

CHALLENGES OF DEVELOPING AN INTERACTIVE KNOWLEDGE WAREHOUSE WITHIN THE MEDIA INDUSTRY: SIGNIFICANCE OF EMERGENT FRAMEWORKS

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Abstract

It has been common practice among organisations to develop standard operating procedures to gain advantages like standardisation, ensure continuity, and deal with contingency needs. Over time, processual perspectives of activity within organisations have enabled appreciation of such practices as what is commonly referred to as organisational knowledge. With recent advances in both recognition of 'knowledge' as a form of asset within the organisation, as well as the fact that 'management' of such assets requires some sort of a strategy, it is increasingly popular to have strategies to derive optimal benefits. Many organisations keen on leveraging competitive advantage, are therefore involved in designing intranet-based repositories that would both allow sharing as well as recycle experiences to ensure success in future ventures. Whilst the process of knowledge development can be unique to the context, practical dimensions of development may be considerably different from that suggested by established theory. The present paper firstly reviews different frameworks that have come to be recognised as being effective in categorising organisational knowledge. Secondly, in the light of experiences of both authors in developing an interactive knowledge warehouse, the present paper discusses usefulness of these frameworks in estimating and categorising shareable knowledge. Prevalence of non-disclosure and confidentiality conditions would mean that the mentioned organisation would need to remain anonymous. For the purposes of the present paper, the chosen organisation would be referred to as Dresimi.

1 INTRODUCTION

Momentous developments in technology, products and services over the last few years have persuaded commercial organisations with a web presence, to reconsider their strategies to be able to survive and compete amidst unpredictable market conditions. With the advent of an ever-increasing variety of business models, facilitated by the Internet, emphasis is gradually moving away towards an environment where service industries are likely to play a more dominating role (Westland and Clark 2000). Somehow such a proliferation of ventures has also influenced companies within the small and medium enterprise sector to look more carefully at their service offerings. Competence in bidding for new projects is directly related to sharing among employees, previously acquired experiences. Last year the chief executive officer of one of the world's largest hardware manufacturers went on record, by saying that businesses will cease to exist if they do not have a world wide web presence. At the same time experience would show (cf. Saloner and Spence 2002, Timmers 1999, Elliot 2002) that mere presence is not such a big challenge after all. Through the web, sustenance of business and expansion of client base are areas that companies need to work on a continual basis. Some of such expansion is quite clearly dependent on assessing emergent opportunities. Others are based on ensuring that existing clients are sufficiently content with levels of available services. On the one hand, knowledge about emergent opportunities may be derived through new information gleaned through market data. On the other, use of anecdotal client information could ensure fulfilment of expectations in relation to past experiences.

Whilst recent dot-com failures have signalled the downfall of several large companies, many relatively smaller organisations, have managed to attract business that would have hitherto gone to their larger rivals. Given such a shift in the direction of business, smaller organisations have tried to maximise their potential through a variety of measures. Storing information in formats that are re-usable has been a more traditional means to ensure that organisations reduce redundancy and are able to learn from past experiences. But this hasn't necessarily meant that the organisation will eventually succeed in maximising ensuing advantages by re-using data. A transition into knowledge use probably requires both a different kind of experience as well as expectation mindset of involved actors. With the advent of substantial improvements in technology, storage per se has not been a problematic issue, anymore. The rate at which relevance disappears from stored information seems to be an abiding complexity for organisations keen on maximising advantages through stored information. In other words, speed with which data becomes obsolete makes the whole process of sustained knowledge use quite complicated. Hence, judgement would need to be exercised when information or data is being considered for storage as to its net worth to the organisation, in future.

The present paper is intended to firstly review types of knowledge as identified in the emergent literature on knowledge management. Secondly the present paper would consider adopted processes of converting tacit into explicit knowledge within a media company based in Manchester, UK. Both of these two objectives of the paper would be carried out with reference to experiences of both authors in developing an interactive knowledge warehouse for a media company called Dresimi. The British Government's department of trade and industry (dti) has funded the development of the mentioned interactive knowledge warehouse project. As a recently completed project, conditions of confidentiality would require the use of a pseudonym instead of the actual name for the mentioned media company.

