Modelling the current state and potential use of knowledge management in higher education institutions

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MODELLING THE CURRENT STATE AND POTENTIAL USE OF KNOWLEDGE MANAGEMENT IN HIGHER EDUCATION INSTITUTIONS

Appendices

Gillian Jack

PhD

2004

Director of Studies: Professor Brian Lehaney
Second Supervisor: Dr Barrie Baker

COVENTRY UNIVERSITY
APPENDIX I


To what extent do you agree or disagree with the following statements:

<table>
<thead>
<tr>
<th>I = strongly agree, S = strongly disagree, 6 = no opinion</th>
<th>1+2%</th>
<th>3%</th>
<th>4+5%</th>
<th>6%</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel valued and recognised for the work I do</td>
<td>34</td>
<td>16</td>
<td>48</td>
<td></td>
</tr>
<tr>
<td>I have a clear understanding of the contribution I am</td>
<td>55</td>
<td>15</td>
<td>27</td>
<td></td>
</tr>
<tr>
<td>expected to make</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel that I understand the University of Luton’s overall objectives</td>
<td>51</td>
<td>22</td>
<td>23</td>
<td>2</td>
</tr>
<tr>
<td>Communications in the university are becoming more open</td>
<td>26</td>
<td>22</td>
<td>46</td>
<td>3</td>
</tr>
</tbody>
</table>

48% of staff disagree that they feel valued and recognised for the work they do, the highest category being academic staff. 55% of staff agree that they have a clear understanding of the contribution they are expected to make. With regard to overall objectives, 51% agree that they understand objectives. Communications remain a problem in the university with 46% of staff disagreeing that these are becoming more open. Manual and academic staff are the largest category to indicate this. The majority of staff do not feel that there is enough opportunity for them to let management know about things that affect them and their work. Nor do they feel appropriately consulted on management decisions.

Please indicate how satisfied or dissatisfied you are with each of the following factors in your job:

<table>
<thead>
<tr>
<th>I = very satisfied, S = very dissatisfied, 6 = no opinion</th>
<th>1+2%</th>
<th>3%</th>
<th>4+5%</th>
<th>6%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job security</td>
<td>40</td>
<td>26</td>
<td>29</td>
<td>3</td>
</tr>
<tr>
<td>Friendly colleagues</td>
<td>82</td>
<td>10</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Working Hours</td>
<td>63</td>
<td>16</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>Working environment</td>
<td>46</td>
<td>19</td>
<td>32</td>
<td>0</td>
</tr>
<tr>
<td>Feedback on your performance</td>
<td>31</td>
<td>24</td>
<td>42</td>
<td>1</td>
</tr>
<tr>
<td>Feeling you have accomplished something worthwhile at work</td>
<td>57</td>
<td>20</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>Receiving praise for good work</td>
<td>32</td>
<td>23</td>
<td>41</td>
<td>1</td>
</tr>
<tr>
<td>Receiving sufficient training to do your job well</td>
<td>42</td>
<td>24</td>
<td>31</td>
<td>1</td>
</tr>
</tbody>
</table>
40% of the workforce are satisfied with job security. 29% are dissatisfied and the highest category indicating so are researchers and academic staff. The majority of staff consider their colleagues to be friendly and working hours to be acceptable. 46% are satisfied with the working environment, in particular, administrative staff. The highest category to indicate dissatisfaction is academic staff.

The majority of staff are dissatisfied with the level of feedback on performance and praise for good work. However, most feel that they have accomplished something worthwhile at work.

The following statements are used by MORI to describe immediate line management. Staff were asked to indicate how often these apply to each if at all:

Immediate Manager

<table>
<thead>
<tr>
<th>Item</th>
<th>1+2 %</th>
<th>3%</th>
<th>4%</th>
<th>5%</th>
<th>6%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is approachable</td>
<td>76</td>
<td>13</td>
<td>7</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Is open and honest</td>
<td>57</td>
<td>24</td>
<td>10</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Consults me on matters where I can contribute</td>
<td>52</td>
<td>25</td>
<td>15</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Keeps me in touch with what's going on</td>
<td>44</td>
<td>30</td>
<td>19</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Makes decisions quickly when needed</td>
<td>58</td>
<td>19</td>
<td>14</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>Makes clear what is expected of me</td>
<td>50</td>
<td>25</td>
<td>17</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Motivates me</td>
<td>33</td>
<td>27</td>
<td>24</td>
<td>14</td>
<td>1</td>
</tr>
<tr>
<td>Listens to my ideas</td>
<td>53</td>
<td>25</td>
<td>15</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Acts on my ideas</td>
<td>35</td>
<td>33</td>
<td>20</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>Gives me feedback on how I am doing</td>
<td>35</td>
<td>29</td>
<td>24</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Discusses my training and development needs</td>
<td>41</td>
<td>23</td>
<td>24</td>
<td>10</td>
<td>1</td>
</tr>
</tbody>
</table>

With regard to management style in the university, staff generally feel that their direct manager is usually approachable, open and honest, with a fairly consultative style. Direct managers also appear to appreciate the level of pressure staff are under. With regard to motivation, feedback, and to some extent training, the scores suggest less confidence.
Senior Management

<table>
<thead>
<tr>
<th></th>
<th>1=always applies, 5=never applies, 6=no opinion</th>
<th>1+2%</th>
<th>3%</th>
<th>4%</th>
<th>5%</th>
<th>6%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is approachable</td>
<td></td>
<td>34</td>
<td>22</td>
<td>15</td>
<td>14</td>
<td>11</td>
</tr>
<tr>
<td>Is open and honest</td>
<td></td>
<td>25</td>
<td>20</td>
<td>17</td>
<td>10</td>
<td>21</td>
</tr>
<tr>
<td>Consults me on matters where I can contribute</td>
<td></td>
<td>17</td>
<td>16</td>
<td>21</td>
<td>28</td>
<td>12</td>
</tr>
<tr>
<td>Keeps me in touch with what is going on</td>
<td></td>
<td>18</td>
<td>27</td>
<td>19</td>
<td>21</td>
<td>10</td>
</tr>
<tr>
<td>Makes decisions quickly when needed</td>
<td></td>
<td>26</td>
<td>19</td>
<td>15</td>
<td>12</td>
<td>22</td>
</tr>
<tr>
<td>Appreciates the pressure I come under in my job</td>
<td></td>
<td>13</td>
<td>17</td>
<td>19</td>
<td>25</td>
<td>21</td>
</tr>
</tbody>
</table>

The scores demonstrate less confidence in senior management by comparison to direct line managers, particularly in relation to consultation, where 28% of staff state that this never applies. Staff perceive that senior managers do not appreciate the pressure they are under.

The following are a number of statements about senior management to which staff were asked for their view

<table>
<thead>
<tr>
<th></th>
<th>1=strongly agree, 5=strongly disagree, 6=no opinion</th>
<th>1+2%</th>
<th>3%</th>
<th>4+5%</th>
<th>6%</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have confidence in the senior management of this organisation</td>
<td></td>
<td>29</td>
<td>27</td>
<td>36</td>
<td>6</td>
</tr>
<tr>
<td>Speaking up on issues where you disagree with management can damage your career prospects</td>
<td></td>
<td>47</td>
<td>21</td>
<td>18</td>
<td>12</td>
</tr>
</tbody>
</table>

The outcome of this response indicates the negative attitude that staff have toward senior management of the organisation. 36% state that they do not have confidence in senior management and 47% feel that if they disagree with issues proposed by senior management, this can damage career prospects, which highlights insecurity as being an issue of concern, though not in relation to job security. This could present a significant obstruction to the organisation in terms of knowledge sharing and creativity. For example, Parlby (2000) described the need for trust and confidence throughout the organisation, necessary to foster the appropriate culture for knowledge sharing.
The following phrases may be used when talking about recent changes in the University of Luton. Staff were asked to indicate whether or not they agree.

<table>
<thead>
<tr>
<th></th>
<th>1+2%</th>
<th>3%</th>
<th>4+5%</th>
<th>6%</th>
</tr>
</thead>
<tbody>
<tr>
<td>I understand the need for change</td>
<td>82</td>
<td>9</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>I look forward to change as a challenge</td>
<td>64</td>
<td>22</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>When changes are made, staff are not involved</td>
<td>52</td>
<td>20</td>
<td>21</td>
<td>4</td>
</tr>
<tr>
<td>I have been unsettled by the pace of change</td>
<td>28</td>
<td>26</td>
<td>39</td>
<td>4</td>
</tr>
<tr>
<td>The reasons for change are well communicated to me</td>
<td>22</td>
<td>26</td>
<td>47</td>
<td>3</td>
</tr>
<tr>
<td>I support the need for change</td>
<td>70</td>
<td>21</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Change here is well managed</td>
<td>11</td>
<td>25</td>
<td>57</td>
<td>4</td>
</tr>
</tbody>
</table>

Although most staff understand and support the need for change and indeed look forward to the challenge, 52% do not feel involved and 57% believe that the change process is poorly managed. 47% disagree that the reasons for change are well communicated.
APPENDIX 2

HIGHLIGHTS OF MANAGEMENT AND ORGANISATIONAL WELLBEING SURVEY

This organisation really cares about the health and wellbeing of staff

<table>
<thead>
<tr>
<th>Score</th>
<th>Responses</th>
<th>Categories of Staff</th>
<th>Average Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Strongly agree</td>
<td>Senior Management</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>Agree</td>
<td>Middle Management Supervisor</td>
<td>3.06</td>
</tr>
<tr>
<td>3</td>
<td>Neither agree nor disagree</td>
<td>Academic</td>
<td>3.53</td>
</tr>
<tr>
<td>4</td>
<td>Disagree</td>
<td>Administrator</td>
<td>3.32</td>
</tr>
<tr>
<td>5</td>
<td>Strongly disagree</td>
<td>Manual</td>
<td>4</td>
</tr>
<tr>
<td>Not Stated</td>
<td>Not stated</td>
<td>Unknown</td>
<td>4</td>
</tr>
</tbody>
</table>

The majority of respondents, 38, neither agreed nor disagreed with this statement, however, the mean score was 4.3, therefore, tending toward the negative rather than positive view. The highest deviation from the mean was from senior management who believe that the organisation cares about the health and wellbeing of staff. It could be assumed, therefore, that this is not communicated enough to staff, or senior management attitude does not demonstrate that which they believe to be the case.

My department manager talks to me and/or takes an interest in my general wellbeing.

