



A Template for Assessing Knowledge-Centricity

Jonathan Pemberton and George Stonehouse
Newcastle Business School, Northumbria University
Northumberland Building, Northumberland Road
Newcastle upon Tyne, NE1 8ST, UK
Telephone: 44 (0) 191 2274956, Fax: 44 (0) 191 2274684
jon.pemberton@unn.ac.uk, george.stonehouse@unn.ac.uk

ABSTRACT

A truly knowledge focused organisation can be viewed as knowledge-centric. This is more than being merely knowledge managed, with the creation and management of knowledge being integral to an organisation's strategy and performance. The role of individual knowledge and the cultural environment also figure prominently in such businesses. Using Black and Decker as a case study and based on a pluralist approach to data collection, an initial template is proposed to identify the extent to which it is knowledge-centric. The template, once applied, identifies some deficiencies in aspects of leadership and culture in respect of its approach to knowledge management. On this basis, Black and Decker Corporation cannot, at present, be viewed as knowledge-centric. While it is envisaged that subsequent refinement of the template will take place as new research data from other organisations become available, this initial version is a useful mechanism for gauging knowledge-centricity.

INTRODUCTION

In recent years, the issue of knowledge management has assumed much greater prominence as an organisational issue. Many organisations are now re-assessing their business objectives and reviewing the management of their resources (Von Krogh *et al.*, 2001; Zack, 1999). A more aggressive competitive environment, coupled with a move towards creativity and innovation, has ensured that organisations are increasingly keen to exploit 'knowledge' as a productive resource and a potential means of developing competitive advantage (Hall and Andriani, 2002). Without doubt, improving and expanding information and communication systems, including the Internet, corporate intranets and extranets, have been instrumental in the capture and sharing of intra- and inter-organisational knowledge. This has helped to develop collective knowledge, breeding new ideas and creating an environment that facilitates knowledge sharing, permitting greater scope for continuous improvement.

There is a widely held view that technology is synonymous with knowledge management (KPMG, 2000). Such a view, however, represents a potential barrier to developing a truly knowledge-centric organisation, since technology acts largely as a knowledge enabler through which *explicit* knowledge can be captured, stored and disseminated more easily. The true value of knowledge, however, hinges on the ability of an organisation to exploit *tacit* knowledge from both internal and external sources in order to improve organisational and competitive performance (Stonehouse *et al.*, 2001). Technology has been less successful in this latter process, with human and organisational factors assuming a greater importance in this respect. Indeed, research undertaken by Cranfield School of Management reports that 83% respondents reject the notion that knowledge is merely an extension of the information systems function of an organisation (Murray and Myers, 1998).

In this paper, attention focuses on the concept of knowledge-centricity, a term encompassing knowledge management, but encapsulating a broader view of the socio-technical and strategic issues surrounding knowledge creation, dissemination, exploitation and management. A template for assessing the degree to which an organisation is

knowledge-centric is proposed, its use illustrated by reference to research conducted with Black and Decker. While the template is not a definitive way of assessing knowledge-centricity, it is a useful means of understanding the attributes and progress of an organisation in its quest to become truly knowledge focused. Further evaluation of the template is ongoing using data relating to two large German organisations, although these results are not reported here.

KNOWLEDGE-CENTRICITY

Broadly speaking, a knowledge-centric organisation is one in which the creation and management of knowledge are integral to its mission, strategy, operations and performance. It is, essentially, a truly knowledge-focused organisation in all aspects of its internal and external business.

Such an environment does not emerge overnight and progression to knowledge-centricity is an evolutionary process, dependent on a number of factors. This is succinctly illustrated by the various stages of the *knowledge journey* outlined by consulting group KPMG (KPMG, 1997). Although originally presented from a technological standpoint, the five-stage journey refers to knowledge chaotic, knowledge aware, knowledge enabled, knowledge managed and knowledge-centric organisations, which provides a useful framework within which to examine socio-technical, cultural and managerial issues.

In order to better understand the concepts and themes involved in the development of a template, a more detailed discussion of the various stages is desirable. It should be noted that the stages are not necessarily mutually exclusive and the boundaries between the various categories is not always precise. What follows is a broad description of the processes involved.

