IMPLICATIONS AND EFFECTIVENESS OF INFORMATION MANAGEMENT WHILE RESTRUCTURING AN ORGANISATION

By

MICHELLE GOBEY

Dissertation submitted in fulfilment of the requirements for the degree

of Magister Artium (Information Science)

in the

FACULTY OF HUMANITIES

at the

UNIVERSITY OF JOHANNESBURG

STUDY LEADER: Professor A.S.A. du Toit

May 2006

<u>Abstract</u>

This research paper undertakes to outline factors of Information Management that organisations should consider when attempting a restructuring process. Conversely, valuable information and knowledge are often mislaid, overlooked or discarded to the eventual detriment of an organisation during the processes of downsizing, rightsizing, restructuring, reorganisation, reengineering, transformation or change.

In the global economy organisations are always striving to keep ahead of competition and ultimately to improve their net profit. Information is at the very core of any organisation, its ads value, structure and power to an organisation. Information Management assists with the locating, storing and use of corporate information. A means of controlling and structuring corporate information is via the use of the Information Management elements.

A case study using an organisation that is in the process of change and transformation was performed. Potential loss of knowledge and information was identified and examined. The organisation's implementation of an information portal was highlighted as an effective way to minimise the loss of knowledge and information during the period of change.

Contents

List of figures

List of tables

Chapter 1 :   Background/Introduction

Information management as a science is an essential tool to assess and monitor the fundamentals of day to day running throughout all divisions within an organisation. Organisations, be they global or based in South Africa are continuously restructuring, resizing, transforming and changing to keep up momentum in the environment of the ever growing global pressure, and to make the underlying economic standpoint of an organisation more cost effective and more profitable. This research will outline factors that organisations should consider with regard to Information Management when undertaking a restructuring process. Industries have life cycles that play a major role in the organisation's life cycle and running concurrent to these factors is that Information Management also has a life cycle, which regularly need to be managed effectively. According to Proctor (2001:197) "*Industries have life cycles during which their structure can change considerably.*" This then impacts on the very core of an organisation, which is its ability to function via the use of its corporate information.

Griffiths *et al* (2001:57) mentions that it is necessary for "*…open communication systems for the rapid capture, transfer and management of information.*" These elements are fundamental in a restructuring or resizing situation. Turn-around strategies often focus on core business, the centralisation of support functions and decision-making without keeping the value of current/past information and knowledge held by the organisation and its employees. The impact of information loss, misplacement, and poorly structured information processes can ultimately cost the organisation not only in monetary terms but also in time wastage, staff turnover and staff well-being.

The reality of information mismanagement can alter the production of any newly restructured organisation in a harmful manner. Some sort of action strategy needs to be put in place by management to make sure that organisational information is not misplaced, lost or destroyed whilst the organisation is undertaking layoffs, terminations, early retirements and voluntary resignations or retrenchments. A point that should be held high by management in South African public bodies is that according to Fanaroff (2003:53) "*The legislation, which has been passed in South Africa to give effect to the Constitutional clauses on access to information…They give workers and unions the right*

to ask for a great deal of information and to challenge the administrative decisions of public bodies…" Organisations need to keep their information base efficient and definite.

To further the organisation's outputs, and keep the organisational structures functional, Information Management fundamentals need to be installed within organisations globally. Dynamic processes that are located within the field of Information Management exist within organisations; these processes tend to facilitate the smooth running of organisations and they impact on investment opportunities. This research will attempt to undertake an exploration of the implications and effectiveness of Information Management while an organisation is either in the process of restructuring or resizing.

According to Strassmann (1999:2), "*We must change the way productivity is defined and calculated. It is my intention to overcome the defects of the measures based on simple ratios. We will therefore concentrate on a composite measure of productivity that reflects the decisive influence of Information Management along with all of the other input factors. With capital constituting a significantly smaller influence than information, what matters now is the productivity of Information Management.*"   Productivity defines were an organisation fits into the global economic sphere. Information Management as a management process should be in a position to assist in achieving high productivity scales, this is going to play an important role in a possible restructuring process.

Organisations within the new economy need to be ahead of their competition to persist in the global market environment. In order to achieve this it is required that an organisation has predetermined goals, strategies and objectives. Management of information can enhance these elements thereby having a positive and productive impact on the profit margins of an organisation.

1.1.   Glossary of key words and concepts

1.1.1. Information Management

The terms 'Information' and 'Management' first need to be explored before adapting it to Information Management. According to Abram (1997:20), "*Information is a tangible representation of data or knowledge within a specific context – usually in some end-user oriented product like a book, magazine article, or study.*" Farradane (1980:77) suggests the following "*'Information' is defined as a physical surrogate of*

knowledge (e.g. Language) used for communication."…"*We know a great deal about the handling of information in storage and retrieval systems, but the connections with knowledge are equally important for the development of a science of 'Information', which is what Information Science should be.*" According to Drucker (1998:46), "*Information is data endowed with relevance and purpose. Converting data into information this requires knowledge. And knowledge, by definition, is specialized.*" As maintained by Blue (1998:39), "*Information is about taking data and putting it into a meaningful pattern. Knowledge is the ability to use the information.*"

According to Hellriegel et al (1999:8) management is defined as *"Planning, organizing, leading, and controlling the people working in an organisation and the ongoing set of tasks and activities they perform."* The author also found a very similar definition in Longenecker et al (2000:681) where the definition also states that management functions are the activities of planning, leading, organising and controlling. These functions can be seen in every division with in an organisation, they set a standard to which the goals and strategies can be attained.

Lessing (2000:2) defines Information Management as "… *the management of information as a resource of an enterprise by applying sound management principles, including planning, organising, development and control over data and information, integrating people, hardware, software and systems, converting data into information, and utilising the information in decision making.*"

The question then needs to be asked is, what is the meaning of the term 'Information Management'? The use of information in a management environment is necessary for the organisation to survive and become a competitive force, as the use of the information will determine how successful the organisation will be. Information Management one can say has dimensions and elements that when placed together form a whole. Information Management consists out of utilizing and controlling the dynamic Information Life Cycle within the organisation. To carry out this structural capital, information technology must be provided and maintained. Human Capital or information and knowledge (know-how) that the employees hold, needs to be adapted and structured so that it can be used to the benefit of the organisation. Human and Structural capital when combined equal Intellectual capital which forms part of the organisations assets.

Information Mangement embraces the use of tools to accomplish to support the management function. These 'tools' consist of:

Information Architecture or flow

Information Assets

Power transparency

Ethics

Information Audits

Information Policy

Management systems

Change elements

Utilization as future scenarios

Forecasting tool

Value add

Environmental scanning

Power competitive advantage

Information Mapping

Information Strategy

Information Real-time

1.1.2. Organisation restructuring

The term 'organisational restructuring' includes a wide area of elements as specified by the following sourced definitions. As indicated by Wikipedia (2006:1) "*Restructuring is the corporate management term for the act of partially dismantling and reorganizing a company for the purpose of making it more efficient and therefore more profitable. It generally involves selling off portions of the company and making severe staff reductions.*" Salient points taken from this definition are that the corporate management use restructuring for the purpose of organisational efficiency and in turn to make the organisation more profitable.

In accordance with Dictionary.com (2006 Restructuring:1-3), the following definitions have been listed:

- *"…To make a basic change in (an organization or system, for example)."*
- *" To alter the structure of something."*

- *"Restructuring. A significant modification made to the debt, operations or structure of a company…"*
- *"Restructuring. A significant rearrangement of a firm's assets and/or liabilities. A firm's restructuring may include discontinuing a line of business, closing several plants, and making extensive employee cutbacks. A restructuring generally entails a one-time charge against earnings."*
- *"Restructuring. The transformation from one representation form to another at the same relative abstraction level, while preserving the subject system's external behaviour (functionality and semantics)."*

Significant points extracted from the above set of definitions are illustrated as follows: Restructuring constitutes a basic change, structure alteration, modifications made to debt, discontinuing a line of business, the closing of certain areas of operation, employee cutbacks, the rearrangement of an organisation's assets and/or liabilities, transformation from one form to another.

1.1.3. Knowledge Management

There are numerous definitions of Knowledge Management. A couple of ideas have been combined to form a comprehensive definition. Opening with a statement that Gates (1999:266) made about Knowledge Management, "*It starts with business objectives and processes and a recognition of the need to share information.*" Knowledge management encompasses the processes of locating, organising and storing of both tacit and explicit knowledge. This process also handles the organisation's knowledge assets. The whole idea of sharing knowledge assists the organisation in a collaborative manner, which enables the organisation as a whole to make meaningful decisions in the market place. Knowledge Management should be handled or managed by a division, which interacts with all the other divisions within an organisation. Knowledge management must act as Littlejohn (1996:35), suggests, "*Knowledge therefore arises not out of discovery but from interaction between knower and known."* The management of this interaction is the important issue.

1.1.4. Information Life-Cycle Management / (ILM)

According to Joshi (2005:1) *"It is a new approach to managing information that comprises policies, processes, practices, and tools use to align the business value of information with the most appropriate and cost-effective infrastructure from the time*

information is created through its final disposition…ILM is a strategy by which storage resources are allocated depending on the business 'value' of the data stored on them. This value changes throughout the life cycle of the data, thereby affecting the way in which resources get allocated." Information Life-Cycle Management is an important strategy, information is dynamic and the constant monitoring and aligning of information during its life cycle can value, and can influence how an organisation conducts its business and eventually can have power over the organisation's profits.

1.1.5. Competitive advantage

The ability of an organisation (or enterprise), to pioneer research, build and maintain relationship with clients and competitors. Organisations require to produce and implement groundbreaking products that supply good value to the consumer's needs and that surpass their competitor's products. All these attributes must add value to clients, suppliers and ultimately to the organisation's 'Brain pool' and bottom line.

1.1.6. Organisation downsizing

According to Griffiths et al (2001:62) *"Removing structure or resources… make it difficult for the company to deliver the same, let alone an improved, level of service performance."* Another view on the topic as illustrated by Mirabal and DeYoung (2005:2) *"Downsizing is a business strategy designed to improve the financial standing of a firm by reducing and changing the structure of the workforce in order to improve operational results…"* Organisational downsizing has been revealed in both of the definitions as removing or changing some sort of structure. However two different results have been revealed. One that downsizing is designed to improve the organisation standing and the other very negative that organisations cannot deliver the same level of service performance. This difference will be examined.

1.1.7. Taxonomy

In line with the following two extracts the term 'taxonomy' is defined as a device or as a common language that aids an organisation in keeping commonality within business functions of an organisation. According to Factiva (2005:1), "…*a common internal corporate language*…" As maintained by TFPL Resources " *A high level device constructed to enable the user to get an understanding of, and to navigate round, the intellectual capital of the enterprise.*"

1.2. Research Problem:

What are the implications and effectiveness of Information Management while an organisation is undertaking the process of either restructuring or resizing?

Sub problems have been identified to examine the research problem:

The research problem has three main areas of concern with regards to Information Management, while an organisation is either undertaking the process of restructuring or resizing; these are exploration, effectiveness and implications

- The exploration has been covered in Chapters Two, Three and Four.
- The effectiveness of Information Management will be identified in Chapter Four.
- The implications will be an amalgamation of the literature findings and the case study.

The findings of these three areas will be the basis for the final results that will examine the research problem.

1.3. Research Methodology:

1.3.1. Literature survey

Literature surveys were conducted to define the key concepts involved in retaining information during the restructuring of an organisation. The key concepts were those pertaining to Information Management and restructuring, resizing and transforming of organisations.

The literature surveys have produced areas of fundamentals; these fundamentals have been acknowledged and grouped to allow for a varied impression on the given elements. Quotations have been used in order to aid the understanding of the key concepts.

1.3.2. Case study

An organisation that is undergoing a form of restructuring was located via networking within the sphere of organisational restructuring. Questionnaires and reply sheets were prepared. According to Bless & Higson-Smith (1995:107), "…*scheduled structured interview. This method is based on an established questionnaire – a set*

of questions with fixed wording and sequence of presentation, as well as more or less precise indications of how to answer each question … minimize the role and influence of the interviewer and to enable a more objective comparison of the results …" Employees were interviewed and the above reply sheets completed. The results were collected and conclusions were drawn.

The questionnaires have been conducted within the De Beers Group according to the organisation's function within the global market environment, and then the replies placed into a well-ordered results summary.

1.3.3. <u>The end result of the proposed research.</u>
Devise an effective information management approach that organisations can follow in order that vital information is managed in a positive manner to ensure that information is not lost during the process of restructuring or resizing. And ultimately ensure that this has a direct positive impact on the organisation's bottom line.

1.4. Outline of the study

Sub-areas that have been identified and will be addressed are as follows:
a) Chapter 2: The broad starting points, controls and approaches that organisations make use of to modify the smooth management and greater yields, in their formulation of their prototypes using models when resizing or restructuring is undertaken.
b) Chapter 3: Information Management standard adhered to as an overlay within an organisation's management process
c) Chapter 4: Effective Information Management processes in a restructuring or resizing process.
d) Chapter 5: Case study – De Beers Group.
e) Chapter 6: Conclusion and recommendations.

Chapter 2 : <u>**The broad starting points, controls and approaches that organisations make use of to modify the smooth management and greater yields, in their formulation of their prototypes using models when resizing or restructuring is undertaken**</u>

2.1.   Introduction

Keeping in context with the research problem, this chapter forms part of the exploration in the literature study. This chapter forms part of the three main areas concerning the research problem as indicated in the Introduction under point 1.2.

Organisations are by their nature very complex, the backbone of an organisation requires a precise understanding of the impact that Information and Knowledge Management can have on the outcomes of the organisation. According to Strangelove (1994:2) in 1994 the, "*The Information Age has begun in earnest now that the primary commodity in Western Capitalism is information. This economic transformation is occurring simultaneously with a structural shift in the nature of information. In the old economy, information was paper-based, centralized, and isolated. In this new economy, information is digital-based, wired (networked) and decentralized (distributed).*" It must be noted that information has taken on a new dimension in the new economy. It would seem that it is harder to control but that it has a new slant to knowledge use within an organisation, this if utilized, can be an advantage. Information and Knowledge Management as a science has now become entrenched in a large majority of organisations. However Information Management and Knowledge Management can function as a minefield when organisations are undergoing some nature of resizing or restructuring process.

2.2.   The function of Information Management within an organisation, undergoing a restructuring process.

In order to understand how Information Management would fit into an organisation, which was to embark on a restructuring process, Figure 1 places the concept into

perspective. The restructuring process feeds into and out of the General Management function as well as the organisations goals, strategies, mission and vision. As indicated by Buchanan and Gibb (1998:31), "*Business strategy will typically involve four key components: mission, objectives, policy and constraints, and planning.*" The General Mangement function feeds into the organisation's management process, which in turn feeds into the divisions.   The Information Management function infiltrates into and from the restructuring process, the General Management process and the organisation's management process. Organisation strategy can be aided with the following, as listed by Q.P.R Software (2001:4), "*The basis for the vision and the strategy is the holistic view and the information the management receives during systematic strategy work…common tools used to help structure the strategy work are; Strategy Mapping, PEST (Political, Economical, Societal, Technological) analysis, SWOT (Strengths-Weaknesses-Opportunities-Threats) analysis, Porter value chain analysis, Porter Five forces of competition analysis, BCG Matrix analysis.*"
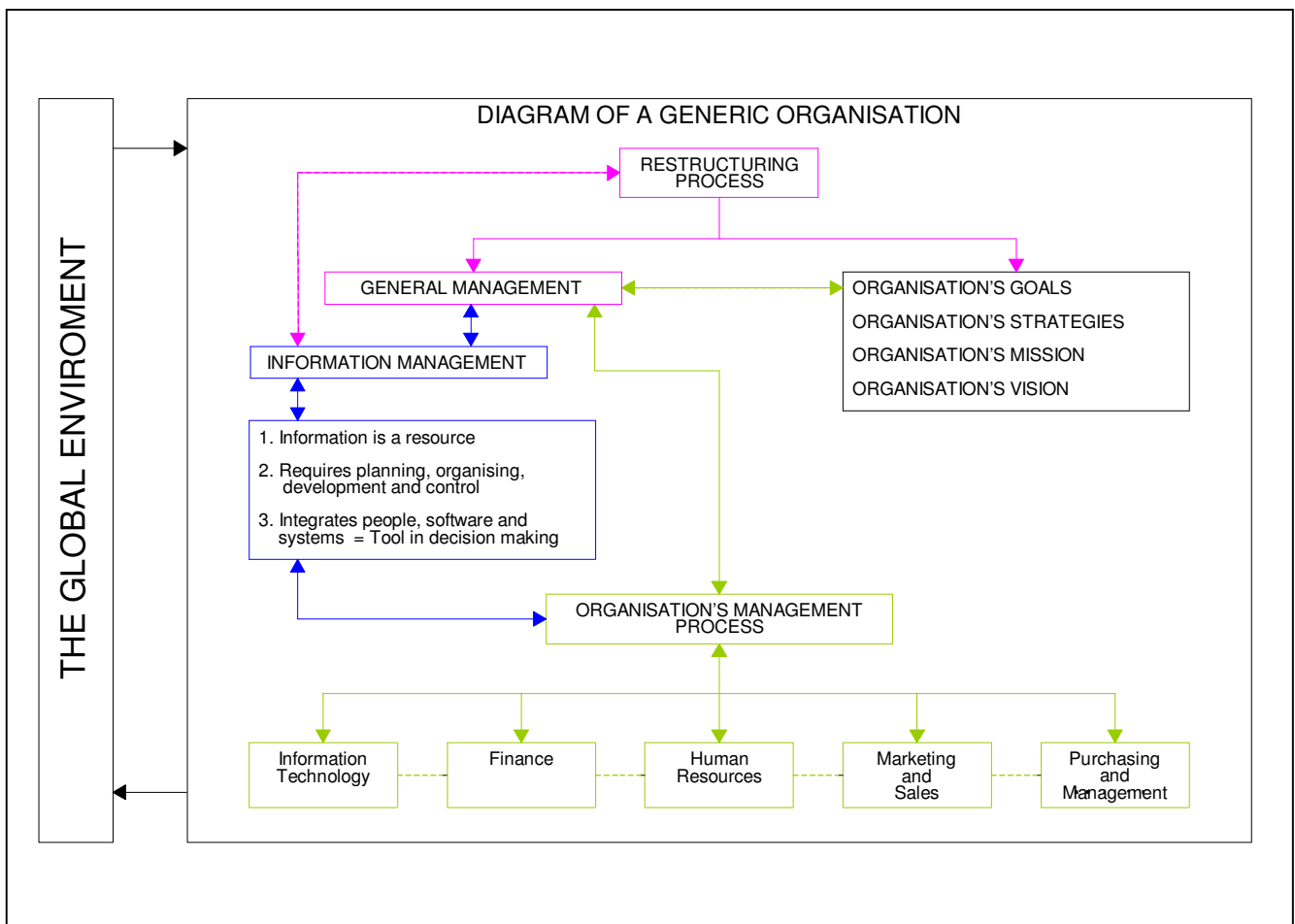
Figure 1. Information Management function location within a generic organisation that is embark on a restructuring process.

Kirk (1999:6), lists what Information Management can assist an organisation with

1. *"Information management has the potential to contribute to the achievements of organisations.*

2. *Information management has different purposes in different organisations. These purposes will be influenced by the organisation's goals as well as by its culture and its stance on information.*

3. *Information management is practised in a political, social and cultural context which shapes both what information management does and how it does it.*

4. *Information management practise is value laden and so it has an ethical dimension. The ethics of information management practice are most often implicit.*

5. *Organisational learning concepts and theory are applicable to information mangement in some organisations. Not all organisations are ready for this development, nor is it an appropriate direction for all organisations."*

Mission
• Strategic intent
• Value
• Vision

Objectives
• Purpose and contribution
• Quality and criteria
• Position and destination

Policies & Constraints
• Resources and limits
• Givens and context
• Policies and guidelines

Plans & Goals
• Projects and priorities
• Targets and goals
• Journeys
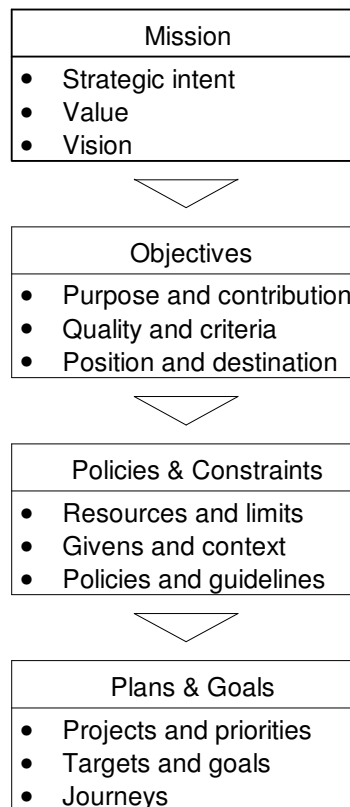
Source : Buchanan and Gibb, (1998:33)

Figure 2. Mission, opportunities, policies and plans

With reference to Figure 2, from (Buchanan and Gibb, 1998:33), to elaborate on the four key components firstly the mission, this imparts an account of what the organisation desires to be, and is freely available for competitors and clients to view. The mission has to be hardy and withstand speedily transforming market conditions while assigning the values of the organisation. As stated by Buchanan and Gibb (1998:31), "*The mission statement is developed through a series of objectives, only some of which may be placed in the public domain.*" These objectives can change as the Mission statement is reconsidered to participate within the present market situation. The objectives will also have an influence on the organisation policies; an example would be such as how it impacts on technology. Buchanan and Gibb (1998:32) continue to say that the "*Policy is likely to be articulated for both public and private consumption, whilst the constraints will be divided into those which are purely for private use and those which are not. Having established the objectives, and identified the relevant policy issues and constraints, the enterprise will then develop specific plans for the realisation of the agreed objectives.*" The organisation can then ascertain, construct, put into practice and manage their crucial processes that will be utilized to achieve foresaid strategy. Four areas, have been identified by Buchanan and Gibb (1998:32-33), "*Processes can be grouped under four main headings:*

- *Core processes…*
- *Support processes…*
- *Business network processes…*
- *Management processes…*

These processes will take inputs, transform them, and create value-added outputs which will ultimately represent the products and services offered by the enterprise…Many organisations now accept that while it is important to recognise functions (such as personnel, sales, finance, etc) they can create barriers to effective information flow and encourage managers to adopt protectionist stances…Focusing on processes therefore forces the organisation to look at how information flows and how functions must co-operate in order to achieve customer satisfaction…" The organisation should also view this as how functions should co-operate to achieve a positive bottom line. Plans and goals should be established to assist with the positioning of the structure.

2.3. Information Life Cycle.

The main purpose of the inclusion of the Information Life Cycle is to demonstrate and elaborate on how information is a vital element within an organisation. This acts as a starting reference to the research being conducted. With reference to the definition, (in the introduction point number 1.1.4) Information Life-Cycle Management / (ILM), is a management process that assists the employees to be in command of information, align the business value and to add value and use the information as a resource within the organisation.
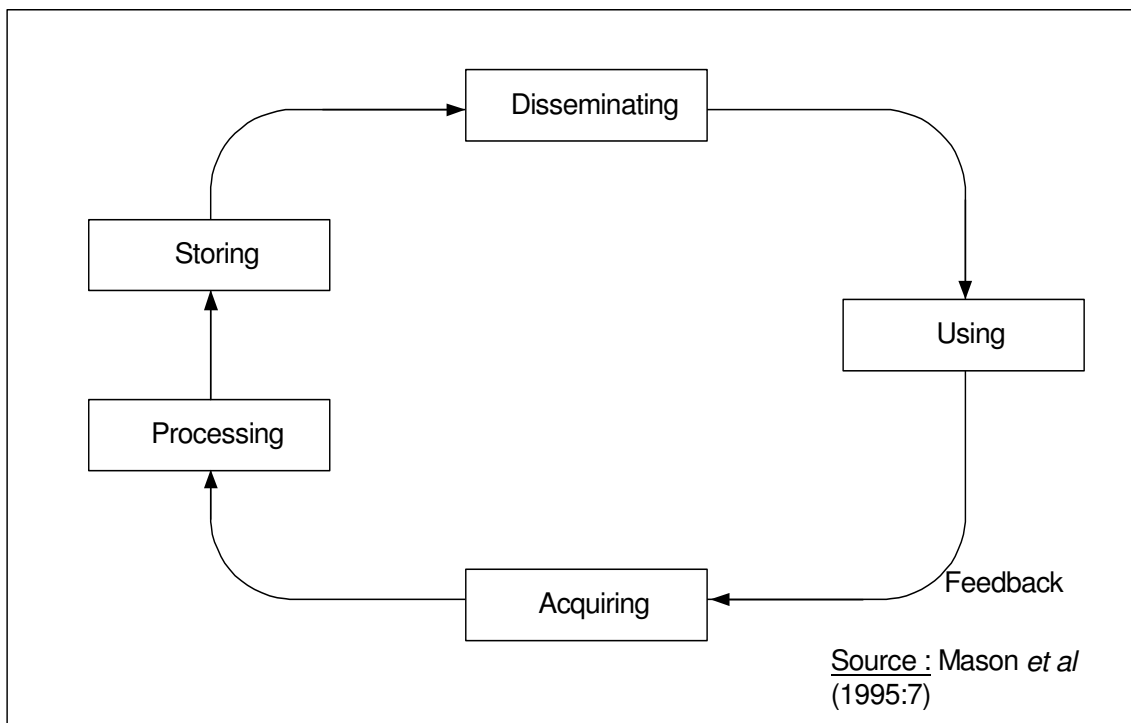
Figure 3. Information Life Cycle

The Life Cycle of Information is noteworthy and requires to be addressed in a number of ways covering the main aspects of acquiring, processing, storing, disseminating, the use and feedback as denoted by Mason *et al* (1995:7) as viewed inFigure 3. Within organisations information is acquired by a number of employees from different divisions, this acquired information needs to be processed and stored somewhere within the organisation so that it can be disseminated to the correct employees at the correct time for them to use in a productive manner.

As indicated by to the authors Ojala, Petrocelli and Wilson, the business information life cycle is clearly no longer linear but has developed into a complex web of in progress life cycles of information that have power over information this exists throughout the organisation. According to Ojala (2006:48), " *Ten years ago, the life cycle of business information was more predictable and less chaotic than it is today…Times have changed. Information no longer appears linearly.*" As indicated by Petrocelli (2006:38) "*The lifecycle of information is based on context, is affected by the lifecycles of other information, is independent of the applications that use the information, and changes along with the value of the data.*" As maintained by Wilson *et al* (2002:11), "*The life cycle will vary from organisation to organisation depending on the nature of the information, the means used to organize it, the extent of use and the controls put upon use.*"

2.4.   Structural capital

Structural capital refers to the information technology provided by the organisation. In the author's opinion information technology can be defined as a tool. It is the skills, equipment, and machinery to assist, structure and disseminate information via know-how and the formation of technology as a means of benefiting employees within business processes to add profit and value to the organisation's bottom line. Information technology is costly and has to be stretched to its full use. Technology cannot exist on its own; it requires input from the employees that use it. Information technology forms the backbone of an organisation and has to contribute to the organisation in a positive manner.