<table>
<thead>
<tr>
<th>Score</th>
<th>Responses</th>
<th>Categories of Staff</th>
<th>Average Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Strongly agree</td>
<td>Senior Management</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>Agree</td>
<td>Middle Management Supervisor</td>
<td>2.39</td>
</tr>
<tr>
<td>3</td>
<td>Neither agree nor disagree</td>
<td>Academic</td>
<td>2.83</td>
</tr>
<tr>
<td>4</td>
<td>Disagree</td>
<td>Administrator</td>
<td>3.11</td>
</tr>
<tr>
<td>5</td>
<td>Strongly disagree</td>
<td>Manual</td>
<td>3</td>
</tr>
<tr>
<td>Not Stated</td>
<td>Not stated</td>
<td>Unknown</td>
<td>4.25</td>
</tr>
</tbody>
</table>

Mean 3.6
Median 4
The spread of responses to this statement is fairly evenly distributed with 40 in agreement, 34 in disagreement and 21 neither agreeing nor disagreeing. The mean score is 3.6. Feedback received from a middle manager states that “the departmental manager does not have time to talk, or take an interest in general wellbeing, but he does care” (Administrator). Comparing this with the Ceridian Work/Life research (Davis, 1999) there appears to some correlation with views on management generally. For example the situation in the University of Luton may indicate that levels of work for managers prevent them from taking time for staff, which can result in de-motivation, lack of leadership and poor performance. Alternatively, there may be a case in relation to time management and making time for staff. On the issue of leadership, Peters and Waterman (1988, p.83) state that the leaders who throw themselves into a relationship with followers can make the followers feel elevated, who then become more active themselves, thereby improving performance. In relation to knowledge management, leadership of, a commitment to, and time for staff, underpinned by effective communication may improve the chances of success. However, the results of the surveys thus far indicate that the University of Luton may need to improve in fundamental organisational management procedures before embarking on a knowledge management initiative.

Management is not aware of rising stress or de-motivation in the workforce.

<table>
<thead>
<tr>
<th>Score</th>
<th>Responses</th>
<th>Categories of Staff</th>
<th>Average Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Strongly agree</td>
<td>27</td>
<td>Senior Management</td>
</tr>
<tr>
<td>2</td>
<td>Agree</td>
<td>32</td>
<td>Middle Management Supervisor</td>
</tr>
<tr>
<td>3</td>
<td>Neither agree nor disagree</td>
<td>17</td>
<td>Academic</td>
</tr>
<tr>
<td>4</td>
<td>Disagree</td>
<td>10</td>
<td>Administrator</td>
</tr>
<tr>
<td>5</td>
<td>Strongly disagree</td>
<td>7</td>
<td>Manual</td>
</tr>
<tr>
<td>Not Stated</td>
<td>Not stated</td>
<td>2</td>
<td>Unknown</td>
</tr>
</tbody>
</table>

Mean 2.1
Median 2
This statement appears to have made a significant impact with fewer respondents remaining neutral and the majority agreeing that management is not aware of rising stress or de-motivation. 39 respondents agree with the statement of which 27 strongly agree. The mean score is 2.3, with the largest deviation at 4.33 from senior management.

Additional comments indicate that "senior managers are aware of the problems but they are not high on the agenda so little attention is paid to health and wellbeing. Further, the pressures to perform and deliver mean good health practices etc are put on the back burner"(Senior Manager). A Middle Manager states that "the fault lies not with immediate managers, but with the system itself and therefore the decision-makers at the top. Staff no longer feel motivated". The response to this statement highlights a void between senior management perception and the workforce in general. Cross-referencing this with statement one and the latter, improved communication, systems and procedures, as well attention to psychosocial factors may contribute to the reduction in stress and increase motivation and performance.

Senior management takes occupational health and wellbeing seriously.

<table>
<thead>
<tr>
<th>Score</th>
<th>Responses</th>
<th>Categories of Staff</th>
<th>Average Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Strongly agree</td>
<td>Senior Management</td>
<td>2.67</td>
</tr>
<tr>
<td>2</td>
<td>Agree</td>
<td>Middle Management Supervisor</td>
<td>2.89</td>
</tr>
<tr>
<td>3</td>
<td>Neither agree nor disagree</td>
<td>Academic</td>
<td>3.4</td>
</tr>
<tr>
<td>4</td>
<td>Disagree</td>
<td>Administrator</td>
<td>3.46</td>
</tr>
<tr>
<td>5</td>
<td>Strongly disagree</td>
<td>Manual</td>
<td>4</td>
</tr>
<tr>
<td>Not Stated</td>
<td>Not stated</td>
<td>Unknown</td>
<td>3.88</td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td></td>
<td>3.7</td>
</tr>
<tr>
<td>Median</td>
<td></td>
<td></td>
<td>4</td>
</tr>
</tbody>
</table>

The dominant division of responses to this statement is between those that remain neutral of which there are 37, and 20 respondents who disagree. 13 agree and the mean score is
3.7, indicating that the workforce may not agree that senior management takes occupational health and wellbeing seriously. The largest deviation are from senior management who agree that they do take health and wellbeing seriously, which may relate to lack of communication and action to demonstrate. Additional feedback from the survey indicates that several respondents found this statement difficult to make a judgement on, because it is “specific to senior management views and there is little communication to suggest what that view might be” (Academic). Once again, communication is one of the key management skills that affects motivation, performance, and clearly knowledge sharing.

My line manager does everything possible to ensure a healthy working environment.

<table>
<thead>
<tr>
<th>Score</th>
<th>Responses</th>
<th>Categories of Staff</th>
<th>Average Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Strongly agree</td>
<td>3</td>
<td>Senior Management</td>
</tr>
<tr>
<td>2</td>
<td>Agree</td>
<td>19</td>
<td>Middle Management Supervisor</td>
</tr>
<tr>
<td>3</td>
<td>Neither agree nor disagree</td>
<td>35</td>
<td>Academic</td>
</tr>
<tr>
<td>4</td>
<td>Disagree</td>
<td>27</td>
<td>Administrator</td>
</tr>
<tr>
<td>5</td>
<td>Strongly disagree</td>
<td>9</td>
<td>Manual</td>
</tr>
<tr>
<td></td>
<td>Not Stated</td>
<td>Not stated</td>
<td>Unknown</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Responses</td>
<td>3.3</td>
<td>4</td>
</tr>
</tbody>
</table>

The responses to this statement tend toward the negative with 36 respondents indicating that their line manager does not do everything possible to ensure a healthy working environment and 27 remaining uncommitted. 22 are in agreement. The mean score was 3.3 and there is no significant deviation from this.

Additional feedback suggests that “line managers do not have the power to do everything possible to ensure a healthy working environment”. (Academic), perhaps indicating a wider issue about empowerment, authority and control. Alternatively, line managers may not fully understand their responsibilities and ability to take action to improve the
working environment. This depends on the circumstances and may relate to budgetary control or level of participation when decisions about improvement take place.

The systems in place only consider the health motivation and wellbeing of staff after a problem arises.

<table>
<thead>
<tr>
<th>score</th>
<th>Responses</th>
<th>Categories of Staff</th>
<th>Categories of Staff</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Strongly agree</td>
<td>15</td>
<td>Senior Management</td>
</tr>
<tr>
<td>2</td>
<td>Agree</td>
<td>43</td>
<td>Middle Management Supervisor</td>
</tr>
<tr>
<td>3</td>
<td>Neither agree nor disagree</td>
<td>22</td>
<td>Academic</td>
</tr>
<tr>
<td>4</td>
<td>Disagree</td>
<td>9</td>
<td>Administrator</td>
</tr>
<tr>
<td>5</td>
<td>Strongly disagree</td>
<td>1</td>
<td>Manual</td>
</tr>
<tr>
<td>Not Stated</td>
<td>Not stated</td>
<td>5</td>
<td>Unknown</td>
</tr>
<tr>
<td>Mean</td>
<td>2</td>
<td>Median</td>
<td>2</td>
</tr>
</tbody>
</table>

The majority of respondents, 58, agree with this statement, compared to 10 who disagree. 22 remain neutral. The mean score is 2. This may indicate that staff do not generally feel that their health, wellbeing and motivation are considered within the overall planning and systems that are implemented. The strongest opinion in this respect is from manual staff who score 1.5, while other categories of staff score between 2.06 and 2.67. Feedback from one academic respondent states "In my view this is how things are at present. Once a 'Teaching Quality Assessment' problem arises, support is available, but the problem might have been avoided if information and advice were available earlier. Comparing this response to the MORI survey, planning for change, participation and consultation are clear indicators of dissatisfaction, however, a Teaching Quality Assessment is one good example of matrix team working in the organisation, improved levels of communication and interaction, with both explicit and implicit knowledge sharing. Despite the focus of many of the statements in this survey staff placed high emphasis on communication.
Recognising this, the university commissioned further exploration specifically into communication.
APPENDIX 3

A3. ORGANISATIONAL STRATEGIES, STRUCTURE AND CULTURE

A3.1 Introduction

Chapter 4 highlighted the different approaches and initiatives of knowledge management and demonstrated the extent to which knowledge management connects with different aspects of organisations. This supports the view that knowledge management is not an isolated activity but should be considered in relation to direct management, strategy and structure and requires the right culture for successful development. This chapter in phase one of the research design (figure A3.1.1) specifically explores the development of management theory, strategic management and organisational structure and culture, and evaluates the compatibility of various aspects of each in relation to knowledge management.

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Figure A3.1.1: Research Design Phase one (adapted from figure 2.2.1) – Structure, Strategy, Culture
The objective is to draw out common issues that will contribute to the formulation of a knowledge management framework in the context of a university.

A3.2 Development of Organisational Management

The development of management coincides with the emergence of structured organisations, the earliest approach being classified as the Classical or Scientific approach to management, otherwise known as Taylorism. This approach to management is characterised by:

- rational and coherent systems;
- vertical hierarchical work structures with specific objectives designed to improve productivity and performance;
- scientific selection and systematic training of the workforce on the premise that people are motivated purely by money;
- scientific organisation of work, differentiating between management and the workforce through the formal hierarchical structure.

