

# **Knowledge Management Consulting Method**

## **Part 2 – KM Frameworks**

### **Module 2.2 – Holistic Knowledge Asset Framework**

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## 1.0 Guiding Principles

The Holistic Knowledge Asset Framework adopts a number of guiding principles in order to develop the framework, methods and tools and apply them in real-world settings.

These principles are analysed in the following paragraphs and refer to:

- the types of knowledge the framework is focusing on and the ways it understands knowledge to be managed in commercial settings; and
- the characteristics of knowledge management initiatives, which the framework believes to be crucial.

### 1.1 Explicit Management of Knowledge Networks for Business Value

The Holistic Knowledge Asset Framework perspective is that the goal of managing knowledge is to create company value and improve performance.

The framework is interested in knowledge that is not concerned with “what is right”; rather it emphasises the use of knowledge on “what works”, or even on “what works better”, or as Drucker (1994) puts it: “*knowledge basically exists only in application*”.

Although the Holistic Knowledge Asset Framework, method and tools take into account the individual as the most crucial element of organisational knowledge creation and use, the perspective is not limited to the individual knowledge worker; rather it is extended to cover team, organisational and inter-organisational issues.

Again we can quote Drucker who says: “*it is only the organisation that can convert the specialised knowledge of the knowledge worker into performance*”. It is the common understanding that in the knowledge economy the individual is a cost centre rather than a performance centre. It is the organisation that performs; see Drucker (1994).

The Holistic Knowledge Asset Framework perspective on knowledge management does not neglect or underestimate the social and cultural issues of knowledge creation, sharing and use; however, it puts emphasis on the explicit management of business processes and systems that aim to leverage knowledge for the generation of corporate value.

The Framework aims to articulate an explicit management framework for leveraging knowledge assets. Although the term ‘management’ may refer to specific methods and techniques that signal command-and-control systems, it is our position that “...*management, like any other work, has its own tools, and its own techniques. But just as the essence of medicine is not the urine analysis, the essence of management is not technique or procedure. The essence of management is to make knowledge productive. Management, in other words, is a social function*”; see Drucker (1994).

The Framework is based on the assertion that knowledge emerges from the interaction and networking of individuals and their institutional groupings (teams, organisations and inter-organisations) as they make meaning together. Knowledge that is valuable at the business level is not only contained in individual disciplines or people but is generated in self-perpetuating, dynamic ways by networking across all boundaries of science, geography and discipline.

There are business environments that support this generation and environments that inhibit it. The view is that the creation of such environments is open to the influences of our intentions and designs. Hence, the Framework’s knowledge asset’s focus is primarily on the creation and management of business environments that facilitate and support the development of knowledge networks.

The Framework’s view is that knowledge management is not about managing knowledge per se or about managing knowledge workers, rather it is about managing the context within which knowledge is created, shared and used. Weber (1994) uses the metaphor of the company as an idea chamber; an experimental space within which knowledge workers take creative risks. Then the task of the manager is to manage the chamber, not the knowledge workers inside the chamber.

## 1.2 An Embodied, Practical and On-going Endeavour

As Module 2.1 has shown, the practical industrial application of knowledge management ideas and methods may take many forms, ranging from the transfer of best practices to the re-alignment of performance measures.

We believe, however, that all successful programmes will be marked by three key features, where knowledge management initiatives should be embodied in the business environment, in the sense that they should be designed to:

- Implement business strategies and deliver real commercial benefits and not as an end in themselves; and

- Link explicitly to the actual organisational structures, business processes and technology aspects of the company.
- Take into account the cultural and human issues.

All these aspects should be attacked in an integrated manner. For example, the returns on technological interventions are greatly diminished if users are ignored. Likewise, incentive-based or cultural change initiatives are liable to fail if they are not supported by the right organisational structure and the appropriate technological systems.

A knowledge management initiative should consist of a number of integrated projects, phased over time, including a mixture of quick wins to deliver early benefits. Organisations should pilot initiatives before attempting full-scale implementation in order to reduce risk and benefit from learning.

However, although the principles of effective and efficient project management are fully applicable to the knowledge management programme, one issue that should be clear is that knowledge management should not be seen as a one-off activity. Knowledge management is an on-going process that is harmonised to the company environment. Knowledge management makes sense and delivers real value only when the steps taken are practical, measurable and deliver concrete results.

Knowledge management initiatives may aim to support the formal and informal networks by which knowledge can be identified, retrieved and shared, or they may try to identify, map, codify and capture knowledge so it can be accessed and applied as required.

Anyway, they should have clear business objectives, be structured in an implementable and measurable way and lead to concrete outcomes.

## **2.0 Fundamental Elements of the Framework**

### **2.1 Definitions**

As previously stated the Holistic Knowledge Asset Framework focuses not on what knowledge is, rather on what knowledge can do; it extends a definition given by Nonaka (1991) according to which *“knowledge is justified belief that increases an entity’s capacity for effective action”*.

Holistic Knowledge Asset Framework's definition of knowledge is: *The ideas or understandings which an entity possesses that are used to take effective action to achieve the entity's goal(s).*

The Framework's focal point is the business domain and the project examines individuals, teams, organisations and inter-organisational settings (e.g. virtual enterprises) as entity types that leverage knowledge to create business goals and achieve commercial values. It considers knowledge management as "*the ways to create, retain, share, account for, and leverage knowledge - at all levels, from the personal level, to the team level, the organisational level, the inter-organisational level, and the global level*".

The Framework focuses on knowledge as a crucial production factor and treats knowledge management as the set of activities, which aim at an optimal use and development of knowledge, now and in the future.

Managing knowledge determines which knowledge, where, in which form, and at which point in time should be available within a company or network of companies.

Knowledge management encompasses the identification and mapping of knowledge assets within the organisation, the generation of new knowledge for competitive advantage, making business knowledge accessible and sharing of the required knowledge assets.

Holistic knowledge asset tackles the fact that knowledge management should be implemented as an on-going business task with two primary aspects:

- Treating the knowledge component of business performance, reflected in strategy, processes, structure and systems at all levels of the organisation.
- Making a direct connection between the organisational knowledge assets - both explicit and tacit - and improved business performance.

## **2.2 Knowledge Networking: Integrating the Product and Process Views**

Knowledge management researchers and consultants, as well as companies that are implementing or have already implemented knowledge management initiatives typically follow one of two high level views [see also Sveiby (1997) and Kühn and Abecker (1997)]:

- The knowledge as a product (which is also called “knowledge stock”) view; or
- The knowledge as a process (which is also called “knowledge flow”) view.

### **Knowledge as a Product:**

The product-centred view focuses on knowledge assets, their creation, storage, and reuse. In this perspective “Knowledge=Objects” that can be identified and handled in information systems.

Researchers in this field are mainly computer scientists and psychologists who have been working in Artificial Intelligence and developing corporate memories, which in analogy to human memory allow companies to build on previous experiences and avoid the repetition of errors.

Information technology support within this view deals with explicit knowledge and is often based on document management systems. Lessons-learned archives, best-practice databases, distributed case-bases that capture problem-solving expertise, are examples of the tools developed and used within this approach.

Given the fact that knowledge is often communicated through text documents the product view is emphasising the *content dimension* of knowledge management. The goal of tools and techniques in this area is to precisely retrieve documents, or document parts, appropriate for satisfying the information needs specified by a user query or a static information filter. Retrieval can be done either from an existing document repository which might be indexed in a meaningful manner extracting as much as possible content to be put into powerful index structures, or from external sources like Internet information brokers, commercial databases, or web sites.

During the last years, techniques have been developed and refined for sophisticated extraction of document content and for the support of indexing and building of corporate thesauri. Agent technology provided mobility and proactiveness for internet search services and active knowledge delivery, as well as learning and assistance functionalities to support effective browsing and personalised information presentation.

### **Knowledge as a Process:**

The process-centred view mainly understands knowledge management as a social communication process. In this perspective “Knowledge = Process”, i.e. a complex set of dynamic behavioural actions that are constantly changing.

Researchers traditionally involved in this field are mainly sociologists or organisational theorists and computer scientists involved in the development and enhancement of groupware and Computer Supported Cooperative Work (CSCW) tools.

Holistic knowledge asset attempts to develop a unified framework that integrates both aforementioned approaches.

Holistic knowledge asset is interested both in managing the "stock" of knowledge (i.e. it covers the "knowledge=object" approach) and the "flow" of knowledge (i.e. it covers the "knowledge=process" approach) within the organisation.

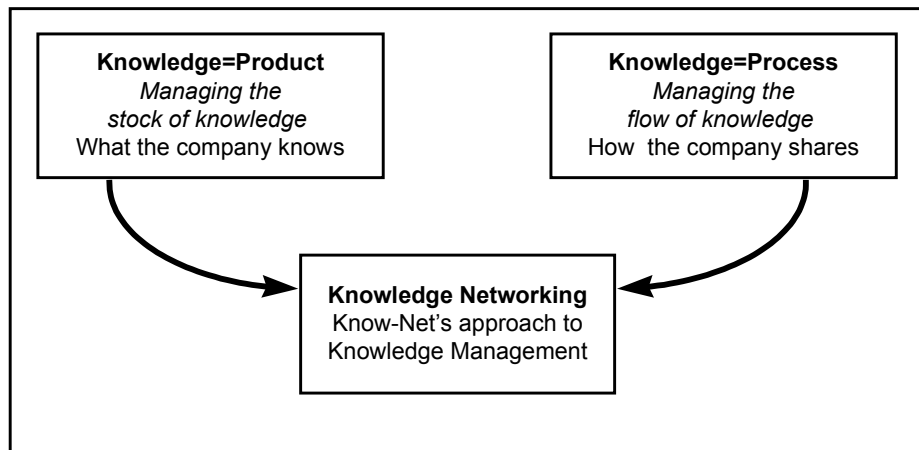


Figure 3.1 The stock and flow approaches to knowledge management

## 2.3 Overview of the Framework

The Holistic Knowledge Asset Framework represents the following types of elements:

- the business-related Knowledge Assets (KA) of the company. Holistic knowledge asset examines three types of knowledge assets:
  - human assets;
  - structural assets; and
  - market assets;
- the Knowledge Management Infrastructure (KMI) which should be established within a company, in order to facilitate knowledge leveraging initiatives. Holistic knowledge asset examines four components of the Knowledge Management Infrastructure:
  - strategy;
  - structure;
  - processes; and
  - systems.



- the Knowledge Networking Levels (KNL), whose interdependencies facilitate the flow knowledge. Holistic knowledge asset identifies four levels of knowledge networking:
  - ⇒ individual level;
  - ⇒ team level;
  - ⇒ organisational level; and
  - ⇒ inter-organisational level.