As stated by Malhotra (2001:2) the costs of information technology need to be justified in relation to information and how knowledge workers should assist with building relationships in the utilization of each other's ideas. It is concluded that the financial department should also be in the loop to provide assistance to both the knowledge and information technology departments. The cost of technology needs to be justified and must add to the organisation's bottom line. Backing Malhotra is Friedman (2001:5) who also mentions that "*The irony is that, as the barriers to acquiring information go down, the value of true knowledge and insight goes way up…*

because it is only in its effective and practical application that information becomes powerful and relevant."

As maintained by Gross *et al* (2000:70), " …*Structural capital describes many things of varying degrees of physical solidity, all produced in some fashion by human capital".* Gross points out that the following are included: a legal framework for ownership of inventions, patents, publications and motifs that are protected by trademarks and copyrights. Gross continues to say that "*It also includes the culture and reputation of a business – its brand, if you will. The signature way of a company does business, its processes and systems for getting things done, also are part of its structural capital. A company's structures include the way it deals with clients, partners and even competitors. In turn, all of these factors contribute to structural capital. While codified, structural capital is in many ways as mutable as the human capital that made it."*

2.5. Human Capital

Human Capital refers to the information and knowledge that individual's hold and the merging of this know-how within the organisation via the channels of teamwork and structural capital.

The following listed authors Bontis, Allee and Gross *et al* have each defined Human Capital as listed below. The following focus points have emerged – Human Capital is:
a. Combined knowledge, skill and innovativeness;
b. Individual capabilities, knowledge, skills and experience;
c. Problem-solving abilities of employees;
d. Ability of employees to meet the task at hand;
e. Includes organisation's values, philosophy and culture;
f.   Organisations can never be the owners of Human Capital;
g. Most significant element of any business built upon knowledge

In Bontis's view (2001:45) "*Human Capital is defined as the combined knowledge, skill, innovativeness and ability of the company's individual employees to meet the task at hand. It also includes the company's values, culture and philosophy. Human capital cannot be owned by the company."* As indicated by Allee (2000:18) Human Capital is

"… *individual capabilities, knowledge, skills, experience and problem-solving abilities that reside in people in an organization."* As stated by Gross *et al (*2000:69) "…*human capital is the most important part of a business built on knowledge.*"

2.6. Intellectual Capital

Two extracts have been selected to explain the concept of Intellectual Capital. Bontis (2001:45) describes Intellectual Capital as that which "… *Equals the sum of human and structural capital.*" Bontis (2001:44) describes the Skandia's model, as "*hidden factors of human and structural capital comprise intellectual capital when added together.*" Companies' assets are made up of value adding entities, which are used together to create a user-friendly, or 'brain powered' central core that steers the organisation.

According to Gross *et al* (2000:68), "…*people are quite literally the flesh and bones of a company – or, rather, the brains. Their collective know-how, experience and even institutional memory are what make a company possible.*" Gross *et al*, (2000:69) have visualised the components of intellectual capital as seen in Figure 4. With reference to the figure an addition should be made, and that would be 'Process', as process govern workflow and ultimately information flow. The know-how of processes is vital when organisations are contemplating or are undergoing restructuring.
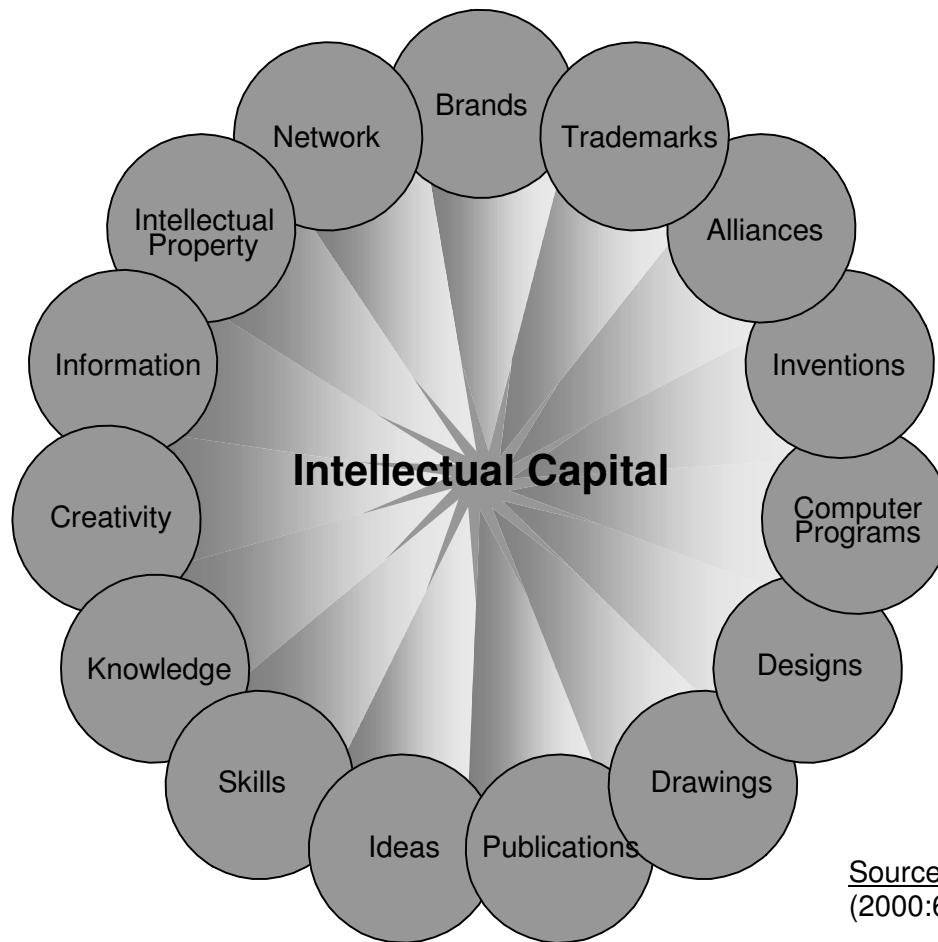
Figure 4. Components of Intellectual Capital

It is quantifiable to measure tangible products and services, however Intellectual Capital is an intangible commodity and should rather be seen in the light that it is more representable of extended knowledge and 'value add' to an organisation. Vast pools of intellect lie within the databases of an organisation and tacit experiences that the employees have had.

2.7.   Information and Knowledge management

KM   IM

- Tranformations:
  K → I, I → K
- Minimizing transformation
  costs, maximizing gains
- Supporting people in
  managing their knowledge
- K exchange/market
- K obligations
- Organizational learning

1
2
3
4
5

- Maintaining I resources to
  meet change
- Co-ordinating
- Managing I emerging from
  K exchange/market
- IS/IT to support people in
  K and I interactions and
  transformations
- Making lessons of
  experience accessible

KM & IM - the shared territory

1. K&I implications of organization's aims

2. K&I policy/strategy

3. Value added by using K&I

4. Environmental monitoring for change

5. Effects of K&I

<u>Source</u> : Orna
(2004:143)

Figure 5. The domains and shared territory of knowledge management and
information management

The domains of Knowledge Management and Information Management according to
Orna (2004:141) are reflected in Figure 5 from Orna (2004:143). As quoted by Orna,
"*The domains of KM and IM are…distinct, but mutually dependent, and there is a
significant area where they overlap.*" These areas are as follows (Orna 2004:142):
"*The territory that the two share consist of:*

- *The knowledge and information implications of what the organization thinks it's in
  business for*
- *Policy and strategy for using knowledge and information to support business
  processes*
- *The value added by using knowledge and information*

- *Monitoring change…in external and internal environments for potential effects on what knowledge and information the organization needs to create its offerings and achieve its objectives*
- *Monitoring and evaluating the effects of using knowledge and information*
- *Bringing the results of monitoring into central strategic decision making*
- *Matching the way knowledge and information are managed to the direction in which organization seeks to go, to its existing culture(s), and to desired cultural changes."*

This statement aligns information and knowledge into a position to handle a possible transformation or a restructuring process. Orna (2004:142) continues to say that "…*continuous forward movement is driven by intertwined, interacting knowledge and information, managed by the combination of human minds and technology, and powered by the energy that comes from transforming information to knowledge and knowledge to information*".
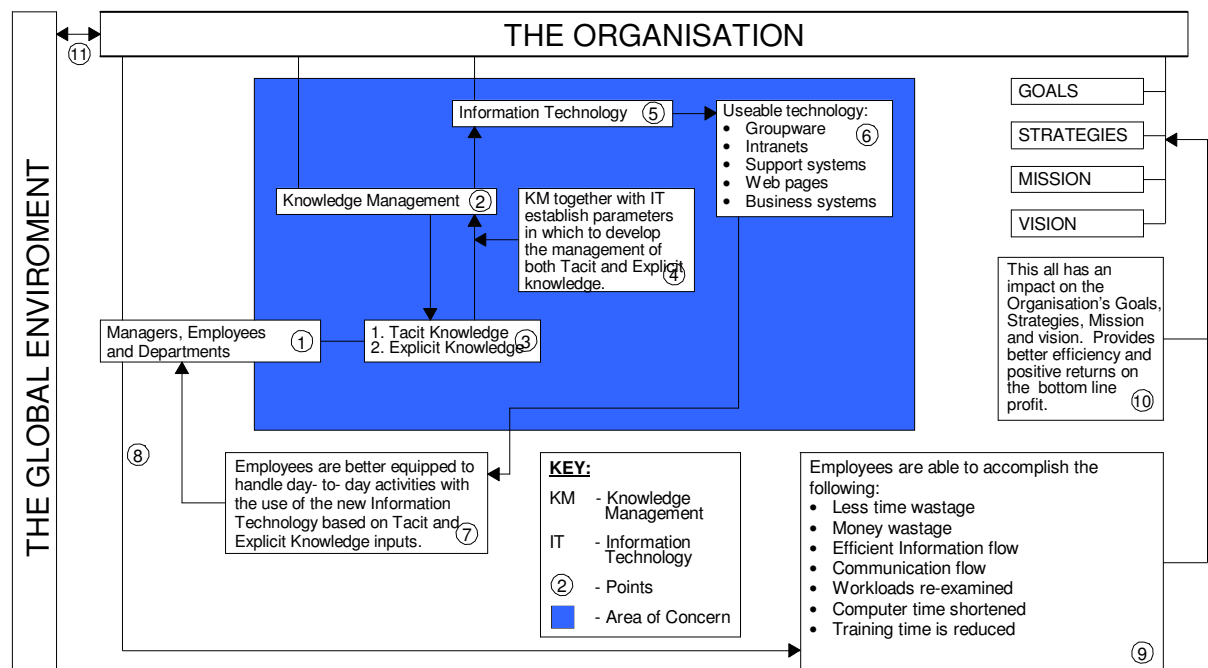
Figure 6. The relationship between Knowledge Management and Information Technology.

2.7.1.   <u>The relationship between Knowledge Management and information technology.</u>

Figure 6 represents how the relationship between Knowledge Management and information technology impacts on the organisation's goals, strategies, mission and vision. To elaborate from Figure 6, the relationship between Knowledge Management and information technology is a dynamic process that encompasses the identification of tacit and explicit knowledge within the organisation, by the knowledge experts.

The organisation as a whole can be broken down into a streamlined process that consists of; point number 1 on the Figure 6, managers, employees and departments. Point number 2 on the diagram, how knowledge management identifies what tacit and explicit knowledge lies within the organisation. Points 3 and 4 on the diagram, relate to how Knowledge Management together with information technology can establish parameters in which to develop the management of both tacit and explicit knowledge. Points 5 and 6 on the diagram, information technology specialists can then create groupware, intranets, support systems, web pages and business systems using technology. Point 7 on the diagram, relates to how employees will be better equipped to handle day-to-day activities with the use of the newly developed information technology based on the Knowledge Management findings on tacit and explicit knowledge inputs. Points 8 and 9 empower the employees to accomplish less time wastage, less money wastage, more efficient information flow, a more effective communication flow, workloads are re-examined, computer time is thus shortened and training time is reduced. Point 10 pinpoints how the process impacts on the organisation's goals, strategies, mission and visions. This in turn provides better efficiency and positive returns on the bottom line profit. A further point that must be made mention of is this process needs to take its course and the organisation as a whole needs to be open to the lessons learnt for progression in the years that lie ahead.

"*There is a powerful symbiotic relationship between knowledge management and information technology; that relationship drives increasing returns and increasing sophistication on both fronts.*" APQC, (1997:6).

Information technology is needed for managing explicit knowledge. The information technology needed for managing explicit knowledge is linked to points 4, 5 and 6 in

Figure 6. After the Knowledge Manager has identified sources of explicit knowledge by performing an Information Audit two vital questions should be asked, What does the organisation expect to achieve by acquiring this explicit knowledge? and, How will information technology be used in this process?

To add value to an organisation the technological format (these could be Intranets; the Internet; Excel spread sheets; data bases; Groupware systems and/or Business systems) in which explicit information is captured and stored will determine how well employees can retrieve and utilise the explicit knowledge. This becomes evident in value add, competitive edge, networking, team development, and aligning corporate strategies. To the author's opinion these are vital to the continuous learning within an organisation.

The Information Technology department should set up strict structure standards so that once a technological system has been 'born', from its inception everyone who will need to use it must work according to specific parameters. According to Zack (1998a:5) "*The information technology infrastructure should be a seamless "pipeline" for the flow of explicit knowledge through the 5 stages of refining process to enable, capturing knowledge; defining, storing, categorizing, indexing and linking digital objects corresponding to knowledge units; searching for ("pulling") and subscribing to ("pushing") relevant content; presenting content with sufficient flexibility to render it meaningful and applicable across multiple contexts of use*".

2.7.2.   Information Technology needed for managing tacit knowledge.

Food for thought when an employee, for whatever reason, should leave an organisation, there are three questions that should be addressed. These are:
1. What walks out along with the employee?;
2. Has this intellectual capital been shared or is it documented anywhere within the organisation?
3. Can other employees make informed decisions based on the Information Technology available?

The answer is intellectual capital or tacit knowledge which amounts to the comprehension of information documents; the location of these documents; the know-how of the information systems; contact names, telephone numbers and e-mail

addresses; the information flow processes; finally key business accounts. According to Zack (1998b:3) "… *by having superior intellectual resources, an organisation can understand how to exploit and develop their traditional resources …*"

This is a demanding grey area, as tacit knowledge is identified in the definitions as the awareness and experience of how a person operates in his/her daily activities. It is via this internal locus of controls that tacit knowledge develops and forms, to ultimately create an internal value system.   Somehow these value systems need to be communicated to all within an organisation.

This can be accomplished.   Tacit knowledge has to be converted into explicit knowledge or tangible elements in order for it to be made available to others within the organisation.

The author, disagrees with Johannessen *et al* (2001:3) who states that "*But tacit knowledge, which can not be formulated in instruction manuals, between covers, in data bases, and which cannot be transmitted by means of electronic mail, internet or intranet, be hidden in the group-ware, and which cannot be encapsulated numerically or alphabetically, is probably the part of the knowledge base which in the information and knowledge society will make the difference in creating and sustaining competitive advantages for companies*".   This extract is negative in that each and every employee who uses instruction manuals, databases, electronic mail, intranets or the Internet adds their input of their experiences while adding new knowledge to them.

When dealing with tacit knowledge one is dealing with a unique value system or in the case of an organisation a unique culture, participants need to interact with each other and the many forms of explicit knowledge. Zack (1998a:7) sums this point up in a very apt manner "*Interactive applications are focused primarily on supporting interaction among people holding tacit knowledge.*"

By identifying a myriad of explicit knowledge the Knowledge Manager can use information technology to set up strict parameters so that the explicit knowledge becomes user friendly and structured so that this explicit knowledge can be shared within the organisation and that employees that use it can add constructively to it.

2.8.   The information portal

An information portal is a one-stop shop for the collection, allocation and use of corporate information. As Lessing (2000:2) indicates "*Information Management is the management of principles, including planning, organising, development and control over data and information, integrating people, hardware, software and systems, converting data into information, and utilising the information in decision making.*" Thus the concept of an integrated portal can be introduced as a portal to assist an organisation with the management of Information on a grand scale.

As stated by Wiseth (1999:8), "*One of the keys to e-business success is the implementation of effective tools, processes, and models across the enterprise to truly empower employees in all their varied roles. This is stating the obvious, but everyone in the organisation must have instant and intuitive access to all the information and applications they need to do their jobs and further the goals of the company...*" The information portal is vital to the information dissemination of the organisation. The information portal will be discussed in great detail in chapter three.

2.9.   Conclusion

An organisation's goals, strategies, mission statement, vision and objectives are all important as the one has a direct impact on the other, this forms a domino reaction throughout the organisation. Information Management plays a further role in this domino reaction as it incorporates the life cycle of information, structural capital, human capital, intellectual capital, Information and Knowledge Management. An information portal can also assist the organisation via the strategic use of Information Management processes as a one-stop shop for the collection, allocation and use of corporate information.

The next chapter points out the criterion that should be adhered to for Information Mangement and include methods of aligning Information Management with the organisation's management processes. This lays the foundation for aligning Information Management and a prospective restructuring process within an organisation.

Chapter 3 : <u>**Information Management standard adhered to as an overlay within an organisation's management process**</u>

3.1. Introduction

Keeping in context with the research problem, this chapter forms part of the exploration. This forms part of the three main areas of concern relating to the research problem as indicated in the Introduction under paragraph 1.2.

The main function of Information Management within a restructuring corporate environment is to overcome areas such as confusion within an organisation. According to Appelbaum *et al* (2003:73), "*Confusion, insecurity, anxiety and politics reigned, fuelling rumors and making a difficult situation worse.*" Within this chapter the elements of Information Management will be discussed together with the significance of an information portal.

3.2. Information management overlay grid

The Information management overlay grid brings the main elements of Information Management together, so that these elements can be viewed as a whole rather than as separate entities see Table 1.

Table 1. <u>Information Management Overlay Grid.</u>
Adapted from concepts from the following authors, Appelbaum *et al* (2003), Bowman and Asch (1996), Buchanan and Gibb (1998), Byars and Rue (1997), Cronje *et al* (1997), De Klerk (1999), Donnelly and Craddock (2002), Factiva (2006), Gross *et al* (2000), Henczel (2001), Kalseth (2001), Kenniston (2005), Kirk (1999), Lessing (2000), Mahon and Gilchrist (2003), Nonaka and Takeuchi (1995), Orna (2004), Porter (2001), Ramjaun (2000), Steyn and Uys (1998), and Strassman (1999), Wilson (2002).)

a) Information Architecture OR Flow	b) Information Assets	c) Information Literacy // Also viewed as an obstacle	d) Transparency and Power of Information	e) Ethics of Information Management
f) Organisation Communication as a result of Information Management	g) Productivity impact	h) Information influence on management levels	i) Information as a resource // Decision making	j) Information Audits
k) Information Policy	l) Information Management Systems	m) Information as a tool to add value	n) Retrieval of external and external Information (Environmental monitoring)	o) Information mapping
p) Information Strategy	q) Information Real-Time			

3.2.1. Information Architecture (flow)

As said by Mahon and Gilchrist, (2003:38) "*One of the key issues in information architecture is the identification, formalisation and manipulation of metadata…*" Henczel (2001:8), points out that data sources should be validated and that information flows should be understood as this is a critical issue when dealing with the flow of information. Information flow according to Henczel (2001:259), the term constitutes the following, "*The movement of information between departments and individuals within an organisation, and between an organization and its external environment.*"

Information architecture is the backbone for the flow of information. As indicated below as per Factiva (2006:1), architecture provides the infrastructure to connect the flow cannels of information. Factiva identifies the following "*What is an Enterprise Information Architecture?*

- *It provides the capabilities and infrastructure into which you connect and organize all your disparate stores of content and knowledge-based technologies.*

- *It's about adopting a long-term strategy that starts with how your employees use information, rather than simply tracking how information is technically delivered to your employees.*
- *It's about placing information in the context of a user's workflow."*

Activity/tasks
That transform the
Inform ation (filtering)

External or Internal

| Information Resource (Input) | → | Information User (N) | → | Information Use | → | Information Resource (Output) | → | Information User (N+1) | ← | Information Resource (Input) |

Validation

Supporting organizational objectives (critical success factors)
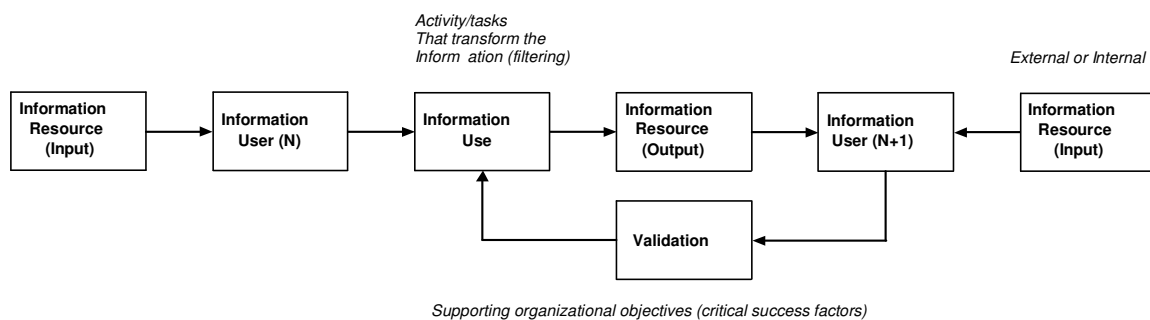
<u>Source :</u> Henczel (2001:9)

Figure 7. Mapping information flow.

With reference to Figure 7, from Henczel (2001:9), the flow and use of information is vital in the validation of information.

With regards to the contributions from the above quotes, metadata should be identified, formalised, controlled and manipulated into an infrastructure that can assist in the movement of organisational information between divisions. This acts as a foundation stone for the flow of information within an organisation. The emphasis should be placed on how employees make use of the information, by placing it in the framework of the employee's workflow processes.

Gross *et al* (2000:39), introduces the fact that the "*More open, collegial networks are a better way to manage information flow in today's knowledge-based companies…*". According to Wilson (2002:23) "*…way of identifying and recording the information resources of an organization, keyed to departments and hierarchical levels, with indications of 'ownership', responsibility for updating and other matters*

such as purging and disposal…" The key concepts that can be addressed here are that open networks address the way information flow is managed and that the ownership should be a responsibility of employees.

3.2.2. Information Assets

Information must be viewed by organisations as an asset. According to Oppenheim *et al* (2003:419) *"Information assets comprise resources that are or should be documented and which promise future economic benefits."* Kenniston (2005:36) points out components of information assets *"*The asset type, *Asset retention periods, *The ability to find assets, * Security, * Disposition. The secret of a solid ILM practice is realizing the value of the information assets in your corporation."* Information Life-Cycle Management is an important strategy, information is dynamic and the constant monitoring and aligning of information during its life cycle can value, and can influence how an organisation conducts its business and eventually can have power over the organisation's profits.

In accordance with the Washingtonpost Newsweek Interactive (2004) *"ILM will provide users with the ability to better understand and make better use of an organisation's valuable information and data assets."* This is the very essence of what an employee uses in their day-to-day work processes.

3.2.3. Information Literacy (Viewed as an obstacle)

Organisations are at present residing in an Information and Technology era environment. According to Donnelly and Craddock (2002:40) *"…'information literacy'… 'a set of abilities requiring individuals to recognise when information is needed and have the ability to locate, evaluate, and use effectively the needed information.'"* Employees are compelled to obtain the skills and the abilities to be able to locate information within the organisation easily, provided that the information pertains directly to their work function. The employees need to utilize the information in an effective manner so as to add value to it for future consumption. Lessing (2000:11) discusses the notion of information literacy as the understanding of the organisations business problems *"… comprises understanding the nature of business problems, how the business can be represented by information systems, how to use information in each step of the goal achieving process, where that*

information can be obtained and how to share (or when not to share) the information with others. End user computing is becoming fast and ingredient of the more modern definition of information literacy."

3.2.4. Transparency and Power of Information

The very core of any organisation is the identification, location and use of information. This concept plays a rather large role in competing within a global market environment, whoever holds the relevant information holds the key to unlock prosperity. As indicated by Bowman and Asch (1996:89) "*control of information. Information is power, and provision or withholding of information can give individuals influence.*"

3.2.5. Ethics of Information Management

The term ethics according to De Klerk (1999:36), "…*is derived from the Greek word 'ethos' which means character or custom. Nowadays the word 'ethics' is used to describe the stance or attitude of a specific group of people. It generally relates to those characteristics typical of a 'good person' and the social norms guiding and restricting human behaviour. It is also known as morality…Ethics is therefore the science of morality.*"

Following on from the definition of ethics, due to the fact that modern business functions within a rapidly growing technological environment, this certainly has opened the doors for unethical behaviour amongst employees. As per Lessing (2000:102-103), "…*Information Technology has dramatically magnified man's ability to acquire, manipulate, store and communicate information…This widening of the world by means of Information Technology also revealed new dimensions of ethics within the work environment and the use of IT. In quite many cases security controls are designed to counteract unethical behaviour, or the unethical use of information...*".   De Klerk (1999:139), introduces his view on technological development, "…*and use of technology are part of man's calling. However, it is a normative human activity, meaning that as a result of man's fall from grace, he suffers from myopia – even his technological achievements. Technology is not neutral. Depending on the way it is used, it can harm or be beneficial. The individual who uses technology must choose certain option and from these choices, can emanate good or bad.*"

3.2.6. Organisation Communication as a result of Information Management

According to Bendix (1996:331), organisational communication takes place for the following reasons, "*Communication processes are usually initiated to give instructions, to supply information, to obtain permission, to question, to plan and to control, but they should also be used to hear grievances, complaints and demands. More importantly, communication is the means by which all individuals involved in an organisation interact...*" The Information Management process can assist the communication within the organisation by streamlining information into channels. According to Steyn and Uys (1998:138) "*With communication is meant that activity or process where one or more persons try to convey an idea, a feeling, state of affairs or information to another person or persons, and this second person or persons manage to interpret or understand the intended meaning correctly.*" Communication as defined by Byars and Rue (1997:15) as, "*Transfer of information that is meaningful to those involved.*" Hellriegel *et al* (1999:G-5) have defined information richness as "*The information carrying capacity of a channel of communication.*"

Information Management can assist employees to iron out problem areas within the organisation's communication process. This is important as Information Management can alleviate stress, especially in a process of an organisation undertaking a restructuring, downsizing, change or transformation process. Bendix (1996:333) asks a question "*What employees want to know and how to transmit information?*". The following extract quoted from Bendix (1996:333) lists Manning's idea's from his book *Communicating for Change,* in the order of the subjects which management should be communicating to employees:

1. " *Organisational plans for the future*
2. *Job advancement opportunities*
3. *Job-related 'how-to' information*
4. *Productivity improvement*
5. *Personnel policies and practices*
6. *How we're doing versus the competition*
7. *How jobs fit into the organisation*
8. *How external events affect a job*
9. *How profits are used*
10. *Financial results*

11. *Advertising and promotional plans*

12. *Operations outside departments and divisions*

13. *Organisational stands on current issues*

14. *Personnel changes and promotions*

15. *Organisational community involvement*

16. *Human interest stories about other employees*

17. *Personal news such as birthdays and anniversaries.*"

Information Management can address all the above points within the environment of an organisational information portal. However, the Information Management processes will need to take place in order to identify the information topics origins.