(Taylor 1947, in Pugh 1990, p205)

The intention of the Classical School of thought was to introduce greater control through systems, structures and training and was based on the power of knowledge to implement an authoritative management approach. Burnes (1992, p13) referring to Classical management states “once knowledge is ... possessed by managers, it becomes possible not only to establish what workers actually do with their time, but also how they carry out a given task”. This style of management and organisation of work developed on a foundation of negativity between the workforce and employers and was subsequently recognised as having a negative affect on workers’ capabilities, judgements and sentiments (Child 1984). The perception was that the workforce requires close supervision and is an inconvenient expense. Such expense, whilst necessary, had to be maximised to either reduce costs or increase productivity, which required employees to work harder, or for longer hours, for the same returns (Burnes 1992).
The vertical work structure and Taylorism is still prevalent in many modern organisations (Heller 1998) however circumstances have changed over the years, for example, the Human Relations approach to management and in particular the Hawthorne experiments, moved thinking forward in relation to people and social factors at work. These experiments demonstrated the need for employees to be able to discuss issues directly and indirectly associated with work, particularly at a time of great social and industrial change (Mayo 1949, in Pugh 1992). A key factor to emerge was the need for management to consider social issues including work groups, teams, leadership, motivation, job design and communication as well as the harder mechanistic aspects of management (Mullins 1996).

Similarly, the concept of knowledge management is developing from a predominantly technological and process oriented system, to a human oriented system with greater recognition of the importance of human resource management, human assets, and intellectual capital. Duke et al (1999, p25) recognise this softer side of knowledge management, stating “the speed of technological advance has accelerated greatly over the last few years … however, not all changes have been for the better. The arrival of the printed word reduced the level of debate that should form an integral part of the dissemination of knowledge.”

In relation to the development of management approaches, in practice there are obviously clear fundamental improvements in the workplace, such as the introduction of personnel departments, legislation to protect employees and appropriate physical working conditions, but the workforce's needs and expectations have also changed. Group membership, security and certainty are issues of concern today in terms of ‘core’ and ‘peripheral’ staffing models, homeworking, secondments, and the increasing shift to the virtual organisation with greater use of technology to underpin this (see 4.5). These organisational and management changes can erode membership of specific groups and affect levels of communication, continuity and knowledge sharing, whilst facilitating information exchange.
The Human Relations approach to management was developed further along the psychological strand (Maslow 1954 in Mullins 1996, McGregor 1960 in Pugh 1992). McGregor introduced the concept of Theory X and Theory Y. Theory X is based on the Classical approach to management and Theory Y, the Human Relations approach. McGregor argues that, according to theory Y, people will constantly strive to achieve the next level of need and in doing so are likely to place more pressure on employers to make provision. Managers therefore are placed under greater pressure to meet needs or wants such as social, esteem and self-actualisation and by failing to do so will result in dissatisfaction, demotivation and poor performance. However in organisations today, the perceived ethos of Theory X seems to continue to emerge in management practice (Child 1985, Heller, 1998).

Herzberg (1959, in Pugh 1990) also discusses motivation and developed a two-factor theory. The theoretical proposal is that if hygiene factors are absent from the work situation, this will result in dissatisfaction and demotivation. If motivating factors are present, they will result in high performance. Herzberg (1959) asserts that motivating factors include job security, quality of supervision and management, and interpersonal relationships. He highlights the importance of both hygiene and motivation factors suggesting that hygiene factors must be maintained to provide positive motivation. This is relevant in relation to knowledge management in that the success of knowledge management and the introduction of a culture that meets the hygiene and motivation needs of the workforce is necessary to enable the creation, sharing and utilisation of knowledge. Tyson and Jackson (1992) state that Herzberg’s research was conducted at a time when both unemployment and inflation were low and subsequent studies reveal different results, for example “things like job security (become) far more important when unemployment rates climb rapidly” (Tyson and Jackson 1992, p27). From this perspective it could be assumed that in modern organisations, motivating factors may include a different combination of satisfiers and dissatisfiers, with different hygiene factors becoming more important to individuals, such as communication, recognition and empowerment (Jack 1999).
Empowerment is regarded as an important motivator in modern organisations and management practice in this respect is about aspects of delegation and trust, recognition, consultation and the support to make decisions. Mann (1999, pp32-33) however, reports that the further one climbs up the managerial hierarchy, "the higher the proportion of time is spent on managing and the lower is spent on doing ... theory, however is rarely borne out in practice". But this statement may require further exploration into whether this is actually a theory and to what extent it has been tested. Mann continues to describe the increasing pressure on managers stating that "opportunities to delegate provide managers with the chance to off-load some of the burdens and become more effective" (Mann 1999, p33). But successful delegation requires the ability to communicate, share, and inspire confidence and support to succeed. Mann suggests that some managers retain activities because of insecurities, inability to trust others, which result in poor management generally, and low morale amongst the workforce. Assuming Mann's proposal is accurate, In terms of knowledge management, this inability to share information or explicit and tacit knowledge is a serious obstruction to progress in an organisation and would require a reassessment of management skills and capabilities, and subsequent training and development to improve.

Despres and Chauvel (2000, p150) suggest that managers do actually recognise the importance of knowledge management, and their need for help that "enables them to bring Human Capital to the centre of their analysis". But this is based on the belief that "their ability to maximise customer value depends on the effectiveness with which information technology is used to lever, integrate and deliver their employees' knowledge and skills". Given that technology is a centrally controlled and standardised system, the concept of Scientific Management remains on the agenda. But this is to be expected and has advantages in relation to knowledge management, if it is tempered with an appropriate human resource strategy that recognises the importance of the intellectual assets that produce the knowledge. A key difficulty that universities experience relates directly to technology, as indicated in the University of Luton and supported by Baldridge (1977, in Peterson et al 1991), who states that universities have problematic technology because they need to serve a wide range of individual needs.
The complexity of modern organisations and therefore the complexity of activities that managers may need to remain aware of are reflected to some extent in the contingency approach to management. This theoretical perspective recognises diversity and influences on organisations, for example Buchanan and Huczynski (1991, p453) define the contingency approach as being an attempt to "understand the multi-variate relationships between components of organisations and to designing structures piece by piece as best fits the components (with) each situation analysed separately. Contingency implies that with each organisation there may be units of bureaucracy, units of operating in a matrix structure and units which are divisionalised". The contingency approach to management appears to reflect most synergy with a university in the sense that Weick (1976) describes universities as loosely coupled systems and organised anarchies, therefore with multi-variate relationships.

Burnes (1992) and Mullins (1996) highlight environment, technology and size as being key variables in contingency theory. With regard to the environment, organisations are influenced by political, economic, cultural and social factors. The increase in the use and speed of technological development has impacted extensively to become a dominant variable in modern organisations and size influences the functional structure of an organisation.

Focussing on technology and considering virtual working, Thomas (1999, pp78-84) reports that “at least two million British employees already work from their home, car or wherever they happen to be”. Thomas describes the benefits of mobile working, such as less time commuting; less need for office space and productivity is boosted by up to 60%. Although highlighting this key variable and the use of technology positively, there are negative effects on the workforce and added complexities for management such as the erosion of teamwork, affiliation to the organisation, increasing social problems, loneliness, lack of communication and erosion of the corporate culture and higher job turnover. The implications for knowledge management include impoverished information and knowledge sharing, loss of intellectual capital and fragmentation of the organisation. Again, a centralised, rational and controlled management approach that is
participative, can address some of these negative issues. It appears, therefore, that a
tension is emerging between the concept of centralised controlled management tempered
with an appropriate management attitude and capability that engenders knowledge
management and the continued use and progress of technology. Referring back to
Lehaney, Hunt and Clarke (1999) appropriate and balanced systems, human and
technological, can be difficult to achieve.

An additional tension in the virtual and mobile working environment is that “most bosses
want to see their assets around them. It is disconcerting to not know where your staff
are” (Thomas 1999, p79). The implications are increasing intrusion on staff personal
lives and overwork for the same pay. Attempts made by employees to introduce a more
flexible balance of social life intermixed with working life can result in no clear
boundaries between the two. Once again this demonstrates that whilst management and
organisational theory is developing, attitude and practice still do not appear to have
moved at an equitable pace.

The evolution of management theory tends to reflect social and environmental changes,
Government policy, business competitiveness etc. More recently social issues and
knowledge management demonstrated in the foregoing have become more dominant.
Clarke and Clegg (1998, p33) expand on social issues when discussing changing
paradigms in management, suggesting that changes come in waves with various theorists
introducing their own perspective. Part of the most recent shift relates to social
responsibility i.e. increasing social interests with community groups, customers, suppliers
and other stakeholders as well as the local environment. This extends the concept of
knowledge management beyond the boundaries of the organisation and is synonymous
with external knowledge initiatives.

Davenport and Prusak (1998, p147) recognise external knowledge as an “external
repository of competitive-intelligence knowledge”, that can be gained from customers,
suppliers etc. But there is also the issue of external knowledge that will influence
organisations and how they function. Clarke and Clegg (1998) consider the shifts in
society that influence organisations, focusing on the flexible working environment and increased levels of education in the workforce, producing more knowledge workers who require a different management approach. These include factors that can affect the motivation and positive attitudes of individuals, the impact on and from the community and ultimately the impact on the economy. Any organisation that functions only on people and knowledge requires an integrated human resource and knowledge management strategy, which is crucial to survival and quality of service. Managers tend to be judged on the performance of their staff, therefore, an organisation will be judged by the collective actions, abilities and knowledge of the entire workforce. University League Tables in the HE sector reflect this, in particular the perceived portrayal and perceived ability of knowledge in relation to research. Strategically therefore training, development, personal mastery and subsequent performance are essential elements within the human resource strategy. Peters and Waterman (1998) support this principle when discussing productivity through people. Farmer (1999, P12) in ‘Management Today’, discusses achieving customer delight, stating “at the end of the day, it all comes down to the human factor. If we accept that people are the key to customer satisfaction, we must all as managers do more to consider the needs and demands of our staff”.

Each of the above statements appear to be based on the assumption that everyone comes to work with positive intentions of performing to the best of their abilities, therefore management should be doing more to nurture the workforce. Perhaps, however, it is worth recognising that this is not always realistic. It could be argued that those who are career minded do intend to perform well, and therefore require nurturing, encouragement and guidance based on a human relations style of management, incorporating laissez faire and coaching techniques. There is also a contingent of staff, however, who work because they have to and may require an authoritarian, i.e. Classical approach, particularly when the job itself offers little reward, progression or opportunities to reach one’s full potential.