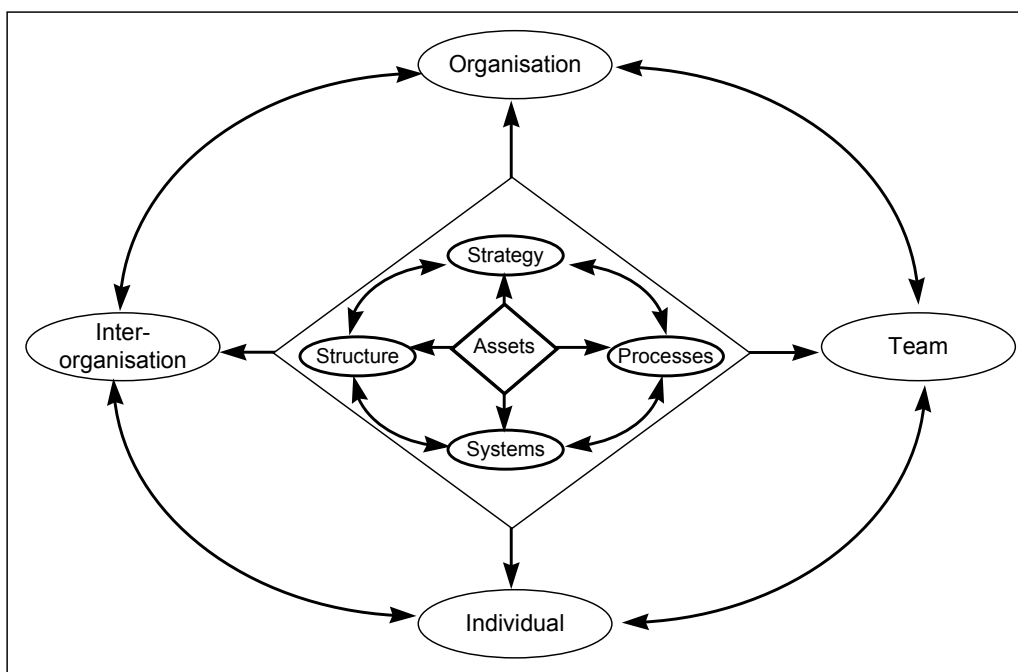


Figure 3.2 Overview of the Holistic Knowledge Asset Framework

## 2.4 Knowledge Assets

### 2.4.1 Main Characteristics of Knowledge Assets

Knowledge is an asset like any other. However, there are considerable differences between the knowledge assets of a company and other types of assets (e.g. fixed assets).

The first step in framing a knowledge management approach is to understand the main characteristics of knowledge assets [see also Day and Wendler (1998)]:

Most assets are subject to diminishing returns, but not knowledge. The bulk of the fixed cost in knowledge products usually lies in creation rather than in manufacturing or distribution.

Once knowledge has been created, the initial development cost can be spread across rising volumes. Network effects can emerge as knowledge is used by more and more people. These users can simultaneously benefit from knowledge and increase its value as they add to, adapt, and enrich the knowledge base.

In traditional industrial economics, assets decline in value as more people use them. By contrast, knowledge assets can grow in value as they become a standard on which others can build.

As knowledge grows, it tends to branch and fragment. Today's specialist skill becomes tomorrow's ticket to play as fields of knowledge grow deeper and more complex; or as Drucker (1997) puts it "*knowledge constantly makes itself obsolete, with the result that today's knowledge is tomorrow's ignorance*". While knowledge assets that become standards can grow more and more valuable, others, like expiring patents or former trade secrets, can become less valuable as they are widely shared.

A successful company must therefore continually refresh its knowledge base. The rapid and effective re-creation of knowledge can represent a substantial source of competitive advantage.

The value of an investment in knowledge is often difficult to estimate. Results may not come up to expectations; conversely, they may lead to extraordinary efforts without any clear value. Equally, a fruitful series of knowledge advances, each building on the last, may suddenly and unaccountably come to a halt.

Even when knowledge investments create considerable value, it is hard to predict who will capture the major share of it. There are three reasons for this.

- First, much knowledge is embedded in people's minds, and so cannot be owned and controlled in the way that plant and equipment can. Some knowledge can be codified, but often the valuable knowledge is tacit. People know more than they can say, and are in a strong position to lay claim to the value they generate.
- Second, knowledge can be a difficult asset to trade. Intellectual property rights are hard to enforce when a knowledge artefact such as a report or a software program can be readily copied without detection. Who owns knowledge developed jointly by several parties may be difficult to determine, even for the law courts.
- Third, the need to cooperate with partners to generate knowledge and the unpredictability of the results mean that often the exact distribution of value cannot be agreed. The value realised by the partners may differ even if each holds identical unrestricted rights to the knowledge.

These four characteristics make investing in knowledge assets a tricky business.

Traditional models of industry structure and conduct are an inadequate basis for strategy, because they do not help managers understand how value will be created, or who will capture the most of it.

## 2.4.2 Types of Knowledge Assets

The Holistic Knowledge Asset Framework focuses on three types of knowledge assets which are dynamically interwoven (see also Figures 3.3 and 3.4):

- Human knowledge assets, that generate organisational capabilities;
- Structural knowledge assets, that generalise the human capabilities; and
- Market knowledge assets, that gauge the products and services of the company.

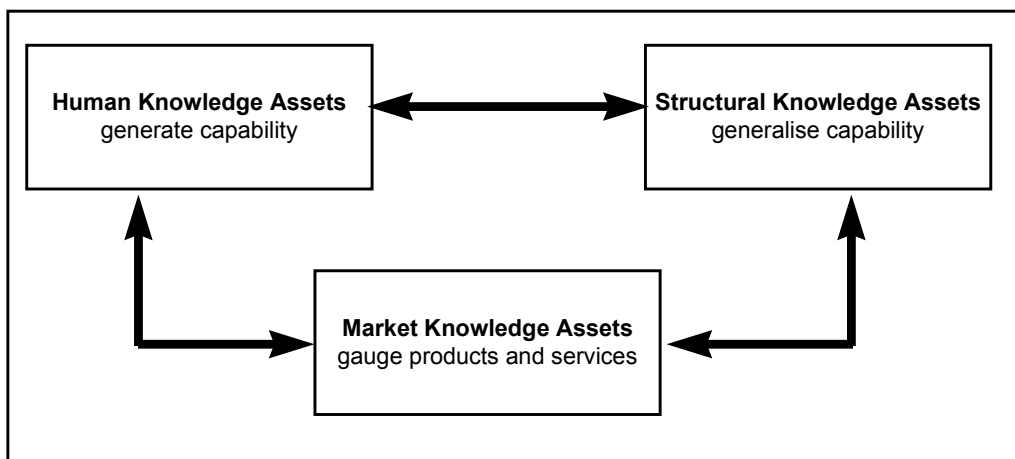


Figure 3.3 The dynamics of Knowledge Assets

### Human Knowledge Assets

Human knowledge assets are the capabilities of the individuals that are required to provide solutions to the customers of the company. The staff of the company are the “owners” of human knowledge assets; they “rent” their knowledge assets to the company.

Human assets grow when:

- the working environment fosters and facilitates knowledge creation and sharing;
- more people know in depth what knowledge is actually useful to the organisation;

- the company “uses” more of what people know.
- As human assets grow the results are:
- higher concentration of skills in what's important for the company;
- increased innovation and participation;
- increase of people working in areas critical for the business.

### Structural Knowledge Assets

Structural knowledge assets are the organisational capabilities to meet market requirements. They comprise what's left when people go home and they provide the structure and continuity that people need to perform within the business environment.

To build structural knowledge assets an organisation must:

- provide knowledge-related leadership, i.e. policy and strategy that take explicitly knowledge leveraging into account;
- build the necessary structure and culture for knowledge creation and sharing;
- provide information technology support (e.g. communication systems, documentation systems, etc.).

As structural knowledge assets grow the results will be:

- individual capabilities turn to grow and become organisational capabilities;
- organisational performance is improved;
- people are better supported and become more productive in the business context.

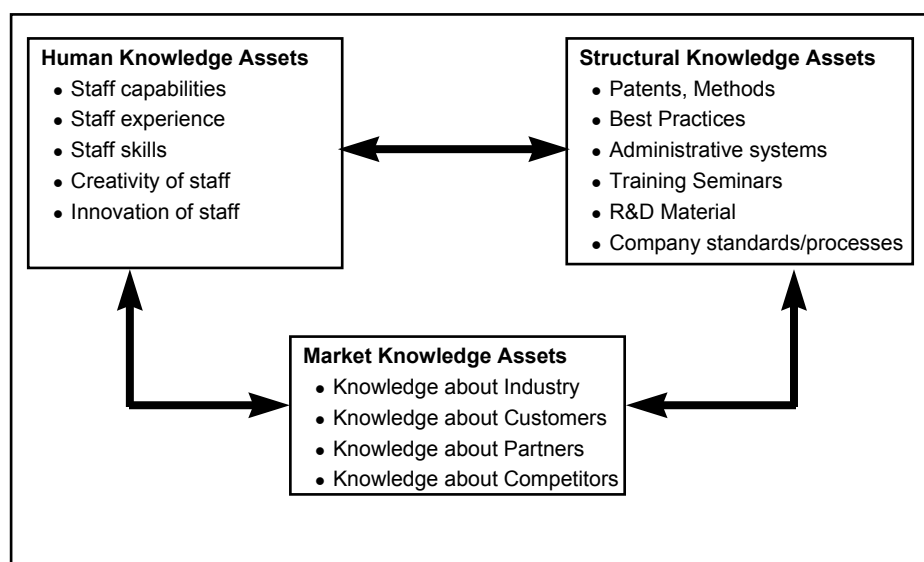


Figure 3.4 Knowledge Assets

### **Market Knowledge Assets**

Market knowledge assets refer to knowledge about the market, the company's clients, partners, competitors, etc, i.e. knowledge about the value created from the company's relationships with the people and organisations with whom business is conducted. Market knowledge assets gauge, evaluate and value the company's products and services. They are the final outcome of investments in human and structural knowledge assets.

To build market assets an organisation must:

- Deliver customised solutions more quickly;
- Involve partners in all phases of product development; and
- Provide feedback that customers can practically use.

