The KMS Road Map

The first phase: evaluation of the infrastructure and aligning KM and business strategy.

The second phase: KM system analysis, design, and development.
- Knowledge audit and analysis
- Designing the KM team
- Creating the KM system blueprint
- Selecting KM technology
- Developing the KM system

The third phase: KMS deployment

The final phase: measuring ROI and performance evaluation
Evaluation Principle

“What can be measures is not always important and what is important cannot always be measured”

Albert Einstein

Knowledge Management Enablers

Knowledge Management is a broad process of locating, organising, transferring and using the information and expertise within an organisation. The overall knowledge management process is supported by four key enablers:

- Leadership
- Culture
- Technology
- Measurement

American Productivity and Quality Centre, 1999
Enterprise Knowledge Management

- Enterprises need to know:
  - what their knowledge assets are;
  - how to manage and make use of these assets to get maximum return;
  - establish rules and procedures for knowledge sharing and reuse.
- Corporate assets
  - Tangible
    - Internal (conventional)
  - Intangible
    - Internal – human resources, core competencies;
    - External – market share, customer knowledge, goodwill

Measuring Success in KM Projects

- Growth in the resources attached to the project
- Growth in the volume of knowledge content and usage
- Increased awareness and participation by others in the organisation
- Evidence of financial return

Eric Tsui, 2001
Aspects of ROI in KM

- Measurable efficiencies in product development, production, sales and service cycles;
- Improved decision-making at the front lines in the development, production, sales and support cycles;
- Better ability to get new partners up to speed quickly;
- Improved business morale because employees are better informed and are making better decisions;
- Increased customer loyalty due to better trust in employees’ expertise

Eric Tsui, 2001

Performance Measurement for KM

- Assets-based
  - intangible items in the balance sheets
  - balanced scorecards
  - Knowledge Management Assessment Tool - KMAT (Arthur Anderson & APQC)
    - Leadership, technology, culture, measurement and processes
- Activities-based
  - Links to knowledge cycles
  - Wider business benefits
  - Monitoring the difference between market value and financial value
Measuring Knowledge Assets

- Intellectual capital measures and the efficiency of intellectual capital
- Intangible Assets Monitor (Karl-Eric Sveiby);
- Balanced Score Card (Kaplan and Norton)

Intellectual Capital

The Intellectual Capital Index (IC Index™) considers flows of knowledge from human into structural capital

- Structural Capital - information required to understand specific markets
- Customer Capital - the essential data about the customer base
- Human Capital - the skills an individual needs to meet customer needs
  - 5 categories of factors affecting the growth of Human Capital:
    - Training and education
    - Skills
    - Outside pressures and environmental factors
    - Internal organisational structure
    - Psychological impacts
- Human Capital Growth = the sum of the increase of the above factors
- This measure serves as a mechanism to balance the variations in the factors contributing towards the changes in each category

Skyme, 1999
Lebowitz 1999
**Intangible Assets Monitor - Sveiby**

- Based on the calculation of Invisible Balance Sheet;
- Invisible Balance Sheet includes subjective assessment of:
  - External Structure (value between 10 and 99)
  - Internal Structure (value between 10 and 99)
  - Competence of Employees (value between 10 and 99)

**Definitions** *(Sveiby, 1998)*

<table>
<thead>
<tr>
<th><strong>Visible Equity</strong></th>
<th>Shareholder’s capital, also called Net Book Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Invisible Equity</strong></td>
<td>The difference between the market value of a company and its visible equity. It equals the intangible assets</td>
</tr>
<tr>
<td><strong>Tangible Assets</strong></td>
<td>The assets in the normal balance sheet, such as cash, current assets, fixed assets</td>
</tr>
<tr>
<td><strong>Intangible Assets</strong></td>
<td>The difference between the market value of the company and its visible assets, also called Goodwill. It equals invisible equity</td>
</tr>
<tr>
<td><strong>External Structure</strong></td>
<td>The value of customer and supplier relationships, image and alliances</td>
</tr>
<tr>
<td><strong>Internal Structure</strong></td>
<td>The value of patents, brand names, copyrights, systems, processes, culture and support staff and top management. Also called the organisation; “what is left internally when the employees go home”</td>
</tr>
<tr>
<td><strong>People</strong></td>
<td>The value of the competence of the employees; “what is in the heads of the people who are working directly for and with the customers”</td>
</tr>
</tbody>
</table>
| **Leverage Effect** | The potential effect on the equity of a $1 change in the intangible assets. The leverage corresponds to the relation between the invisible and visible equity. The potential is usually higher than 1.
How to calculate Invisible Balance Sheet

1. How much of your organisation's TOTAL assets do you guess are Intangible?
2. What are the total assets according to the normal Balance Sheet?
3. How much is shareholders' Equity according to the normal Balance Sheet?
4. Estimate a percentage for:
   - External Structure
   - Internal Structure
   - Individual Competence
   (Tip: Reflect first which of the three categories that has the highest value. The highest must obviously be more than 33%, probably around 45-55%. Then ask yourself how to distribute the rest between the remaining two.
   - Total
5. How many employees do you have?