The application of one style of management to two extreme cases may be ineffective, perceived as being overbearing on the one front and impoverished on the other. Perhaps therefore a pluralistic social or community approach to management is emerging,
incorporating a combination of techniques and skills, which recognise organisational social factors in relation to performance, diversity, psychology of work, teams, individuals, communication and language, therefore emphasising people. But management of people is not just what knowledge management is about. The latter is not to detract from the hard side of management that relates to systems and procedures, in essence business processes and of course, in modern organisations the tools needed to deliver the product or service i.e. technology.

To summarise, management development has progressed in theory from the scientific approach based on rational, logical and mechanistic systems to a softer human relations approach and drawing back to a more balanced systems and contingency style of management, more synonymous with universities, given that universities have been characterised as loosely coupled systems. Similarly, knowledge management has developed from a mechanistic information exchange process based primarily on technology and is now attracting greater interest in human resources and people management, thus establishing the need for a holistic and balanced approach to knowledge management.

Following this exploration into management approaches, it is practical to assume that as with systems and contingency, knowledge management will benefit from both the logical mechanistic combined with management ability that is pluralistic enough to consider organisations as social communities of intellectual capital. This should be underpinned with effective systems and technology and incorporate an awareness and anticipative capability to consider contingencies that are needed to flex in changing environments. All these components need to be considered at a strategic level, and an appropriate structure designed to accommodate each aspect.
A3.3 Strategic Management and Knowledge Management

As with the development of management theories, strategic management theory has progressed from a rational quantitative planning exercise, which was initially a retrospective numerical analysis, used to forecast and plan for the future, to a more organic, qualitative and iterative process. Advances in technology, economic, social and political influences, resulted in the emergence of strategic management approaches more able to sustain longer-term objectives. Ansoff (1996) discusses strategy in the context of decisions based on an external environmental perspective, including product mix, diversification, and market position. He regards strategic management as being the objectives of the organisation as a whole and recognises that “strategic management should not deal with the very important problem of organisational hierarchy of objectives, which are essential to the operating problem of the firm” (Ansoff 1996, p36).

On the face of it, this appears to imply an inflexible strategic process, which ignores the need to fully understand the broader influences on the organisation, necessary to appropriate strategic development, knowledge management, or the concept of a learning organisation. Van der Spek and Spijkervet (1999, p14) introduce strategy with knowledge management at the core. They state that “a distinction can be made between different knowledge areas depending on their strategic importance to the organisation, their growth potential and the stage of development these knowledge areas have reached”. This, however, appears to indicate that knowledge is an entity and a particular piece of knowledge will be more important than another. It does not seem to consider the interconnections of individual knowledge that combine and impact on each other and the organisation overall. It is also reflective of functional organisations that might regard a particular manager’s knowledge as being more important than another, and will therefore place greater emphasis on this in the corporate strategy to the detriment of vertical chain reactions (see 4.4).
Chandler (1962, in Pearce & Robinson 1991), recognises the importance of internal structural influences on strategy and the need to adjust the structure to support the strategic direction of an organisation, as Pearce and Robinson (1991, p335) highlight, Chandler found a common strategy-structure sequence:

Figure A3.3.1: Strategy Structure Sequence (Source: Pearce and Robinson 1991)

Although Chandler (1962) recognises that failure to redesign the structure to fit the strategy would eventually cause a decline in performance, the strategy-structure sequence implies that the redesign of the structure is reactive to strategy. If strategic repositioning is considered from a knowledge management perspective there is less risk of declining performance, which is likely to trigger radical restructuring, as the information and knowledge sharing within the organisation will assist in creating an emergent strategy and incremental structural change. Relating Chandler’s strategy - structure sequence
directly to knowledge management therefore, the following possibilities can be determined:

- innovation and knowledge sharing can provide the ability to change strategic direction more effectively as ‘buy in’ will have been achieved through a dialectic process;
- cross-organisational interaction, knowledge sharing and learning may improve administrative problems and performance before they fall into decline, because this is likely to improve the ability to anticipate potential problems rather than react to them;
- internal structures that support knowledge management may be more responsive to strategic needs, i.e. structures that engender cross organisational working.

Davenport and Prusak (1998) comment on the importance of linking knowledge to business strategy stating that although in practice this link is rarely made, most knowledge management projects do actually improve the efficiency or effectiveness of individual departments or business processes.

Lawrence and Lorsch (1967, in Pugh 1990) conducted a study into organisations and external environment and developed Chandler’s (1962) approach to strategic management further. The intention was to increase “understanding of a complex set of interrelationships among internal organisational states and processes and external demands (Lawrence & Lorsch 1967, in Pugh 1990, p76), again relevant to the linking up of internal and external knowledge management. Bowman (1990, p6) surmises that to strategically manage requires both a logical and rationalistic approach, as well as the management of “formal and informal power relationships between people, their attitudes to change, their values and beliefs, the culture of the organisation, the status of relationships and the morale of staff”. Clearly each approach has individual merit presenting closer allegiance with knowledge management combining the logical and rationalistic, i.e. explicit and quantifiable, with the human oriented aspects relating to tacit knowledge and potential tensions that may emerge. The tensions are likely to be
between the need to create an environment where knowledge can flourish and be utilised to strategic advantage, and the need to control and retain knowledge in the organisation. Thompson and Strickland (1996, p3) define strategic management as consisting of five interrelated managerial tasks:

- introducing a sense of purpose to the organisation providing long term direction and establishing a clear mission statement;
- converting the strategic vision and mission into measurable objectives and performance targets;
- developing a strategy to achieve objectives;
- implementing the strategy effectively and efficiently;
- evaluating, reviewing and initiating corrective action or adjustments in the long-term direction in view of influencing variables.

Ultimately, if the intention is to introduce a “common sense of purpose and a persuasive rationale” (Thompson & Strickland 1996, p4) then managers should not underestimate the broader workforce’s involvement and the complexity of this challenge, not least because of the diversity of the workforce in the modern organisation. Drucker (1999, p18) asserts that increasingly the majority of people working in organisations are part-time, temporary, sub-contracted or outsourced. He states “this is particularly true of the most knowledgeable and therefore valuable people working for the organisation”, in essence, the potential wealth of knowledge that could be beneficial to the organisation.

If Drucker’s perspective becomes a reality in future universities then this may require management to draw individuals and teams into the strategic process, generating organisational ownership, which then addresses the often-experienced need to ‘sell’ the vision to achieve more committed buy in. Again, as Drucker (1999, p21) highlights “management is now more of a marketing, motivating and persuading position”. This is especially relevant if the organisational strategy will result in radical change. Alternatively a task oriented authoritarian approach may be more appropriate depending on the circumstances e.g. the environment, financial position, time available to
implement a strategy. But, it is then questionable as to whether the outcome will be sustainable in the longer term, particularly considering the subsequent impact on staff and the dominant culture of the organisation. This approach may also result in long term obstruction to a knowledge management and learning environment, since such an environment requires trust and confidence to share knowledge and release information (Davenport & Prusak 1998).

Clarke and Clegg (1998) discuss the main methods of implementing strategies pointing out that there is still no conclusive agreement as to whether strategic management should be fully participative or top down directive, whereas, Peters and Waterman (1988) promote shared values, experimentation and empowerment of the workforce. Clarke-Hill and Glaister (1995, pp4-5) propose that strategic management is participative according to the size of the organisation. This is a key issue when considering knowledge management in relation to structure and relates to the concept of disparate and semi virtual organisations. Irrespective of the strategic management approach adopted, people are still an intrinsic element and strategic human resource management as well as knowledge management is fast becoming an essential consideration in people based organisations. In reality, however, the extent to which people’s needs are regarded as strategic depends on the emphasis which the senior management team of any organisation places on human assets. In today’s environment of increasing education and intellect, at a time when IT appears to be exposing limitations, if an organisation is to remain competitive, then a concept such as knowledge management should be an intrinsic part of corporate strategy.

Strategic management from a Systems and Contingency perspective (Mullins, 1996) shows synergy with the concept of knowledge management, i.e. management operates only because of the people within organisations. People’s actions and behaviours influence organisations within an open social system as described by authors such as Burns and Stalker’s ‘Organic Organisations’ (in Lawton & Rose 1994) and Handy (1993) on ‘Cultures of Organisations’. This approach posits a collection of strategic objectives that people have a common purpose to achieve. It also assumes a social system, i.e.
people interacting together in groups with a variety of expertise, knowledge, skills, values, sub-cultures, abilities etc. An organisation or community of individuals and groups working to achieve the common goal, therefore, could be viewed as interdependent subsystems that should be interactive.

This demonstrates the complexity of inter and intra-organisational influences that impact on organisations. For example, Truch (2001) identifies the complex systems and the changing external environment, pointing out that knowledge management can thrive with a mechanistic approach, because this type of infrastructure will underpin knowledge management by providing codes of ethics and guidelines about the sharing and use of knowledge. What is important is management capability to adopt different management styles in appropriate situations and one aspect of management style is the ability to maintain a participative approach to ensure broader involvement with strategic management. This then increases the capabilities of the organisation, providing the ability to generate, access and add value to resources.

Capability is the capacity for a team to perform a task or activity and while resources, which can be internal or external, are the source of a firm's capabilities, capabilities are the main source of its competitive advantage. Grant (1991) explains that productive activity requires the co-operation and co-ordination of teams. Creating core competencies or capabilities means creating competitive advantages that cannot be replicated in the same way as most traditional resources. Core capabilities to create new knowledge or to transform and share existing knowledge are likely to rely heavily on tacit knowledge. This makes them difficult to manage, as well as hard to copy, as Nonaka (1994, p19) states, “it is extremely difficult for people to share each others’ thinking processes”.

Exploring this aspect of strategic management further, there are key issues that should be considered in relation to the formulation and implementation of strategy and the recognition and management of organisational capability. Drucker (1999) proposes that businesses need to consider the future based on a shrinking young population.
Retirement age is likely to rise, with those who would normally retire scaling down to part-time or flexible working. This is more likely to be the case with the increase in knowledge workers, who are less likely to be physically worn out through manual labour. However, Drucker does not consider the possibility of early retirement of knowledge workers due to stress and mental exhaustion. Businesses therefore need to monitor, effectively manage and generally consider the overall profile of the workforce, taking positive action to attract and retain capable knowledge workers past early retirement, which will contribute to their competitive advantage.

Management of core competencies and capabilities, however, requires more than a rational uni-dimensional framework, but a multi dimensional strategic framework may meet the diverse requirements of knowledge management. The foregoing discussion confirms that such a multi dimensional framework should incorporate the following:

- people, processes, structure, technology and environment;
- influence of internal and external factors;
- a continuum of recognition for intangible and tangible considerations.