2 KNOWLEDGE FRAMEWORKS:

With the growing recognition among organisations of harnessing advantages by leveraging existent knowledge assets within its workforce, a few research frameworks have become accepted as being standards in understanding and developing capacity. Research into understanding knowledge development may be categorised as being part of a couple of distinct approaches. Whereas the

structuralist perspective concerns an understanding where knowledge is treated as being resident within people and organisations, the processual approach has developed through recognising that knowledge is socially constructed and is embedded in practice (Newell et al. 2002).

For instance, Nonaka (1994) and Spender (1998) have developed frameworks to understand processes by which knowledge is created and used within organisations. Nonaka's (1994) framework is based on the premise that individual cognition is essential to the knowledge creation process. According to Nonaka (1994) knowledge creation can only occur at the level of the individual. Socialisation, externalisation, internalisation and combination are the four mechanisms according to Nonaka (1994) through which knowledge gets created at the individual level, which is the realm where knowledge creation can occur. Exchange between individuals through socialisation is likely to create new tacit knowledge. Interaction of members within an organisation and those outside may lead to externalisation that in turn may be able to create new explicit knowledge. Direction of knowledge creation through externalisation is aimed at the outer world to the interacting organisation. Explicit knowledge that exists in the outside world to the organisational context on the other hand may be able to be internalised by another simultaneous range of interactions by individual employees. Unattached knowledge creation where explicit formats are used to create further explicit knowledge is part of a process of combination where other processes may be subsumed. The distinctive aspect of Nonaka's (1994) framework is that knowledge is unlikely to exist among employees within an organisation meaning the same thing to everybody. Every individual employee would have slightly different understanding of institutional knowledge.

Spender (1996, 1998) differs from Nonaka (1994) in highlighting a difference between individual and social knowledge. According to Spender's (1998) framework there exists a contrast and likely interaction between an individual's understanding of knowledge, which is possessed and the collective knowledge on which explicit knowledge is actually built upon. Unlike Nonaka (1994), Spender (1998) has distinguished between what constitutes individual explicit knowledge and what defines social or organisational knowledge. Again Spender (1998) has gone on to say that there may be some kind of an agreement among individuals within an organisation as to what constitutes explicit organisational knowledge. Conscious, automatic, objectified and collective are the different formats according to Spender (1996) through which knowledge may be created within an organisation. Whereas conscious and automatic are individual explicit and implicit mechanisms, objectified and collective refer to social means of acquiring knowledge according to Spender's (1996) framework. Social knowledge as a collective within an organisation is highly beneficial to ensure strategic advantages in comparison to other competitors within the same sector. Spender's argument (1998) lends support to the notion that core competencies of an organisation are crucial in bolstering strategic advantages in an aggressively competitive business environment. A different line of literature on 'communities of practice' (cf. Brown and Duguid 1991) seems to have been emerging that is quite similar to Spender's (1998) framework where social understanding of knowledge plays a vital role.

Blackler (1995) has argued that there are in fact, five types of knowledge in embrained, embodied, encultured, embedded and encoded knowledge that may exist within an organisation. In Blackler (1995) framework, types of knowledge creation are either dependent on individual or collective effort. Embrained knowledge that is dependent on individual cognitive abilities and conceptual skills is similar to Nonaka's (1994) notion of tacit knowledge on the other hand, encultured knowledge is dependent on the processes of achieving a shared understanding through the development of organisational cultures is similar to Spender's notion of collective knowledge. Embedded knowledge is quite similar to what is commonly understood as standard operating procedures in that they are synonymous and resident within systemic rules of an organisation. For instance, routines may be clearly publicised and made explicit through formal policies and procedures within organisations or informally tacit, in the minds of all workers. Essentially therefore, Blackler (1995) has tried to suggest a framework where particular kinds of knowledge dominate in particular kinds of organisations. Such a framework is both quite different from both Nonaka (1994) and Spender's (1996) frameworks as well as being nearer approximations of the real world. Traditional bureaucratised organisations,