3.2.7. Productivity impact

Organisations require a platform from which to move forward and grow, each organisation should have predetermined goals and objectives as to what they wish to accomplish, these in turn should fuse together with corporate strategies to form a dynamic ever-altering perspective towards productivity. With reference to Cronje *et al* (1997: 442), "*Productivity is a state of mind. It is the sprit of progress, of the continuous improvement of the existing. It is the determination to perform better today than yesterday. It is the will to improve the existing situation irrespective of how fine it already may be. It is the continuous attempt to implement new techniques and methods.*"

Information sources (such as employees, clients, the internet, sales people, market research companies, clippings, journals, bibliographic directories, joint catalogues, library catalogues, national bibliographies, review guides, almanacs, archival records, conference records, newspapers, periodicals, yearbooks, community information sources, official publications, gazetteers, census reports, government publications, handbooks, manuals, standards, theses and patents, information stored on organisational computers*)* should enable the Information and Knowledge Management of an organisation to adapt these resources to become knowledge and then to enable the employees within the organisation to use this within the learning organisation. This should impact in a positive manner on the productivity levels of the organisation.

Strassmann (1999:4), makes an attention-grabbing observation "*The purpose of information productivity analysis is to shift attention from IT itself to the effectiveness of the executives who manage it. The key to obtaining business value from computers lies in linking the uses of the technology to business plans. This connection must be explicit by showing how it overcomes existing business problems and how it contributes to future gains.*" The employees within an organisation need to understand and utilize what will best assist them in attaining the pinnacle of what they can use information technology to achieve.

Return on assets (that is the profits of an organisation divided by the assets) and return on investments (this is the profits divided by the investments to generate those profits) should be evident and top of the controllable functions of the Chief Knowledge Officer (CKO). The CKO should be working in close proximity with the top decision makers of the organisation and as stated by Strassmann (1999:4), "*Automating only those business processes that are directly linked to measurable improvements in economic value-added.*" This should add to the productivity levels of any organisation.

3.2.8.   Information influence on management levels

The following extracts place managers in a position to integrate business and information strategy and this places them at the centre of the organisation's information flow processes. Kirk (1999:33), suggests "*Managers are in a unique position to integrate information and business strategy. Successful implementation of information management presupposes senior management support, expressed most visibly in funding priorities and through information-related activities and projects from training programs to information system enhancements. The integration of information and business strategy presupposes a learning organisation which is team based.*"

According to Nonaka and Takeuchi (1995:127) "*…knowledge is created by middle managers, who are often leaders of a team or task force, through a spiral conversion process involving both the top and the front-line employees…The process puts middle managers at the very centre of knowledge management, positioning them at the intersection of the vertical and horizontal flows of information with the company.*" Management are in a position to sway the use of information and knowledge, and

they need to understand the impact that this can have on the work processes within an organisation.

3.2.9. Information as a resource (Decision making)

Information is considered to be a resource as per Badenoch *et al* (1994:21), "*Information is seen as a resource which must be managed.*" Badenoch *et al* (1994:66) continue to say "…*Information is the raw material for decisions: we must analyze the quality of the end-product, i.e. the decision made, and the information flows that led to it.*" As a stockpile of data and facts, information is the detail that is used when decisions are made; this reality needs to be controlled.

3.2.10. Information Audits

An information audit, according to Buchanan and Gibb (1998:34), is "…*a process for discovering, monitoring and evaluating an organisation's information flows and resources in order to implement, maintain, or improve the organisation's management of information.*"

Wilson (2002:21-22) discuss an information audit that consists out of ten stages "…*a model informational audit consisting of ten states:*

1. *Establish the operational objectives and define the organizational environment.*
2. *Determine the information requirements for the users.*
3. *Inventory of the information resources.*
4. *Identify system failures and key control points.*
5. *Evaluate system failures.*
6. *Test key control points.*
7. *Generate alternative solutions for system failures.*
8. *Evaluate the alternatives.*
9. *Check conformity of system with existing regulations and standards.*
10. *Propose recommendations.*"
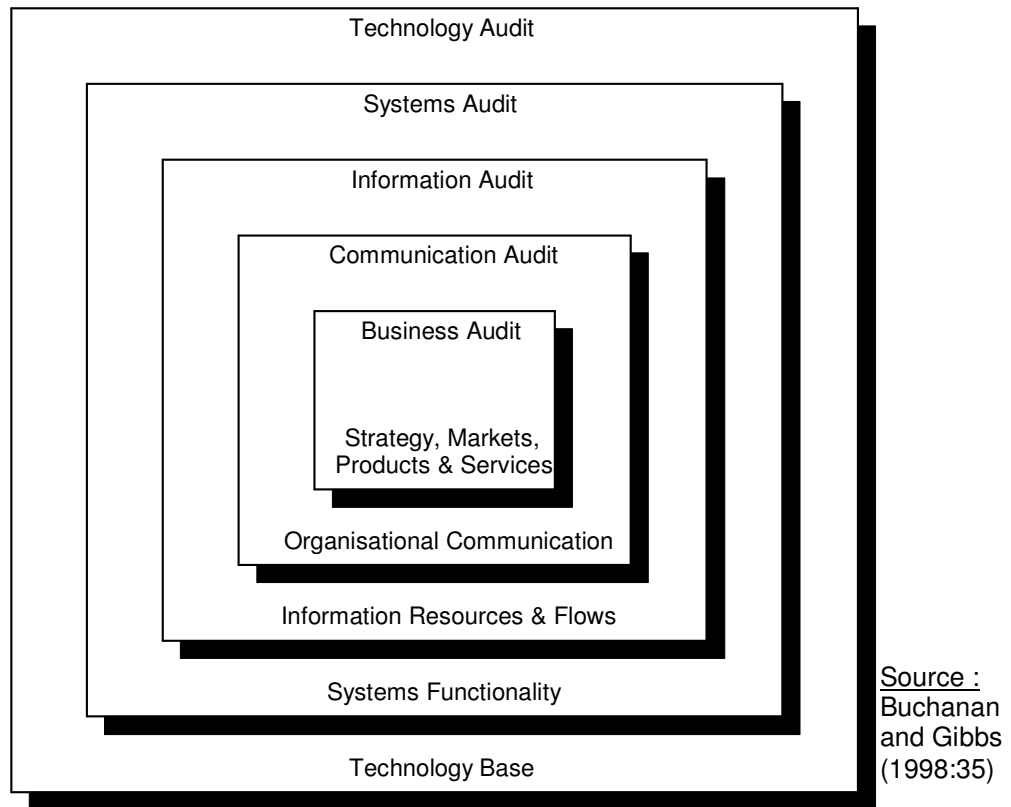
Figure 8. A Typology of audits.

With reference to Figure 8 from Buchanan and Gibbs (1998:35), they describe the figure as a typology of audits, which include the following elements:

A. The business audit – identifies the current standing in terms of strategy, target and potential markets, the services and products offered by an organisation.

B. The communication audit – evaluates the management style within the organisation and the way in which communication methods are utilized. The concern is focused on the sociological and organisational facets of information flow.

C. The information audit – deals with the key processes involved in managerial aspects of information flow. Focus is on information resources and their interaction.

D. The systems audit - appraises the functionality, usability and effectiveness of specific applications.

E. The technology audit - is concerned with asset management.

Viewing this typology of audits places business functions into perspective.

Information Audits should include interviewing the employees to ascertain their respective job responsibilities. From the information gathered job descriptions can be formulated. Working from these job descriptions and responsibilities an overview chart can be established and completed for each person and the information sources that they use can be identified.

According to Strassmann (1999:4), "*Making management more productive before adding electronic means, by first finding what impairs their business performance.*" An information audit will ascertain this precise information. As stated by Ramjaun (2000:2), "*What is an Information Audit…It is a management tool that can be used to identify, evaluate and manage information resources for optimal exploitation of its strategic potential…*" As per TFPL, "*It is a systematic process through which an organisation can understand its information needs, what it knows, the information flows and gaps…*"

Corporate objects as viewed in an information audit, are critical elements to the knowledge management strategy. The needs analysis is important to the organisation, as the identified elements will highlight areas that need to be investigated and the organisation may very well locate valuable knowledge and experience within the individuals working at the organisation. With the needs analysis at hand the organisation should conduct a SWOT analysis, identifying the strengths, weaknesses, opportunities and threats within the organisation.

According to Kalseth (2001:3), "*Information must as well be quality controlled according to the actual business needs, and incorporated into the relevant business processes.*" The Chief Knowledge Officer can assist with this process. As he/she is the one person who can influence employees within the organisation to work towards the organisation's common goals and strategies via the use of a well-run Knowledge Management system.
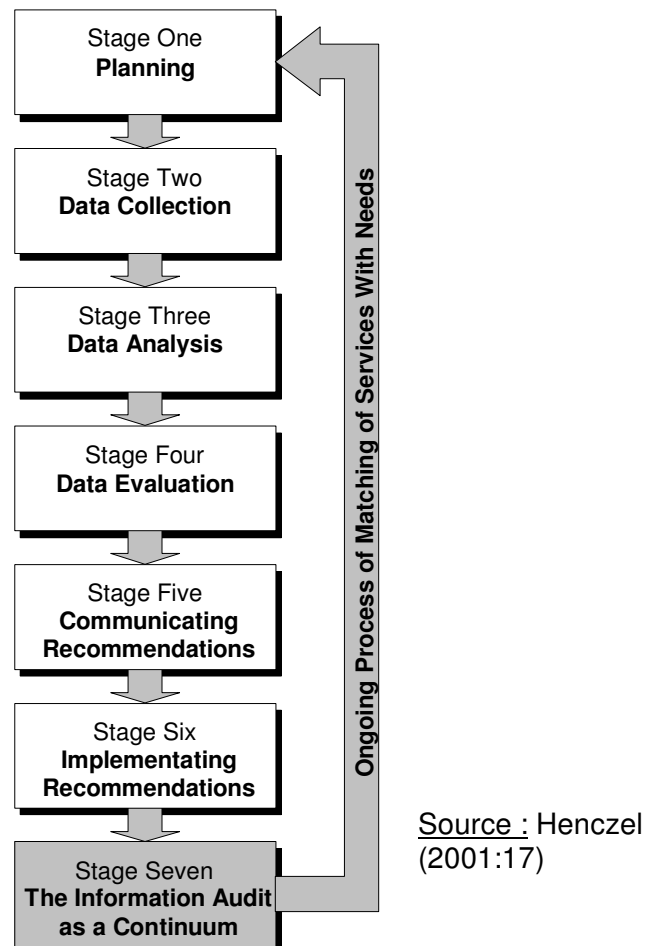
Figure 9. The seven –stage information audit model.

With reference to Figure 9. The seven –stage information audit model. Henczel (2001:17) points out that by following this model an organisation will be required to determine objectives preceding the audit, this making the organisation's expectations more practical. The following is an explanation detailing the stages with their tasks and activities: Stage one deals with the planning, objectives are developed; determining the scope and resource allocation; a methodology and communication strategy should be developed; In order for the audit to have an impact is to obtain the support of management.   Stage two deals primarily with the development of information resources database and how to go about preparing for the data collection, various types can be used such as questionnaire's, Focus group interviews and personal interviews. Stage three is the analysis of the data, how it would be prepared and analysed. Stage four deals with the evaluation of the data in terms of gaps and duplications.   The identification of, and the interpretation of information flows within the organisation. Problems areas need to be evaluated and recommendations formulated. An action plan then would be required for any change that needs to take place. Stage five, the recommendations will be required to be

written up in a report and communicated to the employees that it would need to utilize it. Stage six would involve the implementation of the recommendations. An implementation programme will need to be developed. Changes would need to be formalized. The development of a post-implementation strategy and an information policy would need to be formalised. Stage seven would involve the Information Audit as a continuum, measuring and assessing changes. And a plan should be put in place to conduct regular information audits in a cycle format.

3.2.11. Information Policy

Henczel (2001:260) defines Information Policy as, "*A document that states the principles of how information will be used and managed within an organization.*" As indicated by Wilson (2002:29) "…*At the organisational level, therefore, an information policy defines the overall aims and objectives of the organisation in relation to information…*" The information policy is an important document that aims to show how information aims and objectives should tie into the organisations aims and objects, as the two should be working in tandem.

According to Orna (2004:8) "*An 'organizational information policy' is founded on an organization's overall objectives, and the priorities within them, and defines, at a general level:*

- *The objectives of information use in the organization, and the priorities among them*
- *What 'information' means in the context of what the organization is in business for*
- *The principles on which it will manage information*
- *Principles for the use of human resources in managing information*
- *Principles for the use of technology to support information management*
- *The principles it will apply in relation to establishing the cost-effectiveness of information and knowledge.*

An information policy is a dynamic tool which can be used:
- *As the basis for developing an organizational information strategy*
- *To relate everything that is done with information to the organization's overall objectives*
- *To enable effective decisions on resource allocation*

- *To promote interaction, communication and mutual support between all parts of the organization, and between the organization and its 'customers' or 'public'*
- *To provide objective criteria for assessing the results of information-based activities*
- *To give feedback to the process of developing corporate policies."*
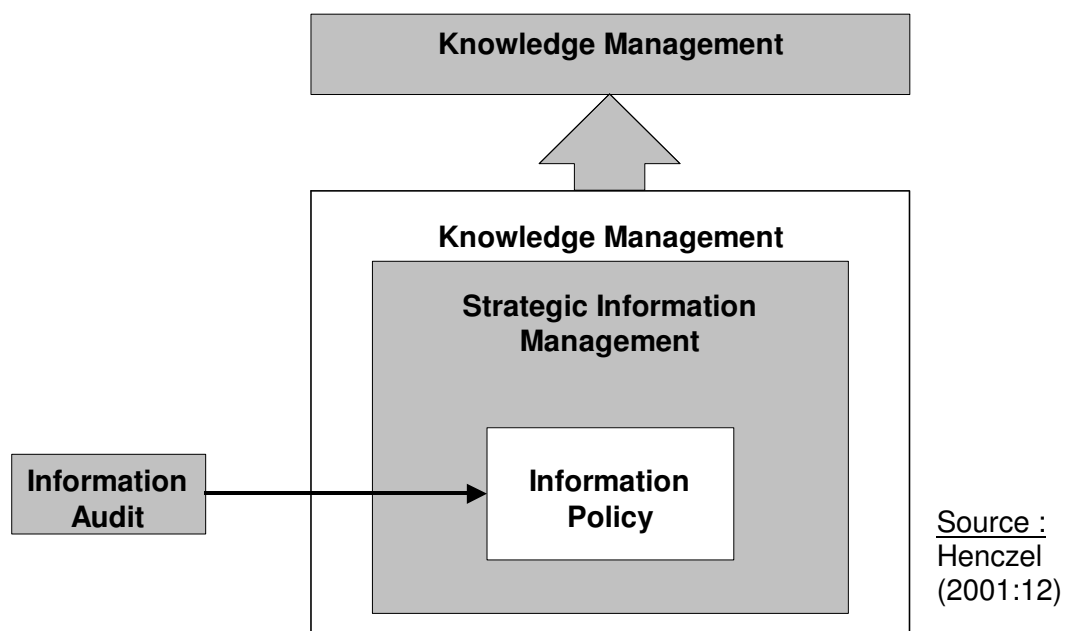
Figure 10. From information audit to knowledge management.

With reference to Figure 10 from Henczel (2001:12), the information audit is depicted as a starting point or base for the formulation of an information policy, which in turn will assist with the structure for the information to be administered strategically. This lays the foundation for a knowledge management system.

3.2.12. Information Management Systems

Lessing (2000:24) defines an information system as "*An information system is an integrated man/machine unit, with a set of interrelated components working together to collect, process, store, retrieve and disseminate information achieving a common purpose of supplying information in an appropriate format, accurately and timeously to the decision makers concerned, facilitating business operations, management functions and strategic advantage in business or other organisations.*" Lessing sums this Information management systems area up in such positive and proficient

manner, the information systems are an integrated man and machine unit, as information needs to be planned and structured before it can be made available within the context of being placed within the realm of a machine.

3.2.13. Information as a tool to add value

According to Badenoch *et al* (1994:20), "*…as organizations have accepted that information resources have a strategic role to play in promoting effectiveness and competitiveness, information systems and services have been brought within the old of the organization's resource management process.*" Organisations need to appreciate that the good use of Information Management can initiate a positive outcome on the organisation's business processes.

3.2.14. Retrieval of external and external information (Environmental monitoring)

Kirk (1999:4) says that "*Information management has a critcal role in drawing in information about trends and developments in the external environment so that the organisation can respond to changes triggered by social, economic, technological and legislative forces.*" The correct information retrieval mechanisms can have a crucial impact on the organisation's environmental monitoring which will directly impact on the organisation in terms of social, economic, technological developments.

3.2.15. Information Mapping (Knowledge Mapping)

Buchanan and Gibb (1998:37) discuss Horton's infomap " *InfoMap, developed by Burk and Horton,… provides a step by step process to discover, map, and evaluate information resources. The methodology is highly structured and provides a framework for carrying out a comprehensive inventory of an organisation's information resources*". The InfoMap is made up of four stages namely: Survey, Cost/value, Analysis and synthesis. Buchanan and Gibb (1998:38) list the benefits as

- "*It helps to identify all formal information resources…*
- *It provides a measurement of the cost and value of IRE's [Information resource entities]*
- *It draws attention to problems and opportunities relating to current information management practices and policies.*
- *It creates and stimulates awareness of the importance of IRM.*"

3.2.16. Information Strategy

Information strategy should be viewed as a structure that describes ways of managing organisational information. Technology is a vital element in the smooth running of the strategy, as it regulates and standardises the format, location and retrieval of the information. A strategy should be defined for a set period and then re examined and updated, as information within an organisation is a crucial and valuable resource.

According to Orna (2004:8), "*An information strategy is the detailed expression of information policy in terms of objectives, targets, and actions to achieve them, for defined period ahead. Information strategy provides the framework for the management of information. Information strategy, contained within the framework of an organizational policy for information and supported by appropriate systems and technology, is the 'engine' for:*
- *Maintaining, managing and applying the organization's information resources*
- *Supporting its essential knowledge base and all who contribute to it, with strategic intelligence, for achieving its key business objectives.*"

Henczel (2001:260) continues with the following analysis of information strategy, "*Information strategy. The <u>details</u> of how information will be used and managed within an organization for a defined period. Based on the information policy the strategy will include objectives, projects, plans etc.*"

Buchanan and Gibb (1998:29) discuss strategy as "*Fundamental to the development of an effective strategy is the recognition of information as a key organisational resource…The strategic exploitation and effective management of information and enabling technologies is increasingly recognised as critical to organisational success.*"
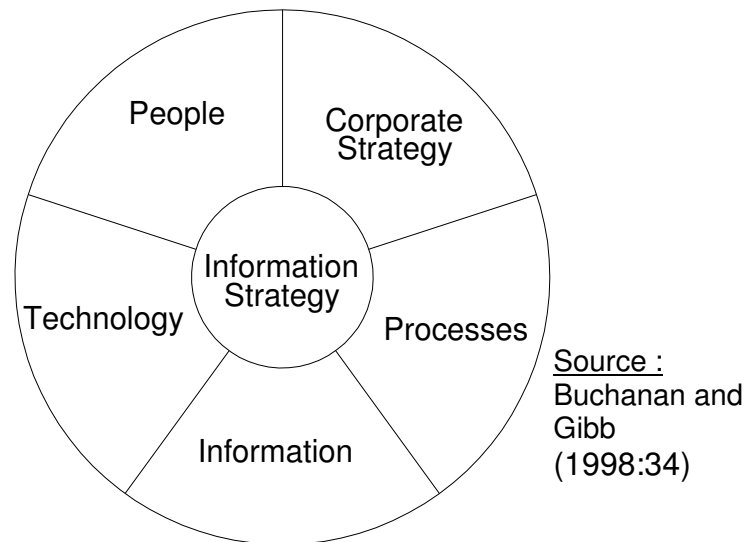
Figure 11. The co-ordinating role of information strategy.

With reference to Figure 11, from Buchanan and Gibb (1998:34) Information strategy is made up of a number of tools, which define and assist with the implementation of the strategy. One well-liked approach is information mapping together with information flows. As stated by Buchanan and Gibb, (1998:33), " *his approach links technical and social systems as it involves an analysis of the communications (processes and information) that take place between agents (people) in a social context (the organisation) using a variety of media and channels (technology). Information strategy is therefore concerned with managing the relationships between these components.*"

3.2.17. Information Real time

Porter (2001:10),explains that "*By easing and speeding the exchange of real-time information, it enables improvements throughout the entire value chain, across almost every company and industry. And because it is an open platform with common standards, companies can often tap into its benefits with much less investment that was required to capitalize on past generations of information technology.*" The concept of real-time is a very important one when dealing with changes, as this tends to place pressure on systems, processes and employees to deliver the required product or service before the competition can.

In Section 2.8 reference was made on how organisation's have utilized Information Management in a very effective way via the use of an Information portal or an enterprise portal.

As stated by Kenniston (2005:36) *"Once you identify how the information ties in to your business, you can then investigate technologies to help you manage the process of information management."* And with this comes the Information Portal.

3.3. What are the EIP (Enterprise Information portals), or content benefits of the enterprise portal?

In other words, how can this information depositary assist the organisation with its goals, objectives and strategies and in the long run can a portal have a direct or indirect impact on the organisations bottom line? This is examined primarily with regard to return on investment, and how it can benefit the organisation within a restructuring or resizing process.

In today's fast moving global environment organisations have to keep in line and abreast of the competition, so that the organisation can break even and survive in the market environment. The value of information is critical in that organisations cannot function efficiently without channelling and communicating information, to the correct locations and users. Enterprise information portals are the means to accomplishing the location, flow and application of information or content within the organisation and to its outside users. According to Quirk (2001:2), *"Enterprise Information Portals are applications that enable companies to unlock internally and externally stored information, and provide users a single gateway to personalized information needed to make informed business decisions."* As indicated by Dias (2001:277) *"…the information portal is the one able just to organize large collections of content based on the subjects they contain, connecting people with information."*

3.3.1. General (informational) advantages.

Enterprise informaiton portals supply information or content to individuals working within an organisation, the content is company specific, job area specific, and industry related. Employees can access information that is pertinent to their work environment and the needs of their day-to-day job. As indicated by Dias (2001:276), *"In the institutional world, the portal's purpose is to display and supply business-specific information, in a certain context, helping users of corporate information*

systems find the information they need to face their competitors..." Alexandrou (2002-2003), highlights areas such as internal company information, "… *portals often include access to payroll information, internal phone directories, company news, and employee documentation.*" According to Eckerson (1999:1), "*An enterprise portal alleviates this stress, giving business users a common interface and access point to all data inside and outside the corporation. Users can access any information object – including structured and unstructured data – without having to know its location or format.*"   An interesting point that Eckerson highlights is the point on stress. Within this fast moving business environment employees need to alleviate all the elements of negativity (and stress is one of them) as stress causes time wastage, which at the end of the day causes low productivity and low returns. The following list highlights the positive advantages that portals have on an organisation. In the event of an organisation restructuring all information is located on the portal and will not become mislaid. The time taken to update the portal will be far less of a aggravation when the organisation restructures.

3.3.2. <u>Important elements that make up a portal</u>

a) Content unification and collaborative processing
According to Mitchell (2003:1), "*Unification of content: intranets often include a wealth of legacy data outside of Web pages, such as documents, database query engines, and front-ends to other specialized software applications.*"   As stated by White (1999:2), "…*collaborative processing EIP helps users organize and share workgroup information such as e-mail, discussion group material, reports memos and meeting minutes…*" This should take place once the restructuring process is in its infancy and the Information Management function should also be involved in each step of the restructuring process so that the corporate information is not left behind. An Information Audit should take place within each division and with each employee, so as to establish credible content so that collaborative process can take place.

b) Time as a resource
Mitchell (2003:2), interprets enterprise portals to be "…*On intranets a person's time is especially valuable, and portals can help to reduce 'time-on-task'...*" As stated by Eckerson (1999:1), "…*Corporations have too many tools for accessing data, and busy professionals have too little time to learn how to use them effectively.*" This one

stop approach to locating and storing information can only benefit an organisation in a restructuring process as well as the individual who has to pick up and carry on with a specific assignment. The restructuring process can become quite overwhelming, so to save time is a very good resource.

c) One-stop location of information
As pointed out by Eckerson (1999:1), "…*Its core benefit is that it provides busy professionals with one-stop shopping for all their information needs…*"   In a restructuring environment to reduce stress of locating vital information this is a great benefit.

d) Common interface
According to Eckerson (1999:1), enterprise portals are "…*giving business users a common interface and access point to all data inside and outside the corporation…*" White (1999:7), states that "…*They also offer a managed approach to distributing corporate business information to external trading partners and key clients…"* and White (1999:1), continues to state that enterprise portals will assist "…*to provide business users with a single interface to information scattered throughout the enterprise."*   A common interface is a tool to reduce stress when locating information or adding to it. Uniformity assists with the tension of a restructuring process.

e) Metadata
Bolds (2001:2), discusses the enterprise Meta Data Repository as "*Meta data is vital as the mechanism for context. The repository should not include every piece of information that exists, only the information that will be utilized to provide meaning…*" According to Eckerson (1999:1), "…*Users can access any information object - including structured and unstructured data - without having to know its location or format."* And Eckerson (1999:2), continues to state that this is "…*primarily to support the needs of casual information gatherers who want quick and easy access to consistent sets of data…*" This holds a positive outcome when an organisation is restructuring, as the access to relevant information is vital when divisions are in a state of fluctuation.

f) Resource access

According to Eckerson (1999:2), "…*it should provide dynamic access to reports created by various business-intelligence and document-management tools.*" Dias (2001:283), points out that portals ought to make available dynamic information access, and that the information should be of the latest relevant calibre. Wiseth (1999:3), states that "…*From the portal users must be able to search by category, publish information, subscribe to new content, query and analyse information, and develop and execute plans.*" Portals therefore saves time and ultimately the organisation will save money.

g) Universal connectivity

According to Eckerson (1999:2), "…*The enterprise portal must connect to multiple, heterogeneous data sources, including relational databases, multidimensional databases, document-management systems, e-mail systems, Web servers, news feeds, and various file systems and servers.*" These data sources link an employee within an enterprise to all the information required to perform their day-to-day jobs. This connectivity creates a well-oiled machine that a restructuring organisation would like to achieve.

h) Routing of information

The concept of workflow, as introduced by Frazee (2001:8), "…*paper documents can be replaced with Web-based forms … tracking software built in.*" Here the portal concept can turn tedious information paper trails into a more positive real-time experience, thus saving the organisation on resources such as money and employee's time. According to Eckerson (1999:3), "…*the portal should intelligently route reports or documents to selected individuals as part of a well-defined work flow.*" Portal Research (2000:4), collaborates the idea of workflow as a tool for a portal as stated "*Necessary for community-building, collaboration tools such as workflow … must be provided at the interface.*" Workflow should be an integral element of an organisation that is in the process of restructuring.

i) Business intelligence

According to Eckerson (1999:3), "*An enterprise portal needs to provide a full range of query, report, and analysis capabilities in a highly integrated fashion…*" This will create a very efficient restructured organisation.

j) Security

An organisation has to safeguard the portal's information as computer hackers can cause devastation. Competitors also need to be limited to the amount of information that they can obtain off the portal. Criteria would include cryptography, firewalls and authentication of users. A way to combat hackers would be to as Frazee (2001:4) states to add an element of authentication to the portal by *"Single sign-on for multiple functions from one central database."* Portal Research (2000:3), refers to role-oriented functionality, which allows the portal to open areas of information to users who use a sign-in that relates to their profile. Very important as an organisation that is restructuring can fall pray to unethical competitors and users.

k) Return on investment

Return on investment should be a vital element to the existence of a portal. Organisations should keep this in mind as running a portal must have a positive impact on their bottom lines. As indicated by Quirk (2001:7) the benefit of a portal is to, *"Define why this portal makes good business sense…Base for going forward with project."* According to White (1999:7), *"Enterprise information portals are powerful and cost-effective tools for giving business users a simple and integrated Web interface to the information they need to do their jobs…"* Vital for an organisation that is undertaking a restructuring venture, this will assist in long term return of investment.

l) Personalization and customisation

Organisations need to give users the option of personalizing their experience of the portal.   In essence people make up the organisation and they should be treated as individuals since they have a lot to contribute towards the organisation's goals. Therefore by giving the employees the option of personalising their portal screens makes them feel at home on the portal, hence they have a feeling of belonging. According to Portal Research (2000:3), "… (*The) user expects to rearrange or change the interface and content to suit their own personal tastes and information needs.*" The administrators of the portal should according to Dias (2001:283), "…*customize the portal according to enterprise polices and expectations…*" Personalization can be further analysed to include 'Information Pull' and 'Information Push'. 'Information Pull' allows the user to collect the information that they need and

want. 'Information Push' is referred to by Frazee (2001:3),as a *"Portal Editor"* and continues saying that there is a necessity for an "*Editing tool for full customisation as well as the ability to create discussion boards…*"

m) Control of information

The control of information within an organisation is a problematical process, the following extracts discuss that information can be stored and controlled within a portal environment.   White (1999:7), states that "…*to store EIP (Enterprise Information portals) control information…*" According to (2001:2), "…*The principle here is that standard processes can reduce mistakes, resulting in higher operational efficiency. This is one of the primary goals of enterprise information portals.*"

n) Decision processing

According to White (1999:2), Decision processing *"…helps executives, managers and business analysts access corporate information for making key business decisions. Decision processing EIPs support a wide range of different types of corporate business information and offer significant potential to organizations to leverage this information for business benefit*…"

o) Community communication

Within an organisation that is information driven, community interaction is normally very important for the transfer of information and knowledge. This is the perfect platform for valuable information to be executed when an organisation is undergoing a restructuring process. Areas that should be covered by the portal include real-time chat; instant messaging; computer conferencing; newsletters; online discussion groups and news groups.