To summarise, the concept of strategic management has developed from a rational logistic and inflexible process to a cross-organisational exercise according to the size and structure of the business. The success of long term or short term objectives is based on high performance to increase competitiveness and strong market position, which is influenced by changeable external and internal environmental influences. Such influences can interrupt, delay, speed up or terminate progress. In people or knowledge-based organisations, management approaches, motivation and associated factors that relate to human assets should be considered at a strategic level. For knowledge management to be successful, not only is a shift in management thinking in relation to strategic management required, but in the design of organisational structure, which will be explored next.
A3.4 Organisational Structure and Cultures

The purpose of this section is to explore different types of culture and structure and provide an assessment of each in relation to the concept of knowledge management. The two areas are discussed together because organisational structure is the result of decisions made by managers about the division of labour, departmentalisation, size of departments and delegation of authority, and culture reflects the sets of values, norms and beliefs that are contained within the structure and systems of the organisation. This includes rules, procedures, and control. The influencers on choice of structure and culture include task competence, technology, environmental uncertainty and strategy.

Organisational structures emerge from groups, for example as an organisation grows, tasks become more complex and a formal structure eventually develops with a hierarchy of command or direction (Mintzberg 1979, Bowman 1990, Handy, 1993). Different types of structure determine the "extent to which the organisation reflects the dimensions of formalism, complexity and centralisation" (Gibson, Ivancevich & Donnelly 2000, p 325). Groups in organisations develop different power status and individuals different roles. Influences on groups and individuals include cultural and social class, which prescribes the verbal and non-verbal means of communication as well as the rules governing behaviour. Handy (1993, pp 183-191) explores culture and identifies four main types, which are: power culture; person culture; role culture; and task culture.
A3.4.1 The Power Culture

The Power Culture is usually found in small entrepreneurial organisations, and depends on a central power base with strands of functional or specialist areas crossed by centres of activity or influence:

![Central Power Base](image)

Organisations with this type of culture are dependent on trust, empathy and personal conversation for communication, in other words high levels of tacit knowledge transfer. They are generally fast moving, risk taking and creative. One of the main disadvantages relates to expansion. If an organisation with this type of culture attaches too many links, it is unlikely to be able to maintain the strong centre of control and will become fragmented unless it develops into a role or task culture. A second key disadvantage is that the competitiveness of this environment can become so intense that it begins to have a negative effect resulting in higher turnover of staff and low staff morale (Handy 1993).
A3.4.2 The Person Culture

The Person Culture is more unusual in business organisations, but reflects community organisation. The ethos is that individuals are central and the structure and systems are there to serve the individual. Formal structure is minimal and the organisation functions on the commitment, loyalty and motivation of individuals to achieve results:

Figure A3.4.2: Person Culture (Handy 1993, p190)
A3.4.3 The Role Culture

The role culture operates through logic and rationality, and relies on rules and procedures that are co-ordinated by senior management:

Handy (1993) points out that in this culture the role is more important than the individual and position power is the main source of power, whereas expert power is usually attached to particular specialisms. Difficulties can be experienced when the environment changes i.e. becomes more unstable or competitive, because the role culture does not always recognise the need for change or can not change fast enough.
A3.4.4 The Task Culture

The task culture is described by Handy (1993, p187) as a "net, with some of the strands of the net thicker and stronger than the others". The power base is usually around the intersections of the net, illustrated in figure A3.4.4 in bold. Influence is also exerted through expert power rather than personal or position power and the ethos is about teamwork and collective outcomes rather than individual:

![Figure A3.4.4: Task Culture (Handy 1993, p 187)](image)

Considering culture and structure together, although the social structure and culture of an organisation is necessary for the division of functions, it may not always be satisfactory and in many cases can be obstructive to those who work within them. Bowman (1990) recognises that there is no ideal structure, therefore all organisations will experience weaknesses and problems that derive from the way people are organised.

Handy (1993) makes a connection between personality types who can be out of sync with the dominant culture of an organisation. For example, many organisations can not
survive with the person culture, because it is very loosely controlled and is more synonymous with volunteering than commercial business. But there are individuals whose personality belongs within this ethos. Handy (1993, p191) uses an example of a stereotypical professor. The professor is a person-oriented individual, who in reality is operating in a role culture, and who may regard the organisation as a base on which to build a career and carry out his/her own research interests. Professionals and specialists of this nature are not easily managed because they are difficult to influence, can relatively easily obtain alternative employment and maintain a position of personal power based on personal expertise and knowledge. The professor in the bureaucratic role culture type institution is likely to find the structure, slow moving committee process and decision making mechanisms to be obstructive to his/her needs. Given the nature of this power position of expertise and knowledge, means that to engage with the concept of knowledge management, the challenge will be to introduce an appropriate structure and incentives or other motivational activity to share knowledge to the benefit of the business rather than to serve personal interest.

Referring back to the power culture and an organisation's expansion and need for sustainability and control, the power culture is likely to develop into a role or task culture, which can occur either by evolution or through a conscious structuring within the scope of strategy. Chandler (1962) points out that organisational structure should be considered within the scope of the strategy of the organisation (see A3.2). Whereas Clarke-Hill and Glaister (1995) argue that structure develops as an organisation grows, beginning with a basic functional structure moving to geographical growth, vertical integration and production diversification. By implication Clarke-Hill and Glaister are recognising the evolution of organisations, rather than the conscious decision to restructure. This does not preclude the notion that a conscious decision will be taken at some point to redesign the organisation, but before reaching this stage, there is a high likelihood that the organisation will evolve through the momentum of business activities, therefore so too will the culture. Considering this in relation to knowledge management, if an organisation evolves through the momentum of business activities, divisions are likely to grow and communication diminish as competition for resources increases. A
knowledge management strategy and culture could contribute to the controlled evolution of the organisation by ensuring open lines of communication, sharing and innovation thus reducing the risk of divisions.

Gibson, Ivancevich and Donnelly (2000, p325) propose that organisational structure is an "abstract concept that is not seen, but its presence is felt". It influences the behaviour of the workforce whether individual or group and is a framework of control of individual jobs that combine the effects to achieve a corporate output. Individuals performing these jobs work within a form of hierarchical structure and a structure of systems and procedures.

Certain activities are performed as a consequence of structure, in a regular and consistent pattern which includes repetitive work, regular exchange of information and prediction, and interactions in a reasonably stable environment. As environments become more unstable with increased competitiveness, repetition, regular exchange and prediction challenge assurances of organisations. This may increase the importance of knowledge management approaches because of the need to innovate, produce and respond quickly to maintain a competitive position.

Furthermore, consideration should be given to the cost of adjusting structure in the changing environment, for example, hiring and training new staff and introducing new technology and systems. From a financial and practical perspective, the ability to restructure may be unrealistic for some organisations and will ultimately affect the organisation's ability to effectively achieve their strategic objectives. Alternatively, if an infra-structure or system relevant to knowledge management is implemented, then the dominant organisation of work may not need to change, because the workforce will be versatile enough to flex with changing objectives and strategies, therefore future restructuring may be less radical, more of an incremental adjustment and more cost effective.
Handy (1993) proposes that appropriate structure is determined by a variety of forces such as technology, market size and people and the primary choice is between uniformity or centralisation/standardisation, and diversity/decentralisation. He distinguishes six areas of diversity:

- regional diversity which focuses on the geographical area;
- market diversity, which can be defined in regional terms, socio-economic terms, customer activity or social habits. The market categories and the degree to which they differ are important aspects of diversity;
- product diversity which is the degree of difference between products;
- technology diversity, i.e. whether it is low technology such as service industry, local government, or high technology;
- goal diversity, which relates to the difference in goals between departments and divisions, internal goal diversity is more common in fast moving markets and with rapidly changing environments;
- the diversity of identity – individuals find it easier to identify with smaller groups than with large organisations. The goals of specialisation make it easier for the individual to identify with a collection of activities, rather than just one.

Handy’s areas of diversity, however, may be outdated to some extent because the business world has changed throughout the past 10 years. For example, Handy distinguishes between low technology such as service industry, local government, or high technology; whereas in the modern service industry the increase in virtual working and advancement of technology means that more organisations are engaged in high technology activities in a global environment.

Pearce and Robinson (1991) explore different organisational structures highlighting the advantages and disadvantages in regard to strategic management. They state that the structure of the organisation will determine the manner in which key activities will be organised to achieve the strategic purpose, and that “primary structures are not the only means for getting organised to implement strategy, ... reward systems, co-ordination,
teams, planning procedures and information, and budgetary systems are also necessary" (Pearce & Robinson 1991, p 328). The following five basic structures have been drawn from Pearce and Robinson and cross referenced with Handy’s (1993) categorisation of culture. This approach assists in establishing an understanding of structure and culture and associated issues, either positive or negative that emerge in relation the knowledge management, and how such issues might be addressed in the development of a framework that will assist organisations when considering their readiness to engage with knowledge management. The structures are the functional structures, geographic structure, divisional structure, strategic business unit and matrix.

A3.4.5 Functional Structures

![Typical Functional Structure](image1)

![Process Oriented Functional Structure](image2)
The overall advantages of the functional structure include specialisation and functional expertise, delegation of daily operating decisions and linkages between structure and strategy through key activities as separate units. Handy (1993) recognises the cost effectiveness of standardisation and the use of common policies and procedures. The desire for central control in functional structures tends to reflect a management approach that is based on central knowledge, power and control. The disadvantages include rivalry and conflict between functional areas, with obstructions to the sharing of information, coordination and inter-functional decision making, and limitations in management development. Bowman (1990) comments on the politics of the functional structure and the issue that one function can dominate senior management positions; the overall priorities tend to be based on functional areas rather than the entire organisation. The functional structure is appropriate to a single product or dominant service and provides adequate controls through centralisation. This structure usually functions with a role culture, though if small enough could also have a power culture.

From a knowledge management perspective, the functional structure and role culture appears less supportive of the concept of creativity, utilisation and sharing of information and knowledge, and can therefore be an obstruction to successful implementation. The effectiveness of knowledge management and transfer of information and knowledge requires 'buy in' from employees, and to release information and knowledge, a culture conducive to this is necessary to engender trust and confidence. However, a functional organisation could still succeed in applying knowledge management techniques, by introducing a sub structure based around the concept of the matrix organisation and task culture. For example, representatives from the functional areas can form teams outside their functions to progress a new product to market or contribute to a corporate change programme, and in doing so, engender a sub culture of creativity, sharing and utilisation of knowledge. Although beneficial for a specific project, the maintenance of centralisation may still obstruct a corporate knowledge management culture and strategy.