A knowledge-chaotic organisation has, essentially, yet to recognise the importance of knowledge and its use is on an ad hoc, and often implicit, basis. Such organisations typically duplicate information, brought about by incompatible systems and an unwillingness of individuals to share knowledge, assuming it is recognised in the first place (Pemberton and Stonehouse, 2002). Above all, poor leadership and a lack of vision are apparent in the knowledge-chaotic organisation.

The knowledge-aware organisation recognises the need to organise knowledge and there has been a move to identify knowledge sources and processes. Typically, some systems, often technology driven, have been introduced but their implementation is uneven across the organisation. Ultimately, there are no coordinated plans for dealing with knowledge as an organisational resource to improve performance.

In a knowledge-enabled company, knowledge management is beginning to benefit the business and characterised by a reduction in the duplication of information within the organisation. Standard processes and tools are visible, with knowledge resources evaluated and systems in place. There are still, however, some technological barriers centring on dissemination and a lack of structured knowledge repositories, for example. The socio-technical aspects, embodying many aspects of organisational culture, are seldom addressed at this stage and represent a

significant hurdle in moving to the next phase of the knowledge journey (Pemberton and Stonehouse, 2002).

An integrated framework of procedures to create and manage information is usually prevalent in the knowledge-managed organisation, with most of the technological and cultural issues of knowledge transfer and sharing largely overcome. Furthermore, a knowledge strategy exists and is reviewed and improved on a continual basis, overseen by a knowledge champion at senior management level.

Finally, within a truly knowledge-centric business, the notion of knowledge and its role in innovation figures prominently in the organisation's mission and strategy. More specifically, competitive advantage typically revolves around the exploitation of its knowledge assets, supported by integrated knowledge management tools and technology. Within the general environment, leadership, structure, culture and infrastructure fully support the creation and management of knowledge, and knowledge measurement systems are generally in place. One of the distinguishing features of the knowledge centric organisation, as opposed to being purely knowledge-managed, is the recognition of individual tacit knowledge in creating organisational knowledge, together with an integral 'learning from learning' philosophy across the company.

DEVELOPING A TEMPLATE

In devising the template in Table 1, an element of subjectivity is clearly evident. The justification of the seven areas and associated themes is based predominantly on two main factors.

Firstly, the authors' own experience and research in the areas of knowledge management, organisational learning and performance have played a major part in identifying the key elements perceived to be important in identifying the characteristics of the knowledge-centric organisation (Pemberton and Stonehouse, 2002; Pemberton *et al.*, 2002; Stonehouse *et al.*, 2001).

TABLE ONE

ISSUES	CHARACTERISTIC	DESIRABLE	CRITICAL
Strategic	Knowledge issues are addressed in the organisation's business strategy		✓
Measurement	Mechanisms exist to quantify knowledge assets	✓	
Structural	Flatter structure with fewer layers to facilitate more effective knowledge transfer.		✓
	The use of group based teams, ideally cross-functional, designed to encourage knowledge sharing	✓	
	Decentralisation of decision making to capitalise on individual and team expertise.	✓	
Leadership	The existence of a knowledge champion at senior management level		✓
	Management awareness of knowledge issues accompanied by an open and inclusive attitude to decision making		✓
Infrastructure	Technical infrastructure to support knowledge transfer with tools (e.g. knowledge maps) to facilitate this.		✓
	Support systems, both human and technical, that avoid 're-inventing the wheel'.	✓	
	Effective communication channels encompassing verbal, electronic and written formats.		✓
Cultural	Incentives for sharing knowledge, ideally built within appraisal regimes, emphasising personal and organisational benefits.		✓
	High trust and supportive environment encouraging individual responsibility.		✓
	Allocation of time within the organisation to actively encourage communication and knowledge transfer	✓	
Individual	Recognition of the individual's knowledge by :		
	▪ Individual		✓
	▪ Co-workers	✓	
	▪ Managers		✓

A Template for Identifying Characteristics of the Knowledge-centric Organisation

Secondly, a study of a number of case studies from published sources, as well as annual company reports, have been used in conjunction with observations from academic and practitioner literature. Although too numerous to mention here, companies such as ABB, British Petroleum, Dow Chemicals, KPMG, Microsoft, Nokia and Skandia have been used to develop the key themes and elements here (Birkinshaw, 2002; Chase, 1997; Horne, 1998; Kippenberger, 1998; McCampbell *et al.*, 1999; Mouritsen *et al.*, 2001; Petrash, 1996).