3.3.3. The impact of the information/ content portal advantages on the organisation's activities

An organisation primarily relies on its goals, objectives and strategies to meet and surpass its set targets. With the introduction of portals these areas can be managed in a more profitable manner. However as stated by Bolds (2001:1), "…*The real value then is not in having a portal with the most bells and whistles, but in realizing the benefit by capitalizing   on the features that will provide the most value from the investment. In doing so, however, there must be a common level of understanding in order to facilitate the benefits.*" According to Bolds (2001:1), "…*The trick is to turn features and functionality into practical business benefits.*"

One must first identify what the organisation's activities and cultures are and how they are going to alter if a restructuring process is instituted. How the business strategy requirements can best be met before, during and post restructuring. Secondly an organisation or enterprise is made up of divisions that are responsible for different elements of an organisation's smooth running. They have to somehow communicate and transfer information to one another.

A way of evaluating a portal to establish if it will have a positive effect on the organisation's information is to draw up a criterion sheet and see if the criteria have a positive effect. Table 2 adapted from Watkins (2002:1) is an example of such a criterion sheet.

Table 2. The Evaluation Criterion of the portal criteria after implementation.

	Evaluation criterion	Effective	Ineffective
1.	Information sharing - Publish information - Corporate repository - User groups - Work flow - Tracking software - Real-time - Community-building		
2.	Architecture - Simultaneous requests - Numerous sources of information - Dynamic page generation - Load balancing across multiple serves		

		Evaluation criterion	Effective	Ineffective
		- Intelligent coaching - Pooled connections - Performance-enhancing techniques - Multimedia plug-in support - Streaming audio and video - Smart Card technology		
3.		Partnerships - Suppliers - Vendors		
4.		Security - Cryptography - Firewalls - Authentication - Sign-on		
5.		General connectivity to resources of information -E-Mail - Annotate documents - Create new folders - Chat - Message boards - Real-time - Electronic Balloting - Polling		
6.		Information resource access - Dynamic information access - Subscribe to new content - Query and analyse information - Develop and execute plans - News and time sensitive		
7.		Effect on organisations Return On Investment - Money resource - Licence fees - Advertising revenue		
8.		User participation - Information location - Information retrieval - Online-training - Intuitive interface - Aesthetics use - Unified presentation of information		
9.		Search Engine - Information indexing - Refine information - Filter information - Support Boolean operators - Support keywords - Results categories - Proactive search - Unified search - External information - Internal information		
10.		Tools - Search engine - Calendar - Meeting Scheduler - To-Do list - Address book - Proactive - Real-time monitors - Intelligent routing		

		Evaluation criterion	Effective	Ineffective
		- Report and analysis capabilities		

11.		Administration
		  - Permission granting
		  - Maintenance of software
		  - Establish unlimited channels of information
		  - Online help
		  - Online training		

12.		Interfaces
		  - Application program interface
		  - Lightweight Directory Access Protocol
		  - Open data base connectivity		

13.		Personalization
		  - Experience
		  - Alter interface
		  - Information Pull
		  - Information Push
		  - Portal editor		

14.		Customisation
		  - According to enterprise policies
		  - According to enterprise expectations		

15.		Maintenance
		  - Current features
		  - Vendor support
		  - Content managers		

16.		E-Commerce
		  - Virtual clients
		  - Advertising control
		  - Advertising revenue		

17.		Copyright protection - Instituted		
Evaluators comments:				
Overall impression of the portal		Effective ☐	Not Effective ☐	

What are the information (or content) benefits of the enterprise portal for an organisation that is undergoing a restructuring process? The main reason for an enterprise portal is to use it as a master tool to allow the organisation to relay information to and from those who need it in their daily jobs so as to assist the organisation in the ultimate goal of return on investment.

The following two quotations connect the organisation with the concept of an information enterprise portal. According to (2001:3), "…*The benefits of the portal are not just inherent in the technology itself, but can be found to produce business value and benefit by creating business context and meaning through a planned, strategic infrastructure.*" As maintained by the Editors of Knowledge Management (2001:7), "*The enterprise portal is a door to the future that many companies will choose to*

open, because stronger competitiveness, lower costs and improved financial performance lie through it."

With reference to Table 3 on page 53, illustrates the benefits of having an information/content portal. The table sets out the advantages as follows:

- The organisational activity is listed.
- The advantages of the general information/content are listed.
- The reasons why an organisation would use the listed advantages.
- And lastly the impact that these advantages have on the organisational activities.

3.4. Conclusion

Information Management comprises numerous components or elements. These components have been identified and elaborated on in this chapter.

To sum up these elements, information architecture and information flow are important as they formalise and validate the sequence of data. Information assets are important too, as they are the essential provisions of the organisation. In order for an organisation to function in a predetermined manner, the employees are required to undertake some form of training to understand how the organisation's information framework functions so that they develop the ability to locate and utilize information. The power of information needs to be harnessed to keep the organisation functioning in a top-notch manner. Information is susceptible to misuse and employees should use it in an ethical manner, so as not to do harm to the organisation. Communication could not exist without the fundamentals of information, so information management plays a large role in organisational communication. This all leads to how productive an organisation can be if it, as a whole, uses Information Management as a tool to identify structure and conserve information. The role of management will influence how well the corporate information is utilized and recorded for future use in decision-making processes. To attain a level base playing field, Information Management must undertake processes to assist with all the above elements. These processes include information audits, policy, systems, mapping, and strategy. Information in 'real time' plays a very intricate role within the whole organisation as information can be found,

used, updated and stored instantly. This places pressure on the Information Management division to keep a well-oiled machine running at peak performance.

Together as a structured entity the components or elements interrelate and form a base for organisational information use within the organisation's environment, to support the organisation to succeed in its endeavours.

The next chapter outlines why Information Management is essential in a restructuring process. A restructuring process should be one that assists the organisation to keep functioning at a most advantageous level within its market industry. If vital information is lost due to alterations and changes within the organisation, then the organisation is not going to function at an optimal level and the restructuring process would be deemed a failure.

Table 3. The impact of the information/content portal advantages on the organisations activities

Organisational activity	Portal general information/content advantages	Organisational reasons for implementation	Impact on the organisations activities

Divisions in general require content to make decisions:
- Human Resources
- Marketing
- Finance
- Information Technology
- Purchasing and materials management
	Content unification and collaborative processing
	
	Decision processing EIP
		This brings together the information or content so that it is available on a wide variety of documents and data from each division.
		Information sharing
		   - Publish information
		   - Corporate repository
		   - User groups
		   - Work flow
		   - Tracking software
		   - Real-time
		   - Community-building
		
		According to White (1999:2), "*Business users apply their knowledge of the business to the information obtained from the decision processing system and make decisions about what actions (if any) are required to improve the efficiency and competitiveness of the company's business operations.*"
			- Assists with the co-ordination of projects.
			- Assists with the understanding of the product offering.
			
			According to White (1999:2), "*As actions are taken, the decision processing system can once again be used to measure the impact on the business so that new actions can be taken as appropriate…*"

Particular areas:
- Human Resources
  • Planning
  • Labour relations
  • Safety and health
- Marketing division
  • Market research
  • Pricing and policies
  • Sales force management
- Finance division
  • Management of organisation's assets structure
  • Budgets
    1. For each division
	Time as a resource	Time is money; if the information were not relevant, useful and updated the portal content would be a waste of time.	The portal design has a great impact on the organisational activities in that time equals the impact of direct competition on the global market environment.

Organisational activity	Portal general information/content advantages	Organisational reasons for implementation	Impact on the organisations activities
2. Organisation budget - Purchasing and materials management • Materials flow			
All divisions use of: - Planning - Leading - Controlling - Organising	*One-stop location of information*	Aggregation of information from a single account.	Adds value to the activities of the organisation.
All divisions and external clients or suppliers need to use the portal to locate information.	*Common interface*	According to White (1999:8), "…*a key objective of an enterprise information portal providing business users with a single interface to business information.*"	- An organisation via this medium can be assured that the interface is standardized and that the maintenance will not be to involved. - This also assists the organisation with a single corporate identity.
All divisions	*Data : Meta Data*	The organisation would implement the use of Meta data. to assist with access and a higher level of relevancy when locating information.	- To assist with access and a higher level of relevancy when locating information.
All divisions	*Resource Access*	Information resource access - Dynamic information access - Subscribe to new content - Query and analyse information - Develop and execute plans - News and time sensitive	To assist with research both from internal information and external information sources.
Workflow as an organisational activity	*Universal Connectivity with application integration and Routing of information*	General connectivity to resources of information - E-Mail - Annotate documents - Create new folders - Chat - Message boards - Real-time - Electronic Balloting - Polling	The flow of information is made possible so that knowledge sharing can take place.
Teamwork	*Community Communication*	Allowing employees to have a sense of belonging to the organisation even if they are from different divisions.	Inter divisional teamwork on projects.

Organisational activity	Portal general information/content advantages	Organisational reasons for implementation	Impact on the organisations activities
Competitive intelligence	*Business intelligence*	The organisation will use this to allow for both internal investigations and external competitive intelligence.	Allows for real-time investigations to take place via the use of the portal.
All divisions are important	*Security*	With single assigned login codes the organisation can restrict access to content areas.	This would have an advantage to the content on the portal.
Employees vs. information overload	*Personalization and customisation*	User participation - Intuitive interface - Aesthetics use - Unified presentation of information Personalization - Experience - Alter interface - Information Pull - Information Push - Portal editor Customisation - According to enterprise polices - According to enterprise expectations	- This element assists the organisation. Assists with the employees not having to endure information overload.

Chapter 4 : <u>**Effective Information Management processes in an organisation's**</u>
<u>**restructuring and resizing process**</u>

4.1. Introduction

The Information Management processes and elements can be utilized by the restructuring committee as a springboard for analysis on current standings of the organisation within all of its divisions. Results can be assimilated and in this way Information Management can play a significant role in the restructuring strategy. Kirk (1999:9) points out that, *"Information can be integrated into organisational processes and so it can influence organisational culture, structure and work patters."*

Strangelove (1994:2) noted that, "*The Information Age has begun in earnest now that the primary commodity in Western Capitalism is information. This economic transformation is occurring simultaneously with a structural shift in the nature of information.*" Information has taken on a new dimension in the new economy. It would seem that it is harder to control but that it has a new slant to knowledge within an organisation, this if utilized correctly can be advantageous.

The new information and technological rich economy will enable organisations to function at optimal real-time levels. According to Van Zanten (2000:1) "*information-rich goods and services*" constitute the biggest percentage of the gross domestic product and how it differs from the industrial economies is that most of the workers utilize the flow of information within their job parameters unlike the very structured old economies. Van Zanten (2000:1) continues to state that "*The fact is that information – and hence information workers – is central to most of the work performed in the modern economy.*"

Kirk (1999:21) elaborates on the purpose of Information Mangement: *"Information and its management contributes to the achievement of organisational goals. A process approach to information mangement supports the integration of information and strategy…implementing information management. Managers are in a unique position to integrate information and business strategy. The effectiveness of information*

management can be measured by the extent of knowledge creation or innovation in organisations." These organisational goals within an organisation that is undergoing some sort of restructuring or change should rely on the management of information as a foundation source of confidence to get to the next stage of the organisation's life cycle.

Restructuring an organisation involves predetermining were the organisation fits into the industry life cycle. The industry life cycle will have an enormous impact on the organisation's current standing. With reference to the definition of restructuring in Section 1.1.2, Wikipedia (1996:1), attaches other characteristics to the term restructuring, these include:

- *"Changes in corporate management …*
- *Sale of under utilized assets, such as patents or brands*
- *Outsourcing of operations such as payroll and technical support to a more efficient third party*
- *Moving of operations such as manufacturing to lower-cost locations*
- *Reorganizations of functions such as sales, marketing, and distribution*
- *Renegotiation of labour contracts to reduce overhead*
- *Refinancing of corporate debt to reduce interest payments*
- *A major public relations campaign to reposition the company with consumers."*

These characteristics together with the points outlined in the definitions of 'restructuring' (as indicated in Section 1.1.2) outline areas of concentration that Information Management could attribute to and assist with in the smooth running of the broader restructuring strategy.

Restructuring process elements and Information Management elements have been illustrated in Figure 12. There does seem to be an overlap between the elements of restructuring and Information Management and these will be further investigated in the analysis on Table 4. All the identified restructuring process elements have a critical linkage to the documented Information Management elements.

Figure 12. Essential Restructuring elements to be considered

4.2. Strategy

As indicated by Longenecker *et al* (2000:104), a strategy is "…a*n action plan…"* and *"… that guides resource investment…"* Information management is a necessary management action or requirement within a profitable organisation. Aligning this notion with a restructuring strategy indicates that an organisation requires a strategy to assist with the objectives and ultimately the successful implementation of a restructuring effort. According to Buchanan and Gibb (1998:34) "*The alignment of information strategy with business strategy is critical ingredient for the success of the parent organisation.*"
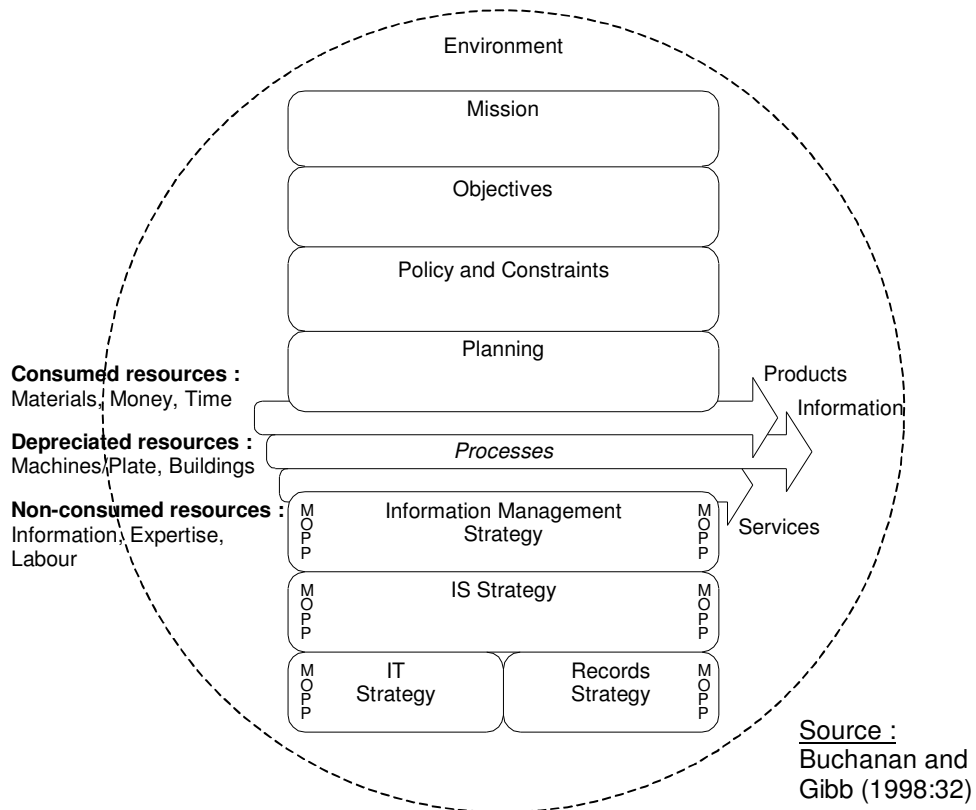
Figure 13. Business and information strategies.

With reference to Figure 13, from Buchanan and Gibb (1998:32), in order for an organisation to be successful, business and information strategies must be in alignment for the organisation to be successful. This is critical when the organisation is undertaking any sort of restructuring, transformation or change. According to Buchanan and Gibb (1998:31), "…*the distinctions made between the various components represent an ideal and that the size or attitude of an organisation to information technologies may blur boundaries, conflate roles, or simply ignore some of these building blocks.*"
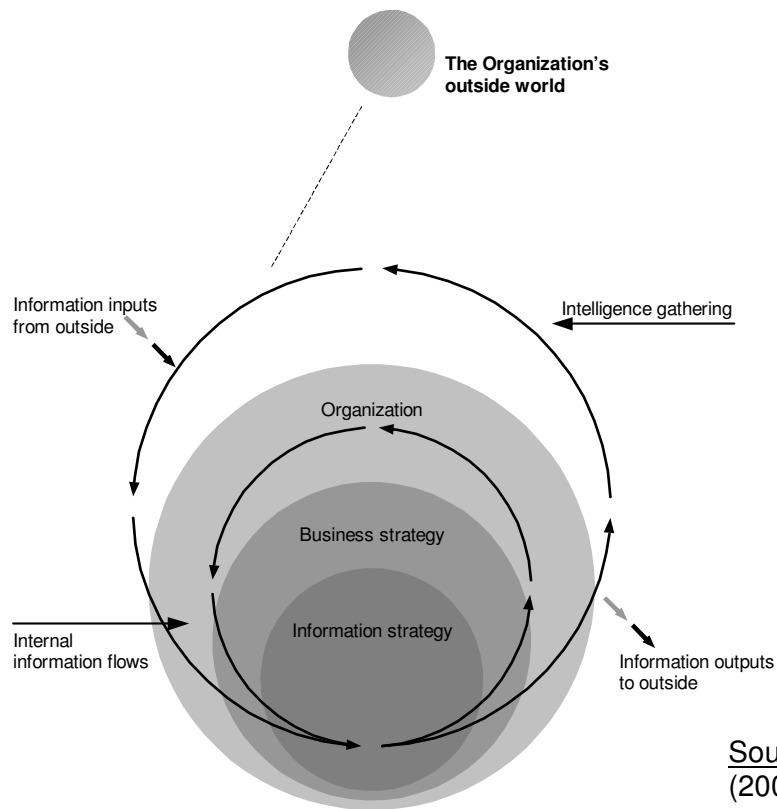
Figure 14. Information strategy, the engine.

With reference to Figure 14, from Orna (2004:104), the author suggests that "*The engine of change and development…suggests, a strong information strategy, which is well understood and has the commitment of everyone in the organization, can become the engine that:*

- *Drives interchanges in information internally and with outside world*
- *Brings in intelligence about change*
- *Leads to integrated responses*
- *Promotes creation of new knowledge through internal interactions*
- *Leads to initiatives, directed both internally and to outside world, which makes for success in innovation and competition.*"

In the case of an organisation undertaking any sort of change be it in a restructuring environment or another type of change environment, Orna suggests that a strong information strategy is critical. She lists important factors such as: drives information interchange, educates or intelligence about change and responses are integrate. These factors should be integrated and monitored in a restructuring environment.

4.3. Total Quality Management (TQM)

According to Ettinger (1993:104), "*A good definition of total quality by Dr. Edwards Deming is: 'Good quality does not necessarily mean high quality. It means a predictable degree of uniformity and dependability with a quality suited to the market.'*"

According to Ettinger (1993:105), "*Total Quality also means a change in working practices and relationships.*"

Information Management has an extensive element of value and quality attached to it. Information Management is a function and a priority of each employee, to generate / modify and to utilize as a vital tool within their work environment. The fact that Total Quality Management is a vital element to a restructuring process runs parallel to the fundamentals of Information Management. According to Hellriegel et al (1999:67) quality is defined as "*Value conformance to establishing specifications or standards, excellence, or meeting and/or exceeding customers' expectations.*" Hellriegel *et al* (1999:67*)* suggests Total Quality Management is an "*Organisational philosophy and strategy that makes quality a responsibility of all employees.*" This statement suggests that all employees must work together as a team and towards the elements of a new restructuring or resizing process.

After conducting research on four organisations Brown and van der Wiele (1997:211) found that "*The systems infrastructure has to do with the integration of quality issues and TQM performances into the hard systems of the organisation. Examples are …information system.*" Brown and van der Wiele (1997:210) continued to identify that "*information management*" forms part of one of the company's organisational improvement matrix categories. Brown and van der Wiele (1997:207) noted that "*Decision making based on knowledge and data*", was found as a guiding principle to achieving corporate strategic initiatives.

Organisations need to have goals and impending visions, to attain these visions they need fuel, the fuel in this case is Total quality Management. According to Hellriegel *et al* (1999: Glossary G-11), Hellriegel *et al* points out two very important issues are, the "*major courses of action*" and the *"to achieve its goals*". This is the very essence on

why an organisation is in fact conducting business within their specific environments and to be productive.

4.4. Organisation Life Cycles/ Industry Life Cycles

Organisations exist within a global economy and within a targeted industry, to this end as per Proctor (2001:197) indicate, "…*firms to adjust their strategies to meet the shifting requirements of the industry life cycle.*"   A good definition of industry life cycle is according to Dictionary.com (2006:Industry Life Cycle), "*The stages of evolution through which an industry progresses as it moves from conception to stabilization and stagnation. The stage in which a particular industry (and thus, a firm within the industry) currently exists plays a major role in the way investors view its future.*"   This standpoint is really the starting point of an organisation's journey to align its strategies in order to survive within the industry that they currently operate. Organisations look at ways of restructuring to keep in line with their respective competition within their targeted industries.

4.5. Increasing corporate turbulence

Organisations, while in a restructuring process, tend to be in a world of commotion, confusion, disorder and turmoil.   As discussed in Section 3.2.6, communication is a good starting point for organisations to overcome the corporate turbulence. Managers should assist with this and incorporate Information Management. Kirk (1999:19) suggests the following propositions for Information Management from managers "*Proposition 1:   Managers are in a unique position to integrate information and organisational strategy. Proposition 2: A process approach to information supports the integration of information and business strategy and is a foundation for information management. Proposition 3: Information management must adopt a broadly-based approach to information so that it concerns itself with information as an object and as a user construct formal and informal flows of information inside and outside organisations sources of information internal and external to organisations enhancing the information capabilities of individuals in organisations. 4. The effectiveness of*

information management can be measured by the impact on information on the organisation."

4.6. Attributes of downsizing

Palliam and Shalhoub (2002:436) quote downsizing as follows, "*In defining downsizing, it would be appropriate to consider Freeman and Cameron's (1993) four attributes of downsizing. First, downsizing is an activity that members of an organisation undertake in a purposeful manner. Second, downsizing typically involves a reduction in personnel. Third, the focus of the downsizing activity is on improving effectiveness and/or efficiency in the organization; and fourth, downsizing affects the work processes.*" Palliam and Shalhoub (2002:438) continue to say "*Equally necessary is the ability to monitor budgets accurately and regularly, which requires an effective investment in various resources…effective computerized personnel information system is most needed during periods of immense organizational change and downsizing…data need to be captured at the source, and the line should have direct access to information and be able to run many of its personnel processes without intervention.*" The salient points are:

- Downsizing has a purpose
- Reduces the personnel numbers to attain maximum productivity
- Success and proficiency of the organisation should escalate
- Work processes should be viewed in a smart manner to be functionally profitable
- Resources and cash flow should be monitored to ensure a greater yield in profits
- Systems should assist and benefit the organisation.

4.7. Human resource development as a change agent

According to Palliam and Shalhoub (2002:439), "*Restructuring or downsizing, in contrast, is likely to entail many different and separable objectives or actions. A restructuring plan may require a sequence of events to occur for completion. In addition, restructurings are often characterized by significant employee terminations…*" This is not a good thing for the South African economy, to have a

climbing unemployment rate, but organisations have to look at what is beneficial to their strategy of survival and productivity levels.