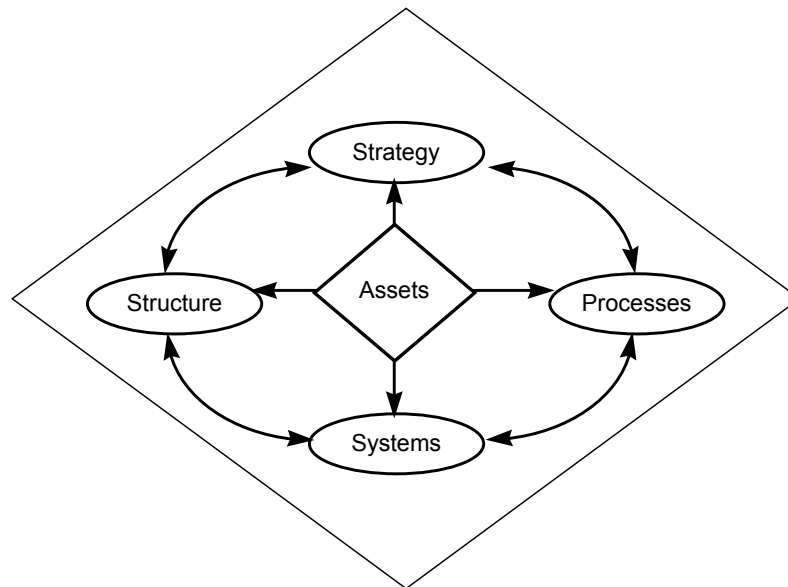
As market assets grow the results will be

- Higher trust levels in the company's supply chain; and
- Focus on outcomes that create customer value.

## **2.5 Components of the Knowledge Management Infrastructure**

The components of the knowledge management infrastructure that should be treated in order to leverage knowledge assets, are the following (see also Figure 3.5):

- *Strategy*, i.e. the strategic issues of knowledge management as they are embodied in the company's vision, mission and values;
- *Structure*, i.e. the organisational structures required for facilitating knowledge management, e.g. Chief Knowledge Officers, etc.;
- *Processes*, i.e. the business processes dedicated to knowledge capture, knowledge organisation, knowledge transfer and application of knowledge; and
- *Systems*, i.e. all the information and communication technology systems that support knowledge processes;



**Figure 3.5 Components of the Knowledge Management Infrastructure**

### 2.5.1 Knowledge Management Strategy

The “strategy” component of the KMI refers to the company’s values and mission, i.e. the knowledge-related strategic values of the company, the specific knowledge-related business objectives, the explicit and/or implicit links of knowledge strategy to business strategic objectives/goals.

Below we give some principles for defining the knowledge management strategies; see also Manville and Foote (1997).

Knowledge Management is meaningless without the old-fashioned objectives of serving customers and beating competitors. If a company does not have its fundamentals in place, all the corporate learning, information technology, or knowledge databases are mere costly diversions.

The old truth is still the best truth: a company has to know the kind of value it intends to provide and to whom. Only then can it link its knowledge resources in ways that make a difference: serving customers around the world in a coordinated, consistent manner; responding quickly and effectively to changing competitive conditions; and offering its products or services to customers more quickly, cheaply, efficiently, and innovatively. Knowledge management should be pursued for clearly identified benefits rather than as an end in itself. Approached in this way, knowledge management will provide tangible payback in the short term as well as contributing to the organisation’s long-term development.

Although traditional financial measurements not only can't account for intangible assets, such as knowledge, but also discriminate against them by using obsolete accounting principles, the hard truth is that if knowledge can't be connected to measurable improvements in performance then the knowledge management effort will be short-lived.

There exist lots of solid examples showing that knowledge can have a clear impact on measures such as sales, costs, cycle time, productivity, and profitability. One pharmaceutical company, for example, increases sales significantly by sharing physician prescription patterns throughout its national sales force; a computer manufacturer speeds up its rate of new product development by systematically sharing information among its marketing, sales, and engineering departments; etc.

Such successes can be tracked to the superior use of knowledge. And they are much more compelling than the fuzzy argument that companies should adopt knowledge as a goal since learning and education are "good for the company" - or even "good for society. Or, as Manville and Foote (1997) argue "*the point of a knowledge-based strategy is not to save the world; it's to make money*".

Realising the complete vision of an innovative, knowledge-sharing organisation is probably a long-term objective for most companies. Organisations should focus on both obtaining real benefit through 'quick-win' projects and the long-term vision. Complete realisation of the vision of knowledge management depends on organisational maturity in terms of having the right culture as well as on technological sophistication.

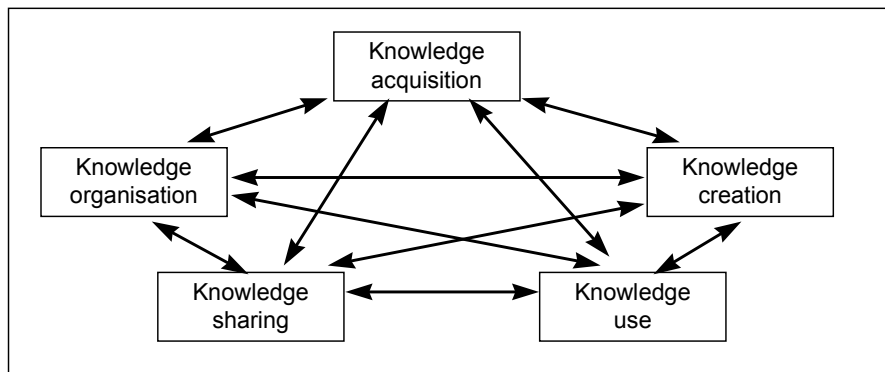
It is almost certainly the case that the vision of the perfect knowledge culture is an unachievable ideal. However, it is a worthwhile aspiration and provides strategic direction. The logical deduction, therefore, is that implementing knowledge management initiatives is an ongoing process of continual improvement and progression towards the vision, not a simple step-wise process.

## 2.5.2 Knowledge Management Processes

The knowledge management processes of the Framework's KMI can be classified within the following five groups (see also Figure 3.6): acquisition, organisation, dissemination, use and creation.

Knowledge acquisition processes include e.g. the identification of knowledge needs, the capture and collection and/or import of knowledge, etc. Before investing heavily in the development of new capabilities, companies should know what knowledge and expertise exist both inside and outside themselves. One way to increase internal

knowledge transparency is by creating knowledge maps, which support systematic access to parts of the organisational knowledge base.



**Figure 3.6 Knowledge Management Processes**

Knowledge import is also critical. The explosive growth and simultaneous fragmentation of knowledge have made it all but impossible for companies to build up all the know-how they need for market success by themselves. Instead, they have to buy critical capabilities, often from many knowledge markets, using focused acquisition strategies. Romhardt and Probst (1997) distinguish four “import channels”:

1. Knowledge held by other firms. Acquiring other people’s knowledge can build a company’s competencies fast. One option is to acquire innovative companies in the desired field of competency; another is to enter into joint ventures.
2. Knowledge held by stakeholders. This is an inexpensive way to get ideas for new and improved products and services. For example, involving customers early in the product-development process can generate valuable information about their needs.
3. Knowledge held by external experts. Companies can recruit specialists either as full-time staff members or for temporary employment.
4. Knowledge embedded in products, e.g. software, patents, etc. The “fit” of knowledge products to the company’s competencies is extremely important. New ideas and new knowledge can take effect only if they are at least somewhat compatible with the old.

Knowledge organisation includes the interpretation, analysis codification, indexing, aggregation, filtering, synthesising, packaging, archiving, and link of knowledge to its context. Of course critical tasks include the maintenance and knowledge “purging” functions.

After knowledge has been acquired or created, it must be carefully organised and preserved. Many companies complain that in the process of reorganisation they have



lost part of their corporate memory. This collective amnesia is often the result of the destruction of informal networks, which steer important but little-observed processes. To avoid the loss of valuable expertise, companies must shape the processes of selecting valuable knowledge for preservation, ensuring its suitable storage, and regularly incorporating it into the knowledge base.

Companies should identify core areas of their organisational knowledge base and establish a pragmatic selection process for knowledge to be saved. The guiding rule should be to preserve only information that will be usable for a third party in the future. Knowledge dissemination includes mechanisms for knowledge distribution (such as pro-active distribution, event-based distribution, subscription-based distribution, etc), schemes such as “targeted” push and/or pull sharing, the commercialisation of available knowledge, the development of trust in corporate knowledge, etc.

In making knowledge available and usable across the whole organisation, the critical questions are: who should know what, to what level of detail, and how can the organisation support these processes of knowledge distribution? Information technology supported knowledge distribution infrastructures can facilitate the efficient knowledge exchange within the business environment and connect formerly separated experts through an electronic network. Efficient knowledge distribution can generate not only time and quality advantages, but a direct rise in customer satisfaction.

Knowledge creation consists of all activities intended to produce new knowledge both at the individual and the collective level.

The main processes for individual knowledge creation rely on creativity and on systematic problem solving. Creativity may be called the chaotic component of the knowledge development process and the capability of problem solving the systematic component. The knowledge management system must support both components, for example through traditional tools such as corporate proposal systems that may be revitalised or reused.

Collective knowledge creation involves the learning dynamics of teams. Management must ensure that team members have complementary skills and that each group as a whole has defined realistic goals. Moreover, cultural issues like an atmosphere of openness and trust, play significant roles and allow the intensity of communication that makes collective learning results superior to individual ones.

The establishment of internal think tanks, learning arenas or centres of competence may support these processes. In a process of self-reflection, every team should identify critical “lessons learned” at the conclusion of each project and pass the information on to future teams in the form of a short, clear report that allows others to learn from that experience.

This group of processes includes the application of knowledge in corporate services or products and in supporting the delivery of value to customer.

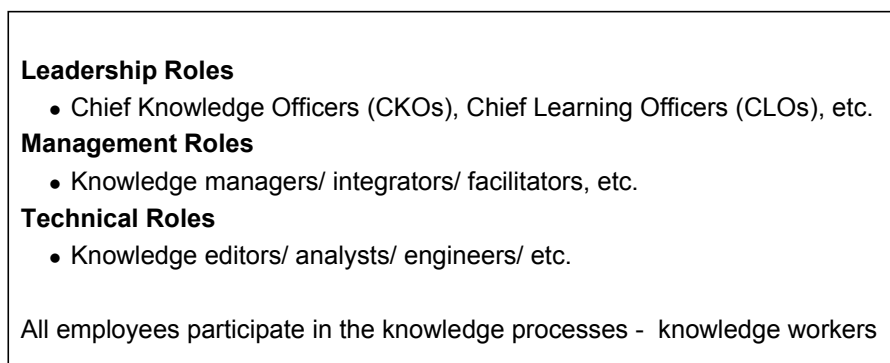
The productive deployment of organisational knowledge in the actual delivery of products and/or services is the heart of knowledge management. Successful identification and distribution of critical knowledge does not ensure its daily use. Without consistent use, there is a high probability that any knowledge management systems will decay in quality, and the investment will be wasted. The potential user of knowledge has to see a real advantage in order to change his or her behaviour and “adopt” the knowledge.