Leverage Effect
Balanced Scorecard

- Balanced Scorecard is introduced to measure the level of learning in the organisation and support management decision making;
- It integrates measures of past and future performance;
- Serves as a performance indicator;
- Facilitates a process of sharing the understanding between the employees on their performance taking into consideration various perspectives (hard and soft measures)
Balanced Scorecard

- Balanced Scorecard presents management information from four different perspectives:
  - Customer
  - Financial
  - Process
  - Innovation and learning (learn/grow)
- Each indicator is presented as some measures and objectives for which this measures are introduced
- Aims to establish a link between the company scorecard and its compensation programs
- Are dynamically revised according to the results

Balanced Scorecard Objectives

- Financial Perspective
  - increase asset growth
  - minimise cost

- Operational Perspective
  - create supplier network
  - design effective retail
  - maintain product quality
  - handle customer complains
  - reduce operational cost

- Customer Perspective
  - strengthen customer loyalty
  - provide service and goods
  - make price competitive
  - provide superior brand image

- Learn/Grow Perspective
  - develop company culture
  - train staff
  - research for new product development
  - utilise the technology
Balanced Scorecard Measures

- **Financial Perspective**
  - Net income operating margin
  - ROCE
  - Earnings per share
  - RONA
  - EVA
  - Revenue growth
  - New product revenue

- **Operational Perspective**
  - Safety
  - IT enhancement
  - Operational efficiency
  - Productivity
  - New product introductions

- **Customer Perspective**
  - Customer satisfaction, external
  - Customer loyalty
  - Customer satisfaction, internal

- **Learn/Grow Perspective**
  - Personal development
  - Employee satisfaction

*(ACA, 1999)*

Sample Balanced Scorecard

<table>
<thead>
<tr>
<th>Customer perspective</th>
<th>Innovation and Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Objective</strong></td>
<td><strong>Measures</strong></td>
</tr>
<tr>
<td>Strengthen customer loyalty</td>
<td>Customer retention</td>
</tr>
<tr>
<td>Provide superior brand image</td>
<td>Market share</td>
</tr>
<tr>
<td></td>
<td>Develop company culture;</td>
</tr>
<tr>
<td></td>
<td>Time spent on working group</td>
</tr>
<tr>
<td></td>
<td>Train staff;</td>
</tr>
<tr>
<td></td>
<td>Productivity</td>
</tr>
<tr>
<td></td>
<td>Research for New Prod.Dev.</td>
</tr>
<tr>
<td></td>
<td>High quality new product</td>
</tr>
<tr>
<td></td>
<td>Utilise the technology</td>
</tr>
<tr>
<td></td>
<td>Invest in IT</td>
</tr>
</tbody>
</table>

Lecture 11  IMS5330 - Semester 2, 2005
Electronic System Supporting BSC

Performance against strategic objectives is measured and reported on many formats:
- Graphical performance indicators
- Performance trend information
- Measurement data and Bar charts
- Information sharing and dialog

Comparison of the three frameworks

<table>
<thead>
<tr>
<th>Sveiby</th>
<th>Kaplan &amp; Norton</th>
<th>Edvinsson</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intangible Assets</td>
<td>Internal Processes Perspective</td>
<td>Organizational Capital</td>
</tr>
<tr>
<td>Internal Structure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>External Structure</td>
<td>Customers Perspective</td>
<td>Customer Capital</td>
</tr>
<tr>
<td>Competence of Personnel</td>
<td>Learning &amp; Growth Perspective</td>
<td>Human Capital</td>
</tr>
</tbody>
</table>

Sveiby, 1998
Limitations of KM Metrics

- No standard metrics
- Dynamic nature of knowledge and organisation
  - What you need to measure may not exist before you set up the metrics
  - Organisations change as a result of KM activity (no fixed expectations)

Pitfalls in choosing KM metrics

- The wrong things are measured
- Using too many metrics (some can give opposite results)
- Using metrics that are hard to control
- Using metrics that are hard to focus on
- Using metrics that emphasise hard results and neglect the ‘soft’, human side
- Using metrics that are analogous to ‘rear vision mirrors’
- Using metrics that have passed their expiry dates

Tiwana, 2000 in E.Tsui 2001
Different Perspectives

- The **accounting concept** - value is relatively stable, can be accumulated and distributed, and represented in monetary terms.
- The **systems or operations concept** - value is what enables things to work. The concept is very context dependent - the right thing at the right place at the right time - otherwise there is little value.
- The **bureaucratic concept** - what contributes to a particular policy, strategy or political interest - it is rather vague and open to interpretation.