While it is accepted that a template of this nature may not be a realistic way of assessing knowledge-centricity for all organisations, particularly smaller and medium sized businesses, for larger companies, the use of such a template does, it is argued, help to understand whether it is truly knowledge-focused.

In devising the template, all the themes identified are judged to be desirable characteristics of the knowledge-centric organisation. However, several of these are critical in the sense of ensuring that the organisation is truly knowledge-focused. Provided these are apparent and the *majority* of the remaining desirable characteristics are present, an organisation is judged as knowledge-centric.

In this first iteration of the template, no weightings are given to any of the themes. Over time, however, it is envisaged that this will change as more research data become available from a number of organisations.

MECHANISMS FOR ASSESSING KNOWLEDGE-CENTRICITY

The way in which the template can be used depends heavily on examining whether the issues and themes appear to have been addressed by an organisation. But how are these assessed? While some details are provided in published annual reports, particularly in relation to measurement of knowledge assets and intellectual capital for example, a more detailed investigation is generally needed.

Part of this process and an effective way of doing this revolves around a knowledge audit tool. Several authors have developed such a mechanism, including the knowledge management diagnostic (Bukowitz and Williams, 1999) and the knowledge management toolkit (Skymre, 1999).

Indeed, this approach has been adopted here, embracing Skymre's framework and devising a knowledge audit questionnaire covering ten areas:

- Leadership
- Culture & structure
- Processes
- Explicit knowledge
- Tacit knowledge
- Knowledge repositories
- Market leverage
- Knowledge measures
- Human infrastructure
- Technology infrastructure.

Within each section, a number of sub-themes are examined, where respondents within an organisation indicate the strength of agreement with a number of statements using a five-point Likert scale. More detailed discussion is provided in Pemberton *et al.* (2002).

The audit is carried out with employees at all levels across the organisation. On its own, this provides a useful way of assessing the organisation's approach to knowledge management issues. It must, however, be supplemented by interviews with senior personnel to examine areas of strategy and management, issues not generally familiar to all employees. Furthermore, observation of the working environment to validate the claims made by interviewees and questionnaire respondents allows a more thorough assessment of whether the template characteristics are indeed present. Ultimately, this final assessment is made by the researcher in the light of the pluralistic research conducted.

BLACK AND DECKER CASE STUDY

In this paper, Black and Decker is used as the basis of the case study

in the remainder of the paper. More specifically, research conducted in 2001 at their European Design Centre, and reported in Pemberton et al. (2002), is used to examine the elements of the proposed template.

As the world's largest producer of power tools and related accessories, Black and Decker, currently valued at \$5 billion and a Fortune 200 global corporation (Black and Decker, 2001), it is an ideal vehicle for applying the template of knowledge-centricity. This is particularly pertinent as the development and introduction of new innovations, before their competitors, is a particular goal of the organisation and a means by which it retains competitive differentiation and superior performance. Their European Design Centre (EDC) based in northeast England, the focus of the research discussed in this paper, employs over 100 personnel with its engineers, designers and programme managers, in conjunction with the marketing team, responsible for the development of many of Black and Decker's global products.

Adopting the pluralistic approach outlined in the previous section, a series of informal face-to-face interviews with senior personnel were conducted to gain a feel for the organisation's approach to knowledge management issues. Semi-structured interviews were subsequently carried out with five managers in January 2001 to gather opinion and facts to better understand the organisational factors that influence knowledge creation, sharing and management processes.

The audit questionnaire was then devised and, after a pilot survey, distributed to a random sample of thirty employees from different areas, of differing status and across different groupings within the EDC in February 2001. All thirty questionnaires were returned, with the computer-coded responses analysed using Excel and SPSS.

A detailed account of the analysis and findings of both the audit questionnaire and interviews are reported in Pemberton et al. (2002). For reasons of brevity, a summary of the key findings is given here.

- Two areas are identifiable as strong features of the organisation. The role of tacit knowledge is recognised as an integral part of the EDC's business and there is consensus that the technology infrastructure to support knowledge management initiatives within Black and Decker is essentially in place.
- Neutral responses are recorded for culture & structure, the role of explicit knowledge, knowledge repositories and market leverage.
- Four areas were perceived as particularly weak within the EDC, these being leadership, processes, knowledge measurement and human infrastructure.