### 2.5.3 Knowledge Management Structure

The need for an explicit, formal organisational structure that directs, facilitates and supports the knowledge management-related activities within a company has been identified and discussed in recent academic as well as business literature.

There exists a variety of job titles related to knowledge leveraging (such as Knowledge Architect, Knowledge Manager, as well as more traditional titles such as VP Customer Care and Manager of Systems and Applications). However, one can analyse various jobs at three levels (see also Figure 3.7):

- Leadership-level positions (e.g. CKOs);
- Management positions, e.g. knowledge managers.
- Technical positions; e.g. knowledge analysts.



**Figure 3.7 Levels of knowledge management organisational roles**

### **Role of the CKO**

Senior-level management positions (e.g. CKOs) are persons who should combine an orientation to structured, explicit knowledge with an intuitive feel for precisely how cultural and behavioural factors may impede or enable the leveraging of knowledge in an enterprise. Measurement and economic return should also be key points of focus.

Examples of the responsibilities of senior-level management roles include the following:

- Responsible for directing the development and management of processes and technologies that enable staff to leverage organisational knowledge towards business goals;
- Lead the development of the knowledge strategy, focusing the firm's resources on the type of knowledge it needs to manage most;
- Responsible for planning and executing knowledge management initiatives;
- Responsible for designing, implementing, and overseeing the firm's knowledge infrastructure;
- Responsible for managing the firm's knowledge managers, giving a sense of community, establishing professional standards, and managing their careers.

### **Role of Knowledge Managers**

Middle-level management positions, e.g. knowledge managers, are analogous to the leaders of a reengineering project or a strategic planning group. In fact, knowledge management initiatives are similar to these more familiar types of projects insofar as they are process oriented and advance some strategic goal. Knowledge managers should have facility with project, change and technology management. Good candidates may have led successful research, reengineering or behaviour-changing IT projects in the past. They should also have a strong sense of their own limitations.

Examples of the responsibilities of middle-level management roles include:

- Promoting and educating staff on knowledge sharing processes, technologies, and resources collecting, filtering, and integrating key methodologies, presentations, etc.
- Collaborating with firm experts to write detailed learning histories and capture "best practices"
- Identifying and sharing external information from research groups, marketing publications, Internet web sites, etc.
- Responding to information requests from staff
- Co-ordinating with other knowledge management team members to ensure consistency and synergy
- Brainstorming new formats and mechanisms to effectively share intellectual capital
- Monitoring/measuring the use of knowledge bases and tools

Lower-level management positions, e.g. knowledge analysts, are people able to extract knowledge from those who have it, reorder it to a form anyone can use, and periodically update and edit that knowledge. These skills are not really taught anywhere, but the closest approximation may be found in journalism schools. An alternative source to journalists is the group that was christened “knowledge engineers” in the heyday of expert systems. Knowledge analysts roles require a combination of “hard” elements (structured knowledge, technology and tangible benefits) with “softer” traits (a sense of the cultural, political and personal aspects of knowledge management). Obviously, it’s not easy to find all this in one person; at a minimum, knowledge management teams should combine these hard and soft orientations, and each member must respect all required skill sets.

Examples of the responsibilities of Lower-level Management Roles include the following:

- Managing and monitoring knowledge sharing networks (e.g., discussion databases)
- Enhancing knowledge sharing tools to include more detailed information
- Supporting the use of knowledge-oriented software packages
- Making knowledge content appealing and persuading by designing and implementing target-group-based distribution facilities and informative displays.

#### **2.5.4 Knowledge Management Systems**

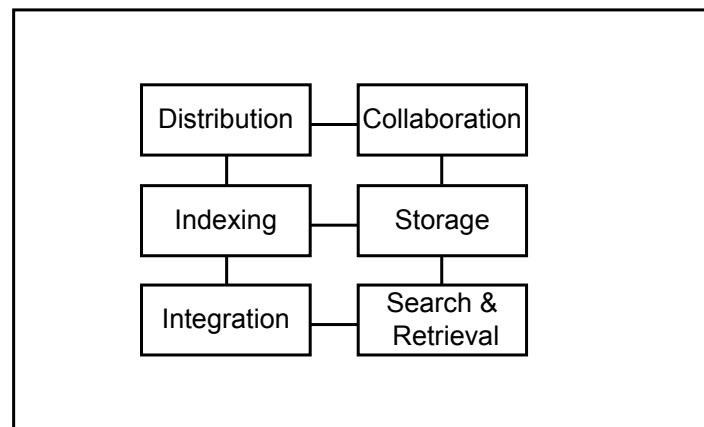
The Holistic Knowledge Asset Framework believes that the role of technology is to enhance human possibility. Systems should free the nodes of knowledge networks (be them individuals, teams or organisations) to realise more fully their values, intentions and possibilities. Technological systems should support and facilitate the fundamental issues of knowledge networking and not undermine them in any way. Systems should be in their service and not designed so that they are in its service.

The Framework confronts the challenge of developing and using technology to serve both the interests of individuals, teams, organisations and of their larger communities. Such challenges will be met successfully only by focusing technology on the increase of knowledge, individually and for the whole.

In an effort to provide a framework that is generic enough to support any organisation but at the same time provide clear and concrete directions for the implementation of a KM initiative we define the *core services* that need to be offered for systematic knowledge management rather, than examine the technologies available. This way, a knowledge leveraging infrastructure will have a focus on problem solving rather than on output and transactions, it will be open and flexible, it will be tailored to the ways

communities of practice communicate, learn and evolve. The services should span the whole knowledge life-cycle, from knowledge acquisition to knowledge use.

At the core of the Framework's KMI Information & Communication Technology Infrastructure there are six core services (see also Figure 3.8).



**Figure 3.8 ICT services**

An information map defines the channels available for use by individual employees or the enterprise at large and describes the mechanisms available for information processing and knowledge formulation. When put to work, the information map will provide a representation of available knowledge (knowledge bases, topics, sources, narrative summaries, higher-level descriptions, etc.). This will help ensure that employees know “what they know”. Automated indexing routines can be facilitated in order to ensure complete synchronisation of indices and data sources and thereby ensure that employees know “where is what they want”.

Search and retrieval services should provide transparent access to multi-platform, heterogeneous sources, including Internet/ WWW / intranet sites, file servers/ databases, popular proprietary formats, legacy IS. Various types of search services should be accommodated, i.e. hierarchical (e.g. traversing hyperlinks), attribute (query-type searching), and content (e.g. crawler-type searching of popular WWW search engines). Distribution and publication services can include: subscription-based approaches on internal (such as bulletin boards) and external (such as WWW sites) information sources; and push and “smart-pull” approaches coupled with intelligent, selective mechanisms of content relevance assessment that will provide useful knowledge while preventing information overload.

Integration with: application and tools that are currently used within the organisation (e.g. word-processors, spreadsheets, databases, etc.) This way, the infrastructure will tap

into the flow of information that is already happening in the organisation, and therefore will improve acceptability by the users.

This is a core service, that is being facilitated by the use of technologies that span from relational database management systems and document management systems to AI-based corporate memories. No matter the technology being used, such services should allow access to existing applications, services and databases, have layered storage capabilities that provide different abstraction levels, and provide intelligent assistance to users for the execution of knowledge organisation processes. Metadata services should define and insert new knowledge elements into the different layers of the storage system.

This is a group of services offered by technologies providing rich, shared, virtual workspaces in which interactions occur between people who share a common goal. Indicative collaboration services include email, messaging, on-line discussions, electronic scheduling and meeting, video and audio conferencing, virtual workshops, just-in-time workgroup alerting, etc.

## 2.6 Knowledge Networking Levels

The Holistic Knowledge Asset Framework levels of knowledge networking correspond to what Nonaka calls the “*ontological dimension*” in his model of organisations as knowledge creating mechanisms; see Nonaka (1994). This ontological dimension refers to the social interactions which begin at the individual level and then by communication between organisational boundaries let knowledge expand and grow-up.

According to Nonaka [see Nonaka and Ray 1993]) if new knowledge is relevant to the needs of the organisation, it is likely to permeate through groups and divisions and thereby extend the community of interaction dealing with that knowledge. New knowledge that has a potential to support more advantageous ways of doing things is likely to be retained as a subject for further debate within the network and may also lead to an extension of the community of interaction.

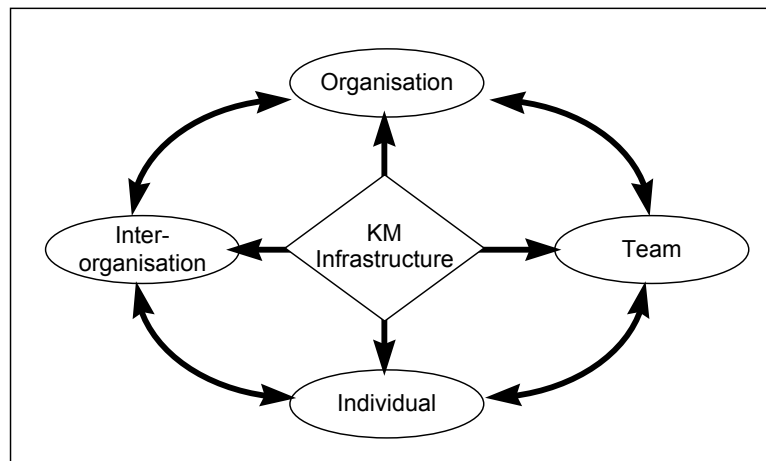
For example, what eventually proves to be a successful product might emanate from a R&D department and gradually acquire a greater circle of interested parties within the organisation as the dimensions of its potential impact become more clear. As news of the emerging product travels beyond the organization, the circle will grow still wider embracing competitors, customers, firms dealing with complementary technologies and so on. Thus the network will go beyond the original "hard core" of knowledge creators to include those that are in some way affected by the exploitation of that knowledge.

However, there is no reason to suppose that there will be linear sequence of expansion -- starting from the individual, then progressing to the group and subsequently to the

organisation and beyond. The community of interaction could span departmental and organisational boundaries from the outset. Possible members of this community such as suppliers, customers and competitors might all enter the knowledge leveraging networks at any time.