according to Blackler (1995) will rely on embedded knowledge found in rules and routines, on the other hand, more innovative and dynamic organisations would rely more on encultured knowledge if they are communication intensive or embrained knowledge if they are dependent on knowledge, skills and expertise of individual employees. Blackler's (1995) framework is therefore more meaningful in the context of the present paper as it clearly suggests that the type of knowledge that dominates the firm's activities ought to determine the way in which it is managed.

Beyond the frameworks mentioned above is the realm of the processual perspective of knowledge that has simultaneously become more meaningful as management of knowledge moves away from first principles within organisations. A primary distinguishing feature of the processual perspective stems from its emphasis on processes and practices of knowing, in order to understand what knowledge is. Process perspectives are derived through the appreciation of knowledge being socially constructed rather than being a static asset that is resident in people and organisations. Among the frameworks mentioned above, Spender (1996) is one that has recognised the dynamic issues of knowledge creation. It tries to avoid the issue of absolute knowledge or notion of truth and in its place reinforces the importance of context where practice determines knowledge rather than trying to orient understanding through a static or objective mindset. Intrinsic to the process perspective is the fact that the process of knowing is as important as knowledge itself. The link between the two is very strong.

In more recent times the processual perspective has been qualified by contributions from a variety of scholars including Cook and Brown (1999) and Newell et al. (2002) where dimensions that were hitherto taken for granted have been questioned. For instance, Cook and Brown (1999) argue that not everything that people do are based on what they know rather it is both part of group action as well as part of the knowing process. Newell et al. (2002) argue that a substantial part of an individual's knowledge will always remain tacit. Such tacit knowledge exists as conscious experience and behaviour rooted in processes of knowing and action. Table 1 below has been used to delineate the principal dimensions of the two perspectives.

Characteristic	Structural	Processual
Nature	Discrete cognitive entity that people and organisations possess	Rooted in practice, action and social relationships
Format	Objective and static	Dynamic where process of knowing is as important as knowledge
Level	Individual and collective level	Originates through the interplay between individual and the collective levels
Activity relationship	Different types of knowledge dominates in different types of organisations	Organisations are characterised by different types of knowledge and practices of knowing
Origin	Created via specific social processes	Knowing occurs via social processes

Source: Adapted from Newell et al. (2002)

Table 1: Comparison of structural and processual approaches to classify knowledge

It is clear from table 1 above that knowledge creation may be understood through a range of dimensions like nature, format, level, activity relationship and origin. These characteristics enable us to appreciate the basic distinction between the static and the dynamic formats of knowledge and how these might be captured within organisations. At a time when organisations are gradually becoming more knowledge intensive, i.e. every worker is becoming a knowledge worker as well as the fact that many organisations need to diminish costs it is likely that there would be a transition of traditional bureaucratic firms to become more innovative and modern in the way that they use knowledge. Whilst application of rules, regulations and procedures might continue to be the principal characteristic of certain traditional organisations, media companies like Dresimi will certainly be driven by more

innovative and modern ways of working where knowledge is resident in the skills and expertise of the employees.

Given the fact that Blackler's (1995) framework is the most amenable to variable formats of knowledge use, it was felt that it would be the most appropriate in using it to classify work within Dresimi. Although a substantial amount of research has been (cf. Blackler 1995, Tsoukas 1996, Lam 1997, Nonaka 2001) directed to the development of ways and means by which tacit knowledge can be made explicit yet it is clear from studies that context would need to play an important role in determining the distinction and then establishing a connection between the tacit and the explicit. Essentially there are two complementary issues for a business's quest to lead within a particular industrial sector. The first concerns the creation of knowledge and the second is to do with the sharing and transfer of it. For instance, Blackler (1995) argues that knowledge may be found to exist in various different formats. A table below has been used to enunciate different formats that Blackler (1995) identified, corresponding forms as discerned within Dresimi have also been shown alongside.