4.7.1. Redundancy

Redundancy affects employees and needs to be addressed in training up individuals within new or similar work environments within an organisation. Extracts taken from Dictionary.com (2006 Redundancy:1) for redundancy are, " a. *The state or fact of being unemployed because work is no longer offered or considered necessary. b. A dismissal of an employee from work for being no longer necessary; a layoff …The attribute of being superfluous and unneeded*"

4.7.2. Key Performance indicators (KPIs)

Performance indicators are necessary within the restructuring environment as in this application, organisations can streamline functions to action plans and strategies. According to Reh (2006:1),"*Key Performance Indicators are quantifiable measurements, agreed to beforehand, that reflect the critical success factors of an organization. They will differ depending on the organization. A business may have as one of its Key Performance Indicators the percentage of its income that comes from return customers.*"

4.7.3. Survivor Plans

Within the context of an organisation undergoing restructuring or downsizing, when employee's positions are made non functional (or not a full time position) within the new corporate strategy, Simone and Kleiner (2004:131), say, "*…impact may be on the surviving employees.*"   This impact can influence their working careers, according to Simone and Kleiner (2004:131), "*…their future performance…may be compromised.*" Griggs and Hyland (2003:178) contribute to this as they say that, "*…survivors are left to carry their own workloads, as well as the workloads of their departed colleagues. To make matters worse, specialist skills may have 'walked out the door' and tasks that used to be completed quickly may now take much longer as survivors are left to discover how they should be accomplished.*" Without the intervention of information audits and information flow's information structures, strategy and know-how vital information will be lost and this will create havoc. Mirabal and DeYoung (2005:3) reiterate the fact that performance and productivity will decline as the work load and processes have not necessary been altered,

"…*pose a real threat to performance and productivity with new roles and additional tasks required of each employee as a result of a smaller workforce restructured to perform an increasing number of responsibilities…*" Again this will have an impact on the workforce. According to research conducted by Appelbaum *et al* (2003:74), "…*decreases in productivity, motivation, emotional health, job satisfaction, and confidence in management as well as absenteeism.*"

4.7.4. Innovative forms of organizing

Value creation is the key to any organisation today. Information resources are the fundamental starting points for value and via the use of Knowledge Management the organisation can tap into leveraging the organisation to profit levels above those of it's competitors. According to Dekker (2002: 22) "*Business processes that flow between the internal and external domain become critical to ensure successful collaboration. Intangible assets – mainly knowledge and information – become the key metric for value creation.*"

According to Ogbonna and Harris (2003:515-516), "…*new innovative forms of organizing…intensification of changes to economic, technological, informational and political factors are forcing managers to seek new ways of organizing and responding to the challenges they face. Similarly, other researchers identify increasing globalization as a key factor* …" The capability of an organisation to be pioneers with regards to products and services is known as innovation capital. This process does not only occur within the organisation, but requires input of knowledge from the market and global environments. Vast pools of intellect lie within the databases of an organisation and tacit experiences that the employees have had.

4.7.5. Performance

Information resources are transformed into knowledge pools for employees to tap into and use to improve the organisation's productivity levels. As pointed out by Davis and Wilson (2002-3:3), "… *modelling information flow and processes, measuring information quantity and quality, examination of information seeking and use behaviour, cognitive processes and the effects of social interactions on learning and use of information and in the generation of knowledge.*"

"There is strong evidence that the perceived impact of change is to cause the attrition of organisation's skills and knowledge basis: this is a paradoxical given the recent emphasis on knowledge management and 'the learning organisation' in the current management discourse." (Worrall and Cooper, 2004:64).

In order for an organisation to survive it needs to establish a grid of information and knowledge that should be kept in some sort of technological format so that all aspects of the organisation are adhered to, dealt with and ultimately captured for further reference. According to Strassmann (1999:4), "*A firm's information technologies must first be judged in terms of their demonstrable impact on long-term gains in information productivity, as well as in delivering higher levels of information productivity than their principal competitors.*" Seen here is a link between information technology and information productivity levels.

According to Malhotra (2001:2) the costs of information technology need to be justified in relation to information and how knowledge workers should assist with building relationships in the utilization of each other's ideas. It is concluded that the financial department should also be in the loop to provide assistance to both the knowledge and information technology departments. The cost of technology needs to be justified and must add to the organisation's bottom line. Supporting Malhotra is Friedman, (quoted out of Malhotra 2001:5) who also mentions "*The irony is that, as the barriers to acquiring information go down, the value of true knowledge and insight goes way up… because it is only in its effective and practical application that information becomes powerful and relevant.*"

4.7.6. <u>Intellectual Capital</u>

The concept of Intellectual Capital is dependent on the skills of the organisation' s employees and the basis for an organisation's survival in the fast new economy that is now. Valuable tacit and explicit knowledge sources need to be tapped into by the employees so that the organisation benefits and the productivity levels are strengthened.

A fundamental element that is embedded within an organisation is the underlying culture; this is the way tasks are handled and the way in which the employees as individuals think as a group. The following three areas to add value to the knowledge

management strategy go hand in hand but require to be dealt with as an individual process; they are knowledge mapping, GAP analysis and framework. Without these processes the fundamental issues will not have an impact on the strategy. These will automatically lead on to the issue of planning and the creation of knowledge initiatives. The main reason behind conducting a knowledge management strategy is to enable the organisation to benefit from intellectual capital contained within the employees. A cost-benefit analysis should be undertaken to assess the input verses the potential outputs. With this in hand the organisation can concentrate on the physical architecture of laying out parameters, technological databases and the structure of disseminating knowledge between employees such that innovation can take place.

According to Gates (1999:286) "*Think of knowledge management as an investment in intellectual capital that will ultimately lead to a higher corporate IQ - an enhanced ability of your company to get the best collective thought and action.*" Playing on the concept of the 'collective', opens a whole new way that individuals within an organisation can conduct the way in which they do their own jobs as this will impact on the greater organisation at the end of the day and ultimately the organisation's bottom line.

4.8. Information Management and Information Technology

4.8.1. Business Portal

Organisations need to view areas such as cost savings; convenience; product information and knowledge, in terms of how the organisation would like to align its business strategy. Cost savings with reference to the organisation encompasses cutting back on unnecessary peripherals and conducting business in a smarter and more efficient manner. With regards to the area of convenience and product information the organisation should structure the business units so that they update information on a system that is linked directly to the organisation's extranet and from this the Internet site is updated.

Information or knowledge flow processes need to be identified and structured to make a positive impact on the knowledge sharing within the organisation as evident

in this extract from Allee (2000:18) "… *systems and work processes that leverage competitiveness, including IT, communication technologies, images, concepts and models of how the business operates, databases, documents, patents, copyrights and other 'codified' knowledge.*" This assists the initial information that an organisation holds and carries the leverage into the productivity profits or outputs.

4.8.2. <u>Knowledge Management</u>

Knowledge Management is "…*about providing people with the knowledge…that enable them to perform effectively.*" (Smit, 2004:149)

Organisations are by their nature very complex. The knowledge flow or lack there of can have a severe impact on an organisation, most noticeably on the profit or financial status of the organisation. The role of the Chief Knowledge Officer is to form relationships with all the employees who participate in ensuring that the organisation runs smoothly and profitably.

Within the individual environment a knowledge audit needs to take place so that knowledge types, sources and intellectual capital can be identified and stored for future use.   Again the SWOT analysis should be undertaken to rule out any damaging elements to the organisation.

Within organisations two types of knowledge are exhibited, namely explicit and tacit knowledge.   These together are important factors that need to somehow be incorporated within the organisation's information database. To elaborate further tacit knowledge is the awareness and experience of how a person operates in his/her daily activities. It is via these internal loci of control that tacit knowledge develops and forms, to ultimately create an internal value system.   Tacit knowledge relates to the 'know-how' and the internal locus of control. Scott (1996:1) also interprets this tacit knowledge as that it encompasses perspectives and context specific skills. According to Johannessen *et al* (2001:4) Polany's idea of tacit knowledge is " *We can know more than we can* tell". Explicit knowledge is the knowledge that has been made visual to others by the means of communication and it has been documented or written into definitions and formulas so that employees can utilise the information and knowledge.   Fouché (1999:3) refers to the Japanese management experts Nonaka and Takeuchi, "…*all types of knowledge cannot be articulated and*

explicated easily." According to Fouché (1999:3)scientific knowledge is "know-what", which is a colourful way to describe explicit knowledge.

According to Davis and Wilson (2002-3:14), a quantitative methodology on explicit methods for investigating aspects of knowledge in the knowledge management environments indicate productivity indicators such as "*Comparisons of productivity; Measures of growth and quality; Input-output measures*". Acquired knowledge by employees should assist with positive adjustments to job outputs, growth within the organisation and the value of the work procedures and products being produced.

The dependency of productivity on information resources within an organisation does not only rest in the hands of the knowledge workers but with everyone within the organisation. It is up to each employee to feed information into a knowledge base as this will assist the productivity of an organisation and will have a positive effect on the productivity levels. According to (2001:2), "*Knowledge workers – whether managers or administrators or researchers — need substantial information input to perform satisfactorily, but when the amount of time devoted that function approaches 20%, knowledge workers appear to begin to satisfice. They begin to conclude that they have to get on with the rest of their job; that if they have not already done so, they will soon run into diminishing returns in their information seeking; and that it is time to proceed based on the information they have.*"

For knowledge management to succeed within an organisation Tissen *et al* (2000:32) have formulated the concept of value-based knowledge management. They point out two concepts, the first being operational knowledge management that encompasses what they call smart professionals and smart knowledge, and the second being that of strategic knowledge management, which encompasses smart strategies, smart professionals and smart organisations. Within these four smart ' headings' the authors elaborate as follows, smart strategies, they state that the strategies assist in showing how to create and leverage knowledge that will deliver company value; smart organisations, which should be both process driven and team based; smart professionals, offer the kit that assists in the shaping of key components and attitudes of the professional workers and finally smart knowledge, which they say assists with developing knowledge which is focused in on the exact

management processes. Tissen *et al* (2000:33) continue to say, "*Knowledge management improves efficiency and accelerates innovation.*"

Looking at organisational productivity Strassmann (1999:2) observed, "*We must change the way productivity is defined and calculated. It is my intention to overcome the defects of the measures based on simple ratios. We will therefore concentrate on a composite measure of productivity that reflects the decisive influence of information management along with all of the other input factors. With capital constituting a significantly smaller influence than information, what matters now is the productivity of information management.*"

4.8.3. Corporate Information Centre

Information resources are transformed into knowledge pools for employees to tap into and use to improve the organisation's productivity levels. As pointed out by Davis and Wilson (2002-3:3), "… *modelling information flow and processes, measuring information quantity and quality, examination of information seeking and use behaviour, cognitive processes and the effects of social interactions on learning and use of information and in the generation of knowledge.*"

For information resources to have an impact on the productivity of an organisation each individual information resource would need to be analysed. Six impact areas have been identified namely, Cognitive, Money, Time, Expectation, Affective social interactions and the Uses of the information resource. The impending result would then be determined.

Information resources have a direct impact on the knowledge levels within an organisation and therefore will impact on profitability. According to Cronje et al (1997:442), " … *profitability and productivity enhancement have a positive correlation – the greater the productivity improvement, the higher the profits that will be achieved.*"

4.8.4. Information interpreted and information Gaps

Via the process of Information Management, gaps within the organisation's information flows, systems and raw data can be identified. Eliminating interpreted information gaps can assist the organisation by saving time and resources, thus

information location can play a vital role in the saving of time as a commodity to an organisation.   As stated by Koenig (2001:1), "*Line managers and administrators spend as much of their time information seeking as do research scientists. What is going on here?*" If the information resources were organised the organisation would benefit with increased productivity levels. According to Gates (1999:xxiv), "*Trade information for time. Decrease cycle time by using digital transactions with all suppliers and partners, and transform every business process into just-in-time delivery.*" This is an example of how information resources can be passed on too much needed areas and assist the organisation with increasing its productivity levels.

4.8.5. <u>Information Security</u>

Information security plays a big role in the restructuring of an organisation. Problems as mentioned by Lessing (2000:87), "…*individual unauthorized access, alteration, theft and physical damage.*" could play a devastating role when it comes to the point of work allocation and the pick up point of work once an organisation has restructured. This can cripple an organisation before it begins to function as a new entity after restructuring or downsizing has taken place. According to Doddrell (1996:5) "*If a business's vital records become inaccessible, corrupted or available to unauthorized persons the consequences can be devastating, even to the point where the business fails.*"   Information security is therefore a rather sizeable area of concern. The following Information Management processes namely, an information audit, information mapping and information flow analysis must take place before a announcement is made to the organisation of a possible restructuring. An information policy and architecture should be in position so that passwords can be put into place and that organisational information backup repositories can be backed up until a solution has been made as to the route the organisation is going to take, an example would be an information portal. According to Lessing (2000:88), some of the main reasons for an increased interest in systems security are as follows:

• Firms are heavily dependent on information systems for their critical operations.

• Most systems today feature online access from users located throughout the firm.

• Due to human negligence, many end users tend to be lax in their security and recovery precautions.

• Management only realise what security is once it has been violated.

4.9.   Effective Information Management processes

Keeping in context with the research problem, this section forms part of the 'effectiveness' of Information Management. This forms part of the three main areas on concern relating to the research problem as indicated in Section 1.2.

Working through the accessible literature no one model type has been identified to assist in the alignment of both an Information Management process and a restructuring process. This section endeavours to bring about a uniform method of running the two processes in a related, functional, way of interchange to ascertain results that will benefit the organisation.

Any restructuring process is one of high risk, Information Management aims to down play this risk factor and alleviate a number of challenging factors that could ultimately play a considerable role in the restructuring process.

With reference to the definition of the term 'restructuring' (See Section 1.1) certain aspects have been identified namely:
• Basic change
• Alter structure
• Significant modification
• Rearrangement of a firm's assets and/or liabilities
• Discontinuing a line of business
• Transformation
• Reorganizing
• More efficient
• More profitable
• Changes in corporate management
• Outsourcing
• Reposition organisation via a public relations campaign

These aspects need to be addressed when an effective Information Management process is structured.

According to Orna (1994:16), "*If the knowledge that organizations need, and the information resources they require to keep it in good health, are so wide-ranging, and so specific and individual in content, then managing them must be based on a clear, accepted organizational policy. The effort invested in developing a policy and then a strategy for using knowledge and information, and in applying them, can bring both avoidance of dangers and positive benefits.*"

With regard to, Figure 12, the following elements also needed to be addressed:
- Strategy
- Total Quality Management
- Organisational or industry life cycle
- Increasing corporate turbulence
- Attributes of downsizing
- Human resources as a change agent
- Information Management and Information Technology

ORGANISATION'S INFORMATION ECOSYSTEM

- Strategy
- TQM
- Organisational or Industry life cycle
- Corporate turbulence
- Attributes of Downsizing
- Human Resources
- Information Technology

ORGANISATION'S RESTRUCTURING PROCESS

Step Eight
Information Strategy

Step Seven
Identify Information Architecture

Step Six
Information Policy

Step Five
Align needs from steps 1-4

Step Four
Information Flow Analysis

Step Three
Information Mapping

Step Two
Information Audit

Step One
Identify Organisational information needs - establish a base

Align the Information Management processes with the Restructuring process

Figure 15. Representation of an Information Management process to assist in a restructuring process.

With reference to Figure 15 both of the processes namely the Information Management processes and the Restructuring processes illustrated in the figure take place within an organisation's current life cycle stage. Certain Information Management processes should be undertaken prior to announcing the official restructuring process, as this will counteract two very important aspects of the effects of a restructuring process. These aspects are, a) to retain all current information and organisational knowledge and b) to document the flows and mapping of current information. This is important since if employees start to panic and look outside the organisation for employment they will not be conducive to the process of identifying

current vital information and sorting it in repositories. Depending on the level of de-motivation employees could even blackout or hide information, which may be vital to the organisation's future profitability.

With reference to Figure 15 the Information Management processes have been documented within a logical chain of command. Eight steps have been clearly identified in order of succession.

- Step one: identifies the organisational information current situation, this serves to form a base or a foundation to work from. This is a mechanism for establishing the current organisational structure, lines of reporting, and processes.
- Step two: conduct an Information Audit. This is vital, as it will identify current information and also ascertain the current information environment.
- Step three: Information Mapping, although a common tool within an Information Audit, has been portrayed as a separate entity as this is an important element to map out information movements.
- Step four: from the audit and mapping results a flow analysis can take place. This establishes how information moves around the organisation.
- Step five: allow the preceding steps to bind together to produce a needs analysis for the elements of a restructuring process.
- Step six: formulation of an Information policy. This will define the objectives of information, the principles on which it will be administered, the use of technology and how the Information Management process will have a cost-effectiveness approach to the restructuring process.
- Step seven: identify and implement information architecture that will entrench itself into the needs and aspirations of the restructuring process.
- Step eight: set down a working information strategy.

The above-mentioned steps need to align themselves with the organisation's restructuring process, so that prospectively all the possible informational areas of probable concern are diagnosed.

Table 4 will illustrate how Information Management can assist in a possible restructuring process.

The restructuring activities have been further divided into sub-problems within that said activity. Column three indicates which Information Management process should be applicable. Column four identifies the   impact that the Information Management process will have on the restructuring process and finally column five indicates what the impact will be on the organisation.

Table 4. Effective Information Management Processes in the Restructuring and resizing process

Restructuring Activities	Sub problems of Restructuring Activities	Information Management (IM) Processes with reference to Figure 15								Information Management 's impact/outcome on the Restructuring Activity	Impact on the organisation
		Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7	Step 8		
1. Strategy	▪ Mission ▪ Objectives ▪ Policy a and constraints ▪ Planning	• • • •	• • • •	• • • •	• • • •	• • • •	• • • •	• • • •	• • • •	- Aligns Restructuring strategy with information strategy.	- This allows the organisation to focus and regroup in a predetermined direction.
2. Total Quality Management (TQM)	▪ Quality ▪ Value conformance ▪ Responsibility of employees ▪ Systems infrastructure ▪ Decision making	• • • • •	• • • • •	• • • • •	• • • • •	• • • • •	• • • • •	• • • • •	• • •	- Quality must be viewed by IM and TQM on the same foot holding and ought to be structured as such. - Value sets need to align. - All the indicated steps are the joint responsibility of <u>all employees </u>to work together within parameters to assist the IM processes were they can. - Needs to be aligned with information technology protocols and structure. - IM via correctly structured systems can assist with the location, updating and storage of a Knowledge Management system; this will enrich the restructuring process.	- Organisations strive for quality as this feature distinguishes them from the competition within an industry, and can differentiate them as market leaders. - Organisations will benefit from aligned value sets, employees will have set of values to work towards, and implement, which will impact on productivity. - Employees can assist the transition of Information Management processes, this will save time and resources for the organisation. - The outcome will streamline systems functions, which will impact on time and organisational resources. - All the necessary systems should be enabled to help employees locate and utilize information and knowledge to make an informed decision.
3. Organisational or Industry life cycle	▪ Shifting requirements in industry life cycle	•	•	•	•	•				- IM needs to establish a foundation base for the current organisational information available. Then	- The organisation will have a clear representation of where its position is within the industry.

Restructuring Activities	Sub problems of Restructuring Activities	Information Management (IM) Processes with reference to Figure 15								Information Management 's impact/outcome on the Restructuring Activity	Impact on the organisation
		Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7	Step 8		
	▪ Investors view the future	•	•	•	•	•	•	•	•	introduce specific avenues to address the location of information and knowledge within the shifting industry life cycle. This will assist with the organisation's restructuring processes. - This is an ongoing phase as an industry is dynamic and never idle.	- Continuous feedback will allow the organisation to establish its standpoint within the industry. It will also indicate how the industry is evolving.
4. Corporate turbulence	▪ Management ▪ Systems ▪ Basic change ▪ Change in corporate management ▪ Organisational structure ▪ Rearrangement of assets ▪ Discontinuation of business lines ▪ Transformation ▪ Repositioning organisation- public relations	• • • • • • • • •	• • • • • • • • •	• • • • • • • • •	• • • • • • • • •	• • • • • • • • •	• • • • • • • •	• • • • • • • •	 • • • •	- IM should be in a position to accelerate communication channels, information systems and knowledge systems.	- This will assist in the combating of confusion, disorder and turmoil.
5. Attributes of downsizing	▪ Has a purpose ▪ Reduction in personnel ▪ Improving effectiveness	• • •	• • •	• • •	• • •	• • •	 •	 •	 •	- IM will establish a foundation base. - IM will ensure that information is not lost but documented, and will attempt to capture knowledge before employees leave. - The following six points all fall into an area that IM will confront while	- Allows organisations to know that their information and knowledge assets are secure while under taking a restructuring process.

Restructuring Activities	Sub problems of Restructuring Activities	Information Management (IM) Processes with reference to Figure 15								Information Management 's impact/outcome on the Restructuring Activity	Impact on the organisation
		Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7	Step 8		
	▪ Improving efficiency	•	•	•	•	•	•	•	•	undertaking the eight steps to ensure that processes flow.	
	▪ Work processes	•	•	•	•	•	•	•	•		
	▪ Monitor budgets	•	•	•	•	•	•	•			
	▪ Personnel information system	•	•	•	•	•	•	•			
	▪ Organisational change	•	•	•	•	•	•	•			
	▪ Capture data	•	•	•	•	•	•				
6. Human Resources	▪ Redundancy	•	•	•	•	•				- Although a position is made redundant the information and knowledge that the position utilized and contributed to hold value. This must be retained.	- Information is retained by the organisation and not lost.
	▪ Key Performance Indicators (KPI)	•	•	•	•	•	•	•	•	- IM can assist in the streamlining of KPI's.	- Organisation's action plans and strategies are streamlined, to maximise future productivity.
	▪ Survivor Plans	•	•	•	•	•	•	•	•	- IM processes effectively retain information and information flow processes.	- Information is accessible to employees who need to use it. It is not lost. This will also speed up time frames, as minimal time will be spent trying to locate the resource material when required.
	▪ Future performance	•	•	•	•	•	•	•	•	- IM processes will assist the following listed areas of interest within the Human resources division by making the most of the eight steps and placing them in the context of a restructuring environment.	- Align the processes and features of the Human Resources division to that the organisation can benefit in the long run.
	▪ Workloads	•	•	•	•	•	•	•			
	▪ Specialist skills	•	•	•	•	•	•	•	•		
	▪ Productivity	•	•	•	•	•	•	•	•		
	▪ New roles	•	•	•	•	•	•	•			
	▪ Additional tasks	•	•	•	•	•					
	▪ Motivation	•	•	•	•	•	•		•		
	▪ Confidence in management	•	•	•	•	•	•	•			
	▪ Absenteeism	•	•	•	•	•	•		•		
	▪ Performance	•	•	•	•	•	•	•	•		

Restructuring Activities	Sub problems of Restructuring Activities	Information Management (IM) Processes with reference to Figure 15								Information Management 's impact/outcome on the Restructuring Activity	Impact on the organisation
		Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7	Step 8		
	▪ Intellectual Capital	•	•	•	•	•	•	•			
7. Information Technology	▪ Systems ▪ Training ▪ Business Portal ▪ Knowledge Management ▪ Competitive intelligence ▪ Information Security	• • • • • •	• • • • • •	• • • • • •	• • • • • •	• • • • • •	• • • • • •	• • • • • •	• • • • • •	- There does seem to be an overlap of IM processes and Restructuring processes. IM will strive to keep its purpose of the accord so as to assist with the restructuring and conclusively the streamlining of the restructuring organisation.	- The organisation will be one run on sound information availability and processes.

4.10. Conclusion

The scenario of an organisation on the verge of undertaking a restructuring, transformation, downsizing or any form of change project, is a daunting one if not correctly planned and managed. Information Management should be viewed with the intent to provide a clear information foundation base, so that proposed strategies can be put in place and carried out without too much opposition.

Identified organisational restructuring elements have been elaborated on, as they are the focal point on which Information Management must qualify and align with. A table relating the two areas under topic has been drawn up and areas of Information Management assistance has been tabled within areas of restructuring, even to a point of how this will influence the organisation's processes within their scope of contributing to the organisation's anticipated end results.

The next chapter focuses on a case study that was undertaken at the De Beers Group, which is the world's largest diamond mining organisation. Elements of the restructuring process as indicated in chapter four are evident in the De Beers Group's transformation and change elements over the last couple of years. The case study deals primarily with the restructuring of the De Beers Group Information Portal.

Chapter 5 : The De Beers Group: Case Study

5.1. Introduction

The De Beers Group has been in existence for 118 years (Bates, 2006:38) *"…since its formation in 1888…")* and now finds itself in the modern information and technological age with its associated focus on knowledge management and intellectual property. The De Beers Group is described in Datamonitor's (2005:5) Business Description as follows, "*De Beers is the world's largest diamond mining and marketing company, which owns or leases about six South African diamond mines. It manages about 18 mines in around four countries and is responsible, with its subsidiaries De Beers Marine, Namdeb (Namibia) and Debswana (Botswana), for more than 40% of gem diamond production in the world…*".

Elements of the restructuring process as indicated in chapter four are evident in the De Beers Group's transformation and change elements over the last couple of years. The case study deals primarily with the restructuring of the De Beers Group Information Portal.

With the De Beers Group's entry into the information age comes the realisation that change needs to be addressed within the Group. As indicated by Bream and Innocenti (2006:1), "*Diamond profits are not for ever CORPORATE TRANSFORMATION: De Beers has undergone huge changes to ensure it remains the industry's dominant force,,,*". According to Bates (2006:38), Mr Gary Ralfe ex-De Beers managing director said that "*Our transformation has been running parallel with the much more important transformation happening here in South Africa. The new South Africa cannot survive without transformation just as De Beers [could not]."* Bates (2005:30) provides further insight, "*De Beers has been under mounting pressure to increase the amount of black participation in its rank's.*", Bates also named the first black managing director as "*David Noko has been appointed managing director of De Beers Consolidated Mines, which handles the company's South African mines."* Backing Bates is Posnock (2005:32(1)), "*… the historic announcement of David as the first black South African managing director of DBCM—is an illustration of our continued commitment to our*

country of origin."   According to Datamonitor (2005:25) "*Management continues to focus its efforts on further reducing costs and driving efficiencies throughout its operations...The reorganisation of De Beers' South African assets, which has involved focus and planning over the past year, is now in the process of being implemented. Accordingly, De Beers Consolidated Mines Limited should be in a position to implement a Back Economic Empowerment transaction during 2005.*"

As stated by Bream and Innocenti (2006:1), "*A drop in diamond demand triggered by the Asian financial crisis caused De Beers to revamp its strategy. Between 1998 and 2001, the group moved from a business model based on controlling diamond supply to one based on stimulating diamond demand.*" Bream and Innocenti (2006:1) quote Mr Gary Ralfe ex-De Beers managing director as saying, "*We had to go out and re-establish our identity. Then we embraced a new era in 2000 when we created the 'supplier of choice' business model...*" The article continued to say "*The new strategy brought a change of culture as well as tactics. 'Under the new model, we could no longer believe our fortunes would fluctuate according to the strength of the world economy. We had to become more active and try to influence the market and create demand.   Management be-came [became] accountable in a way we had not dreamt about in 1998.' *"

According to Factiva (2005:1)   "*The company* [De Beers Group] *believes its employees need to have better and faster access to all the information relevant for their daily work, which in turn allows them to save time looking for information, make better use of the existing knowledge and expertise in the organisation, and ultimately, make better business decisions.*" Information and Knowledge management play a pivotal roll within the De Beers Group to facilitate smooth functioning and running of the organisation.

