An Executive Briefing from David Skyrme Associates

Seven Ways to Create Value through Knowledge:
Strategies and Guidelines

Companies are increasingly recognizing the contribution of knowledge to their bottom line if effectively managed. But what are the key levers of a knowledge-based strategy that realize these benefits? Following an introduction to the knowledge dimensions of strategy, this briefing paper outlines seven such levers that can be used to create value for the business. They are presented with examples and some practical guidelines.

The Knowledge Dimension

One of the practical problems of developing knowledge strategies or adding a knowledge dimension to other strategies is the complex nature of knowledge. As we now know from many disappointing artificial intelligence initiatives of the 1970s, you cannot easily package knowledge into a black box and have it perform miracles. A potentially worrying trend about today's knowledge management movement is that people are merely substituting the word 'knowledge' for 'information'. That is not to say that information is unimportant, since a good IT infrastructure, good information management (in the library sense) and effective information solutions - such as data mining, decision support tools, document management and groupware - are essential foundations. However, they do not go far enough.

The difficulty comes, not through handling information or 'explicit' knowledge, but 'tacit' knowledge which is harder to express and codify. Very often the most valuable knowledge that an organisation has is in the heads of its people, and those of its stakeholders, especially customers. However, "people walk", so forward looking companies continually to seek ways of locking tacit knowledge into their organisation. The two complementary approaches are:

1. Converting it to a more explicit form - in documents, processes, databases etc. This is often the main emphasis of many European and US knowledge programmes. However, it is extremely difficult to capture deep knowledge i.e. things that people 'know' but cannot easily express.

2. Enhancing tacit knowledge flow through better human interaction, such that the knowledge is diffused around the organisation and not held in the heads of a few. In Japan various 'socialisation' activities support this kind of knowledge flow, that by its very nature also sparks the generation of new ideas and knowledge. Add some basic elements of good human resource management, including a stimulating environment, personal development plans, motivation and suitable reward and recognition systems (such as knowledge sharing awards and stock options), then there is less chance of your best knowledge workers wanting to leave.

In practice organizations adopt tow broad thrusts of strategy. The first is that of making better use of the knowledge that already exists - "knowing what we know", for example by sharing best practices. The second is that of innovation, creating new knowledge and turning ideas into valuable products and services. This thrust of strategy is the most difficult, yet ultimately has the best potential for improved business performance.

The Seven Levers

Customer Knowledge

Meeting, or even better, exceeding customers expectations is a key strategic benefit. Customers provide useful feedback on products and services and how their needs are evolving. They are the major source of ideas for improved products and services. Most companies know a lot less about their customers and their markets than they claim. Too much reliance is placed on traditional market research and customer satisfactions surveys that tell them little of the real customers' concerns, desires, wishes and desires. You need a deep intuitive understanding of customers' latent and unidentified needs.

Strategies and Guidelines

- **Broaden the range of contacts with your customers.** Buckman Laboratories reckon that over 80 per cent of its employees now regularly have contact with customers. Make customer visits part of every person's job. Send your senior managers to the front line e.g. working on a customer hot-line, one day a month.

- **Developing deep knowledge sharing relationships.** Create opportunities for in-depth dialogue. Invite customer representatives to sit on new product steering committees. Encourage engineers to see your products in use at customer premises. Encourage job swaps and secondments. Use social occasion to deepen personal relationships, at all levels of the organization.

- **Understand the needs of your customers' customers.** Go beyond the immediate customer to the end-user or their customers. Learn how your products add value throughout the value chain. Look for opportunities that will help your customers add value to theirs.

- **Articulate unmet needs.** Facilitate dialogue that gets below surface expression. Run collaborative creativity sessions to generate new ideas.

- **Create collaborative projects.** Identify joint development opportunities e.g. to pursue new market opportunities or on a jointly designed product or service.

- **Develop a market intelligence system.** Develop systematic processes to collect not just market data, but information about the wider environment - political, legislative, economic, social etc. Use external experts to help you assess the impacts for your business.

Example

Steelcase, an office products manufacturer, has taken a much broader view of its market - knowledge worker productivity. It has consciously developed a 'customer knowledge channel' from its product end-users into its R&D. It interviews and observes how end users of their products use them in practice. Hence it carries out observations of how people work in offices, airports and hotels. Video cameras are used to observe focus groups using experimental prototypes. Customer knowledge is deepened and new insights gained. As a result they have developed premium priced products that provide flexible office space and improve office worker productivity.