Types of knowledge	Generic format	As obtained within Dresimi
Embrained	Individual conceptual skills or cognitive abilities	The skill of graphic design, content management, creation of pitches, etc.
Embodied	Demonstrated through certain bodily and/or technical skills	The role of skilled coders and technical specialists
Encultured	Refers to the development of shared understanding at different levels like groups, organisations and societies	Understanding developed within specialist task forces focussing on individual domains like email campaigns, organisational procedure
Embedded	Taken-for-granted routines and interactions that could enable shared action for a team	Activities like developing web pages that may have acquired a certain uniqueness within Dresimi as being dependent on templates and style-sheets
Encoded	Explicit knowledge as representations available in books, computer databases, or websites	The company website of Dresimi, databases within Dresimi that contain project information

Source: Adapted from Walsham (2001)

Table 2: Categories of knowledge

It is clear from table 2 above that there may be several gradations through which types of knowledge may be categorised. Some of these may theoretically be quite clear yet in practical terms may be found to have overlaps. For instance, it might involve a significant amount of complexity to distinguish between embrained, encultured and embedded knowledge. In general, it is commonplace to come across situations where cognitive abilities developed by individuals have actually contributed to the type of shared understanding that might be prevalent within groups and organisations. For instance, in the case of Dresimi, a new coder working on a project on a repeat account may only attain knowledge of how to code for that client through shared understanding with the project team.

A knowledge store unlike other physical stores is primarily different in that it is directed to delineate context rather than maintain unconnected pieces of data. Whilst a physical library may contain books, journals, CDs and manuals, a knowledge store would require the embodiment of experiences and methods used. It is clear therefore that developing a physical library can be a simple objective where after infrastructure for the holding of material is created, inventory of archived material like books, journals and the like can easily be used to populate it. To some extent such a physical repository might provide a starting point to firstly take stock and arrange existent inventory and secondly to promote the idea that circulation of relevant material might be feasible when employees see a visible artefact where information sources are available. In the context of the present paper it must be pointed out that both a

physical as well as an intranet-based repository was planned and developed. Through such a phased approach it was possible to monitor uptake and popularity of the initiative within Dresimi.

3 FIELD WORK AND BASIS OF RESEARCH:

The present paper is based on the experiences of both authors involved in a 24-month long teaching company project to develop an 'interactive knowledge warehouse', funded by the Department of Trade and Industry (dti) of the British government. Whilst the first author was involved with ensuring the overall academic input to the project, the second author worked as the Dresimi based teaching company associate. The latter was directly responsible for the operational growth of the artefact. The entire development spanned over two years, i.e., between November 2001 and November 2003. A series of phases with consequent assessments at the end of each phase was the normative structure through which the teaching company scheme was driven.

An unintended development at the start of the project that turned out to be an advantage was the fact that Dresimi was involved in restructuring its business and base it more on individual performance enhancement and expertise. Whereas the initial idea was to have different expert groups coming together on building parts of the knowledge warehouse, with every member of the organisation being treated as an expert in a particular area, there was a different approach that needed to be used to understand firstly implications of sharing knowledge and secondly promoting usage of the knowledge warehouse. Initially the idea was to have reliance on expert groups involved in the development of knowledge in specific areas, like email marketing, online advertising, mobile promotions, laws and regulations, customer relationship management, and research. Task forces in an attempt to bolster development, dissemination and targeting of particular business interests within Dresimi specifically targeted individual domains of expertise. The second envisaged advantage that influenced design of clusters was the interaction between different task forces to ensure that employees shared knowledge gained through experiences over time.