Within the Framework, we distinguish between four levels of knowledge networking:

- Individual
- Team
- Organisation
- Inter-Organisation



**Figure 3.9 Levels of Knowledge Networking**

The individual level refers to the capabilities, experience, competencies and personal development issues treated at the individual level of the knowledge worker.

The team and organisational levels include the internal company networks, i.e. the informal, self-organising or the formal networks of communities of knowers with common interests, the communities of practice involved in similar activities, the engagement teams, etc. that are built within an organisation.

The level of inter-organisational networks refers to inter-enterprise relationships, value networks where each focuses on core competencies, as well as on the accessibility to external, developed capabilities. Hence networks with customers, competitors, subcontractors, partners etc. are included in this level.

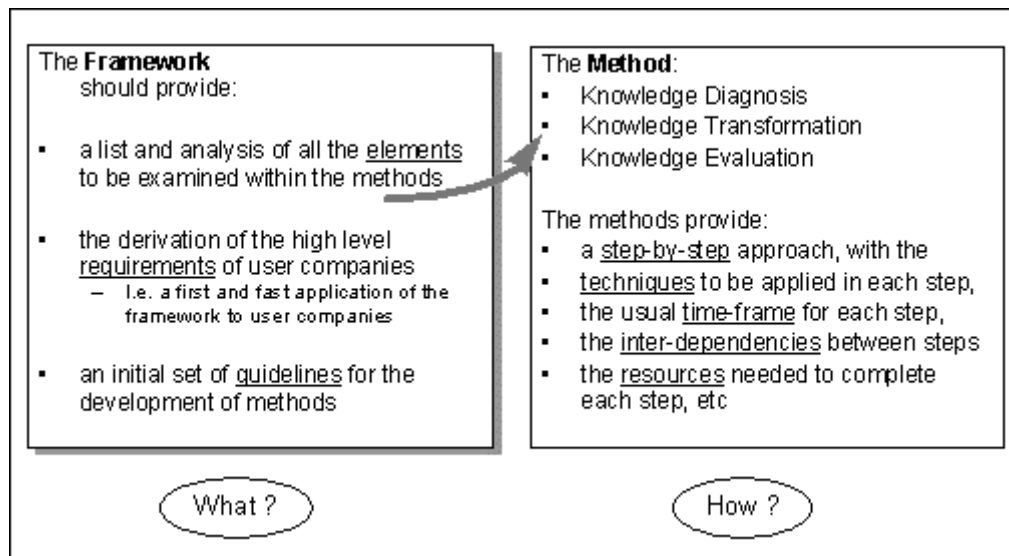
The Knowledge Management Infrastructure (KMI) should be an environment supporting knowledge leveraging at all levels.

### 3.0 Links to the Holistic Knowledge Asset Framework methods and tools

The Holistic Knowledge Asset Framework provides the basic elements should be examined within the methods to be developed within the project, i.e.:

- Method for Knowledge Diagnosis;
- Method for Knowledge Transformation;
- Method for Performance Evaluation.

In this sense the framework provides the answer as to “what” is to be examined in the various methods; see also Figure 3.12.



**Figure 3.12 Relationship of Framework to Methods**

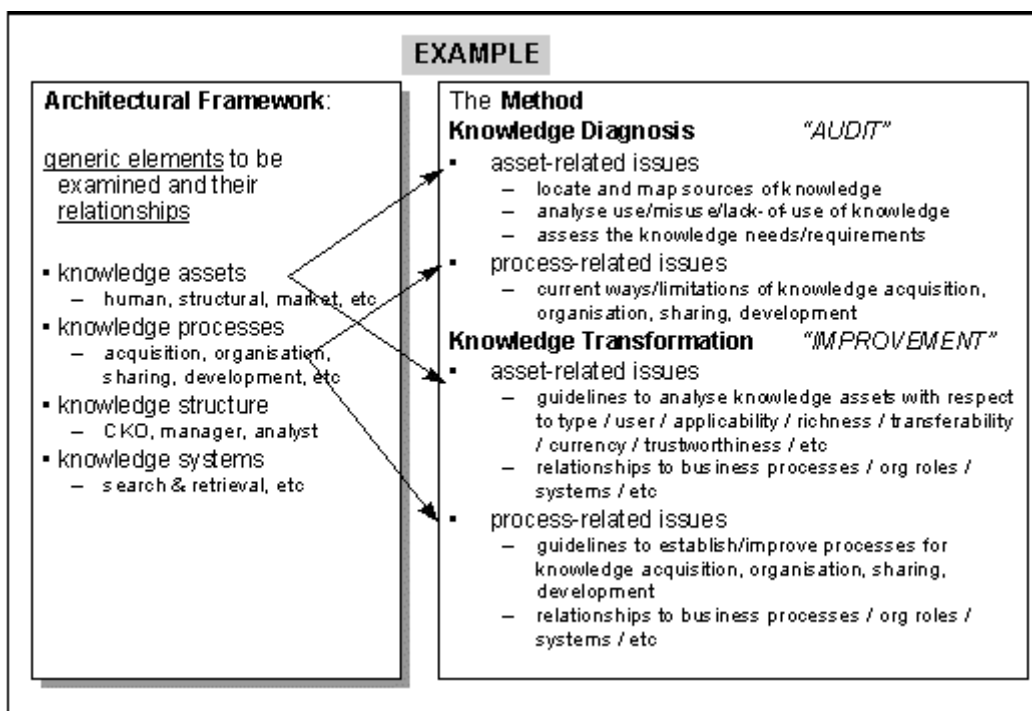
In addition, it provides the basis for the derivation of the high level knowledge management requirements of the three user companies.



However, the Holistic Knowledge Asset Framework does not cover the methodological aspects with how to proceed e.g. with a knowledge audit of a company, how to implement a holistic knowledge management initiative, etc. In other words, the Holistic Knowledge Asset Framework is certainly not the “Knowledge Management Project Handbook”.

Such issues will be examined within the related methods which will provide the step-by-step approach for implementation, propose available techniques to be applied in each step, analyse possible inter-dependencies between steps, etc.

However, the Holistic Knowledge Asset Framework does provide an adequate foundation for the further development of methods, since the identification, classification and description of the basic elements accommodates the initial elaboration of the required contents of the knowledge management methods; see Figure 3.13.



**Figure 3.13 Examples of Relationship of Framework to Methods**

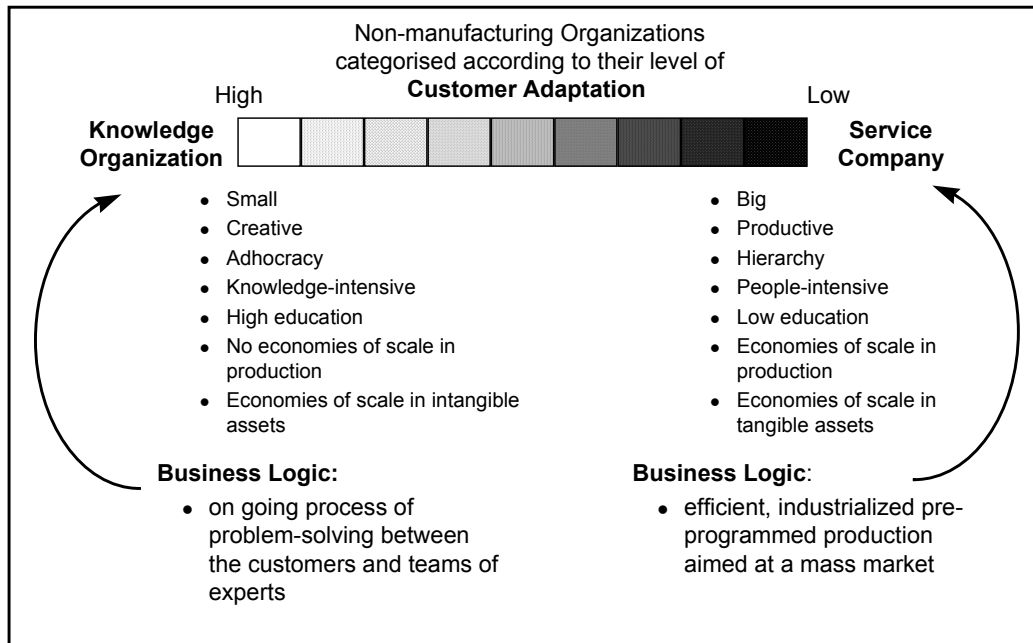
## **4.0 Holistic Knowledge Asset Framework's Target Sector: Knowledge Intensive Organisations (KIOs)**

In an effort to test the applicability of the Information Technology systems and management methods to be developed, Holistic knowledge asset uses as test-beds organisations that exhibit the most complex environment for installing knowledge management strategies, tools and methods: service-oriented Knowledge-Intensive Organisations.

Holistic knowledge asset's definition of Knowledge Intensive Organisations is quite similar to the approach followed by Karl-Erik Sveiby, who defines the Knowledge Organisation (similarly to Holistic knowledge asset's definition of a Knowledge Intensive Organisation - KIO) as belonging to a subgroup within the service sector; see e.g. Sveiby (1992, 1997).

It is not long ago that Weber (1993) claimed that "Technology is blurring the traditional distinctions and ways of understanding the business world". Business observers of the conventional distinction between 'manufacturing' and 'services' have predicted with confidence the emergence of a 'post-industrial' service economy, where the central role played by manufacturing in the economy would be steadily replaced by new service industries and service jobs; see e.g. the work of Professor James Brian Quinn who argues that "leveraged intellect and its prime facilitator, service technology, are reshaping not only the service industries, but also US manufacturing, the country's overall economic growth patterns, national and regional job structures, and the position of the United States in world politics and international competition" [Quinn (1992)].

The service sector is not a discrete phenomenon but rather a spectrum of company types ranging from those organisations totally adapted to their customers - the knowledge organisations - to organisations that have refined and packaged their output. The latter have more in common with manufacturing companies; see also Figure 4.1.



**Figure 4.1 Knowledge Organisations**

In companies which exhibit low levels of customer adaptation the business logic is based on efficient, industrialised pre-programmed production aimed at a mass market. The McDonald's fast-food chain exemplifies this type, where even the smile one gets as a customer is "pre-programmed" in the employee's manual. On the other hand, in companies which exhibit high levels of customer adaptation "service" provision emerges as an ongoing process of problem solving between the customers and teams of experts. They therefore have to treat their customers as individuals. Because the knowledge organisation cannot force its customers to adapt to it, it must perform adapt to them.

Service delivery in KIOs is related to solving problems that are hard to tackle in a standardised manner. People in KIOs tend to be very competent; highly educated and/or with long experience in a profession often involved with information processing. The business logic depends on how the managers of KIOs regard their assets, their key people and their customers, how they attract them and how they match their capacity for problem solving with the needs of the customers.