As stated by Mudge (2006:1), "*In recent years the De Beers Group of Companies has undergone a number of significant changes. De Beers has shifted from operating as a dominant leader to operating in a thriving gem diamond industry that has attracted new entrants to create a dynamic and competitive diamond world. This creates a unique and exciting opportunity to create a totally integrated diamond mining and marketing company, which will lead De Beers into the future.*" Mudge continues to say, "*More and more we are required to share information, build effective relationships*

that encourage the opportunities to innovate."   This implies that 'information' is a foundation point for all who are employed at the De Beers Group and due to the changes and transformation that has and is still to take place, the management of information and knowledge is a vital element for the organisation.   The sections that follow indicate how the De Beers Group is addressing the management of information via a new group portal.   As per Factiva (2005:1), "*Leading this project are René Walsh, knowledge manager and Johnny Gianniosis, business solutions architect for the Group Technical Support at De Beers.*"

5.2.   Group Portal: Strategic objectives and benefits.

Objectives and benefits were identified for the De Beers Group's new portal and this formed the groundwork. Areas of Information Management elements were identified such as duplication, information that was not visible and to retain information when employees move on to another position.   These changes include strategic objectives and benefits, to provide the organisation with a common space to store and retrieve structured information effectively from a single point of access and in so doing contribute to the safe-keeping of the corporate memory of the organisation. Delving even further into the objectives set down the following were identified (Walsh and Gianniosis, 2005):

• Towards maintain competitive edge through greater use and re-use of De Beers' information and knowledge.

• To avoid duplication of information and effort.

• To connect people across and between business areas and disciplines.

• To find information that users didn't know existed.

• To retain information currently lost due to staff turnover.

• To break down silos and encourage a knowledge-sharing culture, by agreeing a common information structure and language.

• The integrate of external information resources.

• To encourage and drive collaboration within the Group.

• Assist with timely access to policies, procedures, guidelines and best practice.

5.3. Current situation of the information flow and repositories.

An exercise was undertaken at the De Beers Group to establish the current situation of the information flow and repositories. The outcome was interesting and the following areas were identified (Walsh and Gianniosis, 2005):

- ± 18 separately managed document repositories.
- ± 21 separately managed intranet sites (non-standardised).
- Usage split 7-% (documents) : 30% (intranet content).
- Ad-hoc use of non-standardised collaboration space and limited use of collaboration functionality.
- Multiple access points.
- Little or no application of information standards in document categorisation.
- Lack of common De Beers language.
- Poor search and retrieval results on current intranet.
- Previous attempts to improve search engine and premature enterprise search solution project. Some sites have not conformed to Group Standard. Deep level navigation.

5.3.1. Common Language

According to Factiva (2005:1), "*At De Beers the need for a common language has been acknowledged, particularly because the organization is very fragmented and its divisions are autonomous. Although De Beers operates one group intranet as a central repository for information, there are more than 20 spin-off sites catering to the needs of different business areas. Technically, the intranets are a hybrid of Microsoft SharePoint with custom developments, and the different sites do not index each other. It is not surprising that enterprise search is one of the key challenges.*"

In accordance with the definitions of 'taxonomy' in Section 1.1.7 De Beers approached Factiva Consulting Services (a Dow Jones and Reuters company) to assist with developing a common language for the organisation. According to Factiva (2005:1), "*The advantage of a common language. Today, it is essential for companies to employ a common language in order to capitalize on their intellectual assets. A corporate taxonomy is a classification or indexing system that, when applied universally across*

entire content sets, enables employees to work together more efficiently by accessing relevant information when and where they need it."

5.3.2. Group portal design criteria

Portal design criteria elements were a good base to work from. Portal design criteria include the following (Walsh and Gianniosis, 2005):

- "Strong focus on core business functions.
- Shrinking the gap between central and site-based content.
- Increased online collaboration.
- Ability to personalise information.
- Elevate site navigation at least 2 levels up.
- Taxonomy/Categorisation and information management standards."

According to Factiva (2005:2), "*One of the most significant factors for success of the development of the taxonomy strategy was the initial separation of the technology requirements form the information management requirements. Taking this into consideration, the interviews conducted by Factiva's consultants with individual Intellectual Asset Management representatives, helped to clarify the requirements and expectations. It also become obvious that the alignment of information strategy and IT strategy was another critical consideration. The project team took responsibility to ensure that the taxonomy development was in line with De Beers' technology strategy.*"

5.3.3. De Beers Group Portal: A Pilot Selection

A pilot selection was drawn up and a division within De Beers was targeted as the area that should be used as a Pilot project, namely Group Technical Support (GTS). Themes such as the following were identified (Walsh and Gianniosis, 2005):

- "GTS has a high level commitment to collaboration and integrating information management.
- GTS has a big intranet user base.
- GTS has a high level of document management maturity.
- GTS is a considerable producer of intellectual assets.

- GTS representative of DB core business functions.
- GTS needs to consolidate its document repository and content."

5.3.4. The De Beers Portal Overview

According to (Walsh and Gianniosis, 2005), the portal has been depicted with three main levels of concern.

- The first level deals with Information and Collaboration as a portal.
- The second level introduces a Search feature, which can source search options from the next level which is made up of five areas.
- These areas are –
    - Operating Companies: this includes Portal space, Content Management, Group Information, News and Tools.
    - Collaboration: which includes Process based Communities, Strategy based Communities, Project based Communities and Knowledge exchange
    - Document Management: which includes EDMS, Document Repositories, Common Categories and Information Standards.
    - My Site: Yellow Pages, Virtual Office, Personal Portal and Focused Information.
    - External Databases: DebDoc, eB and Customised databanks.

5.3.5. De Beers Group Portal: A Risk log

A risk log was drawn up and included the adoption of pre-defined information structures. Identified the continuing culture of non-sharing of knowledge and information. Documented the continuous use of current document repositories. De-centralised portal management with regards to certain components, i.e. collaboration 'Communities' sites. Poor information categorisation behaviour was identified and lastly bandwidth. (Walsh and Gianniosis :2005).

5.4. Independent survey on current information flow

An independent survey was conducted with the assistance of the Knowledge Manager and the Business Solutions Architect from the Group Technical Support department

within the De Beers Group. The aim of the survey was to identify information management and to structure information flow within the Group Technical Support division. A sample was identified of 15 employees within the Group Technical Support division which according to Walsh and Gianniosis (2005): is "*representative of De Beers core business functions.*" Survey sheets were drawn up and interviews were held with each sample member to ascertain their perspective of the use of information documentation. The survey established a base platform to work from and a springboard that aligned its results in certain areas with those of Walsh and Gianniosis (2005) as indicated in the previous section.

5.4.1. <u>An Independent Document Survey was conducted at the De Beers Group within the Group Technical Support division.</u>

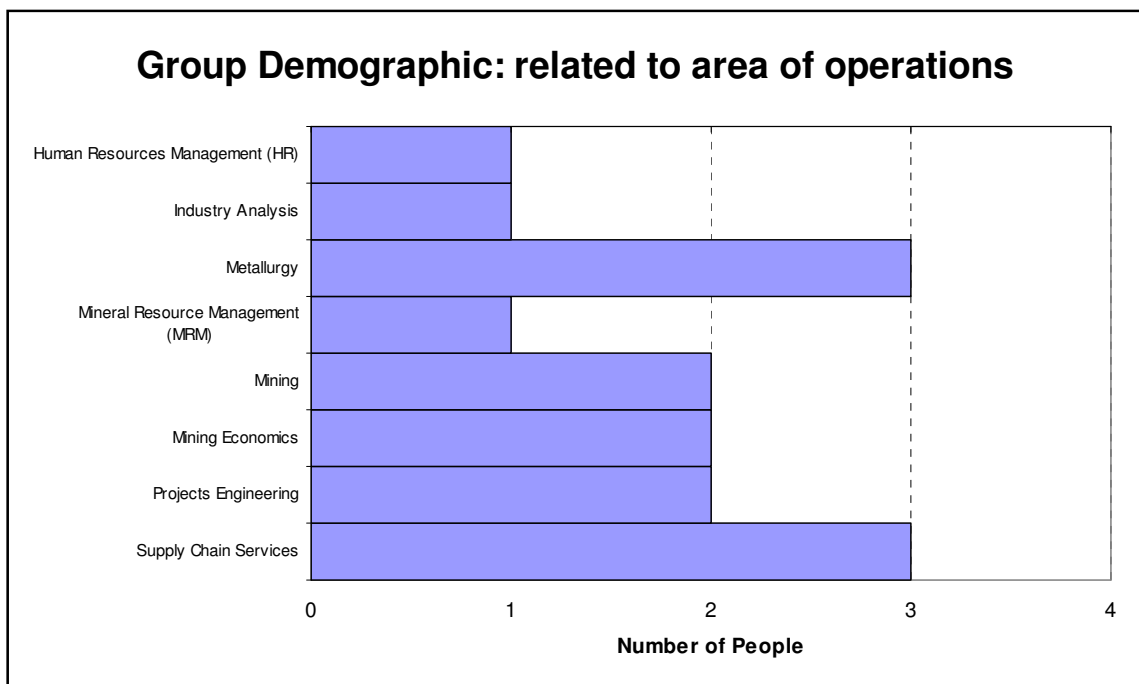Figure 16 indicates the demographic information concerning the sample

Figure 16. Group Demographic: related to area of operations

Sample demographic: Related to positions within the business support unit (BDU)
- Human Resource Management - Human Resources Practitioner
- Industry Analysis – Senior Manager
- Metallurgy – Administration Assistant
- Metallurgy – CTS – Lab Manager

- Metallurgy – Project Administrator
- Mineral Resource Management – Senior Division Manager
- Mining – Principal Mining Engineer
- Mining – Principal Mining Engineer
- Mining Economics – Mining Economist
- Mining Economics - Techno-Economic Analyst
- Projects Engineering – Senior A&I Project Engineer
- Projects Engineering – Senior C&I Project Engineer
- Supply Chain Services - Secretary
- Supply Chain Services – Office Manager
- Supply Chain Services – Senior Systems Support

5.4.2. <u>Question: Are you able to find relevant information/ documents in under ten minutes?</u>
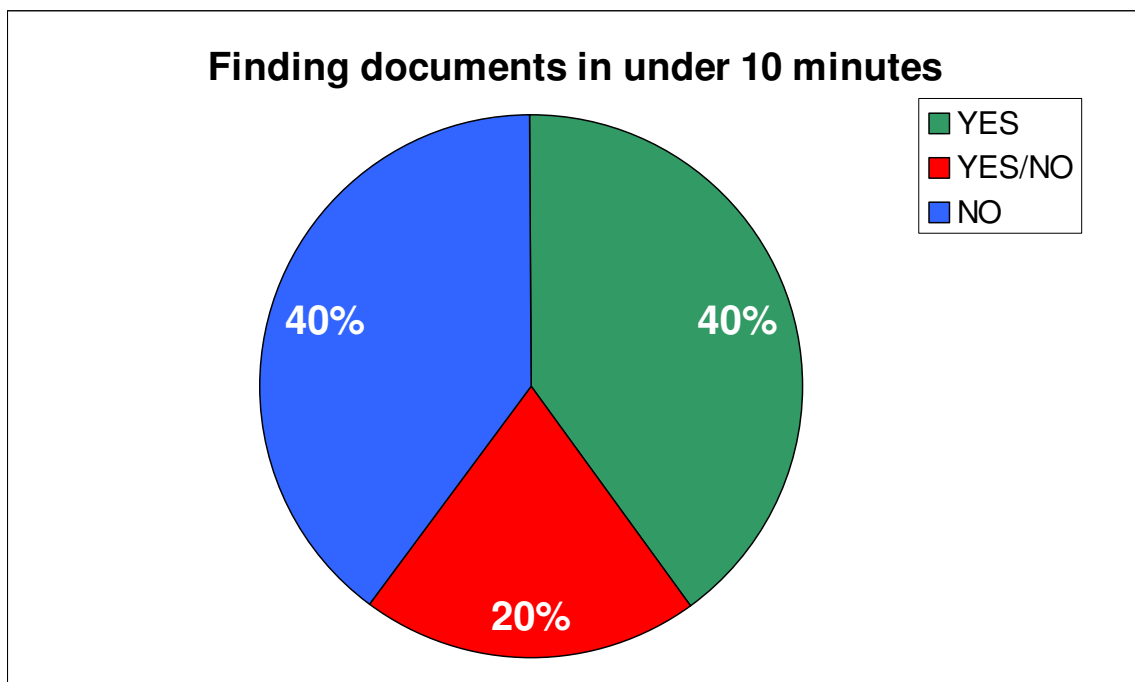

Figure 17. Finding documents in less than 10 minutes

a) Objectives pertaining to the question:

To determine if information/ documentation, is being managed in a positive manner.

Would it be possible to overlook documentation when restructuring a document management system or Intranet?

- To identify wastage
- Time management
- Searchability function
- Real-time availability

b) Response

40% of the respondents answered <u>only yes</u> and specified the following:
- Electronic - e-mail saved in relevant folders / search on server
- Phone MPS - docs saved on electronic filing system
- Search, research methodologies and practices
- Electronic/Telephonic/ Meeting
- Search: folder- server - CTS folder - stored data
- Search files
- EDMS - electronic database of documents, policies, project plans etc.

40% of the respondents answered <u>only no</u> and specified the following:
- Search not existent

  Documents not stored in logical places
- Unavailability of a documentation filing system

  Knowing what to find where (Not knowing ?)
- Not familiar with systems in place
- Due to many documents having been archived, also company splits/ re-structuring
- It is not well managed, there is not one system that holds or track all information
- Distributed computing environment leads to proliferation of information (multiple copies, multiple versions of same information)

  Not consistent in where we store information

  Not consistent, basic document management skills at employee level

  Too many document repositories

20% of the respondents answered <u>both yes and no</u>.
YES:
- Provided you know exactly where it is located
- Where information has been organised - generally personal
- My own filing system

NO:
- Detailed information from departments is generally not publicly shared
- Especially old "information"
- Search for documents, phone owners etc

c) Analysis of the question

40% of the respondents answered only yes, that they could locate documents in less than 10 minutes. They specified that they search the varied systems located within the De Beers Group. These respondents' replies also equate to the amount of documentation they actually use within the parameters of their jobs.

40% of the respondents answered only no, that they could not locate documents in less than 10 minutes. The reasons given show that there is no one point of entry into one information management system. A point was raised that there is no consistent search facility for "old" information/documentation or archived documents, as they are not easily accessible. One respondent emphasised that there is a lack of basic document management skills at employee level.

20% of the respondents answered both yes and no the question. The specified replies to yes, generally relate to the respondents own personal filing systems. Where they answered no generally indicated that they needed to search for documents and this included phoning document owners if they knew who they were.

The first objective set out for this question (To determine if information/ documentation, is being managed in a positive manner) indicates that information/documentation is stored in multiple places that contain the documents required. The second objective set out (Would it be possible to overlook documentation when restructuring a document management system or Intranet?) refers to documentation being overlooked when restructuring the document management system, this could be a potential problem area. The third objective (Wastage -Time management, Search ability function, Real-time availability) are all related and can be addressed if one point of entry into a system is introduced, and one search facility can be addressed.

5.4.3. <u>Question: What is your first port of call when searching for information or documents in an internal document repository?</u>

a) Objectives pertaining to the question:

To identify how people are searching for documents in internal document repositories in order to make finding required documentation more logical and easier for future searches.

b) Analysis of the question:

The respondents approached this question with ease, they knew were to look for internal/ division information/documentation. Two respondents choose not to answer this due to the scope of their situation i.e. new in the department. Their responses:

- eB filing system used by MPS
- Departmental - Mining Economics folder on intranet / Virtual library site
- My specific department would generally use folder structure - shared drives located on CHQSRV1
- MRM/EDMS (But in transition at present)
- Edms system/ approach. Electronic/ physical (various formats)
- Intranet - Document (Mining site 1G then general search)
- Shared drive / Hard copy format/ Personal folders
- Search
- Run to anybody in department to find out if they know where to find such info or if they have it themselves.
- Server/ eB Browser
- 1st – Secretary; 2nd - phone owners
- Search local network drive, SPS on intranet, Virtual library, DeBdocs

5.4.4. <u>Question : What is your first port of call when searching for information or documents in an external document repository?</u>

a) Objectives pertaining to the question:

To identify how people are searching for documents in an external document repository in order to make finding required documentation more logical and easier for future searches.

b) Analysis of the question:

Due to the nature of work being conducted not all respondents answered this question. The respondents generally phoned contacts in other departments/ divisions to locate documentation. Their responses:

- Within De Beers - pick up phone and use own network
- Relevant department or function - phone or e-mail
- Telephonic enquiring to specific areas/ departments
- Mining filing cabinets and colleagues
- Physically going to other departments/ e-mail requests
- Electronic, struggled to get access
- PDM eB does exist but access is very limited. To access level and only to assigned projects.
- Contact relevant person in department.
- SPS intranet

5.4.5. Question: What is your first port of call when searching for information or documents in another format that has not been published or a paper format?

a) Objectives pertaining to the question:

To identify how people are searching for documents in another format in order to make finding required documentation more logical and easier for future searches.

b) Analysis of the question:

The respondents would locate the documentation in any manner they could. Their responses:

- Ask people
- Systems - various
- Telephonic enquiries
- Electronically
- Contact relevant person
- Internet - Google/ EBSCO
- Call people to ask where housed

5.4.6.   Question: How are documents retrieved?

a)   Objectives pertaining to the question:

Time-management

The posting of documents into the correct format so that they can be located.

De Beers's system searchablility function

b)   Analysis of the question:

The varied response in terms of how employees retrieve documents is, self-explanatory.

Seven respondents said just electronically

Others respondents said the following:

- Mining down
- eB - document number or title
- Through the De Beers Intranet
- Majority electronic - PDF and other formats
- Electronic and manual
- Electronic then hardcopy
- When available - electronic or other wise from peoples memory
- Contact relevant person

5.4.7.   Question: Where are your documents stored?

a)   Objectives pertaining to the question:

- Document sharing between employees within a project management scenario.
- Architecture functionality – numerous sources of information/documentation
- Duplication – duplication of information/documentation

- Education – lack of the users knowledge of the organisation's infrastructure

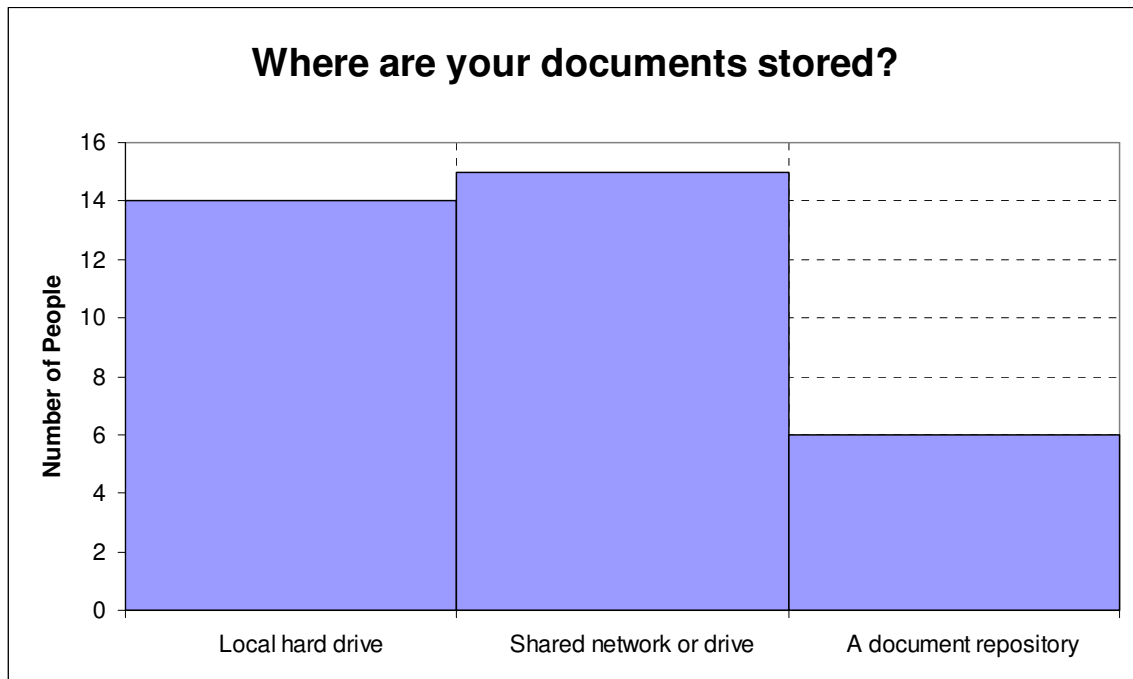
Where are your documents stored?

Figure 18. Where are documents stored?

b) Analysis of the question

Ninety-three percent of the respondents tend to keep documents on their local hard drive as back up (see Figure 18). One respondent said that this is due to concern regarding the stability of the network – "down time is problematic". All the respondents posted documents on a shared network or drive. But 60% of the respondents do not make use of a document repository. Their responses:

Local hard drive (Specified)

- Back up
- Most of
- Due to concern regarding the stability of our network - down time is problematic
- Depending on the nature of the information

Shared network or drive (Specified)

- Not much
- Due to concern regarding the stability of our network - down time is problematic
- Depending on the nature of the information

A document repository (Specified)

- Depending on the nature of the information

5.4.8. Question: What percentage of your day, on average, do you spend locating documents?

a) Objectives pertaining to the question:

Time management – Location of documents / the posting or publishing of documents.
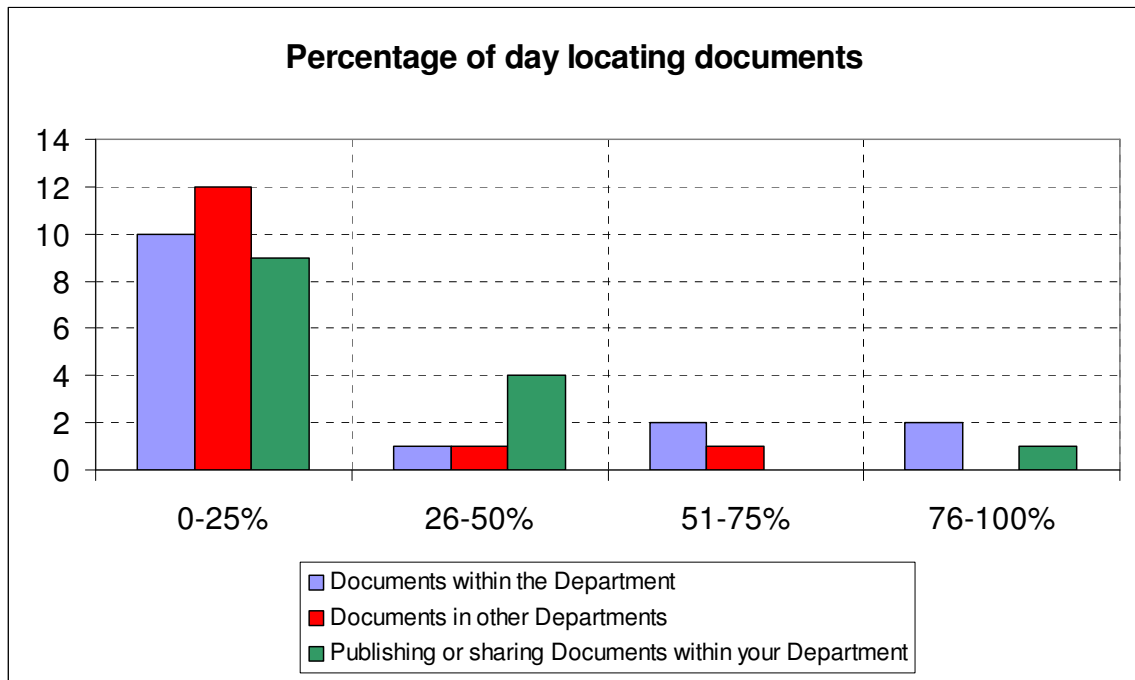
Figure 19. Percentage of day locating documents

b) Analysis of the question

The percentage of the respondent's day spent locating information/documents within both the respondents department and other departments has a high percentage in the 0-25% column (see Figure 19). The same can be said for publishing or sharing documents within the respondents department. Their responses:

- Explorer
- Intranet - SPS Admin
- Word/ Excel on personal hard drive
- Document in word and passed on for referencing
- Combination of hard and soft copy - try to favour soft copy
- EDMS (SPS-2)

- Answer specific requirements and anticipate questions
- Mining Intranet site
- Shared drive / e-mail
- Word/ PDF
- E-mail and sometimes eB
- eB Browser
- Word and Excel
- Ad-hoc / informal e-mail
- EDMS or e-mail

5.4.9. Question: Has a standardized format been used?

a) Objectives pertaining to the question:

Document sharing between employees within project management scenarios.

Set a standard throughout the De Beers Group

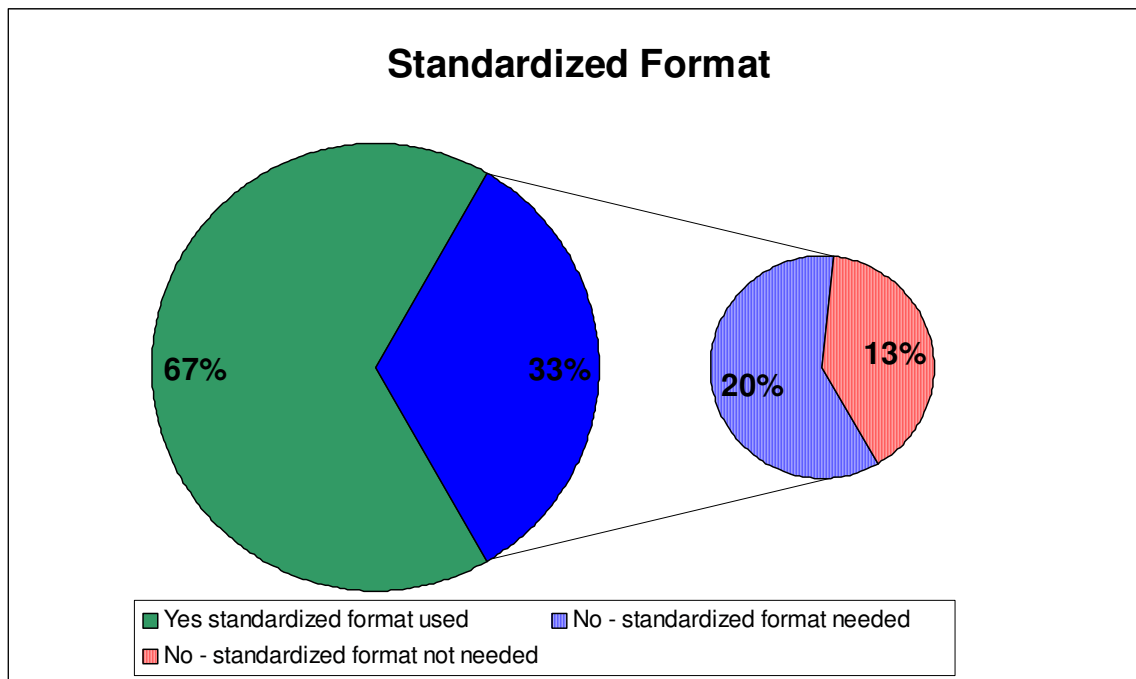Make it easier to write a document with a standardized format thereby saving time

Figure 20. Has a standardized format been used?

b) Analysis of the question

67% of the respondents said that a standardized format is used (see Figure 20). 33% of the respondents said that they did not use a standardized format. 20% stated that although they did not use one they have a need for a standardised format.