Although initially, there was a drive to develop the artefact using latest software that was available yet it must be said that little was clear in the minds of both the managers of Dresimi as well as the academic supervisor in the first author for the present paper. It was clear that Dresimi felt that they needed some kind of a tool through which productivity of the company could be enhanced. Also there was an implicit belief that through the project of the interactive knowledge warehouse, it might be possible to use unused documents to the advantage of Dresimi. The academic supervisor, in the first author for the present paper, at that stage had felt that what would be required is some kind of a rather flexible database that would both allow people to enter data as well as behaviour of objects was going to be sufficient to cater to the range of requirements of Dresimi.

4 TRANSFORMATION OF DATA TO KNOWLEDGE WAREHOUSE:

Businesses like those based in the insurance industry, medical, legal and engineering professions are increasingly dependent on retrospective data, warehoused in different formats. Checking of records, providing quotations for prospective work, reviewing histories of individual patients and clients are the type of operational roles that data warehousing has been playing within dynamic business situations. Such a role of provision of information is certainly a crucial one, considering the short time spans within which decisions need to be arrived at. In the case of Dresimi, we were concerned about the fact that strategic advantage involved consideration of both the past and contemporary data. Strategic direction is usually hard to discern in domains where mainly operational data and general information are being considered. Firstly data needs to be contextualised and secondly, expectations from future prospects would need to be weighed against current business standing within the concerned sector/industry. Both of these functions are difficult to be carried out using traditional data warehousing approaches. Therefore, a dimension of the long term would need to be incorporated to

arrive at strategic targets considering past experiences. In the context of Dresimi, it was felt that this dimension could be fulfilled by the effective use of knowledge.

In simple terms, there appeared to be three formats of knowledge that were common within Dresimi. Firstly there was knowledge that all employees within it as well as some who were outside it were aware of. Such knowledge could be referred to as explicit knowledge. Secondly, it was common within an innovative and modern organisation like Dresimi to have employees who were involved with creative work to be able to develop intuitive as well as professional knowledge insights into work processes that they were responsible for. This category of knowledge was shared at the discretion of the individual member within the organisation. This was the most common type of tacit knowledge that came to occupy an important position in the final choice of the way the work on the interactive knowledge warehouse project developed over time. Thirdly, workflows within the organisation over time generated an understanding of appropriateness within the media industry in general and Dresimi in particular. Such knowledge was most commonly the type of embodied and embedded knowledge that were evident within Dresimi.

In an endeavour to optimise outputs of its employees, Dresimi had begun around late 2001, to reorganise it's work force of about 30 employees into specialist clusters concentrating on individual areas to increase chances of success at bidding for new projects. These clusters as briefly touched upon earlier, were also known as task forces. Primarily Dresimi had a couple of dimensions in mind when designing these task forces. The first was the delineation of individual domains of expertise as in task forces created to specifically look into the development, dissemination and targeting of particular business interests. The second dimension that influenced design of clusters was the interaction between these different task forces to ensure that employees shared knowledge gained through experiences over time. A diagrammatic representation (figure 1) of the envisaged infrastructure at this stage might be useful to appreciate expectations from the knowledge warehouse. It must be borne in mind here that individuals could be members of more than one task force and that interactivity between task forces was quite vital in the overall scheme of things within Dresimi.