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### **KIOs: A Definition:**

Knowledge-Intensive Organisations (KIOs) can be defined as organisations in which:

- the “products” are intangible, i.e. do not consist of goods or services, but complex non-standardised problem-solving; the end results usually consist of reports or processes either delivered orally or as hard copies;
- the “production process” is non-standardised and highly-dependent on team-work;
- the majority of employees in KIOs are highly educated and creative people;
- customers of KIOs are treated individually and the “products” are rather adapted to them, than vice versa.

Examples of such companies include, but are not limited to: advertising; management consulting; financial or legal advice; specialist nursing care; software programming and systems design; etc.

There are generally few statistics that can be related to the size and growth of the KIO sector. According to a recent EEC Commission paper (COM 1998/534), the so-called business service sector contributes about 15% of the total EEC value added and 8.5% of total employment, which makes it six times as much as agriculture.

The sector is growing very fast. At the EEC level, the sector’s growth in current prices was an annual 5.5% in the 1980-1994 period. The fastest growing companies in Europe have been companies in the professional services sector, with growth rates ranging from 10% in volume to well over 100% in some segments.

This rapid growth can partly be explained by an increased resource to outsourcing of business services’ activities, but it is believed that the main reason lies in the industry’s demand for new, advanced, knowledge-based and specialised services.

Within the Holistic Knowledge Asset Framework, the emphasis on KIOs is evident in the participation of three (3) user companies:

1. the Greek management consultancy company PLANET;
2. the UK chartered surveyors company Gooch Webster;
3. the Credit Risk Department of the Union Bank of Switzerland.

## 5.0 Performance Evaluation of Knowledge Management Initiatives

### 5.1 The Need to Extend Performance Evaluation Systems

Knowledge intensive organisations need a measurement and performance evaluation system that gives an accurate view of the company's current position along with information for making decisions for the future.

The traditional model of accounting which described the operations of companies for half a millennium is now failing to keep up with the revolution taking place in business. Financial measurements are increasingly proving themselves too static to keep up with the modern organisation with its fluid structure, strategic partnering, empowered employees, multimedia network marketing and vital reservoirs of human intellectual resources. Such systems do not take into account the intangible assets of a company, such as the skills of workers, intellectual property, business infrastructure databases and relationships with customers and suppliers. Although such systems may fit well with the engineering mentality of the Industrial Age, they are ill-equipped to assist in the performance evaluation of knowledge intensive companies, in which the intangible assets that generate invisible finance are the most crucial; see also Figure 5.1.

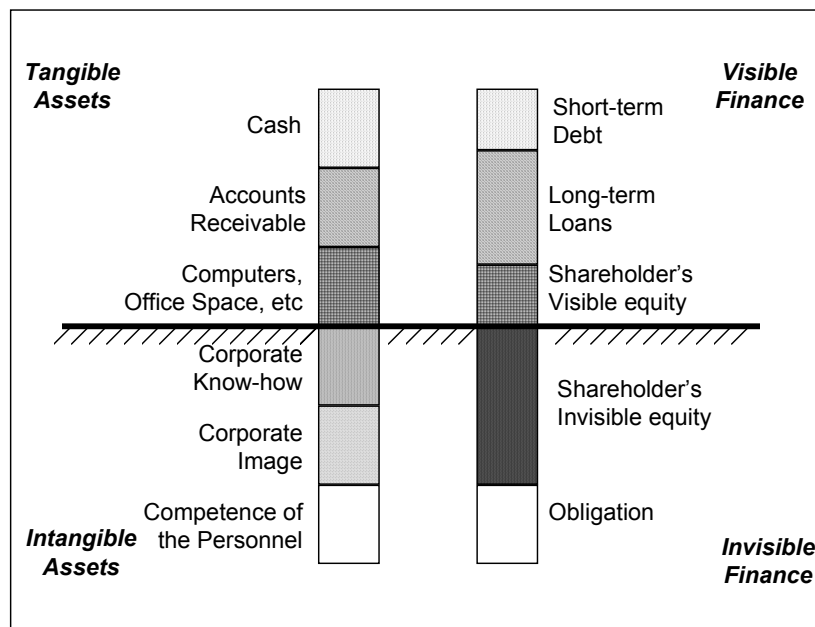


Figure 5.1 Tangible and Intangible assets and related finance [Sveiby (1997)]

One key issue is that although knowledge intensive companies depend heavily on their human resources, much of the internal and external structure remain intact even when the most valuable employees leave the company. For example, the intangible assets of pharmaceuticals companies lie in their R&D portfolios and brand names. Some of USA's most important companies suffered from rapidly declining intangible assets long before the problems showed up in the profit and loss statements. IBM, General Motors were showing big profits using current accounting systems while their business were falling apart.

In recent years intangible assets like the work force knowledge have become increasingly important. Managers are realising that the success of an enterprise is determined more by a company's ability to use its intangible assets than its ability to control physical ones. Conventional accounting might indicate that a company is making profits while its intangible assets are losing value. Suddenly the company becomes non-competitive and losses are incurred. Companies with lots of valuable intangibles have market capitalisation that greatly exceed their book value. Companies with poor market positions, bad relationships with customers and suppliers, poor business infrastructures and demoralised employees often trade in the market at below their book value.

The need to include knowledge related issues in the traditional financial measurements was comprehended by some pioneering companies who attempted to present in their annual reports intellectual capital measurements and thorough information about the intangible assets they possess. Skandia's 1994 Intellectual Capital Annual Report was a landmark in the story of standardisation of the Intellectual Capital model. Dow Chemical created a position of director of intellectual assets who sets out and created an IC report for that company. The Canadian Imperial Bank of Commerce formed its leadership development programme around Intellectual Capital.

Clearly a movement has began. Although the stock market is showing us that knowledge assets are far more important than money and other traditional assets, the majority of companies are not making an effort to capture, measure and better manage intangible assets. However, this will not be the case in the next 10-15 years. Even the US Securities and Exchange Commission's Commissioner Steven Wallman admitted that Intellectual Capital reporting is an issue that is being closely considered by the Financial Accounting Standard Board and predicted that knowledge assets reporting will one day become the heart of the modern corporate annual report - to which today's financial statements would be added as appendices.

Although the measurement and evaluation of knowledge assets and their growth should be an essential element of any knowledge management initiative, lack of awareness in such measurements is evident. For example, of 80 corporations surveyed by Arthur Andersen during a 1995 knowledge conference, more than 75% called knowledge management an essential part of their business strategy; however, more than 90%

admitted they had not yet developed reliable ways to link knowledge management to financial results. The researchers concluded that “while companies may be starting to measure knowledge assets, the link to financial results remains fuzzy” and that “the lack of progress in this area could ultimately torpedo knowledge management initiatives”.

What gets measured gets managed. A new reporting standard for the measurement of intangible assets will emerge someday in the near future. The attempts which have already been made are presented in the following sections.

## 5.2 Survey of Existing Approaches

Measuring the knowledge assets of a company has been a challenge for many researchers who devoted a lot of effort in order to present a concrete system that will clearly portray the “invisible assets” of a company. Three views are dominant nowadays and we will focus on presenting each one of them.

Karl Eric Sveiby published in a report in Swedish language and later in a book (Sveiby 1997) his approach which was based on the “Konrad theory” that has become widely used in Scandinavia – more than 40 Swedish companies measured and reported their intangible assets according to these principles in 1995. The theory was further developed for management information purposes and is now called the “Intangible Assets Monitor”.

In 1993 Leif Edvinsson presented his approach on Intellectual Capital measurement, called the “Navigator Approach” and published it in a supplement to Skandia’s Annual Report, using for the first time the word, “*Intellectual Capital*”, instead of the accounting term “Intangible Assets”; see Edvinsson & Malone (1997).

An internationally well-known approach is the “Balanced Score Card” [Kaplan & Norton (1996)], which was developed in the USA around 1990, independently from the Swedish efforts at the time.

### 5.2.1 The Balanced Scorecard Approach

The Balanced Scorecard (BSC) is an approach to strategic management that embeds the long-term strategy into the management system through the mechanism of measurement. The BSC attempts to translate vision and strategy into a tool that effectively communicates intent, motivates and tracks performance against the established goals.

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The Balanced Scorecard allows managers to look at the business from four important perspectives - Financial, Customer, Internal Business and Innovating and Learning Perspective; see Figure 5.2.

It provides answers to four basic questions:

1. How do customers see us? (Customer Perspective)
2. What must we excel at? (Internal Perspective)
3. Can we continue to improve and create value (Innovation and Learning Perspective)
4. How do we look to shareholders (Financial Perspective)

The Innovation and Learning perspective directs attention to the basis of all future success - the organisation's people and infrastructure. Adequate investment in these areas is critical to all long term success. The development of a true learning organisation supports success in the next Balanced Scorecard perspective the Internal perspective.

The Internal perspective focuses attention on the performance of key internal processes which drive the business/ Improvement in internal processes now is a key indicator of financial success in the future. However, in order to translate superior processes into financial success, companies must first please their customers.

The Customer perspective considers the business through the eyes of a customer so that the organisation retains a careful focus on customer needs and satisfaction.

The Financial Perspective measures the ultimate results that the business provides to its shareholders. Together these four perspectives provide a more balanced view of the present and future performance of the business.



Financial Perspective		Customer Perspective	
GOALS	MEASURES	GOALS	MEASURES
Survive	Cash flow	New Products	Percent of sales from new products
Succeed	Quarterly sales growth and operating income by division	Responsive supply	On-time delivery ( defined by customer )
Prosper	Increased market share and ROE	Preferred supplier	Share of key accounts' purchases Ranking by key accounts
		Customer partnership	Number of cooperative engineering efforts

Internal Business Perspective		Innovation Learning Perspective	
GOALS	MEASURES	GOALS	MEASURES
Technology capability	Manufacturing geometry vs. Competition	Technology leadership	Time to develop next generation
Manufacturing excellence	Cycle time Unit cost Yield	Manufacturing earning	Process time to maturity
Design productivity	Silicon efficiency Engineering efficiency	Product focus	Percent of products that equal 80% sales
New product Introduction	Actual introduction schedule vs. Plan	Time to market	New product introduction vs. Competition

**Figure 5.2 Example goals and measures of the Balanced Scorecard**

There also exist some IT-based tools for supporting the development and use of the Balanced Scorecard; the most well known is a tool built upon Gentia Software's enterprise-class Business Intelligence software, the Renaissance Balanced Scorecard (RBSC).