A more detailed analysis of the sub-themes presented in the knowledge audit identified a number of perceived strengths and weaknesses:

Areas of Strength

- Knowledge experts are recognised and their expertise is sought on a day-to-day basis by co-workers.
- Customers and competitors of the company recognise that the organisation uses its know-how and knowledge to develop innovative products.
- Technology exists that permits and encourages co-workers to share their knowledge in the form of documents and multimedia objects.

Areas of Weakness

- Managing the company's knowledge is not considered a core management skill in which every manager and professional has some familiarity.
- Gathering, storing information and knowledge-sharing behaviours are not recognised and rewarded by the company.
- Leadership is generally perceived as lacking a knowledge vision and failing to emphasise the role of knowledge within the organisation.
- Processes and procedures to monitor external knowledge sources, particularly in relation to that of competitors, are weak.
- While tacit knowledge is generally perceived as a strength of the organisation, there is limited encouragement for knowledge experts to share their expertise via formal and informal mechanisms.
- Few systems are in place to formally measure and manage its knowledge resources.

TABLE TWO

ISSUES	CHARACTERISTIC	DESIRABLE	CRITICAL
Strategic	Knowledge issues are addressed in the organisation's business strategy		✓
Measurement	Mechanisms exist to quantify knowledge assets	×	
Structural	Flatter structure with fewer layers to facilitate more effective knowledge transfer.		✓
	The use of group based teams, ideally cross-functional, designed to encourage knowledge sharing	✓	
Leadership	Decentralisation of decision making to capitalise on individual and team expertise.	✓	
	The existence of a knowledge champion at senior management level		✓
Infrastructure	Management awareness of knowledge issues accompanied by an open and inclusive attitude to decision making		×
	Technical infrastructure to support knowledge transfer with tools (e.g. knowledge maps) to facilitate this.	✓	✓
Cultural	Support systems, both human and technical, that avoid 're-inventing the wheel'.		✓
	Effective communication channels encompassing verbal, electronic and written formats.		✓
	Incentives for sharing knowledge, ideally built within appraisal regimes, emphasising personal and organisational benefits.		×
Individual	High trust and supportive environment encouraging individual responsibility.		×
	Allocation of time within the organisation to actively encourage communication and knowledge transfer	✓	
Individual	Recognition of the individual's knowledge by :		
	• Individual		✓
	• Co-workers	✓	
	• Managers		×

Knowledge-centricity Template: Black and Decker

From these results, together with observations of the research team, the information gathered is used as the basis for applying the proposed template, as shown in Table 2.

CONCLUSION

The proposed template is an attempt to ascertain the degree to which an organisation is knowledge-centric. Arguably, the template is not without its problems, not least in terms of whether an issue is judged as desirable or critical. This is clearly subjective to some degree, but the pluralistic methodology greatly assists in this process. As a vehicle for assessing knowledge-centricity, however, the template can assist an organisation in identifying those deficiencies preventing it from being viewed as truly knowledge-focused.

Using Black and Decker as a case study suggests that it cannot, at present, be viewed as knowledge-centric. As Pemberton *et al.* (2002) suggest, many of the features of a knowledge-centric business exist, but the template provides a mechanism for explicitly identifying these. As it stands, critical elements of leadership, the cultural environment and recognition of individual knowledge appear to be missing. On other fronts, particularly technology, the organisation has much to commend it, but a truly knowledge-centric organisation embraces a number of elements, with the cultural environment, and the role of the individual within in it, distinguishing such an organisation from other purely 'knowledge-managed' businesses.

There is also a caveat here in that the assessment centres around Black and Decker's European Design Centre. Although recently designated a primary global design centre, exactly how the EDC mirrors other areas of the organisation is not clear and further research is needed to corroborate these findings, if generalisations are to be made. However, given the observations based on the EDC, it is hard to see how it can be viewed as knowledge-centric.

Finally, the template presented in this paper is at the early stages of development. Ongoing research is currently examining how two large

German companies fare in terms of using the template for an assessment of knowledge-centricity. Clearly some refinements will be necessary, not least in terms of the weightings attached to the issues included in the template.

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