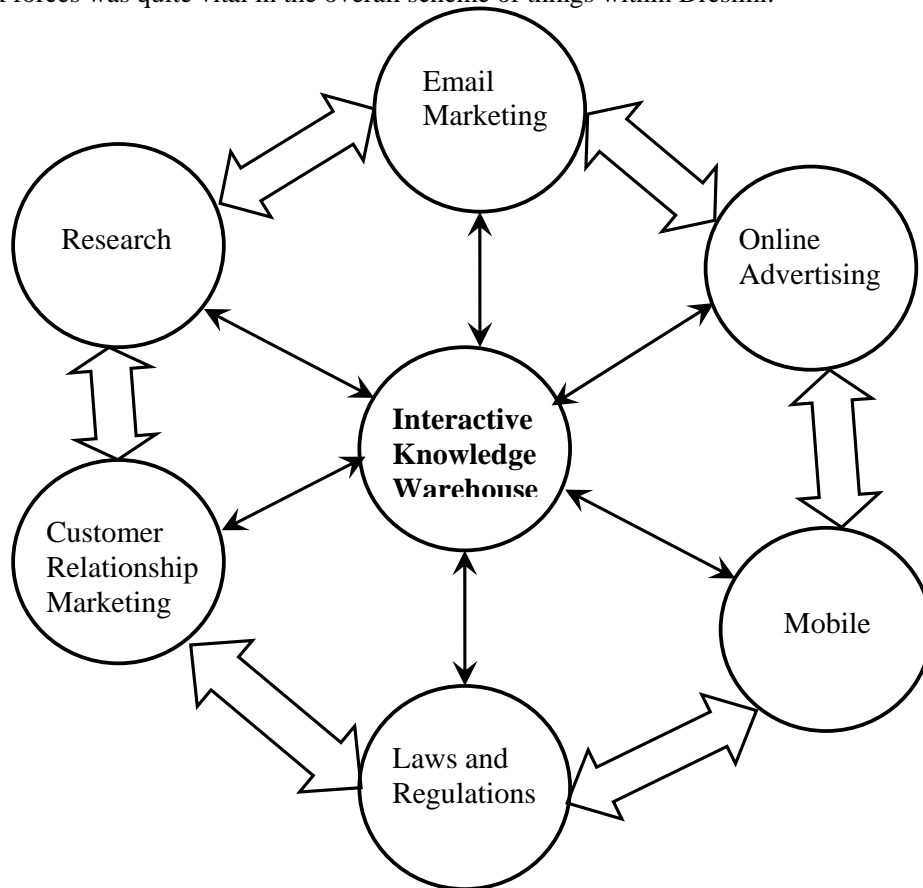


Figure 1: Initial model of knowledge warehouse

The diagram in figure 1 above illustrates the initial schema on which the knowledge model within Dresimi was founded. It is clear from the diagram in figure 1 that both the initial objectives of interactivity between task forces on different topics, viz. Research, Email marketing, Online advertising, Mobile, Laws and Regulations, and CRM as well as developing focused repositories on individual specialist areas would have been feasible within the above model. The circle in the centre, showing interactive knowledge warehouse actually includes the different categories under which knowledge was being stored. The six categories under which knowledge was being captured came about through filtering and putting together more than a hundred topics under which data was held within Dresimi. The six categories shown in figure 1 were not exhaustive but were capable of demonstrating a basic skeletal structure through which the important issue of categorisation was first approached.

The six topic areas mentioned in figure 1 would contain different artefacts like films, documents, pitches, video clips, discussion list messages, email messages from strategic players and the like. In the initial stages the plan was to develop a knowledge warehouse that would indicate location of the artefact to be found within Dresimi. The knowledge warehouse is now fully operational and is hosted on the intranet facility of Dresimi. With growth in usage of the warehouse it is planned that all artefacts now currently displayed would eventually be directly accessible.

Ever since the beginning of the research project it was gradually becoming clear that a link would have to be established between the work of the employees at Dresimi and the use of the knowledge available within the intended warehouse. Otherwise, employees would find it mainly bureaucratic to input knowledge that they have had access to as a professional. To deal with this issue a series of feedback sessions were organised that reflected what were expected in that employees wanted to use the system where they could find something that was going to be useful to carry out their current activities. In other words, to successfully build the knowledge warehouse, with the voluntary surrender of knowledge from employees, the latter would need to trust the system. Research in inter-organisational information systems carried out by Kumar et al. (1998) indicates that some demonstrable benefit needs to accrue for the employee to be able to trust the system. It thus became important to establish how individual employees of Dresimi could benefit from use of the knowledge warehouse to be willing to voluntarily surrender knowledge that may form a corporate resource.