Knowledge in Products and Services

'Intelligent' or 'smart' products can command premium prices and be more beneficial to users. One example is the 'intelligent' oil drill that bends and weaves it way to extract more oil than ever from the pockets of oil in underground formations. Customization also adds value and creates a more personalized offering. Hotel chains or car rental companies, for example, can make suitable rooms or cars available by knowing the customer's preferences. In creating new products, companies use a lot of knowledge, gleaned from market research and prototype testing. Yet only a fraction of the knowledge generated makes it into the final product. Smart organizations will create opportunities out of this knowledge.

Strategies and Guidelines

- **Surround products with knowledge** e.g. in user guides or application notes. This will increase the confidence of uses and create new market opportunities. Provide feedback mechanisms and offer prizes for user experiences and ideas.

- **Surround the products with value added services**. Provide advisory and implementation services that take advantage of the knowledge of the product in use.

- **Personalize and customize**. Learn about your customers and their personal preferences or needs. Create ways in which the product or service can be customized e.g. develop a modular platform approach which allows for multiple combinations from a basic set of modules.

- **Add intelligence to products and services.** Substitute hard functions with software controlled functions that can be adapted as needs change. Provide upgrades and optional enhancements in this way.

- **Integrate knowledge and information from several sources.** Combine user information, information on the products in use, and other environmental information in novel ways that improve the effectiveness of your product.

- **Use feedback to enhance your product.** Ensure that customer inputs, problems, and help-line dialogue is properly managed and used when making problem enhancements.

- **Turn information obtained as a by-product into a paid-for service in its own right.**

Examples

Campbell Soup's "Intelligent Quisine" (IQ) delivers weekly packages of nutritionally designed, portion controlled meals to those suffering hypertension or high cholesterol.

A service is provided to farmers by integrating information about the chemical effect prevailing weather conditions and state of growth from satellite photographs, and hence advise on time and level of dosage. The same effect can be obtained with 40 per cent less chemical.

Car rental and fleet hire companies gain significant information about the reliability of different makes of car, that can then be sold back to manufacturers. American Airlines created a whole new market opportunity by marketing its SABRE reservation system.

Knowledge in People

"Our most valuable asset", according to many company reports, although the actual way they are treated and managed often belies this claim. The challenge is to turn individual knowledge into organizational knowledge. Many organizations apply this lever through a 'learning organization' programme that stimulates personal development and organizational learning. Another aspect of this lever is to understand what motivates knowledge workers and reward them accordingly.

Strategies and Guidelines

- **Build learning into doing.** Allow time at the end of every meeting for participants to reflect on what they have learnt and make suggestions for improving meeting processes. Use decision diaries, in which the rationale for decisions is recorded, and the results are reviewed some time later. Encourage individuals to turn their daily notebooks into learning diaries, by adding a column to note learning needs and add reflective notes later.

- **Create knowledge sharing opportunities.** Hold knowledge share fairs, where individuals and teams display their portfolio of work in exhibition like booths in a marketable form. Provide knowledge trails for visitors, to help them identify useful sources of knowledge. Provide informal environments for casual meetings.

- **Create an experts directory.** Rather than a directory sorted by department or name, develop a directory where people are grouped by expertise. This works best as a knowledge database.

- **Nurture Communities of Practice (CoPs)**. These are forums that meet informally or through online computer networks to share learning and experience. Avoid managing them. Provide them with facilities and the mechanisms to communicate better.

- **Embed learning objectives into performance appraisals**. Each person's job review should have explicit learning goals.

- **Use relevant recognition and reward systems.** Allocate a proportion of pay according to level of skills. However, knowledge workers are motivated by factors other than money. Celebrate their achievement and learnings through public recognition, annual challenges and awards, opportunities for special visits or assignment, and other relevant motivators. But first, make sure you know what each individual personally values.

Example

Shell has put considerable investment into nurturing and developing its people and making "better use of this intellectual capital". It has open learning centres and databases of learning resources on the company's intranet. However, the real breakthroughs have come through the establishment of knowledge communities and developing skills for quality person-to-person dialogue and personal reflection. Accompanying changes include delayering (it is not untypical for 50 people to report to one person), self-managed teams, and a focus on empowerment and teamworking. The greatest change has been the removal of formal lines of communication and hierarchy, relying instead on intensive informal communications.

Knowledge in Processes

In many companies there are often differences in performance levels of 3:1 or more between different groups performing the same process. The detail and knowledge used is different. If this knowledge of best practice can be diffused and learned, then overall performance will improve. Every business process contains embedded knowledge. It is the result of thinking and codifying what was formerly a series of ad-hoc tasks into something that is systematic and routine. The processes are also surrounded by the skills and knowledge of the person applying them and the experts who developed them. Making this knowledge more widely accessible is part of exploiting this lever.