When considering Sveiby's research (see page 45, table 3.2.1) there are many examples of knowledge management initiatives in organisations, it does not however follow that
the organisations have a corporate knowledge management strategy (Davenport & Prusak 1998).

A3.4.6 Geographic Structure

Another essentially functional structure is the geographical structure (figure A3.4.6), which is synonymous with a role culture, and which includes customisation of strategy appropriate to the geographical market, delegation of financial responsibility to lowest strategic level, utilisation of economies of local operations and the provision of diverse training grounds for management development. The disadvantages include the tension between corporate uniformity and geographic diversity. Difficulties can be experienced in maintaining a consistent image of the company and reputation may differ from area to area. This structure adds layers of management to run the geographic units and it can result in the duplication of staff services and resources. Issues that need to be considered extend to include regional, socio economic and customer activities and the degree to which they differ from one geographic area to another.

Given that the geographical structure is still functional in nature and remains synonymous with the role culture, with central control flexing to meet market demand, similar obstructions emerge in relation to the concept of knowledge management. These include communication and cross-organisational interaction and sharing. However, as with the functional structure, a sub structure can be introduced through a matrix, or project management approach.
The primary difference in implementing a sub structure would be the constraints experienced by representatives of the relevant departments or divisions to meet frequently, therefore appropriate information technology tools would be necessary to ensure effective explicit communication as a minimum requirement. Knowledge management increases in complexity when the geographical structure stretches across countries and different cultures. Davenport and Prusak (1998) state that a shared language and common understanding is essential to productive knowledge transfer. The benefits to the organisation if successful include the exposure and availability of diverse and rich external knowledge that the organisation can capitalise on.
A3.4.7 Divisional Structure

In the divisional structure (figure A3.4.7), co-ordination and authority can be delegated to the appropriate level for a fast response and the development and operation of strategy is closer to the local environments of divisions. Accountability for performance and functional specialisation are focussed and the diversity of divisions provides a good training ground for managers. The disadvantages are competition for resources, level of authority that should be delegated to divisional managers and policy inconsistencies. This central control of resources can place managers on the periphery striving to secure more control over the resources they have to organise and administer. Depending on the level of delegated authority, the manager can be placed in a precarious position of reporter, i.e. power without responsibility for the centre and responsibility without power for the division. In this type of structure, individuals are more likely to identify with their own division than with the organisation and a culture of ‘territorialism’ may develop. This is synonymous with the role culture because the hierarchy, division and bureaucracy remain.

![Divisional Organisational Structure](image)

Figure A3.4.7: Divisional Organisational Structure (Handy 1993)
Knowledge management could be more difficult to introduce to this type of structure, partly because it is moving beyond a co-ordinated central operation where a sub structure can be readily established, to an internally competitive and ‘tense’ operation. Many obstructions would have to be addressed to secure a confident ‘buy in’ from managers. But the same issues would apply to any organisation because the focus is cultural change and the impact of structure on culture can not be ignored (Handy 1993). Assuming the commitment and support from the CEO is secure, the General Managers could be the focus of a process of development to engender a culture of knowledge transfer and the barriers to success addressed.

A3.4.8 Strategic Business Unit Structure

Fundamentally and in terms of knowledge management the same issues that apply to the divisional structure, apply to the strategic business unit structure (figure A3.4.8). The advantages of the strategic business unit structure are that it improves co-ordination between divisions, tightens strategic management and control of large diverse enterprises, and facilitates effective business planning and channels accountability and business goals. The disadvantages are that another layer of management is placed between divisions and corporate management, which again increases competition for corporate resources and may result in difficulties with levels of delegated authority. Again this is synonymous with the role culture and the potentially divisive and internally competitive working practices.
A3.4.9 The Matrix Structure

The matrix structure (figure A3.4.9) encompasses a wide variety of project oriented business activity, effective training and broad exposure to strategic management. It maximises efficient use of functional management, fosters creativity and sources of diversity. Depending on the organisation’s strategy and the need for a dual or multiple focuses, the matrix structure can be very effective either as a structure in its own right or as an overlay or sub-structure in a hierarchical functional type structure. The disadvantages, however, may be confusion and contradictory policies and it necessitates strong and transparent horizontal and vertical co-ordination and communication. The matrix structure is synonymous with a task culture and from a knowledge management perspective; the matrix structure may be the most effective providing the type of culture that facilitates creativity, sharing and transfer of learning and knowledge. Greater emphasis may be placed on key management competencies for success, which include
skills such as systematic communication and co-ordination, clarity, information processing and sharing.

![Matrix Organisational Structure](image)

Figure A3.4.9: Matrix Organisational Structure

Essentially all the above structures represent a form of hierarchy, division of labour and therefore degrees of bureaucracy, the majority of which are most closely associated with the role culture. Weber (1947, in Pugh 1992) explores the bureaucratic organisation and the division of authority and power and relates bureaucracy to public sector organisations and promotes capitalist and entrepreneurial types. He points out that increasingly specialist knowledge is necessary, but often generalists can be appointed in higher positions. Weber (1947 in Pugh 1992, p12) suggests that a "monocratic variety of bureaucracy is, from a purely technical point of view, capable of attaining the highest degree of efficiency and is in this sense formally the most rational means of carrying out imperative control over human beings". Weber also recognises the importance of communication, but questions whether in a social type system it would be possible to provide conditions for carrying out stringent bureaucratic approaches as has been possible in a capitalist order. He identifies the potential conflict between formal rational
sociology and bureaucracy that is often encountered, for example, bureaucratic structures exercise control based on knowledge and it is this feature, argues Weber, that makes it rational. In contrast, rational sociology includes technical or specialist knowledge and power, in addition to tacit knowledge and subsequently a higher level of power gained through the experience of office.

Jacques (1976, in Pugh 1992) explores why bureaucratic organisation is the strongest and most sustained type of human organisation so far discovered for bringing large numbers of people to work together in one united venture. He argues that the greatest problem with the bureaucratic organisation is that it has too many layers, which causes confusion and conflict, and slows the process of production. Jacques (1976) explores the number of levels in a bureaucracy and the relationship between levels of management and subordinates. He points out the common practice in organisations whereby levels of management are bypassed if a subordinate requires a decision, and concludes that it is impossible to truly tell from an organisation chart who is the manager of whom and who knows his or her own subordinate. Jacques also identifies that existing layers of management are a breeding ground for 'buck passing'. He goes on to compare the apparent manager in a structure with the real manager and recognises the importance of time in an organisation indicating that there is an optimum time in which managers will develop and be regarded as real i.e. decision-makers. This could indicate that time is needed in an organisation while both tacit and explicit knowledge develop, and at the same time, as managers move up the hierarchy more credibility is afforded to them, increasing their authority. A new manager with less experience of the organisation may not be regarded by subordinates as having the 'know how' and ability to make decisions, until their 'time' has been served.

To summarise the foregoing discussion, the connection between management development, strategic management and structure emerges with reciprocal influences and a common denominator being the managers themselves. Managers design organisational structures and can be influenced by the structure. Managers formulate strategy and therefore determine the direction of the organisation. Structure can sometimes be
designed to suit the personal needs of managers and not necessarily the business of the organisation. Given this level of control and authority, therefore, in all cases the ability and commitment of managers to knowledge management will determine its success irrespective of structure. Whilst this is relevant to the traditional structure of an organisation, the development of virtual working practices may result in a different scenario.

A3.5 Virtual Organisations

As established, organisational structure is also greatly influenced by the environment, advances in technology, increasing instability and competitiveness, and is to some extent losing the traditional form of central control, for example to the virtual organisation, model or system.

Walters (2000) suggests that virtual organisations are a logical continuation of the development of the industrial organisation, with important consistent management characteristics- knowledge management, technology management and relationship management to achieve market competitiveness. The virtual organisation is representative of the new economy and the shift from capital in the industrial economy, to knowledge based services rather than products. Hedberg (1981, in Despres & Chauvel 2000, p269) describes virtual organisations as “metasystems that tie various partner companies and individual actors together in order to share resources, pool competencies, and gain flexibility to produce good value for and with customers”.

Whilst in the past, organisations focussed on tangibles, post industrial organisations now focus on intangibles. The increase in communications technology has made the shift to virtual working possible and impacted on the formalisation of virtual organisation structure, as Despres and Chauvel (2000, p29) highlight, “one consequence has been the declining role of formal organisations altogether as institutions for achieving co-ordinated action. The internet itself has provided both a metaphor and a model for ‘virtual’ organisation … that lacks either formal structure or authority”. The new post industrial
business environment is fast moving and requires a structure and management capability to keep pace with the speed of change. Despres and Chauvel (2000, p146) recommend a structure which has an organisational core based on “the development and combination of knowledge assets and knowledge routines” and the rest outsourced.

The definition of a virtual organisation varies, however one common theme is that they are normally inter-organisational, at the heart of E Commerce and produce work across locations and cultures and at differing work cycles. (Burn et al, Hughes et al 2000). Byrne (1993) refers to “temporality” i.e. an organisation that is formed specifically to monopolise on a market opportunity and is then dissolved and reformed or restructured into a new entity for the next market opportunity. Grabowski and Roberts (1996) characterise the virtual organisation by the multitude of linkages in its network.

Burn et al (in Burn and Ash 2000, pp16-17) propose six models of virtual organisations:

A3.5.1 Virtual Face

The virtual face is the Cyberspace of an existing traditional organisation, for example an organisation may use the Internet as a tool in conducting business:

![Figure A3.5.1: Virtual Face](image-url)
A3.5.2 Co-Alliance Models

Co-Alliance Models are shared partnerships with even contributions and commitment. Co-Alliance Models are usually contract based and tend to be specific to certain activities and projects:

![Diagram of Co-Alliance Model]

Figure A3.5.2: Co-alliance Model
A3.5.3 Star Alliance Models

Star Alliance Models are co-ordinated networks of interconnected members, with a core organisation, which are usually the market leader and satellite organisations:

Figure A3.5.3: Star Alliance Model
A3.5.4 Value Alliance Models

Value Alliance Models comprise a range of products, services and facilities based on the value chain model. Participants interconnect on a project base and a contractor provides co-ordination. Mature value alliance models develop complex and continuing strategic relationships and "substitutability will relate to the positioning on the value chain and the reciprocity of the relationship (Burn et al 2000, p17).