RSBC has been designed to leverage key technology components needed to build a true enterprise-wide scorecard: an open network architecture, a sophisticated visual development environment, a highly scaleable On-Line Analytical Processing (OLAP) database, rich text handling, and intelligent middleware for data warehouse integration and enterprise-wide deployment. RBSC offers an automated, closed-loop deployment of the original Balanced Scorecard methodology to all members of the organisation.

With RBSC, a company begins creating its Balanced Scorecard by setting strategic goals in four quadrants: customer, internal business processes, learning and growth, and financial. Using pre-defined templates and point-and-click user interfaces, users can add and maintain their scorecard's measures, objectives, initiatives, milestones, perspectives and themes. End users view scorecard information through RBSC's graphical front end,

which displays the company's goals with a grade beside each. These grades are based on both quantitative and qualitative assessments that enable companies to put tangible value on factors usually considered too nebulous to quantify, such as customer retention and employee satisfaction.

### **Critical Discussion**

The Balanced Scorecard brings together in a simple management report, many seemingly disparate elements of a company's competitive agenda: becoming customer oriented, shortening response time, improving quality, emphasising teamwork, reducing new product launch times and managing for the long term. In addition, the Balanced Scorecard guards against suboptimisation; by forcing senior managers to consider all the important operational measures together the balanced scorecard lets them see whether improvement in one area may have been achieved at the expense of another.

The Balanced Scorecard puts strategy and vision, not control at the centre. It establishes goals but assumes that people will adopt whatever behaviours to take and whatever actions are necessary to arrive at those goals. The measures are designed in such a way that pull people toward the overall vision. The scorecard measures are grounded in the organisation's strategic objectives and competitive demands. By requiring managers to select a limited number of critical indicators within each of the four perspectives, the scorecard helps focus this strategic vision.

Unlike conventional metrics, the information from the four perspectives provides balance between external measures like operating income and internal measures like new product development. This balanced set of measures both reveals the trade-off that managers have already made among performance measures and encourages them to achieve their goals in the future without making trade-offs among key success factors.

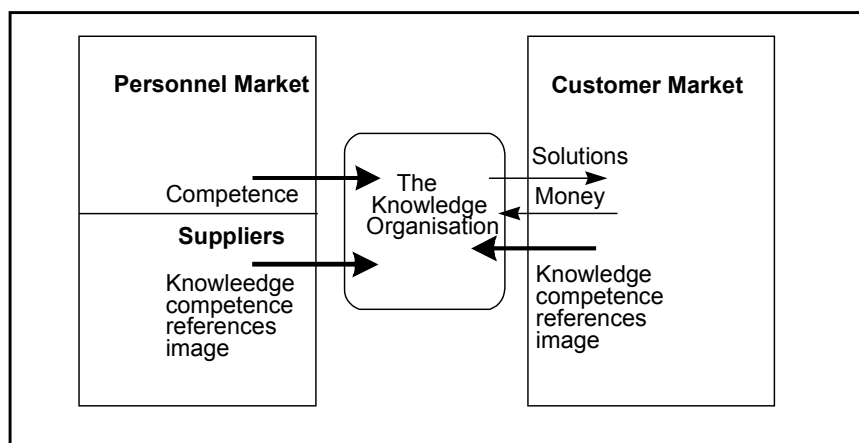
However, the Balanced Scorecard does not give managers the opportunity to discover, exploit and assess the hidden knowledge value of an organisation. They do not get a glimpse into how the knowledge assets are developing, by designing indicators that correlate with growth of the asset in question, its renewal state, how efficiently the company is utilising it and the risk of losing it. The objectives and measures of the balanced scorecard are derived from an organisation's vision and strategy and are not designed to specifically measure and publish knowledge assets but only to take a more balanced view on internal performance measurement.

### 5.2.2 The Intangible Asset Monitor

Karl Erik Sveiby’s approach starts from the main thesis that people are the only true agents in business; all assets and structures, whether tangible physical products or intangible relations, are the result of human action and depend ultimately on people for their continued existence. The main idea is that if the managers of a car or soap company direct the efforts of their people inwards, they may create intangible structures like better processes, or new designs for products, for instance. When they direct attention outwards, they can create, in addition to tangible things, like cars or soap, intangible structures, like customer relationships and new experiences. The economic value of a customer relation is no more "invisible" than the market value of a house. The reasons why the value of a relation seems invisible today is because it does not have a generally accepted definition and that it is not measured according to a standard. But these drawbacks do not mean that it is impossible or unnecessary to measure it, only that comparisons between companies and over time are difficult to make.

People in an organisation can use their competence in mainly two directions: outwards working with customers or inwards maintaining/building the organisation. When they work with customers they create customer relations and an image in the marketplace that is partly "owned" by the corporation, called External Structure. When people work internally they create an Internal Structure. The "structure" is partly independent of individuals and some remains even if a large part of the employees leave.

Hence the inputs and outputs of a knowledge intensive organisation can be depicted graphically as in Figure 5.3.



**Figure 5.3 Elements of the Knowledge Organisation [Sveiby (1997)]**

The invisible part of the balance sheet can be classified based on Sveiby’s approach as follows (see also Table 5.1):

- Individual competence is the capacity of people to act in various situations. It includes skill, education, experience, values and social skills.
- Internal structure consists of a wide range of patents, concepts, models, and computer and administrative systems. These are created by the employees and are thus generally "owned" by the organisation, and adhere to it. Sometimes they can be acquired from elsewhere. Also the informal organisation, the internal networks, the "culture" or the "spirit" belongs to the internal structure. The internal structure and the people together constitute what we generally call the "organisation".
- External structure consists of relationships with customers and suppliers, brand names, trademarks and reputation, or "image". Some of these can be considered legal property, but the bond is not as strong as in the case of internal assets because investments in them cannot be made with the same degree of confidence. The value of such assets is primarily influenced by how well the company solves the problems of its customers.

Competence	Internal Structure	External Structure
Indicators of Growth/Renewal	Indicators of Growth/Renewal	Indicators of Growth/Renewal
Indicators of Efficiency	Indicators of Efficiency	Indicators of Efficiency
Indicators of Stability	Indicators of Stability	Indicators of Stability

**Table 5.1 Invisible part of a balance sheet [Sveiby (1997)]**

The Intangible Assets Monitor (IAM) is a method for measuring intangible assets and a presentation format, which displays a number of relevant indicators for measuring intangible Assets in a simple fashion. The choice of indicators depends on the company strategy. The Intangible Assets Monitor can be integrated in the management information system. The most important areas to cover are growth/renewal, efficiency and stability for each category of intangible assets. Sveiby's purpose with the Intangible Assets Monitor is not to present a full picture of the intangible assets. According to Sveiby, this is not possible and this is why the all-comprehensive approaches have failed so far. The purpose is to be practical and to "open a few windows" so managers can start experimenting.

<b>External Structure</b>	<b>Internal Structure</b>	<b>Competence Indicators</b>
<u>Indicators of Growth/Renewal</u> <ul style="list-style-type: none"> <li>• Profitability per Customer</li> <li>• Organic Growth</li> <li>• Image Enhancing Customers</li> </ul>	<u>Indicators of Growth/Renewal</u> <ul style="list-style-type: none"> <li>• Investment in I.T.</li> <li>• Structure-enhancing Customers</li> </ul>	<u>Indicators of Growth/Renewal</u> <ul style="list-style-type: none"> <li>• Number of years in profession</li> <li>• Training and education costs</li> <li>• Competence-enhancing customers</li> </ul>
<u>Indicators of Efficiency</u> <ul style="list-style-type: none"> <li>• Satisfied Customers Index</li> <li>• Sales per Customer</li> <li>• Win/Loss Index</li> </ul>	<u>Indicators of Efficiency</u> <ul style="list-style-type: none"> <li>• Proportion of Support Staff</li> <li>• Values/Attitudes Index</li> </ul>	<u>Indicators of Efficiency</u> <ul style="list-style-type: none"> <li>• Proportion of professionals</li> <li>• Value added per employee, per professional</li> <li>• Profit per employee, per professional</li> </ul>
<u>Indicators of Stability</u> <ul style="list-style-type: none"> <li>• Proportion of Big Customers</li> <li>• Age structure</li> <li>• Devoted Customers Ratio</li> <li>• Frequency of Repeat Orders</li> </ul>	<u>Indicators of Stability</u> <ul style="list-style-type: none"> <li>• Age of the Organisation</li> <li>• Support staff turnover</li> <li>• Seniority</li> </ul>	<u>Indicators of Stability</u> <ul style="list-style-type: none"> <li>• Professionals turnover</li> <li>• Relative pay</li> </ul>

**Figure 5.4 Examples of indicators [Sveiby (1997)]**

### Critical Discussion

The Intangible Assets Monitor can help managers be more knowledge-focused. Instead of being merely money-focused or even customer-focused it gives them the opportunity to find where the hidden wealth of their organisation lies. By having a measurement systems that focuses on the knowledge customers bring into the company or the competence of the professionals, managers can take the necessary actions in order to increase their intangible assets.

IAM presents a different way of managing a knowledge organisation. It lays emphasis on identifying and giving value to the “invisible equity” of a company. The objectives and the measures are derived from the knowledge perspective of the firm. By assuming a set of three knowledge assets, the Intangible Assets Monitor “forces” managers to find metrics indicating the growth/renewal, efficiency and stability of those assets. If a representative set of measures is created then the manager can have a broad view of the company’s hidden wealth that will allow him to monitor the progress in building the intellectual capital, whether the intangible assets are growing, whether they are being used efficiently, and whether they are stable and being continually renewed.

However, IAM’s approach of managing a knowledge organisation totally disregards the information and the drivers that can be derived from the financial measurements. In addition, IAM proposes that the knowledge perspective of the firm actually defines what it is to be measured. As a result, the measurements of IAM although invaluable for measuring and discovering the hidden gold of the organisation, do not help managers in their every day decisions. The Intangible Assets Monitor method provides a very focused view of the organisation useful for monitoring the knowledge assets of a company; however, it is not very clear that the management of the intangible assets will be successful if we forget what’s the company’s vision and strategy, and even if it does

there is no guarantee that the “financial results will follow” (Sveiby 1997). Monitoring and measuring only the intangible assets should not be the ultimate goal of the company. The management of the company’s intangible assets should be sought in order to give managers a clear picture of the whole firm along with a powerful tool for decision making that will finally assist in obtaining concrete financial results.