G. Southon, 2003  act-km@yahoogroups.com

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Generic Value Chain

<table>
<thead>
<tr>
<th>Support Activities</th>
<th>Primary Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firm Infrastructure</td>
<td>Firm Infrastructure</td>
</tr>
<tr>
<td>Human resource Management</td>
<td>Human resource Management</td>
</tr>
<tr>
<td>Technology Development</td>
<td>Technology Development</td>
</tr>
<tr>
<td>Procurement</td>
<td>Procurement</td>
</tr>
<tr>
<td>Inbound Logistics</td>
<td>Inbound Logistics</td>
</tr>
<tr>
<td>Operations</td>
<td>Operations</td>
</tr>
<tr>
<td>Outbound Logistics</td>
<td>Outbound Logistics</td>
</tr>
<tr>
<td>Sales &amp; Marketing</td>
<td>Sales &amp; Marketing</td>
</tr>
</tbody>
</table>

Porter, 1998
Value Measures for Knowledge Assets

- Buckman Laboratories
  - % of company engaged with customers (80% target);
  - % of revenues invested in knowledge transfer system;
  - number of college graduates;
  - % of sales of products less than 5 years old in total sales
- World Bank
  - Creation of knowledge
    - public expenditure on education relative to GNP;
    - absolute value of public expenditure on education
  - Assimilation of knowledge
    - gross enrolment rate; secondary and tertiary education; literacy;
      (newspaper readership) adult literacy rate; mean years of schooling

Value Measures for Knowledge Assets (cont.)

- Tobin’s q
  - Ratio between market value stock price times outstanding shares and replacement value of physical assets
- InReference, Inc (Jeff Wilkins)
  - Value of Knowledge Assets = the sum of the cost-based value and the added value, summed over all relevant processes in which it is a resource
Evaluating KM Implementation

These issues measured by self assessment [based on a Likert scale (1 to 10)] comparing organizational priority against current level

- Knowledge content development
  - All business units have completed a gap analysis of content necessary for doing work.
  - Gaps have been remedied.
  - Lists of key sources and resources have been communicated.
  - These lists are being regularly re-evaluated and updated.

- Sharing (within the business unit and across the organisation)
  - Knowledge sharing is actively promoted by business unit leaders.
  - Sharing policy has been adopted by leadership.
  - Criteria exist to measure use/reuse of knowledge.

Evaluating KM Implementation cont.

- Protection and retention
  - Appropriate processes implemented to protect organisation from adverse business impact resulting from the loss of tacit knowledge held by relevant subject matter experts.
  - Internal controls in place to prevent undetected copying or transfer of key knowledge and confidential information for unauthorized use.

- Idea flow
  - Formal networks and channels (databases, conferences etc.) exist to generate, develop and share exploitable ideas among business units.
  - Informal networks and other means of sharing are well-known throughout business units and well-used by those units and ideas from one unit are surfaced and shared across units.
Evaluating KM Implementation cont.

- KM planning process
  - Resources budgeted and in place for KM.
  - Measurable progress made against KM plan, with associated benefits documented and KM programme management provides regular reporting on implementation to stakeholders.

- KM systems deployment
  - Working with local IT if necessary, KM systems are deployed.
  - Front-line staff (e.g. sales) understand KM plans and objectives.
  - Roll-out plan in place to raise awareness of KM tool, metrics established to determine systems’ usage and steps taken to address under-utilisation.

Evaluating KM Implementation cont.

- KM and culture
  - KM works closely with HR to ensure that new and experienced recruits understand the role and value of KM and works with training to include appropriate usage of KM systems and materials in all levels of training.
  - All partners and staff are thoroughly familiar with KM systems, content, and processes.
  - Reward system provides “credit” for knowledge generation/sharing and business units recognise value of KM, and dedicate resource to KM activities.
  - Pilots established to “break the mould” and demonstrate business applicability of KM.

Kelleher & Levene, 2001
References

  [http://www.gutenberg.com/~millennium/sveiby/ibs/millibs.htm](http://www.gutenberg.com/~millennium/sveiby/ibs/millibs.htm) (view only)
- Bergquist Consulting (2000) *Balanced Scorecard Newswire* 
- American Compensation Association (ACA), (1999) 