Figure A3.5.4: Value Alliance Model
A3.5.5 Market Alliance Models

Market Alliance Models are collaborations that exist in cyberspace and operate in an electronic market. Market Alliance models usually bring together a range of products, services and facilities into one package, each of which can be offered separately by individual organisations. This model can also be described as virtual communities. Member organisations might be virtual or real and substitutability of links is high i.e. if one drops out it can be easily replaced.

Figure A3.5.5: Market Alliance Model
A3.5.6 Virtual Brokers

Virtual Brokers are designers of dynamic networks that monopolise on virtual market opportunities, creating virtual organisations temporarily and dissolving them when the window of opportunity closes. "Virtual culture is the strategic hub around which virtual relationships are formed and virtual links implemented" (Burn et al 2000, p17).

A3.5.6: Virtual Broker

These models represent the continuum of virtuality, the Virtual Face being the more traditional organisation utilising the cyberspace and the Virtual Broker representing true virtuality. Although the progress toward virtual organisations may bring different management issues, in essence there is still a structure, a level of interdependency, systems, procedures, processes and people. These issues are nothing new, but may require new emphasis as Thompson (1967, in Pugh 1992) discusses. Thompson explores
the complexity of organisations and connections within and between departments and focuses on the impact of technology on structure, i.e. the socio-technical system. Thompson recognises the rational need for structure but questions efficiency without it. He considers the "synthetic organisation" and describes this as being an organisation that is ad hoc and that mobilises to deal with disasters, not dissimilar to the virtual organisation that mobilises to monopolise on market opportunities. It is different, however, in that the mobilisation has its origins in the traditional structure, therefore a hybrid scenario. Two things happen to bring about a "synthetic organisation":

- uncommitted resources arrive, usually where people disengage from their normal duties and those who then process them seek places to use them;
- information regarding the need for additional resources begins to circulate at the point where and when this information and knowledge coincides and at this point a "Headquarters" is established. There may be no true power at the headquarters just the ability to co-ordinate. The result can be that the areas where staff have disengaged from, then become ineffective, so a chain reaction occurs.

The "synthetic organisation" does not function on overall planning or designation of authority. Such an organisation needs to learn that in conditions of uncertainty it must disassemble normal working patterns but maintain the interconnection and establish rules of communication. To become efficient, the "synthetic organisation" needs to know in advance the resources available to it, after which planning, organisation and communication channels can be established.

The natural system and rational models of complex organisations assume interdependence of organisational parts, but this does not assume that different parts of organisations support each other as was demonstrated in A3.3 when discussing the advantages and disadvantages of structure. It does mean that the effectiveness of one part and performance or lack of performance can have implications for another and the entire organisation. Thompson (1967, in Pugh 1990) distinguishes between "pooled interdependence, sequential interdependence and reciprocal interdependence:
• pooled interdependence is when branches of the organisation may not have contact, but do rely on the successful performance of each to meet the success of the total organisation;
• sequential interdependence is when the outputs of one section become the inputs to another, unless one section acts, the other can not function;
• reciprocal interdependence refers to a process that is both pooled and sequential. The primary difference is that inputs and outputs are cyclical. All organisations have a form of interdependence, some more complex than others. The more complex they become as in a reciprocal interdependent organisation, the more contingency planning is required.

Co-ordination is essential and depending again on the level of interdependency, different mechanisms for achieving co-ordination may be found. This could be through standardisation and consistency of rules, regulations, procedures etc. which will require less decision making. A second way is co-ordination through planning and the establishment of schedules, which require less stringency than standardisation and is more applicable to dynamic organisations. A third is co-ordination by mutual adjustment and “involves the transformation of new information during the process of action” (Thompson 1967, in Pugh 1990 p34). Co-ordination by mutual adjustment is more costly than co-ordination by standardisation.

Hughes et al (2000) point out that from a management perspective, higher levels of mutual adjustment and collaboration are necessary in the Virtual organisation, particularly since workers will show more allegiance to the product or team they are involved with than the organisation. Hughes et al conducted an ethnographic study of changes in a retail bank, involving change to the organisational form, culture and technologies. The bank was moving toward virtual teamwork to replace permanent administrative functions, the ultimate intention being to have a multi-skilled workforce that could mobilise when needed. The overall results of this research highlighted that virtual working can hide the real issues of running an organisation. Communication requires standardisation and centrally controlled software development. Managerial
problems are experienced with monitoring and control of the workforce and tension emerges between different virtual teams with a pass the buck attitude, rather than adjustments whether through standardisation, planning or mutual adjustment. In reality it is more likely to incorporate an element of each type of adjustment and in essence what Hughes et al describe is not dissimilar to the managerial issues that emerge in a traditional functional organisation (A3.3).

In summary, the virtual organisation can be seen to be a continuum of the traditional organisation and in some cases an extension of the traditional business based on virtual communication. The issues of management, structure and control are similar to the traditional organisation, because some form of central control or leadership is necessary to ensure the objectives of the business are achieved. The skills of the manager, however, are further emphasised as requiring high levels of relationship handling, communication, collaboration and a combination of technical central control as well as mutual adjustment.

A3.6 Conclusions

The foregoing sections explored the development of management in relation to theory and issues that should be considered in relation to knowledge management. Strategic approaches to organisational management and structures are discussed. An immediate observation is the connection between structure and management approaches that influence the culture of the organisations and can either make it a viable environment for effective knowledge management or result in obstructions, but solutions can be found to such obstructions through the generation of an appropriate culture and management approach.

Although progress has been made in relation to management theory, in practice, the perception is that management approaches still contain aspects of scientific management. The initial design and development of organisational structures is based around functionality and a role culture, whether it is stringently centralised or loosely devolved. Although it appears that structures are diminishing at a time of increasing technology and
virtual working, the overall management and control issues remain constant, i.e. functional, hierarchical and bureaucratic. But there are tensions between the need for centralised technology and standardisation and the culture that is inherent within the structure to facilitate this, in addition to the need for a more human relations approach to the organisation to engender knowledge creation, sharing and utilisation. It can be deduced from this observation that the attitude of management and culture of the organisation are key issues that should be considered in support of the concept of knowledge management.

Universities, however have been considered to be different from other organizations, public and private sector, which the foregoing is generally based on, being described as loosely “coupled systems” and “organized anarchies”. The characteristics have been identified by theorists who take this perspective and they argue that in comparison to other more "rational-purposive" organizations, universities rarely have a single clearly articulated mission and experience goal ambiguity, with high degrees of uncertainty and conflict. They serve customers who insist on involvement in the decision-making processes (e.g. the student community) and comprise professional employees who demand a large measure of control over institutional decision processes (e.g. independent thinkers such as the academic community). Universities remain vulnerable to external political, economic, and demographic pressures that make internal decision making difficult, but they are equally vulnerable to external Governmental demands that drive institutions toward greater accountability, monitoring, control and value for money.

The foregoing view is borne out by the research undertaken in the initial case study conducted in the University of Luton (3.2), however, the University of Luton, as with many HE institutions, recognised that this is not a sustainable future for Universities, and the discussion in chapter three offers an example of the many changes that have occurred in the sector since 1977.

Given the foregoing points, it is important to develop a framework with due regard and understanding of general structures, cultures, and management that can evaluate the
readiness to undertake knowledge management of a university that is progressively moving toward a more centrally controlled purposeful organisation form. To emphasise the point, in an increasingly competitive environment that is resource poor, such anarchical or loosely coupled organisational forms are luxuries that universities can ill afford. Whilst these descriptions may have once been accurate, and maybe are accurate now to some extent, they do not reflect the direction of universities. Knowledge is a key resource and it must be managed appropriately. Leaving it to 'loosely coupled systems' and 'organised anarchies' is likely to waste that key resource. The framework being developed will help highlight such anachronisms and the deficiencies in readiness to undertake KM that they would present.

Given that the most common form of organisation structure is based on the functional hierarchical model, that may incorporate a virtual overlay, system or continuum, it seems sensible to consider horizontal and vertical knowledge sharing, whereby representatives can be taken from various levels and sections to work on specific strategic objectives and projects as a team, with dialogue to and from the main core and between projects. However, this may not be sustainable, an issue that emerged from the University of Luton case study (3.3.2), which identified matrix team working in preparation for Total Quality Assessment exercises as an example of good practice where cross organisation issues, information and knowledge sharing provided positive outcomes. Further, the disadvantage of this is the idea that knowledge management might be perceived as a project and not an integral part of the organisational strategy. But, it does maintain a centrally controlled and standardised organisational function, whilst engendering a systematic process of sharing. Such an organisational structure and model is illustrated in Figure A3.6.1a and A3.6.1b:
To implement horizontal and vertical knowledge sharing, representatives can be taken from various levels and sections to work on specific strategic objectives and projects as a team, with dialogue to and from the main core and between projects.
The more diverse the organisation the more complex the process will be and for success will require encouragement and support such as rewards, performance measurement and recognition. However when considering the 'synthetic' organisation, such a model requires individuals to disengage from daily operational tasks to undertake specific roles, which then reduces the output and quality of the core business, bringing discussion back to the proposal that if knowledge management is to be successfully undertaken in an organisation it should be considered as an integral part of the strategy and embedded in the operational process rather than an added project. An alternative proposal to a matrix overlay or project could be a combination of power culture (A3.4.1) and star alliance model (A3.5.3) drawn together and adapted by the author, illustrated in figure A3.6.2.
This structure could still operate with a centrally controlled and coordinating approach whilst explicitly recognising the interactions between different departments and internal and external collaborators. Each department could comprise its own creative and dynamic power culture, and coordination and support provided from a central management and administration base. However, as has been discussed here, empirically recognised in chapter 3, and theoretically underpinned in chapter 4 management style and communication are essential to ensure success in knowledge sharing and cross organisational working. Discussion identifies that the attitude of managers is paramount.
in reaching solutions to knowledge transfer, and such issues in addition to an explicit awareness and understanding of the culture and structure helps to consider how managers might undertake evaluation of an organisation’s readiness to engage with the concept of knowledge management. From this perspective, the concept of knowledge management requires a more significant shift in management thinking, to include personal experiences and learning, organisational, social, behavioural and cultural influences, within the scope of human resource management, as well as the relevant business processes and technological tools to facilitate it.