Strategies and Guidelines

- **Turn repeated ad-hoc activities into processes.** Document how activities are done and what information or knowledge is needed to carry them out effectively. Use visual tools such as Visio to help communicate them. Automate them by codifying them into computerised procedures. In particular use workflow packages, that separate out routine that can be automated and those parts that will need expert human intervention.

- **Embed help into computerized processes.** At a basic level this is simply context sensitive help. More advanced is immediate access to other resources and even a 'click to email' or click to talk' to an expert.

- **Create a best practices database.** Develop a taxonomy of business processes that can map similar operations in different parts of your organization. The database should contain key descriptions of the process, with special reference to the 'tricky' bits or learnings form experience. Above all, it must provide pointers to people, those who have the in depth knowledge.

- **Learn from the experts.** Identify the star performers, individuals or teams, of given processes. Provide opportunities for other individuals or groups to spend time with these people to learn from them. Goal your star performer to share their expertise, such as through creating learning resources or acting as mentors.

- **Glean extra knowledge from modelling.** Use simulation and business process modelling to validate new processes before they are put into practice. Build models of existing critical processes to gain insights on how they actually work and might be improved. Use a multi-disciplinary team to carry out 'what if' analyses.

Examples

Texas Instruments TI-BEST programme saved the cost of one new semiconductor fabrication plant (a $500 million investment). A key element of the programme is an office of best practice. It identified best practices, created a database and acted as a clearing house to link those with knowledge to those who needed it. A network of facilitators throughout the business enabled the prices and accelerated the necessary culture change.

CIGNA made its best underwriting knowledge available as guidance screens in their computerized underwriting processes. Contact details of experts are also given should further guidance be needed. This helped it turn a loss into a profit.

Organizational Memory

Much knowledge flow in organizations is transitory. It occurs in conversations, meetings, emails. This strategic lever is a way of addressing the issue of knowing "what we know" or

once knew. It helps avoid repeating the mistakes of the past, and in drawing lessons from similar situations elsewhere. Organization memory exists in many forms - processes, databases, artefacts, documents, but above all the minds of people. Sometimes overlooked are archives owned by outsiders, such as researchers, customers or former employees. They may have retained detail that your own company lost as people left.

Strategies and Guidelines

- **Capture while fresh and before losing.** Take note taking seriously. Using mind maps or other devices helps embed discussion not personal memory. Recording and publishing not just decisions, but some elements of discussion also helps. Have people about to retire impart their knowledge to others, such as through video recordings.

- **Post project reviews.** A project is not completed until participants have reviewed it and extracted the lessons to record. Also index and make available project documents

- **Customer histories.** In your customer databases, make space to record details of interactions with a given customer - products bought, sales visit reports etc.

- **Make documents easily accessible.** Documents provide a crucial part of organization memory, but are often poorly managed. Introduce a document management system that also abstracts, indexes and records availability of printed document not held in computer format.

- **Develop and maintain boilerplates.** ICL's Cafe Vik holds information used in previous project proposals. In a typical situation 80 per cent of information for a project bid is quickly assembled from existing material leaving a bid team to concentrate on the 20 per cent new material that could clinch the sale.

- **Edit and refine knowledge.** On a regular basis, have subject experts review postings to conferences and email conversations, to extract knowledge nuggets that can be turned into more formal documents or database records.

- **Enrich database entries with tacit knowledge.** Add details of where used, how useful it was, other contextual information, and contact details of the people involved. Add multimedia clips to explain and show how certain activities were carried out.

Examples

Price Waterhouse Coopers is typical of several consultancies who have knowledge databases to allow recording and sharing of company knowledge. Alongside many structured databases are knowledge centres that provide human analysts and navigators. It helps them solve customer problems faster.

Schlumberger has two important databases - a needs/problems database and an ideas bank. Even if an idea or the result of research is not immediately used, it is retained for future matching against new customer requirements or problems.

Knowledge in Relationships

Such depth of knowledge is not easily replaced overnight. Companies have many relationship webs involving customers, suppliers, employees, business partners, shareholders etc. These relationships involve sharing knowledge and understanding - not just of needs and factual information, but of deeper knowledge such as behaviours, motivations, personal characteristics, ambitions and feelings. Such knowledge is often highly personal, but is easily lost during restructuring.

Strategies and Guidelines

- **Broaden the scope of relationships.** Make sure that any important relationship is not dependent on just one person. Find opportunities to interact through several levels and functions from organization to organization.