5 FLEXIBILITY OF KNOWLEDGE WAREHOUSE:

At a stage when the development of the knowledge warehouse had reached a point where a design was expected, various formats were being considered. Sufficient representation of the different states in which knowledge could exist was one issue that needed to be seriously considered. In other words, for the knowledge warehouse to be useful, both the detail as well as interactivity of knowledge indicators needed to be made available to the employees of Dresimi. Admittedly, the detail would also need to be modelled. Here again, emergence of knowledge from that held within the organisation was something that needed to encompass behaviour and states of existence to sufficiently enable interactivity. In this context, the dynamic of change over time, flexibility and extensibility were all aspects that such modelling would need to sufficiently capture and represent.

Among the options that were available, entity relationship modelling was given significant consideration. However, several factors deterred adoption of the entity relationship model. The static nature of classifying data in layers, meant that alterations at a later stage would be inconvenient. Representation of many to many relationships with numerous derived entities was also another worry for the entity model. Use of primary and secondary keys to ensure uniqueness was also found to be unwieldy within a complex real time scenario. A simultaneous issue of knowledge existence in different states was also important to be captured within the model. Representation of subtle elements like formats of existence and more importantly behaviour was problematic within the entity model. Given these concerns of dynamism and flexibility as well as the need for adapting to web based infrastructure within Dresimi, the object oriented model was found to be most appropriate for further

development of the knowledge warehouse. To illustrate the application of the object model, a cross section of sample data is being presented in the following table 3.

Table 3 indicates the advantages of using the object model through which both issues of generalisation as well as specification are adequately captured. The class and super class design at one end of the model was capable of accommodating flexibility of representing task force/expertise focus within Dresimi. The use of the class structure also provided the advantages of extending the model to expand or collapse at different levels, depending on the type of knowledge that got integrated into the warehouse. Specificity of individual items within the model shown in table 3 may have been captured through the use of objects and identifiers. Finally both representations of behaviour as well as states of existence made the object model eminently appropriate within the context of Dresimi's knowledge warehouse needs.

Superclass	Class	6 OBJECT	Identifier	Behaviour	States
Email Marketing	Email message	Sample	Period stamp	Read, send, receive, forward	Hard copy, email, rich text format
	Electronic Newsletter	www.mad.co.uk	Date of publication	Read, send, receive, discuss, copy	Email, hard copy, website
	Resource	Partner	Xpedite	Contact, receive, send, manage, deliver content, negotiate	Email, hard copy, word document, viral, website, presentation
			Digital impact	Contact, receive, send, manage, deliver content, negotiate	Email, hard copy, word document

Source: Adapted from research data collected within Dresimi

Table 3: Cross section of the object model

the object model was chosen and demonstrated to be robust enough to project management staff at Dresimi it was clear that such a model could be the foundation of the warehouse. Another simultaneous argument that informed choice was the suitability of the object model to adapt to web based developments. Despite the suitability of the object model as shown in table 3 above, extensive testing of modelling was not possible as time needed to be allocated for storyboarding the other front end of the application.

7 KNOWLEDGE FRAMEWORKS REVISITED:

Bearing in mind the discussion earlier in the paper on frameworks of knowledge representation, it would be useful to compare experiences of authors in actually deriving the model that eventually was implemented within Dresimi. Blackler's (1995) framework was the one that came nearest to estimating what happened during implementation of the knowledge warehouse. In a commercial environment somehow a combination of factors tends to decide whether a framework is going to be the most appropriate one. Mere flexibility or superior design is not reason enough for it's use within development of facilities.

When the software engineers at Dresimi were trying out interface development, a few options were closely examined. Initially the plan was to buy off the shelf knowledge management software that could fit into Dresimi without any alterations. Prohibitive cost and limited flexibility meant that such options could not be taken forward. Almost in tandem, there was Microsoft's Sharepoint that was being tested within Dresimi as software that could be used for maintaining and administering its intranet infrastructure. After prolonged testing it was found to be unsuitable. However, the engineering team retained the basic design of Sharepoint within the solution that was being envisaged at that time. A little later, the engineering team within Dresimi was working on the development of the intranet development of major multinational computer hardware manufacturer in the USA. The type of the requirements that this particular multinational had and the retained frame of Sharepoint enabled the team to develop a unique design that got to be implemented as the final prototype for the knowledge warehouse. So in a way the object-oriented design was what got implemented but in a more unconscious way.