5.4.10. Question: Can documents be utilized by employees within the organisation from a corporate repository?

a) Objectives pertaining to the question:
Time management – the question of Real-time availability and document currency

Utilisation by others

66%   33%   27%   7%

- Yes document can be utilized by other ■ No - but, utilization by others is required
- No - utilization by others is not required
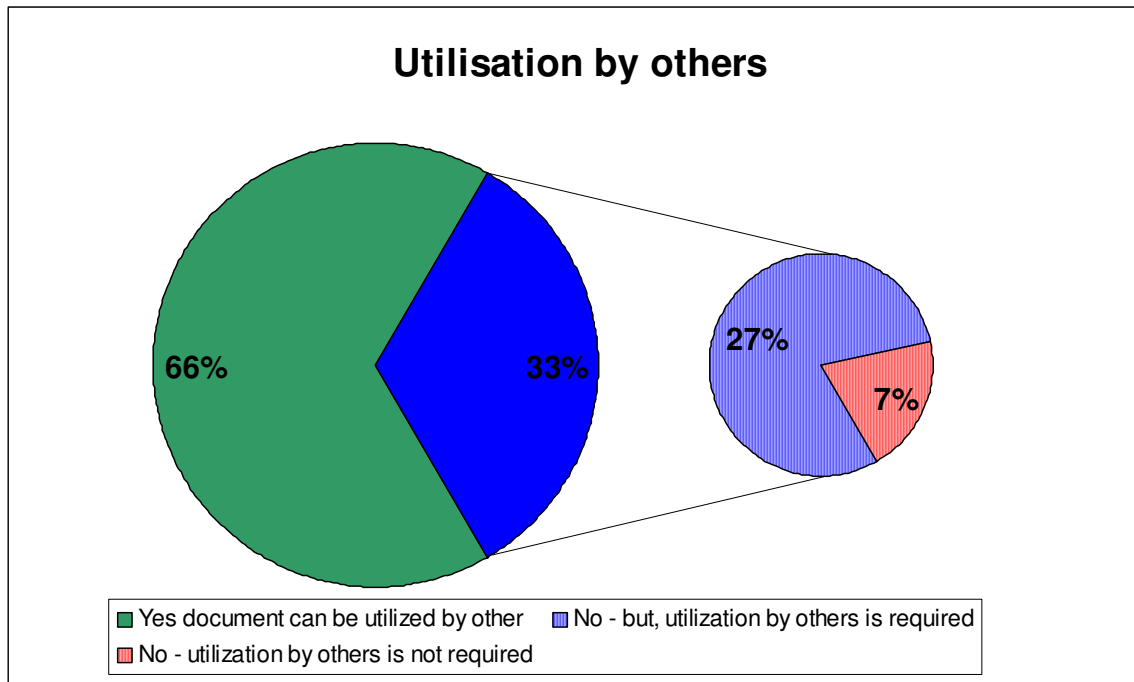
Figure 21. Utilization of documents by employees within the organisation, from a corporate repository.

b) Analysis of the question
According to Figure 21,66% of the respondents said that documents can be utilized by others. 33% said that documents could not be utilized by others.   27% of the respondents said that although their documents cannot be utilized by others this is a feature that would be required.

5.4.11. Question : Simultaneous Access to documents

a) Objectives pertaining to the question:
Time management – the question of Real-time availability
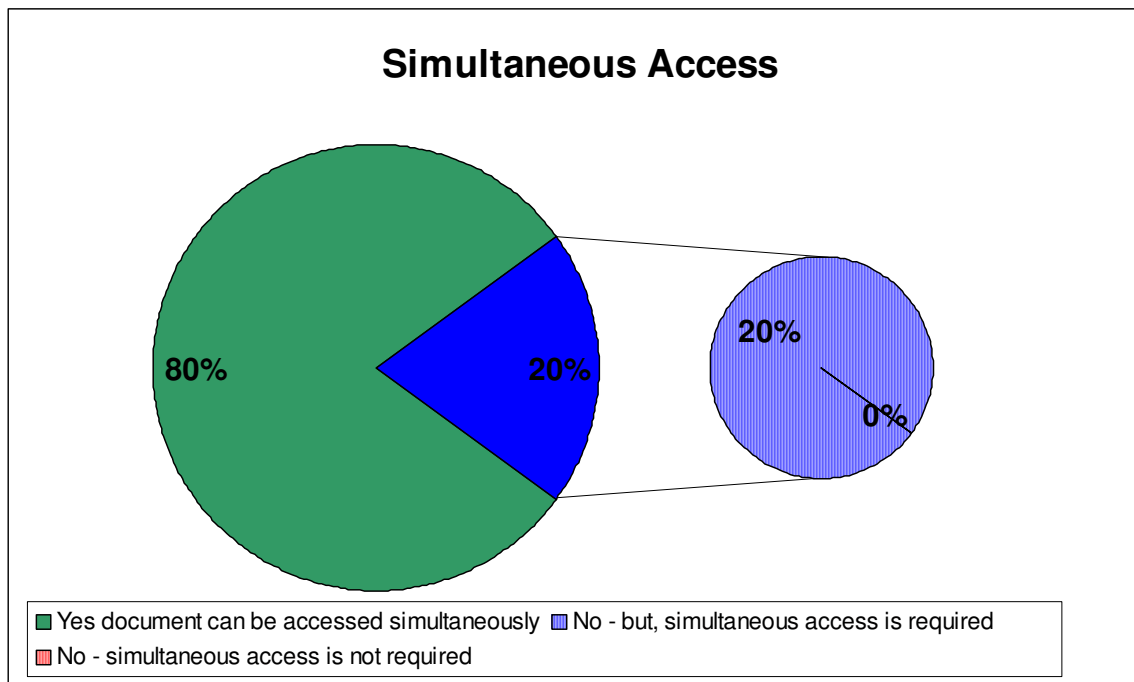
Figure 22. Document access by employees simultaneously

b) Analysis of the question

80% of the respondents said that documents can be accessed by employees simultaneously (see Figure 22). All of the 20% who said that simultaneous access of documents was not possible said that this is a requirement.

5.4.12. Question: The use of a template when creating a document

a) Objectives pertaining to the question:

Document sharing between employees within project management scenarios

Time management – the posting of documents into the correct format so that they can be located

Save time when creating documentation

Use of a Template

86% Yes a template was used for creating the document

14% No - but, a template is required

0%

Legend:
- Yes a template was used for creating the document
- No - but, a template is required
- No - a template is not required
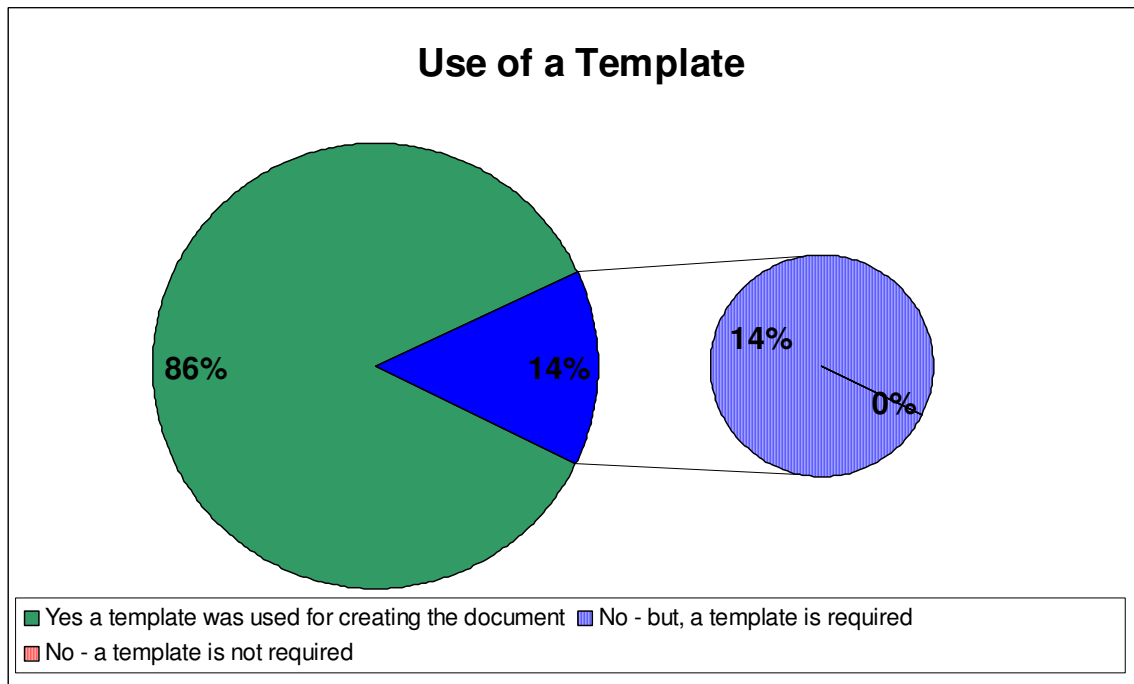
Figure 23. The use of a template when creating a document.

b) Analysis of the question

According to Figure 23, 86% of the respondents use a template of some kind. 14% say no template is used, but that a template is a requirement.

5.4.13. Question: Similar document availablity within the project group

Similar document availablity within the project group

72% 29% 21% 7%

Legend:
- Yes knowledge of availability of a similar document
- No - but, knowledge of availability of similar documentation is required
- No - knowledge of availability of similar documentation not required

Figure 24. Similar document availability within the project group

a) Objectives pertaining to the question:

Time management – document currency

Duplication of information/documentation between participants within a project

b) Analysis of the question

72% of the respondents said that they have knowledge of the availability of a similar document (see Figure 24). 29% said that they did not have knowledge of availability of similar documentation, 21% said although they did not have knowledge of the availability of similar documentation they had a requirement for having this knowledge.
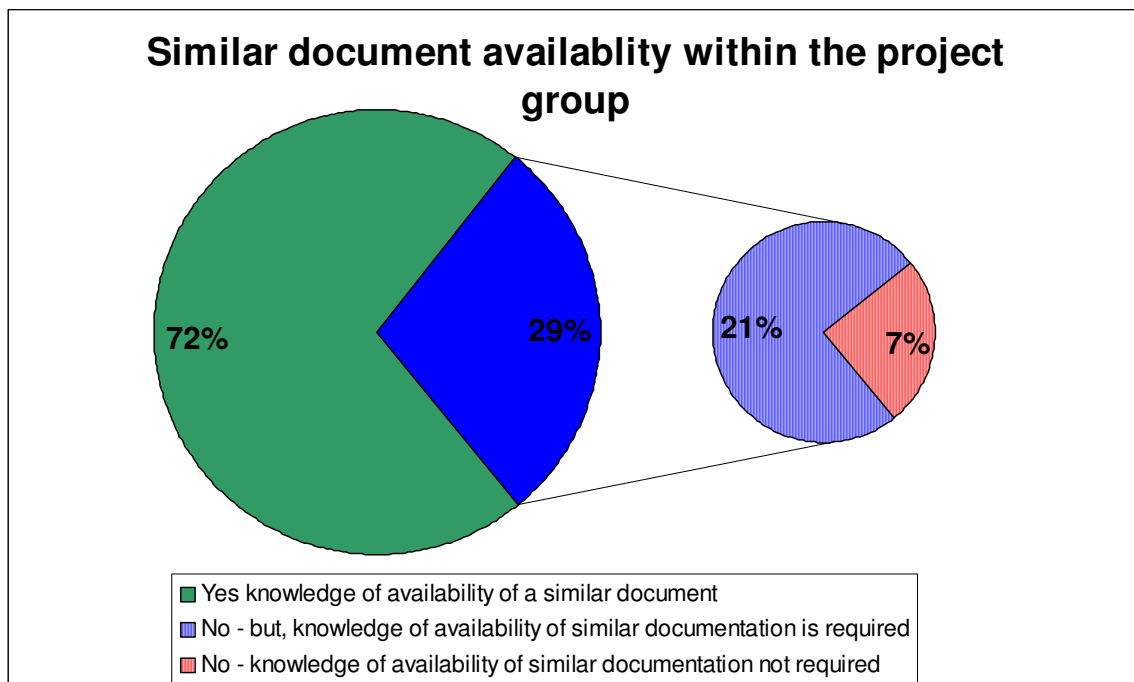
5.4.14. Question: Any further training required on current repositories?

a) Objectives pertaining to the question:

Education – Lack of computer program knowledge and lack of the users knowledge of the organization's infrastructure.
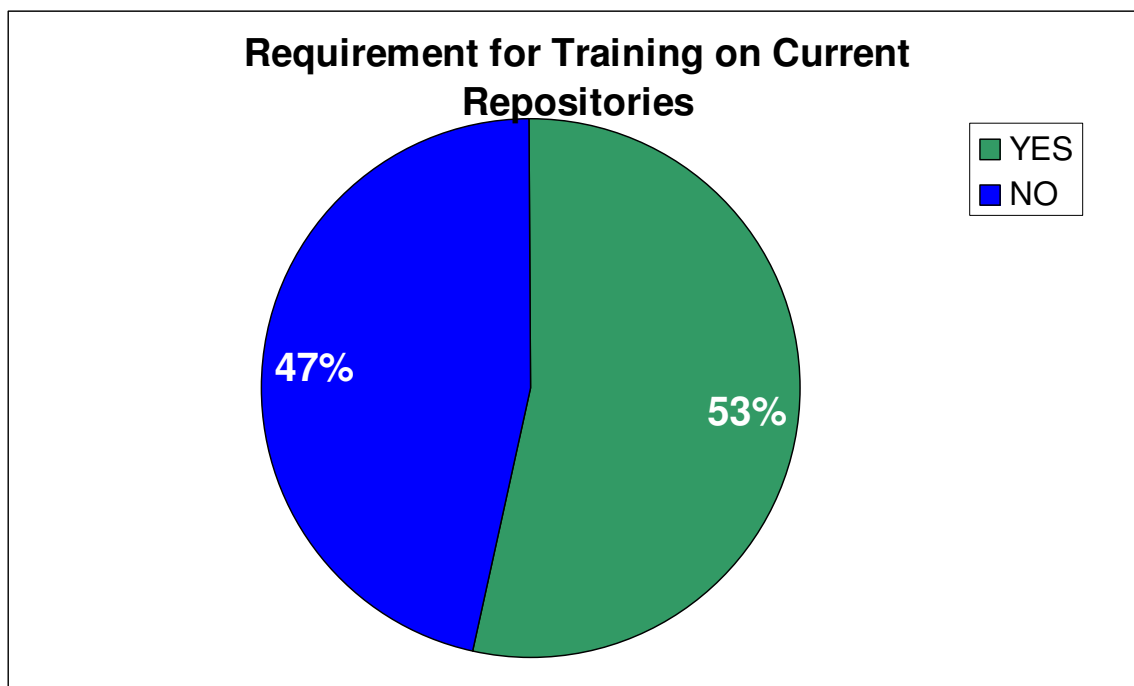
Figure 25. Requirement for training on current repositories

b) Analysis of the question

53% of the respondents said that they require further training on the current document repositories (see Figure 25). Their responses:

eB filing system in the case of my contact is not available or not in the office.

- Quicker access

  Know what is available

  Access and training on eB.

  Currently in implementation phase - training has been planned

- The group library specifically and some other department links under Knowledge Management due to infrequent usage.

- eB

  General Central Repository

  Once a proper document management system is decided upon one would need training on how to use it effectively

5.4.15. <u>Question: Are documents available when required?</u>

a) Objectives pertaining to the question:

Availability of information/documentation

Real-time availability

Availablity of Documents when Required

Figure 26. Availability of documents when required

b) Analysis of the question

50% of the respondents said that documents are available when required (see Figure 26). 50% said no, and this is an area of concern which should be addressed.
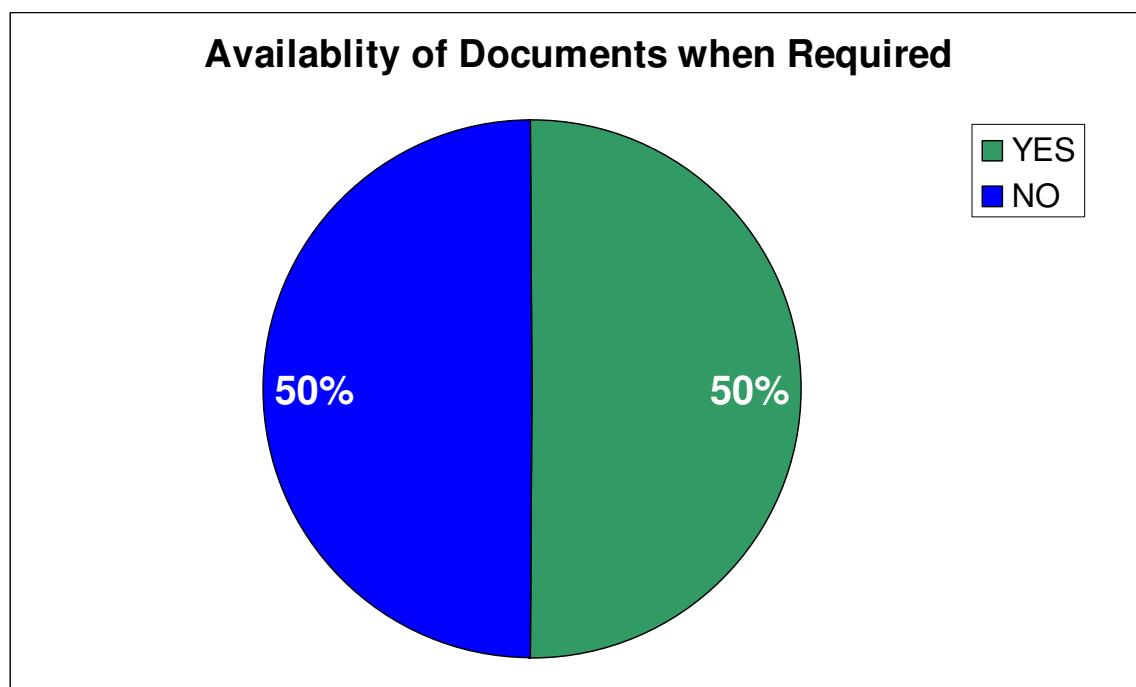
5.4.16. Question: Do you as an end user have expectations as to the way documents are stored and located?

a) Objectives pertaining to the question:

Architecture functionality

b) Analysis of the question

Respondents have high expectations as to the way they would like to see documents stored and retrieved. Their expectations:

- Logical locations
- Search Engines
- Project -based
- Descriptive input
- Tracking/ version number/ date
- YES. In some logical format possibly using project numbers and making use of search engine.
- Supply chain sub disciple structure - specific to self
- Supply chain overall structure - for use of department
- Intranet - De Beers structure - for broader use/ information
- Systems
- Warehousing
- Looking at integration
- Yes if a standard portal be implemented
- Address documents archived at operations eg: old hard copies - convert to electronic, and then home
- links to operations if not centrally stored. Encourage discipline to make the "old" documentation available
- User friendly
- Good search option
- Central Database

- A proper document management system would be great
- Yes - a central repository for all information on specific projects - must be correctly managed and maintained
- YES - centralized document repository - consolidated - one point of entry
- NO network drives!
- Standard templates and document naming conventions
- Make easily accessible, less cumbersome approach. Both in loading information and retrieving

René Walsh and Johnny Gianniosis (2005) identified areas of interest and a decision was made to locate an outside organization to assist the De Beers Group. Factiva was sourced and assisted the De Beers Group with a common language throughout the group's electronic information intranets.

5.5.   Conclusion

The analysis of the findings pertaining to the independent information document survey reveal, that the outcomes that were obtained are representative of the current situation of the information flow and document repositories utilized.

With any industry change or transformation comes the need to transform or change the way in which an organisation within that industry conducts its strategic operations to be cost effective. As a result of continuing transformation and change the De Beers Group has effectively identified obstruction areas within its information management infrastructure. These obstruction areas have been addressed within the corporate environment and this has resulted in the need to institute a group portal. The portal incorporates organisational information and collaboration, a well-designed search feature and the following areas namely: Operating Companies/Business functions; Collaboration; Document Management; My Site and External Databases.

As indicated in Section 3.2.13 - The value of information is critical in that organisations cannot function efficiently without channelling and communicating information to the correct locations and users.   Enterprise portals are the means to accomplishing the location, flow and application of information or content within the organisation and to

its outside users. According to Quirk (2001:2), "*Enterprise Information Portals are applications that enable companies to unlock internally and externally stored information, and provide users a single gateway to personalized information needed to make informed business decisions.*" As indicated by Dias (2001:277) "*…the information portal is the one able just to organize large collections of content based on the subjects they contain, connecting people with information.*"

Chapter 6 : <u>Conclusions and Recommendations</u>

6.1. Introduction

The Research problem addressed in this research was " What are the implications and effectiveness of Information Management while an organisation is undertaking the process of either restructuring or resizing? "

Information Management has been identified as a possible tool to alleviate problem areas and strengthen organisational information and knowledge processes within the realm of change. The sub-problems were:

• Exploration of Information Management and the restructuring process

• Implications of Information Management's impact on the restructuring process

• Effectiveness of Information Management during and after the restructuring process

In response to the research problem, an exploration of the two topics at hand has been conducted and were discussed in Chapters Two and Three. The implications have been addressed within an amalgamation of the literature findings throughout the research and through the use of the De Beers Group case study. The effectiveness of Information Management for an organisation that is to undertake a process of either restructuring or resizing has been addressed in Chapter Four.

The two-topic areas namely Information Management and restructuring have been defined and discussed. There is a large number of sources on these two topics individually, but very little is available when these two topics are viewed as a entirety. The literature was thus approached from two sides namely, Information Management and Organisational restructuring, and then they were viewed together in parallel. A further process of amalgamating of the two topics followed.

Important to the topic at hand was to identify and define what the two areas under discussion were. Important points were identified within the definition of Information Management, they are:

• Information Management consists out of utilizing and controlling the dynamic Information Life Cycle within the organisation.

- To carry out this structural capital, information technology must be provided and maintained. Human Capital or information and knowledge (know-how) that the employees hold, needs to be adapted and structured so that it can be used to the benefit of the organisation.
- Human and Structural capital when combined equal Intellectual capital which forms part of the organisation's assets.

To clearly define 'Information Management' a process was undertaken to define the terms 'Information' and 'Management'

A concise definition of 'Information Management' was obtained from Lessing (2000:2) who defines Information Management as "…*is the management of information as a resource of an enterprise by applying sound management principles, including planning, organising, development and control over data and information, integrating people, hardware, software and systems, converting data into information, and utilising the information in decision making.*"

Information Mangement embraces the use of tools to support the management function. These 'tools' consist of:
- Information Architecture or flow
- Information Assets
- Power transparency
- Ethics
- Information Audits
- Information Policy
- Management systems
- Change elements
- Utilization as future scenarios
- Forecasting tool
- Value add
- Environmental scanning
- Power competitive advantage
- Information Mapping
- Information Strategy
- Information Real-time

The same exercise was undertaken with the definition of 'restructuring' and the outcome was as follows: Restructuring constitutes a basic change, structure alteration, modifications made to debt, discontinuing a line of business, the closing of certain areas of operation, employee cutbacks, the rearrangement of an organisation's assets and/or liabilities, transformation from one form to another.

The term 'Downsizing' has been viewed as significant in relation to the term 'Restructuring'. Downsizing is designed to improve the organisation standing and organisations cannot deliver the same level of service performance. With the intervention of Information Management, organisations can improve the organisational service performance standing.

The perceived outcome of an organisation undertaking a process such as restructuring, resizing, transformation or change would or should be as Wikipedia (1996:1) points out, *"Results. A company that has been restructured effectively will generally be leaner, more efficient, better organized, and better focused on its core business…"* this should lead to higher profit margins. Organisations need to understand that to accomplish the above desired outcome, they need to use a tool or strategy to assist the restructuring process to derive at an effective leaner, efficient, organised business. Information Management has been identified as such a tool or strategy has in this research paper.

6.2. Broad starting points for an Information Management to pursue while an organisation is embarking on a restructuring process.

A diagram of a restructuring organisation was formulated in order to understand how an organisation would appear like. This was carried out in order to visualise the structure. Within this structure an organisation's goals, strategies, mission statement, vision and objectives were identified as having a direct impact on the other, this forms a domino reaction throughout the organisation. Information Management plays a role in this domino reaction as it incorporates the very essence of an organisation's life giving fountain of information via the life cycle of information, structural capital, human

capital, intellectual capital, Information and Knowledge Management of an organisation.

The concept of an information portal was introduced and the benefits examined. The information portal assist the organisation via the strategic use of Information Management processes as a one-stop shop for the collection, allocation and use of corporate information.

6.3. What standard of Information Management is adhered to as an overlay within an organisation's management process?

In order for a standard to be addressed a bird's eye view needed to be found to understand the different processes of Information Management. An Information management overlay grid was developed from subject matter from various authors and this was elaborated on. The Information management overlay grid brings the main elements of Information Management together, so that these elements can be viewed as a whole rather than as separate entities.

Information architecture and flow are important as they formalise and validate the sequence of data. Information assets are important to, as they are the essential provisions of the organisation. In order for an organisation to function in a predetermined manner, the employees are required to undertake some form of training to understand how the organisation's information framework functions so that they develop the ability to locate and utilize information. The power of information needs to be harnessed to keep the organisation functioning in a top-notch manner. Information is susceptible to misuse and employees should use it in an ethical manner, so as not to do harm to the organisation. Communication could not exist without the fundamentals of information, so information management plays a large role in organisational communication. This all leads to how productive an organisation can be if it, as a whole, uses Information Management as a tool to identify structure and conserve information. The role of management will influence how well the corporate information is utilized and recorded for future use in decision-making processes. To attain a level base playing field, Information Management must undertake processes to assist with all the above elements. These processes include

information audits, information policy, information systems, information mapping, and information strategy. Information 'real time' plays a very intricate role within the whole organisation as information can be found, used, updated and stored instantly. This places pressure on the Information Management division to keep a well-oiled machine running at peak performance.

Together as a structured entity the components or elements interrelate and form a base for organisational information use within the organisation's environment, to support the organisation to succeed in its endeavours.

The information portal was also elaborated on, as it can assist the organisation via the input of the Information Management processes in a profitable manner. According to Bolds (2001:1), "…*The real value then is not in having a portal with the most bells and whistles, but in realizing the benefit by capitalizing on the features that will provide the most value from the investment. In doing so, however, there must be a common level of understanding in order to facilitate the benefits.*" "…*The trick is to turn features and functionality into practical business benefits.*"

6.4. Effective Information Management processes

The scenario of an organisation on the verge of undertaking a restructuring, transformation, downsizing or any form of change project, is a daunting one if not correctly planned and managed. Information Management should be viewed with the intent to provide a clear information foundation base, so that proposed strategies can be put in place and carried out without too much opposition.

Identified organisational restructuring elements have been elaborated on, as they are the focal point on which Information Management must qualify and align with. A table relating the two areas under topic has been drawn up and areas of Information Management assistance has been tabled within areas of restructuring, even to a point of how this will influence the organisation's processes within their scope of contributing to the organisation's anticipated end results.