### 5.2.3 The Navigator Approach

According to Edvinsson and Malone (1997) if we picture a company as a living organism, for example a tree, then what is described in organisation charts, annual reports, quarterly statements, company brochures and other documents is the trunk, branches and leaves. But to assume that this is the entire tree because it represents everything immediately visible is obviously a mistake. Half the mass or more of the tree is underground - in the root system. Although the flavour of the fruit and the colour of the leaves provides evidence of how healthy that tree is right now, understanding what is going on in the roots is a far more effective way to learn how healthy the tree will be in the years to come.

Edvinsson and Malone (1997) put forth the idea that intellectual capital (IC) is the roots of a company - and hence the value is in the measurement of the hidden dynamic factors that underline the visible company of buildings and products. According to the research conducted by the Swedish insurance and financial services company Skandia, these factors typically take two forms:

- *Human Capital*. 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.
- *Structural Capital*. The hardware, software, databases, organisational structure, patents, trademarks and everything else of the organisational capability that supports those employee’s productivity - in a word, everything left at the office when the employees go home. Structural capital also includes customer capital, the relationships developed with key customers. Unlike human capital, structural capital can be owned and thereby traded.

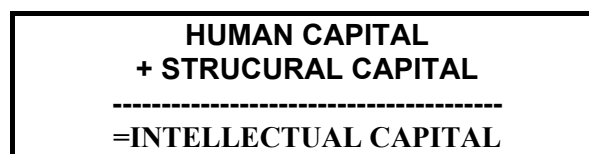
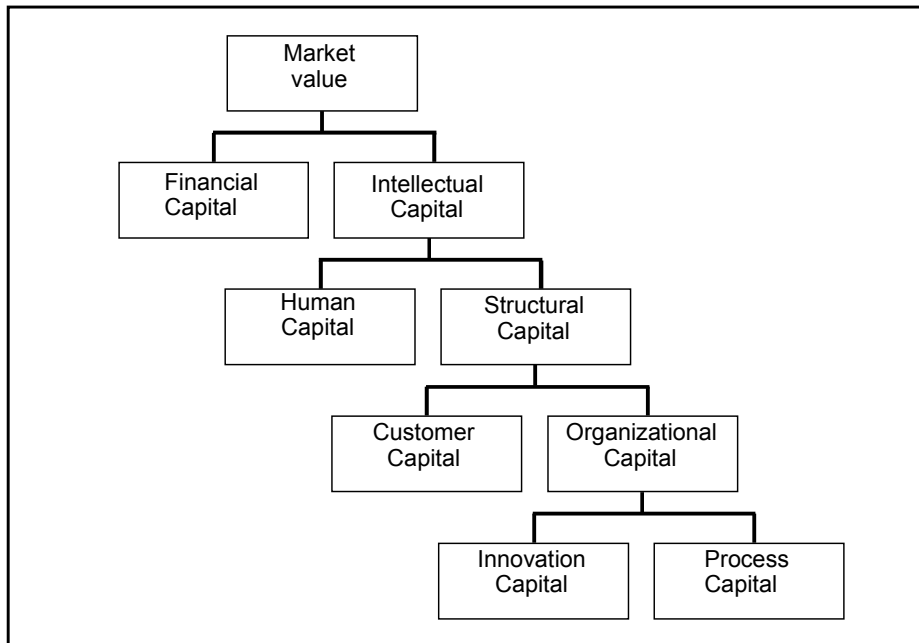


Figure 5.5 Intellectual capital [Edvinsson and Malone (1997)]

Skandia in May 1995 released the first public Intellectual Capital annual report as a supplement to the financial report. The heart of the Skandia IC model was the idea that the true value of a company's performance lies in its ability to create sustainable value by pursuing a business vision and its resulting strategy.

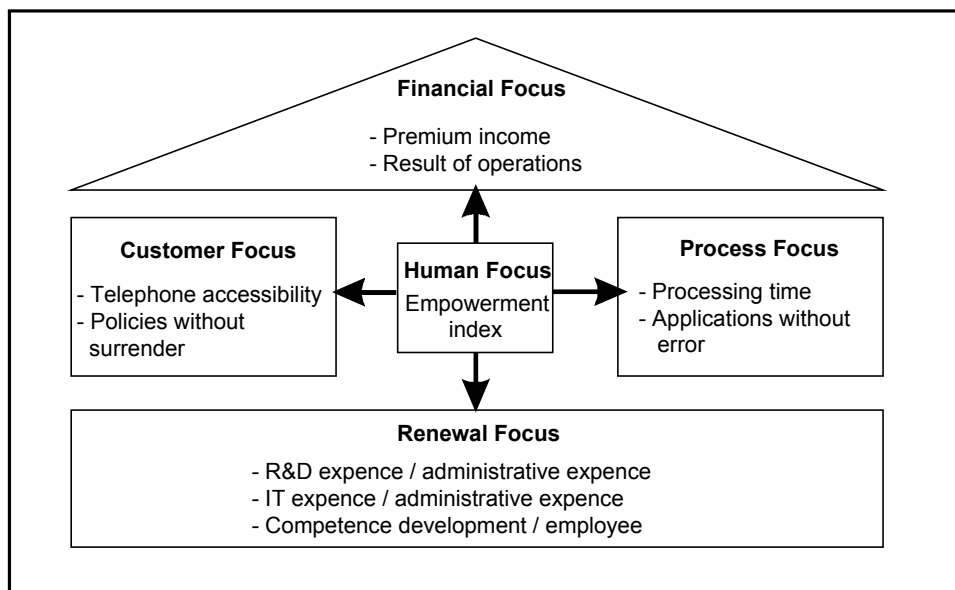
From this strategy, one could determine certain success factors that must be maximised. These success factors could, in turn, be grouped into distinct areas of focus (see also Figure 5.6): Financial; Customer; Process; Renewal and Development; and Human.

Within each of these five areas of focus, one could identify numerous indicators to measure performance. Combined, these five factors gives a new dynamic reporting model, which Skandia called the Navigator.



**Figure 5.6 Skandia's Value Scheme [Edvinsson and Malone (1997)]**

The shape of the Navigator is essentially a house. The triangle at the top, the attic one could say is the Financial Focus which includes the balanced sheet. The Financial Focus is the past of the firm a precise measure of where it was at a specific moment. The indicators of this focus are for the most part well established; however the notion of focus allows for the addition of new measures that lay emphasis on performance, speed and quality.



**Figure 5.7 Skandia's Navigator [Edvinsson and Malone (1997)]**

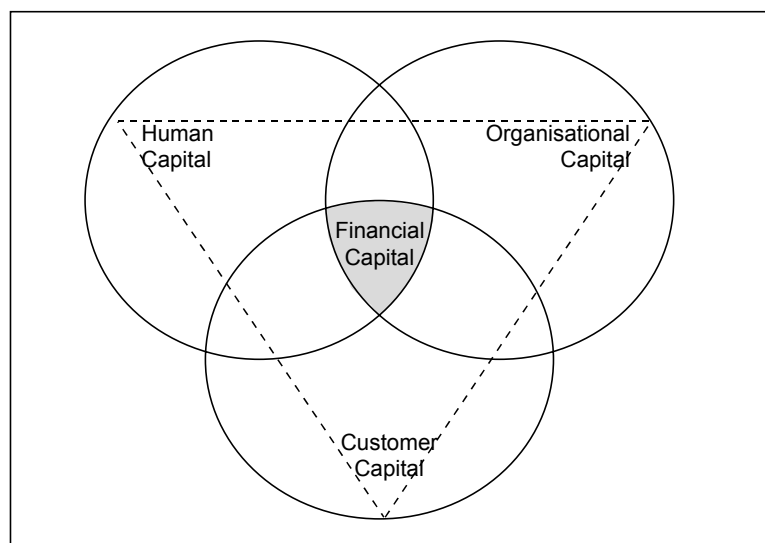
As we move down the walls of the house of Intellectual Capital, we enter the present and the company activities that focus upon it. These are Customer Focus and Process Focus, the first measuring a distinct type of Intellectual Capital, the second being part of the larger measure of structural capital. Finally, the bottom of the IC rectangle the foundation of the house looks at the future. This is the Renewal & Development Focus. The indices in this region measure not only how well the company is preparing itself for the future through employee training, new product development and how efficiently it is abandoning the obsolete past through product turnover, abandonment of dwindling markets and other strategic actions. It also addresses the likely business environment in which the organisation will operate.

There is one last focus which lies at the centre of the house since it is considered the heart, the intelligence and the soul of the organisation. Moreover, as the only active force of the organisation it touches all of the other IC regions. It consists of the competence and capabilities of employees, the commitment by the company to help keep those skills regularly tuned and updated and to support them with outside experts.



## Critical Discussion

Hubert Saint-Onge and Charles Armstrong have contributed to the Intellectual Capital theory the idea of a *value platform*. They maintain that it is not enough to simply have the three present time factors - Human, Structural and Customer - standing as independent sources of Intellectual Capital. The merging of the three types of capital along with knowledge management creates the desired outcome: an organisation so aligned and balanced as to create the best possible financial value.



**Figure 5.8 Value creation model**

There are two important messages that immediately arise from this model.

- The first is that corporate value does not arise directly from any of its Intellectual Capital factors, but only from the interaction between all of them.
- Second, that no matter how strong an organisation is in one or two of these factors, if the third is weak or misdirected that organisation has no potential to turn its Intellectual Capital into corporate value.

### 5.3 The Holistic Knowledge Asset Framework Performance Evaluation Method

The Holistic Knowledge Asset Framework performance evaluation method encompasses the following:

- A performance evaluation method is indispensable in designing, developing and managing real-world knowledge management initiatives;
- The existing approaches (IAM, Balanced Scorecard and Navigator) share some common issues in their attempt to measure the effect of knowledge assets; see also Table 5.2.
- None of these approaches is tightly linked to specific and well-defined methods and tools for managing knowledge within a company;
- A critical “merging” of these approaches has provided the basis for the development of the Holistic Knowledge Asset Framework Performance Evaluation Method.

<b>Intangible Assets Monitor</b>	<b>Balanced Scorecard</b>	<b>Navigator</b>
Internal Structure	Internal Processes Perspective	Organisational Capital
External Structure	Customers Perspective	Customer Capital
Competence of Personnel	Learning & Growth Perspective	Human Capital

**Table 5.2 The three measurement approaches**

The Framework’s Performance Evaluation method includes approaches for explicitly measuring and evaluating the quality and business value of intangible assets and knowledge leveraging, as well as tools for the development of innovation and renewal indices.

The Framework’s Performance Evaluation methodology integrates the existing approaches and goes beyond them. The development of the method builds on the work already done by INSEAD; see Epstein and Manzoni, 1997 and 1998).

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