From the perspective of the design of the knowledge warehouse, after considering a few alternatives like prevalent designs of the library storage systems, the authors recommended the use of a system that would more closely tie up with the central gaps that existed in Dresimi's areas of development and growth that was planned. The authors called these areas of improvement as knowledge gaps. There were six such gap areas that could have numerous sub-categories. These sub-categories under the 'knowledge gaps' formed what came to be known as knowledge spaces. Whilst knowledge gaps were restricted the six areas spaces could be infinitely extended. The intersection of gaps and spaces produced a factual piece of retrievable information that the users at Dresimi could use.

The diagram in figure 2 below captures six areas that formed the principal knowledge gaps on which the entire knowledge warehouse now works within Dresimi.

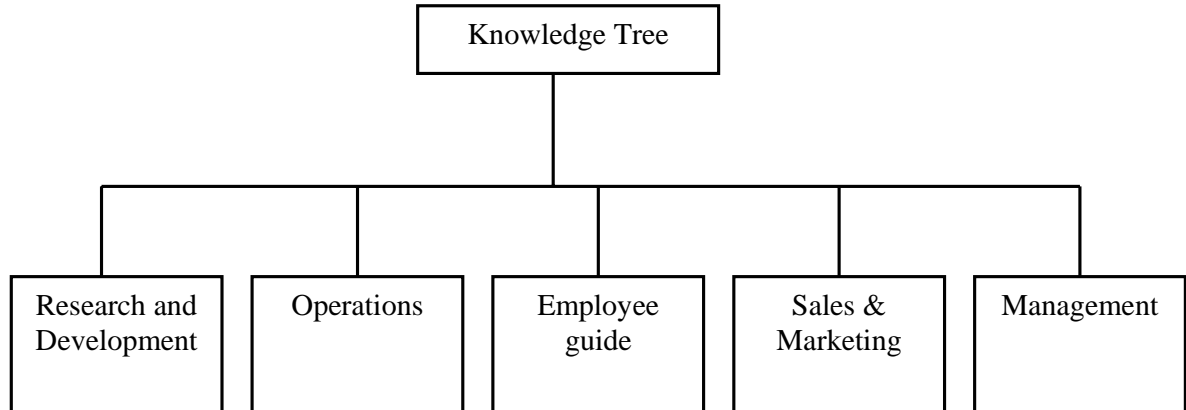


Figure 2: Structure of current knowledge

The diagram in figure 2 clearly demonstrates how the new structure has become competent to handle different kinds of knowledge that may be saved within Dresimi. Obviously the application has very recently been inaugurated within Dresimi and continued support of the management team as well as the greater build up of documents and other material within it is going to provide an avenue to see how the knowledge warehouse can actually make a difference to the competitive advantage of Dresimi.

8 CONCLUSION:

The present paper set out to review both the type of theories that have become commonly used to understand knowledge management and then look at the type of experiences that the authors had in developing a knowledge warehouse within a media company. The paper discovered various somewhat inevitable aspects that have ensured that a large part of knowledge management remains philosophical and theoretical. The present paper found that Blackler's (1995) categorisation of knowledge probably comes nearest to anything that is widely available in the modern organisation. In so far as the experiences of the authors in implementing a knowledge management system was concerned a range of different skills eventually enabled production of the artefact that was being aimed for.

When the project had begun, cultural change of workers in terms of knowledge sharing practices was a stated objective. This remains a second order objective and there remains a long way to go before anything significant can be said to have been achieved by the project. In so far as the artefact that was produced it is clear that no straight line, or linear path could have led the development that in the end the project team did. So theories of knowledge management enable a different level of abstraction that has little to do with the world of practice. In the end a combination of traditional skills and understanding is actually what produces something that may be used by a dynamic organisation like Dresimi.

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