

White Paper

Enterprise Information Management

SMS Management & Technology Web & Information Management Practice
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Introduction

In today's organisation, much of its value arises from its intangible assets rather than from its tangible assets. Estimates of the value of intangible assets held by organisations vary but most put its value at around two-thirds of the organisations total value.

The February 2002 Intangible Management Value Survey revealed that the 500 largest firms in the United States generated intangible value of US\$7.3 trillion (69.96% of total value). A recent calculation put the total market valuation of 5,913 firms at US\$24.5 trillion and shareholder equity at just US\$10.1trillion (or 36%). Knowledge Capital comprised approximately (\$14.4trillion or 64%), nearly two-thirds of the average company's value.

The important subcategories of intangible value are knowledge capital and future benefits.

A publicly traded company, for example, has easily counted assets that are reflected in its balance sheet: money in the bank, bricks and mortar, stock, debtors and so on. But its stock market valuation is typically many times that figure. If it isn't, the company is a target for corporate 'asset strippers' who will sell off its component parts for more than they paid.

The value put on a company by the market reflects the future profits a buyer expects to be able to make from the company, not just the value of the company's tangible assets. But what exactly is it that makes the company worth that extra money?

There are many ways to express this value: 'goodwill'; 'ability to execute'; or, 'knowledge capital'. But often this difference between an organisation's tangible assets and its total value is called the Knowledge Capital of an organisation.

Knowledge Capital may be held by your organisation in three forms: tacit, intangible, or, tangible. Tacit knowledge is the hidden knowledge that is built into your processes, products, culture, and people's skills. Implicit knowledge are those things that your staff know, but that they have not yet built into your processes, shared with others or documented. Explicit knowledge is documented and recorded in information object (documents, film, and so forth).

Enterprise Information Management is all about managing this explicit knowledge capital. As such it is an important tool for the management of this intangible value. You may not be leveraging this important resource to create value for your organisation.

Managing your Intangible Value

Your tangible assets are relatively easy to manage – they can be seen, touched counted, weighed, measured and exchanged. As real objects you can interact directly with them.

Not so your intangible assets. Often you can only deal with these assets indirectly; they exist only as a representation in an information entity. An idea becomes a patent, a brand is embodied in a brand mark, performance is measured and documented in a report, and your customer knowledge is held in a database. None of these assets can be managed directly; it is their information analogues that will be managed. Your success in managing the intangible value of your organisation will directly rely on your success in managing your information representation of this value – your organisation's Enterprise Information Management.

Ask yourself these quick questions:

- Is my organisation actively managing information and its lifecycle?
- Is the information caught-up in silos and are your managers making decisions based on only a part of the problem?
- Do you wish that you had better business intelligence?
- Do your clients complain of being caught up in red tape?

If you answered yes to any of these questions, you may need to improve your Enterprise Information Management.

What is Enterprise Information Management?

Information is woven through the fabric of the modern organisation and consequently enterprise information management must have a broad reach throughout the organisation. Enterprise Information Management and its components are known by many labels. Enterprise Information Management is all these things:

- Content Management
- Information Architecture
- Better Reporting
- Management of structured information (including):
- Statistics (e.g. Survey collections, Administrative by-product collections).

- Workflow Management
- Records Management
- Document Records Management Systems (DRMS)
- DIRKS: Designing and Implementing Record Keeping Systems

Who Needs to Pay Attention to Enterprise Information Management?

Whether you are a government agency, a business, or a non-profit organisation – Enterprise Information Management can help create greater value for your organisation. It can do this in many concrete ways:

Government Agencies can use Enterprise Information Management

Better Enterprise Information Management can help government agencies to meet many of their contemporary challenges such as limiting red tape; participating in whole of government initiatives; and overcoming many of the information obstacles preventing effective e-government initiatives.

Help Cut Red Tape

When your clients see requests for information, the purpose of which they don't understand, or where these requests duplicate or are seen to be similar to prior information requests, they are liable to consider it as red tape. Managing and integrating your information will help you to avoid making redundant requests for information.

Facilitate Participation in Whole of Government Initiatives

Progress on whole of government initiatives depends on agreement on the meaning of the information shared between agencies.

Help Agencies View Data Thematically & Eliminate Processing Silos

Thematic information provides a horizontal view across the agency, rather than limiting the information views to vertical processing systems. Enterprise Information can provide the level of data integration to enable these horizontal views.

Improve Data Quality

A concentration on information management will result in improvements in data quality. Better quality data is more timely, a better fit for purpose, more reliable and more able to be related across enterprises, eliminating information silos.

Accurately and Precisely Monitor Progress of Funded Programs

Many funded programs have an associated payment system. Conceived and implemented as transaction processing systems, with limited change they can become powerful information systems that monitor the performance of programs as well as payments.