- **Understand your relationship partners.** Get on their mailing lists for product and corporate affairs information. Sing up for daily newsfeeds that feature them. Create a database of key information about the relationship.

- **Deepen relationships.** Involve stakeholders such as customers and suppliers in activities that might previously have been considered in-company. These include product planning meetings and marketing campaign planning. Include external organizational representatives on strategic task forces, even when the matter discussed might be normally considered confidential. Confidentiality is generally respected and the degree of trust deepens. Use social events to deepen personal relationships - corporate hospitality does have its benefits!

- **Create online connections.** Make certain databases or communications networks open on a selected basis to different external organizations. An example of this is the inclusion of external public relations companies on the companies marketing communications databases and electronic bulletin boards.

- **Enhance knowledge flows.** Include suppliers and customers on some of your in-house mailings and briefings. Send them your press releases, before they read them in the press.

- **Create collocation spaces.** Assign certain areas for visitor hospitality, and make sure your staff, perhaps on a rotation basis, are three to help them find their way around your organization. Give suppliers desks and other facilities within departments.

Examples

Toshiba collects comparative data on suppliers ranking 200 quantitative and qualitative factors. It has an active suppliers network and association where knowledge is shared and suppliers are integrated into future strategies.

Dell has built strong knowledge relationships into its whole supply chain. Through its web site, customers can configure their own systems freeing up technical advisors to deal with those who have specific questions. Suppliers are informed on a daily basis of Dell's manufacturing requirements. It shares future plans, design databases and methodologies with them. This knowledge flow creates faster time to market and creates benefits and incentives for those with a business relationship with Dell.

Knowledge Assets

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Knowledge is one of the intangible assets of a company that do not appear in its balance sheet. The core of this lever is the adage "what you can measure you can manage". Many economists have argued that knowledge is now a critical resource that needs such an approach. However, most business managers have not turned this concept into practice. While accountants and auditors pore over detailed figures about every piece of physical plant and machinery, the major contributor to the value of their business, intellectual capital, gets scant attention. It so happens that changes in intellectual capital are usually lead indicators of future financial performance - an important reasons for taking their measurement and management seriously.

Strategies and Guidelines

- **Identify your intellectual and knowledge assets.** At a broad level this involves classifying them into different categories such as human capital (knowledge, competencies, experience, know-how etc.), structural capital (processes, information systems, databases etc.), and customer capital (customer relationships, brands, trademarks etc.). In other schemes, intellectual property is separated out as a distinct category. This is assets that are protected by law and include trade-marks, patents, copyrights, licences, design rights etc.

- **Conduct a knowledge inventory.** Use structured interviews and questionnaires. Find out the key activities in people's job, what information and knowledge is crucial to good performance, and where this knowledge resides. Find out what information and knowledge they generate. Develop a suppliers/users matrix to identify gaps and overlaps.

- **Develop a set of key indicators.** These should flow directly from strategy and objectives. However, there should be a balanced set, such as those in a Balanced Scorecard, giving particular emphasis to intellectual capital measures. These should include not just efficiency measures, but also measures of stability and development. For example, Sveiby suggests measures of customer longevity and 'rookie ratios', the proportion of new people in a team. Make sure you distinguish inputs, output and outcome measures.

- **Create a measurement system linked to objectives.** A comprehensive system will have in place mechanisms to collect and aggregate data and to use this to measure progress against objectives and to adjust strategies. Ideally managers should be able to monitor in

- **Review and pilot an IC measurement system.** There are new systems, such as IC Index^{TM} and Inclusive Valuation Methodology (IVM^{TM}), that are specifically geared to measurement of intangibles and intellectual capital.

Examples

Dow Chemical Intellectual Assets Management team takes an active role in managing patents and other intellectual assets in order to develop their value. They have generated over $125 million in additional revenues from this activity.

Skandia has developed a range of measures to monitor its development of intellectual capital. It published results in an Intellectual Capital Supplement to its financial reports. A PC-based system Dolphin, provides managers with real-time monitoring of these measures.

About the Author

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Related Resources (available for download at http:/www.skyrme.com/kshop)

Making Sense of Knowledge Management: An Introductory Briefing - why knowledge management is growing in importance; its key components; examples of best practice; critical success factors; how to get started; list of resources.

101 Things to Know about Knowledge - 10 knowledge nuggets in 10 different categories including frequently asked questions, core concepts and critical processes. Plus the last but perhaps most vital knowledge ....

Knowledge Management Assessment Tool - validating your KM capabilities

Knowledge Management Benefits tree - helping you make the case for KM