Agree/ Strongly Agree	Neutral	Disagree
The information and content on the website is relevant	63%	11%	26%
The information on the website is reliable	61%	17%	22%
Overall I am happy with the quality of content on the website	57%	14%	29%
I am happy with the quality of the search process	57%	14%	33%
The content on the site is regularly updated	53%	11%	38%
There is a high likelihood of finding information I am looking for even though I do not know where to find it	52%	10%	38%

From Table 5, it appears that respondents surveyed felt that the information on the Intranet is relevant and reliable. However, improvements in the updating of information and the quality of information-seeking are required. This suggests that while the information on the Intranet Website is generally seen to be reliable, the regular updating of content and finding information that an employee is looking for needs to be improved (Ask Africa, 2006: 45). An important use of most Intranets is to find documents that "point" to employees who have knowledge and expertise. Wells, Sheina and Harris-Jones (2000) indicate that less than 5 per cent of employee knowledge is actually captured and accessible across the organisation. Intranet satisfaction is directly influenced by having the right content, features and design factors (Kaplan, 2001: 1).

5.   *Discussion of results*

From the survey results, there appear to be areas for improvement in the Intranet design, usability and content areas. A post-study discussion describing why this is the case suggests that:

- *the Intranet be more widely accessible to employees;*
- *the Intranet encompass a wider range of language options;*
- *user functionality may need improvement;*
- *drop-down speeds be increased;*
- *Intranet training programmes may need to be implemented;*
- *information not be pocketed in silos of the organisation; and*
- *recency of information be addressed.*

The above-mentioned challenges arising from the existing Intranet and usage thereof provide an opportunity for synthesis with the existing literature (as outlined in Section 2). It is argued that this lays a foundation for improving the utilisation of the Intranet and towards the transferring of knowledge within a given KM strategy. Table 6 reflects this challenge and action.

Table 6. Translating challenges and gaps into action

Knowledge Management			
The organisational process for acquiring, organising and communicating both tacit and explicit knowledge			

Improvement requirement	Functional role of technology	Knowledge translation – *Defining knowledge*	*Proposed activity solution*
Increased access	Dissemination	Pragmatic: The capacity for effective action	Increase user access – more employees to have access
Wider range of language options	Facilitating communication	Communal: Knowledge is experience or information that can be communicated or shared	Translation options for shared narrations
Improved user functionality	Dissemination of information	Pragmatic: Potential acts	Training for beginners and technological improvements. Simplicity emphasis
Training to improve usability	Enabling collaboration	Contextual: Fluid mix of framed experience, values, contextual information and incorporating new experiences	Training Increased usage expectation
Minimisation of fragmentation	Facilitating communication	Contextual: Greater understanding of a situation, relationships and causal phenomena – whole organisation	Better linkage between organisational silos
Recency of information	Updating information	Contextual: Information in context	Strategy for continual update

In using Gray's (Gray, 2006) KM definition and its correlation with the extracted definitions of knowledge which promote effective action (*pragmatic* categorisation), shared experience and information (*communal* categorisation) and information in context (*contextual* categorisation), there is justification for the argument that better utilisation resulting from/which is likely to result from a more effective design of the existing Intranet may contribute significantly to the knowledge-sharing activity in the eThekwini Municipality organisation.

An Intranet may be classified as a KM application since it is capable of distributing knowledge. An Intranet is seen as a tool for the more efficient sharing and creation of knowledge within organisations, using both "push" and "pull" technologies. However, in the case of eThekwini Municipality's Intranet, it appears that far greater use is

being made of the "pull" technology (as opposed to "push" technology). Furthermore, the reported results tend to suggest that there appears to be limited knowledge-sharing and/or KM in eThekwini Municipality.

6. Concluding remarks

Du Plessis and Boon (2004: 75) suggest that "knowledge management [is] a planned structured approach to manage the creation, sharing, harvesting and leveraging of knowledge as an organisational asset" and further assert that this "should be in line with its business strategy". Organisations generally make use of one of a variety of methodologies, or a combination of these, for strategy formulation when planning their longer term interaction with the environment. Knowledge-based strategy places the organisation's primary intangible asset, namely the competence of its people, at the centre. Given eThekwini Municipality's IDP and its overall intent to respond to social and economic needs of citizenry, the value of knowledge to organisational effectiveness is crucial at this point. The products and assets, as well as the internal and external relationships that the municipality needs to achieve its goals, are all the result of human endeavour. IT, with the enabling role of Intranet technology, should be seen as significantly important to enhance the management of knowledge within eThekwini Municipality. By being aligned to the organisational strategy, the Intranet will provide a sound framework to support KM within the organisation and become a strategic tool within a KM strategy.

7. Acknowledgement

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