Businesses can use Enterprise Information Management

The more you know about your customers, their business and what they demand from you, the more accurate your picture can be of their needs and motivations. The likely consequence is that you will win and keep these customers. Enterprise Information Management can provide many of the tools you need to paint these pictures.

Using Enterprise Information Management to improve your business intelligence will help you achieve the following outcomes:

- Get closer to your customers
- Identify trends earlier
- Collect and analyse information both more cheaply and more effectively

Non Government Agencies can use Enterprise Information Management

Non-government Organisations (NGOs) rely on external funding to achieve their goals. Winning this funding is only the start of a process that must have NGOs report on their performance to ensure ongoing funding and to win future funding opportunities. To achieve this NGOs must provide cost effective reporting to funding agencies and collect quality data to identify trends and opportunities within their particular sectors. Enterprise Information Management will help them to succeed with these challenges.

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What can I do to Improve my Enterprise Information Management?

Despite its broad reach into the organisation, there are four immediate steps that you can take to improve your Enterprise Information Management.

First, recognise the need for effective information management. Hopefully by reading to this point means that you have been at least partially persuaded of the need for Enterprise Information Management.

Second, actively manage your information, by

- Finding it
- Organising it; and
- Disseminating it

Third, commit to provide the support that Enterprise Information Management requires.

Finally, work to improve your organisation's information management capabilities.

In the next section two overarching techniques are suggested to guide you through these four steps.

Finding, Organising, and Disseminating your Information

Early efforts at Enterprise Information Management were often called data integration projects. These projects used large, unwieldy data models that evolved into increasingly inflexible standards. These projects quickly became costly, hindering development rather than helping it. Yet they continued to be followed.

Why did this happen? Well, in part because the benefits promised by data and information integration are so promising. Integration promises to help eliminate redundancy. Integration also promises to improve precision in concepts to be measured.

The problem is that often integration efforts increasingly get bogged down in the detail of the task. Paralysis from analysis starts to take hold and the project loses its momentum and finally its way and funding.

How can I Organise and Integrate our Information?

Take an Architectural Approach

Organisations are often too big to be understood by a single individual and without an architectural approach parts of it will remain hidden. An architecture provides a holistic view of an organisation and its assets. It provides a way of "chunking" this holistic model into manageable parts by providing tools and methods to view different aspects of the holistic model and apply different perspectives. An architectural approach will help you tie your work back to the organisation's business goals.

Be Guided by Business Rules

Concentrate on why you are doing what you do - not how you are doing it. In this way you will not only ensure that you are being efficient, but also effective. Remember that some of your existing information and processes may have come into being to overcome a long forgotten technological inadequacy rather than to meet a legitimate business goal.

Take in the Big Picture Before Pigeonholing Information

Do not integrate up-front. Recognise that 80 percent of the value is achieved from the first 20 percent of the effort and concentrate on these early stages to build a firm foundation for success.

Rather than building expensive, intricate models early in the process:

- Collect,
- Confront, and
- Integrate

That is, take stock of your current information assets. Ask questions of the information sources that you find, such as: What business goals are being addressed, and where do overlap and inefficiencies exist? Are current definitions adequate? Are there cheap improvements that could be made in one area that will possibly help replace other, similar data collections?

When you know the answers to these questions, then you are in a position to perform a pragmatic integration of your information - one where the cost benefit will provide a reasonable payoff on your investment.

Improve its Presentation

Successful information management is about effective communication between people across space and time. Capture, storage and maintenance are important, but these are ultimately useless without successful retrieval and communication of the information. Improved presentation will help improve communication.

Give Responsibility to the Right People

When considering who to give responsibility to for the success of your Enterprise Information Management initiative, it is crucial to place responsibility in the right place. Frequently this is thought to be under the control of information management specialists. This is the wrong place.

Effective Information Management is crucial to creating business value. Enterprise Information Management is a business function that needs to be understood by each line management area. It is not a corporate service that can be centralised and outsourced. Elements, yes – but the function, no.

Thus when the question is asked– who should take responsibility for information management in the enterprise? The answer should not be:

- Librarians;
- IT specialists;
- Document Managers; nor
- Specialist Information Managers.

It is line management who is charged with creating value for the organization. Effective Enterprise Information Management is the key to managing a sizable fraction of your enterprise's value, therefore the skilful management of this area should be a core competency for your managers.

Bring in Unstructured Information

Many organisations have begun to get an integrated view of their structured data, but this only gives them a handle on a part of their information: there is also the vastly larger set of unstructured data.

Enterprise Content Management

We are witnessing a revolution in information management, towards what is being called Enterprise Content Management (ECM). ECM is based on the fact that only 25% of a typical organisation's data is held as structured information in traditional information systems.

Managing Unstructured Data

IT has traditionally been focused on transactional data, of the sort typically processed by ERP systems and stored in relational databases. It has had little to do with data stored in word processing documents, spreadsheets, e-mail messages and Web pages.