6.5. The De Beers Group

With any industry change or transformation comes the need to transform or change the way in which an organisation, within that industry, conducts its strategic operations to be cost effective. As a result of continuing transformation and change the De Beers Group has effectively identified obstruction areas within its Information Management infrastructure. These obstruction areas have been addressed within the corporate environment and this has resulted in the need to institute a group portal. The portal incorporates organisational information and collaboration, a well-designed search feature and the following areas namely: Operating Companies/Business functions; Collaboration; Document Management; My Site and External Databases.

The value of information is critical in that organisations cannot function efficiently without channelling and communicating information, to the correct locations and users. Enterprise portals are the means to accomplishing the location, flow and application of information or content within the organisation and to its outside users.

Information Management is a tool, however it is up to the organisation to incorporate this tool and to run with it as at the end of the restructuring venture, it will be to the benefit of all concerned to reap high productivity results.

6.6. Areas for future research

- Identifying set steps within Information Management processes, inside an organisation that is undergoing a restructuring process. The identified areas:
  - information audit
  - information mapping
  - information flow analysis
  - information policy
  - information architecture
  - information strategy
- Conducting an impact study after implementing effective Information Management processes, within a restructured organisation.

Chapter 7 :   References

1. Abram, S. 1997. Post Information Age Positioning for Special Librarians: Is Knowledge Management the Answer? *Information Outlook*. June: 18-25.

2. Alexandrou, M. 2002-2003. Web Portal Definition. [Online]. Available WWW: http://www.mariosalexandrou.com/definition/web-portal.asp (Accessed on 05/08/2003).

3. Allee, V. 2000. The value evolution. [Online]. Available WWW: http://www.vernaallee.com/articles/jic/pdf (Accessed on 25/03/2002)

4. APQC. 1997. Using information technology to support knowledge management. [Online]. Available WWW: http://www.apqc.org/pubs/dispPub.cfm?ProductID=1088 (Accessed on 1st of March 2002.)

5. Appelbaum, S. H.; Lopes, R.; Audet, L.; Steed, A.; Jacob, M.; Augustinas, T. and Manolopoulos, D. 2003. Communication during downsizing of a telecommunications company. *Corporate Communications: An International Journal,* 8(2):73-96

6. Badenoch, D.; Reid, C.; Burton, P.; Gibb, F. and Oppenheim, C. 1994. The value of information. *The Value and Impact of Information*. Edited by Fenney, M and Grieves, M. London: Bowker-Saur Limited.

7. Bates, R. 2006. Calls Deal 'Innovative, New, and Sustainable'. De Beers Unveils Black Empowerment Plan. Upfront / Diamonds. JCK. [Online]. Available WWW: http://O-pdfserve.galegroup.com.raulib.rau.ac.za/pdfserve/get_item/1/Sdfda4aw5_4/SB410_04.pdf (Accessed on 04/03/2006)

8. Bates, R. 2005. De Beers Reshuffles Management; Appoints First Black African Executive. Upfront / Diamonds. JCK. [Online]. Available WWW: http//0-web5.infotrac.galegroup.com.raulib.rau.ac.za/itw/infomark/777/503/81779274w5/purl=rc1_GBFM_0_A139346039&dyn=44!xrn_194_A139346039?sw_aep=rau_itw (Accessed on 04/03/2006)

9.   Bendix, S. 1996. *Industrial Relations In the new South Africa*. Third Edition. Cape Town: Juta &Co,

10. Bless, C. and Higson-Smith, C. 1995. *Fundamentals of Social Research Methods: an African Perspective*. Second Edition. Cape Town: Juta & Co.

11. Blue, A. 1998. Davis Drives Home the Importance of Being Knowledge Based. *Information Outlook*. May. 2(5): 39.

12. Bolds, R. 2001. Enterprise information portals: portals in puberty. *Knowledge Management World* 10(7):s16-s17. [Online].   Available WWW: http://www.kmworld.com/publications/specialpublication/index.cfm?action=readarticles&article_id=1063&publication_id=4   (Accessed 03/10/2003)

13. Bontis, N. 2001. Assessing knowledge assets: a review of the models used to measure intellectual capital. *International Journal of Management Reviews*. 3(1): 41-60.

14. Bowman, C. and Asch, D. 1996. *Managing Strategy*. London: Macmillan Press.

15. Bream, R. and Innocenti, N. D. 2006. Diamond profits are not for ever CORPORATE TRANSFORMATION: De Beers has undergone huge changes to ensure it remains the industry's dominant force. *Financial Times*. February 28:10.

16. Brown, A. and Van der Wiele, T. 1997. Insights into TQM and downsizing in large organisations. *Benchmarking for Quality Management & Technology*, 4(3): 202-212.

17. Buchanan, S. and Gibb, F. 1998. The information audit: an integrated strategic approach. *International Journal of Information Management*. 18(1): 29-47.

18. Byars, L. L. and Rue, L. W. 1997. *Human Resource Management*. Fifth Edition. New York: Erwin/McGraw-Hill.

19. Cronje, de J.; du Toit, G.S.; Mol, A.J. Van Reenen,M.J. and Motlatala, M.D.C. 1997. *Introduction to Business Management*. Fourth Edition. Halfway House: International Thomson Publishing.

20. Datamonitor. 2005. De Beers SA: Company Profile. [Online]. Available WWW: http://datamonitor.com (Accessed on 04/03/2006)

21. Davis, M. and Wilson, C.S. 2002-3. Measurement of knowledge: Process and practice in knowledge management, sharing, and use. [Online]. Available on the WWW: http://www.kmrg.unsw.edu.au/teaching/KmBookChapter10.pdf (Accessed on 11/04/2003)

22. De Klerk, D. 1999. *Stewardship in the Economic and Management Sciences*. Potchefstroom: Robé Printers.

23. Dekker, A. 2002. The foundation of the virtual enterprise. *Knowledge Management Magazine,* February: 22-23.

24. Dias, C. 2001. Corporate portals: a literature review of a new concept in information management. *International Journal of Information Management*, 21(4): 269-287.

25. Dictionary.com. 2006. Restructuring. [Online]. Available WWW: http://dictionary.reference.com/search?q=restructuring (Accessed on 05/03/2006)

26. Dictionary.com. 2006. Redundancy. [Online]. Available WWW: http://dictionary.reference.com/search?q=redundancy (Accessed on 05/03/2006)

27. Dictionary.com. 2006. Industry Life Cycle. [Online]. Available WWW: http://dictionary.reference.com/search?q=Industry%20life%20cycle (Accessed on 05/03/2006)

28. Doddrell, G.R 1996. Information security and the Internet. *Internet Research: Electronic Networking Applications and Policy.* 6(1): 5-9.

29. Donnelly, A. and Craddock, C. 2002. Information literacy at Unilever R&D. *Library and Information update*, 1(9): 40-41.

30. Drucker, P.F. 1998. The coming of the new organisation. *Harvard Business Review*. 66(1): 45-53.

31. Eckerson, W. 1999. *15 Rules for Enterprise Portals.* [Online]. Available WWW: http://www.oracle.com/oramag/oracle/99-Jul/49ind.html?view=print (Accessed on the 11/08/2003)

32. Editors of Knowledge Management. 2001. *Through the Looking Glass.* A Progress Report on the Enterprise Portal. [Online]. Available WWW: http://www.destinationkm.com/articles/default.asp?ArticleID=438 (Accessed on the 07/08/2003)

33. Ettinger, A. 1993. From information to total quality learning. In *The Value of information: To the intelligent organisation*, edited by Hertis information and research. London: University of Hertfordshire Press:98-106.

34. Factiva. 2005. Discovering gems at De Beers. [Online]. Available WWW: http://www.factiva.com/collateral/download_brchr.asp?node=menuElem1506#case (Accessed on the 29/07/2005).

35. Factiva. 2006. Because Uncovering Intelligence Requires More Than a Search Engine. Available WWW: http://fr.factiva.com/consulting/eia.asp?node=menuElem1635 (Accessed on the 20/03/2006).

36. Fanaroff, B. 2003. How unions can engage with corporate governance. *South African Labour Bulletin,* 7(1): 52-54.

37. Farradane, J. 1980. Knowledge, Information, and Information Science. *Journal of Information Science*, 2.: 75-85.

38. Fouché, B. 1999. Knowledge networks: emerging knowledge work infrastructures to support innovation and knowledge management. [Online]. Available WWW: http://www.icsti.org/icsti/forum/fo9911.html (Accessed on the 28/02/2002)

39. Frazee, J.P. 2001. Charting a smooth course for portal development. *Educause Quarterly,* 24(3):42-48.

40. Friedman, M.H. 2001. Successful knowledge management initiatives rely heavily on a balance between people and technology. [Online]. Available WWW: http://www.intelligentkm.com/feature/06/feat1.shtml (Accessed on the 28/02/2002).

41. Gates, B. 1999. *Business @ The Speed of Thought.* 1999. London: Penguin Books.

42. Griffiths, J.; Elson, B. and Amos, D. 2001. A customer-supplier interaction model to improve customer focus in turbulent markets. *Managing Service Quality,* 11(1): 57-66.

43. Griggs, H. E. and Hyland, P. 2003. Strategic downsizing and learning organisations. *Journal of European Industrial Training*, 27(2/3/4):177-187.

44. Gross, C. M., Reischl, U. and Abercombie, P. 2000. The new idea Factory. Expanding Technology Companies with University Intellectual Capital. Columbus: Battelle Press.

45. Hellriegel, D.; Jackson, S. E. and Slocum, Jr. J.W. 1999. *Management.* Cincinnati: South-Western College Publishing.

46. Henczel, S. 2001. *The Information Audit.* A Practical Guide. Műnchen: Saur.

47. Johannessen, J.; Olaisen, J. and Olsen, B. 2001. Mismanagement of tacit knowledge: the importance of tacit knowledge, the danger of information technology, and what to do about it. [Online]. Available WWW: http://www.program.forskningsradet.no/skikt/johannessen.php3 (Accessed on 28th of February 2002)

48. Joshi, V.S. 2005. Understanding information life-cycle management: a successful ILM strategy encompasses four segments: data classification, data policy, data management, and a tiered storage infrastructure. *InfoStor*, 9(1): 36.

49. Kalseth, K. 2001. *How knowledge management will develop the organisation of the future.* [Online]. Available on the WWW: http://www.bokis.is/iod2001/papers/Kalseth_paper.doc (Accessed on the 11/04/2003)

50. Kenniston, S. 2005. Taking the right steps toward ILM; information life-cycle management is a process that involves capturing, classifying, storing, protecting, accessing, and destroying information. *InfoStor*, 9(10): 36.

51. Kirk,J. 1999. Information in organisations: directions for information management. *Information Research, 4(3)*. [Online]. Available WWW: http://informationr.net/ir/4-3/papers57.html (Accessed on the 11/04/2003)

52. Koenig, M. 2001. Time saved – a misleading justification for KM. [Online]. Available WWW:
http://www.kmworld.com/publications/magazine/index.cfm?action=readarticle&article_id=1284&publication_id=1 (Accessed on the 11/04/2003)

53. Lessing, N. 2000. *Information is a Management Issue*. Johannesburg: CSIC Publishers.

54. Littlejohn, S.W. 1996. Theories of Human Communication. Fifth Edition. California: Wadsworth Publishing.

55. Longenecker, J.G.; Moore, C.W. and Petty, J.W. 2000. *Small Business Management An Entrepreneurial Emphasis*. Eleventh Edition. Cincinnati: South-Western College Publishing.

56. Mahon, B and Gilchrist, A. 2003. Information architecture. *Library and Information Update*. 2(11):28-39.

57. Malhotra, Y. 2001. Knowledge Management for the New World of Business. [Online]. Available WWW: http://www.brint.com/km/whatis.htm (Accessed on the 05/03/2003)

58. Mason, R. O.; Mason, F.M. and Culnan, M.J. 1995. *Ethics of Information Management*. Thousand Oaks: Sage Publications.

59. Mirabal, N. and DeYoung, R. 2005. Downsizing as a Strategic Intervention. *Journal of American Academy of Business*, 6(1): 39.
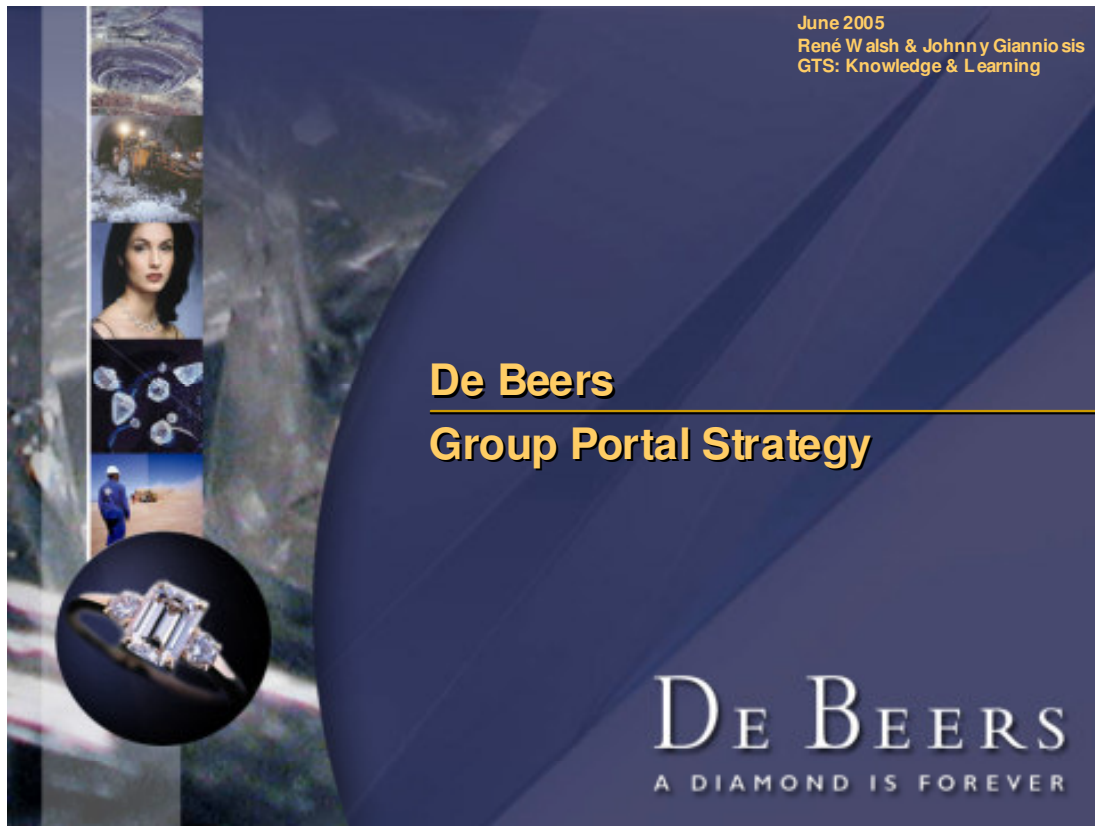
60. Mitchell, B. 2003. What is a portal, really?. *Computer Networking*. [Online]. Available WWW: http://compnetworking.about.com/library/weekly/aa011900c.htm   (Accessed on the 11/08/2003)

61. Mudge. C. 2006. A Changing Workplace. [Online]. Available WWW: http://www.debeersgroup.com/debeersweb/General/careers+at+De+Beers/A+changing+workplace (Accessed on the 25/02/2006)

62. Nonaka,I. And Takeuchi, H. 1995. *The Knowledge-creating Company: how Japanese companies create the dynamics of information*. New York: Oxford University Press.

63. Ogbonna, E. and Harris, L. C. 2003. Innovative organisational structures and performance: a case study of structural transformation to "groovy community centers". *Journal of Organisational Change Managemen,* 16(5): 513-533.

64. Ojala, M. 2006. The new life of business information. *Online Magazine*, 30(1): 48.

65. Oppenheim, C.; Stenson, J. and Wilson, R. M. S. 2003. Studies on information as an asset II: repertory grid. *Journal of Information Science*. 29(5):419-432.

66. Orna, E. 2004*. Information strategy in practice*. Aldershot. Gower.

67. Owens, I.; Wilson, T. and Abell, A. 1996. *Information and Business Performance: A study of information systems and services in high performing companies.* London: Bowker-Saur.

68. Palliam, R. and Shalhoub, Z. K. 2002. Rationalizing corporate downsizing with long-term profitability – an empirical focus. *Management Decision,* 40(5): 436-447.

69. Petrocelli,T. 2006. Part 1: information lifecycle management, from A to Z: Part one in our three-part series on ILM focuses on information assurance, data protection, and the importance of context. *InfoStar*, 10(1): 38.

70. Portal Research. 2000. *Research Project: Portals from the Higher Education Perspective Portal Characteristics.* [Online]. Available WWW: http://ict.emich.edu/ICTInit/characteristics.htm   (Accessed on the 02/09/2003)

71.   Porter, M. 2001. Strategy and the Internet. *Harvard Business Review*, 79(3): 62-78.

72.   Posnock, S. T. 2005. De Beers shifts management. National Jeweler.com. [Online]. Available WWW: http://0-web5.infotrac.galegroup.com.raulib.rau.ac.za/itw/infomark/777/503/81779274w5/purl=rc1_GBFM_0_A138542905&dyn=46!xrn_200_0_A138542905?sw_aep=rau_itw (Accessed on 03/03/2006)

73.   Proctor, T. 2001. Corporate restructuring: the pitfalls of changing industry structure. *Management Decision,* 39(3): 197-204

74.   Q.P.R Software Plc. 2001. Guidelines for Implementing Balanced Scorecard. [Online]. Available WWW: http://www.QPR.Implementation-BSCpdf.pdf (Accessed on the 10/09/2005)

75.   Quirk, J. M. 2001. *A Guide to Defining An Enterprise Portal Project.* [Online]. Available WWW: http://www.opendoortechnologies.com/Portal%20Definition%20White%20Paper.pdf (Accessed on 11/09/2003).

76.   Ramjaun, I. 2000. The Information Audit: A tool for visionary organisations. *PROSI Magazine.* Management. [Online]. Available WWW: http://www.ischool.washington.edu/boiko/PastClasses/MSIM582SP03/readings/audit1.htm (Accessed on the 01/05/2006)

77.   Reh, J. F. 2006. Key Performance Indicators (KPI) [Online]. Available WWW: http://management.about.com/cs/generalmanagement/a/keyperfindic.htm (Accessed on the 01/05/2006)

78.   Scott, J.E. 1996. The Role of Information Technology in Organisational Knowledge Creation for New Product Development. [Online]. Available WWW: http://hsb.baylor.edu/ramsower/ais.ac.96/papers/NPDAIS6R.htm (Accessed on the 5th of March 2002).

79.   Simone, A. and Kliener, B.H. 2004. A practical guide to workplace reduction. *Management Research News*, 27(4/5):125-132.

80. Smith. I. 2004. Continuing professional development and workplace learning 7: human resource development – a tool for achieving organisational change. *Library Management*, 25(3):148-151.

81. Steyn, A. and Uys, T. 1998. *The Small Group: Structure and Dynamics.* Pretoria:Consortium Publishers.

82. Strangelove, M. 1994. Computer-Mediated Communication Magazine: The Internet as Catalyst for a Paradigm Shift. [Online]. Available on the WWW: http://www.december.com/cmc/mag/1994/dec/shift.html (Accessed on the 14/08/2002).

83. Strassman, P.A. 1999. *The Search for Productivity*. [Online]. Available on the WWW: http://www.strassmann.com/pubs/cw/prod-search.shtml (Accessed on the 6/05/2004).

84. TFPL Resources, glossary. [Online]. Available WWW: http://www.tfpl.com/resources/glossary.cfm (Accessed on 24/02/2006)

85. Tissen, R.; Andriessen, D. and Deprez, F. L. 2000. *The Knowledge Divided*. London: Financial Times Prentice Hall.

86. Van Zanten, T. 2000. Techniques used by Arthur Andersen to add value to information. *South African Journal of Information Management*, 2(2/3). [Online]. Available WWW: http://general.rau.ac.za/infosci/RAUjournal/default.asp?to=peer11 (Accessed on 19/02/2003).

87. Walsh, R. and Gianniosis, J. 2005. De Beers Group Portal Strategies. June 2005. (Unpublished) (See Appendix A).

88. Washingtonpost Newsweek Interactive. 2004. Managing data tops agency storage goals: information life cycle management viewed as means to an end. *Washington Technology*, 19(13):S7.

89. Watkins, J. 2002. Portal Evaluation Criteria. [Online]. Available WWW: http://www.bris.ac.uk/is/projects/portal/docs/PortalEvaluationCriteria.rtf (Accessed on 11/09/2003).

90. White, C. 1999. Decision threshold: enterprise information portals now add real business value… *Intelligent Enterprise* 2(16). [Online]. Available WWW: http://www.intelligententerprise.com/db_area/archives/1999/991611/feat1.shtml.

91. White, C. 1999. Using Information Portals in the Enterprise. *DM Review.* [Online]. Available WWW: http://www.dmreview.com/master.cfm?NavID=55&EdID=61 (Accessed on the 03/10/2003)

92. White, C. 2002. Critical window: Portal technology can be an effective answer to information overload…Intelligent enterprise [no volume]. [Online]. Available WWW: http://www.intelligententerprise.com/020221/504feat1_1.shtml (Accessed on the 03/10/2003)

93. Wikipedia. The free encyclopedia. 2006. Restructuring. [Online]. Available WWW: http://en.wikipedia.org/wki/Restructuring (Accessed on the 23/02/2006).

94. Wilson,T.D. 2002. information management. [Online]. Available WWW: http://information.net/tdw/publ/papers/encyclopedia_entry.html (Accessed on the 06/04/2006)

95. Wiseth, K. 1999. Portal Power. [Online]. Available WWW: http://www.oracle.com/oramag/oracle/99-Nov/69ep.html (Accessed on the 03/09/2003)

96.   Worrall, L. and Cooper, C. 2004. Managers, Hierarchies and perceptions: a study of UK managers. *Journal of Managerial Psychology*, 19(1): 41-68.

97. Zack, M.H. 1998a. Managing Codified Knowledge. [Online]. Available WWW: http://web.cba.neu.edi/~mzack/articles/kmarch/kmarch.htm   (Accessed on the 5/03/2002).

98. Zack, M.H. 1998b. Developing a Knowledge Strategy. [Online] Available WWW: http://web.cba.edu/~mzack/articles/kstrat/kstrat/htm (Accessed on the 5/03/2002).

APPENDIX A : De Beers Group Portal Strategy, by R. Walsh and J. Gianniosis

June 2005
René Walsh & Johnny Gianniosis
GTS: Knowledge & Learning

De Beers
Group Portal Strategy

DE BEERS
A DIAMOND IS FOREVER

INDEX

DE BEERS
A DIAMOND IS FOREVER

Background and Context

- ± 18 separately managed document repositories

- ± 21 separately managed intranet sites (non-standardised)

- Usage split 70% (documents) : 30% (intranet content)

- Ad-hoc use of non-standardised collaboration space and limited use of collaboration functionality

- Multiple access points

- Little or no application of information standards in document categorisation

- Lack of common De Beers language

- Poor search and retrieval results on current intranet

- Previous attempts to improve search engine and premature enterprise search solution project

- Some sites have not conformed to Group Standard

- Deep level navigation

De BEERS
A DIAMOND IS FOREVER

Strategic Objectives and Benefits

To provide the organisation with a common space to store and retrieve structured information effectively from a single point of access, contributing to the safe-keeping of the corporate memory of the organisation.

- Maintain competitive edge through greater use and re-use of De Beers' information and knowledge

- Avoid duplication of information and effort

- Connect people across the organisation

- Leverage the synergies across and between business areas and disciplines

- Find information that users didn't know existed

- Retain information currently lost due to staff turnover

- Break down silos and encourage a knowledge-sharing culture
  - by agreeing a common information structure and language

- Integrate external information resources

- Encourage and drive collaboration within the Group

- Timely access to policies, procedures, guidelines and best practice

De BEERS
A DIAMOND IS FOREVER

Portal Design Criteria

- Strong focus on core business functions

- Shrinking the gap between central and site-based content

- Increased online collaboration

- Ability to personalise information

- Elevate site navigation at least 2 levels up

- Taxonomy/Categorisation management tool

- Document categorisation and information management standards

Pilot Portal Scope of Work

SCOPE OF WORK	WHO?	DONE?
Select GTS as pilot business area for trial portal*	K&L	Y
Secure sponsorship in GTS pilot area	K&L	Y
Develop business taxonomy and meta data standards for effective document categorisation (IAM Project)	K&L / GTS / Factiva	Y
Deliver blue-print solution for information management	K&L / Factiva	Y
Develop migration/creation processes for business areas	K&L	Y
Develop taxonomy and meta data management tool	K&L / IT / Siemens	Y
Develop GTS portal structure/architecture, scalable for Group	K&L / IT / eBus / Siemens	Y
Portal roll-out to pilot GTS business areas	K&L / GTS	Ongoing
Embark on migrate/create process for ALL current Group Intranet content to Group Portal	K&L / eBus /	Ongoing

*SPS selected as Portal Group Standard

Portal Pilot Selection

- GTS has a high level commitment to collaboration and integrating information management

- GTS has a big intranet user base

- GTS has a high level of document management maturity

- GTS is a considerable producer of intellectual assets

- GTS representative of DB core business functions

- GTS needs to consolidate its document repositories and content

DE BEERS
A DIAMOND IS FOREVER

De Beers Portal Overview

Information + Collaboration Portal

Search

Operating Companies/ Business Functions	Collaboration	Document Management	My Site	External Databases
Portal Space	Process based Communities	EDMS	Yellow Pages	DebDoc
Content Management	Strategy based Communities	Document Repositories	Virtual Office	eB
Group Info	Project based Communities	Common Categories	Personal Portal	Customised databanks
News	KX	Information Standards	Focused Information	
Tools				

EDMS and Shared Drive Usage

	SPS EDMS	Shared Drive	Other Shared Repositories
Business Economics	☒	☒	☒
Sustainable Development	☑	☒	☒
Technology	☑	☑	☑
MRM	☑	☑	☒
Mining	☑	☑	☒
Engineering	☑	☑	☑
Supply Chain	☑	☑	☒
Metallurgy	☑	☒	☒
Human Resources	☑	☒	☒
Finance	☒	☑	☒
Projects and Engineering	☑	☑	☒
Knowledge and Learning	☑	☑	☒

Roles and Responsibilities

K&L	BUSINESS FUNCTION
Develop Portal Structure	Identify Portal Champ/Sustainability Manager
Provide Content Guidelines	Decide to migrate current content or create new presence
Ensure Business Function Presence	Prepare documents using categories and information standards
Enable and Facilitate Communities	Identify Potential Communities in Business Function
Communicate Structure to Business Functions	
Provide Categories and Information Standards for EDMS's	
Provide Guidelines for Migrate/Create Process	
Facilitate Portal Roll-out	

- Adoption of pre-defined information structures and standards, i.e. taxonomy, categorisation etc

- Continuing culture of non-sharing of knowledge and information

- Continuous use of current document repositories

- De-centralised portal management with regards to certain components, i.e. collaboration "Communities" sites

- Poor information categorisation behaviour

- Bandwidth

DE BEERS
A DIAMOND IS FOREVER