This sort of data is called 'unstructured data'. It also happens to be just the information that reflects the majority of an organisation's knowledge capital. It is where the contents of most of an individual's day-to-day activities are stored.

A major theme for IT during the next 10 years will be the move towards making the most efficient use of unstructured data. 'Knowledge capital' is an often dismissed or overlooked idea. But it is also an idea whose time has now come. The real value of an organisation is in its people and in what those people know.

Making Use of your Unstructured Information

An increasingly popular view is that unstructured information does not actually exist and what people usually refer to as unstructured information, ie. text, graphics, photos, etc. is in fact highly structured information. But its structure is highly dense and woven so tightly that it is difficult to recognize, classify and hence analyse. Hence, these types of information have been misclassified as unstructured. The challenge is not so much to impose a structure on these types of information, but rather to unpick one from the existing structures. In these areas, analysis of plain text using tagging, topic mapping and visualisation are very promising developments.

The Challenge for Organisations

The challenge for organisations is to transform the free text responses (from reports) in an open, consistent way, into quantitative measures against a given set of criteria in a fashion that uses the least number of resources. One of the promising techniques to help address this challenge is to use one of the tools emerging from the toolset commonly referred to as Web2.0 - Tags, Tag clouds and Tag analysis.

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Tagging

The use of tags is relatively new and has emerged from use by both bloggers and internet bookmarking services. It is a simple form of cognitive mapping .

Tagging describes the use of user-defined keywords or labels attached by the user to either URLs, or atomic elements of web pages such as pictures or paragraphs. Usually tags are uniquely generated by the user or sometimes (and less usually) re-used from a pre-existing “tag-cloud”.

So, for example, a government agency is funding health services, from which they require reports to monitor funding effectiveness. A service may report that they have had 20 consultations about eye health over the reporting period, and that this is an increase of 20% over the same period at the site. Thus the tags they choose to use might be ‘eye’, ‘optical’, ‘eye-health’, ‘increase’, ‘site name’. Other users may report similar text, but they may use different tags which may or may not overlap with the tags chosen by others for the same information.

What Sort of Analysis can be Done with Tags?

Firstly and most obviously, tags can be searched, finding, for example, all topics tagged as eye health.

Less obvious is that the frequency of tag usage can be visualised and analysed, providing an indication of relative priorities within the sector, how these priorities may change over time and how this change is reflected in the frequency of tag usage. This visualisation can either be in the form of bar charts, or in more creative visualisation schema, such as network maps.

Reporting can also usefully exploit the relationship between tags. Displaying related tags increases the probability of finding related topics. Thus for instance rather than just displaying ‘sexual health’ and missing possible synonyms, you could also include ‘STDs’ or ‘AIDS’. Well defined techniques such as text stemming can be used to ensure that plurals and other word formations sharing the same base stem are recognised as similar (eg. ‘visit’, ‘visits’, ‘visitors’, ‘visitation’).

Relationships between tags will emerge as the volume of tags provided increases. For example, while some services may have tagged a topic as ‘STD’ alone, others may have used both the ‘sexual health’ and ‘STD’ tags, thus highlighting a possible relationship between these tags.

By relating tags in this way, should it prove necessary, you may be able to build post-hoc classifications from the reports. Building these classifications from tags defined by the reporting services themselves, will give them the advantage of naturally incorporating the “world-view” of the reporting services, rather than forcing the facts into a classification that reflects the world view of the specialist who compiled the categories.

The post-hoc classifications built from experience can be concorded to existing classifications. This will enable reporting against the existing classification without the possible distortion that may arise from clients reporting against a structure unfamiliar to them, rather than reporting from their actual experience.

Using tags will facilitate both qualitative and quantitative analysis of the reports. Using tags will avoid any of the problems of classification and hierarchies. And importantly, because reporting clients define and enter the tags, the task of classifying the reports needs no extra resources. There is no need to develop a classification, and spend resources assigning report elements to this classification.

Conclusion

This White Paper introduced and explained Enterprise Information Management, the need behind it and some of the steps required to improve its practice in your organisation.

This paper explained how, in today’s organisation, much of its value arises from its intangible assets rather than from its tangible assets. Estimates of the value of intangible assets held by organisations vary but most put the value of intangible assets at around two-thirds of the organisation’s total value.

Enterprise Information Management is all about managing a large part of this hidden value. Information is woven through the fabric of the modern organisation and consequently enterprise information management must have a broad reach throughout the organisation.

Your success in managing the intangible value of your organisation will directly rely on your success in managing your information representation of this value – your organisation’s Enterprise Information Management. This can be a formidable task, but help is available from many sources. If you are not practicing Enterprise Information Management, you are ignoring a big part of the source of your organisation’s value.

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