Drawing the many issues that have arisen in this appendix together, consideration should be given to different elements that a framework for the evaluation of an organisation’s readiness to engage in knowledge management might consider. These have been divided according to the sections within the chapter. Although some ideas have been presented these are not intended to be prescriptive but to offer examples:

Table A3.6.2 Knowledge Management Grid

<table>
<thead>
<tr>
<th>Strategic Management Task</th>
<th>Knowledge Management Framework</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Structure</td>
</tr>
<tr>
<td>Creating a sense of purpose. Mission Statement</td>
<td>Structure may be irrelevant depending on management style/approach.</td>
</tr>
<tr>
<td>Converting into measurable targets</td>
<td>May not be relevant</td>
</tr>
<tr>
<td>Strategy to achieve objectives</td>
<td>Cut across structure.</td>
</tr>
</tbody>
</table>
It emerges from table A3.6.2 and previous discussion that the traditional structure of an organisation is not necessarily of greatest concern, but how the organisation is viewed and in particular the culture, processes and people that comprise the organisation. For example, so far this chapter has explored the development of management approaches, organisational structures, strategies and culture and discussed the relationship between different cultures and structures, highlighting how different structures with different channels of communication, control and influence can impact on the concept of knowledge management. Ultimately, however, the most common form of organisation is based on a hierarchical organisational structure and the bureaucratic hierarchical organisation is the most sustained type of human organisation to bring large groups of people together to achieve a common goal. Fundamentally an organisation is based on a division of labour with a hierarchical approach to control. Without such control an organisation could regress into chaos with duplication of effort and lack of corporate direction. However, the opportunity to engage with the concept of knowledge management is not insurmountable and much depends on the management approach, perspective and ability to remain corporately aware and overcome some of the potential obstructions.

A systems perspective of organisations demonstrates that whatever the approach or structure, ultimately an organisation is a system which brings large or smaller groups of people together too achieve a common goal. A systems approach, therefore, takes a holistic perspective, recognising not only the interconnections but also the potential outcomes.
The systems perspective becomes more important when considering current changes in organisations as different sectors move toward disparate or virtual working environments, as indicated and collaborative knowledge based services rather than products. In relation to knowledge management a key consideration of this includes the recognition and understanding of relationship handling. The dynamics of relationship handling include the tension experienced relative to power and politics, competitiveness versus collaboration, control and strong leadership, and the ability to engender a participative culture that facilitates sharing and learning, supported by consistent and transparent processes.

Universities have been defined and characterised (see chapter 3) as organised anarchies and loosely coupled systems, and in general, organisations have been defined as systems, but in a more purposeful way than the concept of organised anarchies. The review of organisational management and structure points to the greatest synergy to a university as the concept of systems and contingency management. One of the significant characteristics of a university is the community and people. Drawing these key issues together, it confirms the appropriateness and benefits of using Soft Systems Methodology (SSM) to explore and develop a framework for knowledge management readiness. Appendix 4 explores SSM in more detail and its relevance as a broad methodology for this research.
A4. SOFT SYSTEMS METHODOLOGY

A4.1 Introduction

Appendix 3 explored organisational strategy structure and culture, exploring the advantages and disadvantages of specific approaches to organisational knowledge management, concluding that whatever the structure may be, the most important elements are the people, processes and culture that comprise the system that is the organisation, introducing the issues that should be considered. These include recognition and understanding of relationship handling, tensions experienced relative to power and politics, competitiveness versus collaboration, control and strong leadership, and the ability to engender a participative culture that facilitates sharing and learning, supported by consistent and transparent processes.

This combination of issues highlights the potential complexity of human problem situations and the need to be aware of the parts that make up the whole and as such can be considered within the scope of Checkland’s (1981) Soft Systems Methodology (SSM). This appendix, therefore, is the final contribution in phase one of the research design (A4.1.1), and explores SSM in more detail.
Although SSM has developed from a scientific approach which is defined by three characteristics: "reductionism, repeatability and refutation" (Checkland 1993). This scientific approach does not transfer so readily to the more complex problems of qualitative real world human situations because the outcomes of purely scientific hard based quantitative situations can be measured and repeated to substantiate findings. In contrast, human systems reductionism can only be achieved to a certain extent from which repeatability of the exact same situation is likely to result in a different outcome every time, depending on the personal, emotional, power and political influences. Organisational and knowledge management are faced with such social complexity and ill structured and strategic problems, and requires a logical approach in investigation and development. SSM assumes that "the world contains structured wholes, which maintain their identity under a certain range of conditions and which exhibit certain general principles of wholeness" (Checkland 1993, p6).

Lehaney et al (1997) point out that soft methods can address "the problem structuring side of modelling, and have linkages with change management, typical in the idea of openness and public testing of issues, and the identification of blockages to change" (Lehaney et al 1997 p12). Rosenhead (1992) regards SSM as a problem structuring exemplar, and Mingers and Taylor (1992) indicate that it is one of the most widely used and widely known problem structuring methodologies. Lehaney et al (1999) issued a case based paper in which SSM was used in conjunction with simulation. They explain that whilst simulation provided the opportunity to gather hard factual data and present scenarios about a particular system, SSM dealt with human issues providing information that influenced the accuracy of the potential system bringing it closer to reality. Lehaney et al (1999, p878) chose to use SSM because "important issues were not raised early enough in the development of models, which rendered simulations ineffective ... Such issues have much to do with perceptions". Therefore, rather than taking an ad hoc
approach to gathering rich information, SSM provides an appropriate framework to encourage participation, understanding and consensus.

Forbes (1995) highlights the advantages of SSM in relation to strategic management and planning, comparing traditional top down and prescribed strategic processes with a collaborative teamwork approach based on discussion and co-operation. The need for accurate information highlights the benefits of the participative approach, which can expose and clarify information at varying levels in an organisation. Patching (1990) describes SSM as a meaningful way to engage in debate about structural, procedural and attitudinal changes among the workforce. Patching continues by explaining that SSM is not intended to find solutions, but to clarify issues and to establish a basis for further investigation and improvement. All of the foregoing is relevant to the concept of knowledge management because it is essentially a human driven process, there is no end state and the ethos is continual learning and improvement. This chapter explores SSM in relation to knowledge management beginning with the seven-stage process of SSM and continues by applying a theoretical underpinning relevant to SSM and appropriate to the development of a model to evaluate an organisation’s readiness to engage with knowledge management.

A4.2 The Seven Stages of Soft Systems Methodology

There are two streams of inquiry within the process of SSM, which are logically based, and culturally based (Checkland and Scholes 1990). The logical stream consists of seven stages, as developed by Checkland (1993) and illustrated as follows:
Figure A 4.2.1: Seven Stages of SSM (Checkland 1993, p163)
In stage 1, the analyst attempts to find out what happens with the problem situation and surrounding systems. The emphasis is on description and what happens rather than why. During this stage and stage 2, cultural analysis can be undertaken.

Stage 2 is used to search for relevant notional systems, of which there can be many according to different perspectives.

Stage 3 incorporates the different perspectives gathered in stage 2 as root definitions.

Stage 4 is the building of conceptual models based on the chosen root definitions.

Stages 3 and 4 are objective systems-oriented explorations providing a precise account of the systems chosen. At this stage it is important to consider stages 4, 5, and 6 to think about what kind of model will follow, what changes are likely to emerge, what is desirable and feasible.

Stage 5 is the conceptual model to real world comparison, which involves debate about change and assessment of whether changes are both desirable and feasible.

Stage 6 is the assessment of those potential changes in terms of systemic desirability and cultural feasibility.

Stage 7 is the implementation of change and the cycle begins again.

The cultural aspect consists of 3 analyses; intervention or role analysis, social system analysis and political system analysis involving the issue of power. Checkland (1993) points out that the logically driven process and culturally driven process interact each informing the other. In the logical seven-stage process, stages 1, 2, 5, 6 and 7 are activities within the real world. They involve those who are part of the problem situation and those concerned with it, for example managers, operational staff, external investors.
SSM is a participative process, knowledge management is an integral and participative process in an organisation.

Stages 3 and 4 of the logical seven stages of SSM relate to systems thinking and may exclude or include people involved in the problem situation. This decision must be taken by the analyst and by the people who have the authority within the organisation to make such decisions. Clearly this places great responsibility on the analyst to ensure appropriate participation and maintain the ethos of SSM. It also indicates the need for senior management commitment to the overall exercise, without which progress will not be achieved. All seven stages of SSM do not need to be applied, as Checkland and Scholes (1990, p27) state “The usual general description of SSM…is presented as a seven stage process (giving) too much an impression that (it is a) process to be followed in sequence”. Checkland and Scholes (1990, p275) continue to explain that “SSM not only develops and changes, (it) also gets used in different ways by different users in different circumstances”.

Exploring the seven stages further, stage 1, is intended to establish what happens with the problem situation and surrounding systems. The emphasis is on description and what happens rather than why. Based on history and given the nature of human beings there will be different accounts of the situation. Such accounts can add to or detract from improvement depending on previous experiences, understanding and overall knowledge. During this stage and stage 2, cultural analysis can be undertaken, which provides richer information about the organisation, the participants, roles, norms and values. Cultural analysis is discussed further in 5.3.

Stage 2 is used to search for relevant notional systems, of which there can be many according to different perspectives, and which are incorporated as root definitions (stage 3). From the chosen root definitions conceptual models (stage 4) can be built. Stages 3 and 4 consist of a ‘clinical’ and objective systems-oriented exploration or design providing a precise account of the nature of a system or systems chosen, therefore establishing a base from which a chosen route can be taken forward. Root definitions can
be divided into primary task root definitions and issue based root definitions. A primary task root definition relates to a system which is based on neutral or obvious descriptions of real world activities, such as ‘file papers’, enter data and as such they may result in conceptual models, which are similar to existing organisational charts. An issue based root definition is a description of a notional system, which may or may not exist, and which probably does not fit organisational functions. An issue based root definition is concerned with a system to deal with issues for debate, and is “relevant to mental processes which are embodied in formalised real world arrangements” (Checkland and Scholes 1990, p32).

It is necessary to recognise that the choice at this stage may be one relevant notional system from which other options are available. For example, in relation to the issues based root definition, knowledge management could be perceived either as a strategic management approach, or the control and development of information exchange and contextualisation leading to internal and external creativity and new products. Alternatively it might be the management of intellectual capital or the establishment of learning and sharing in an internal and external cross-organisational operation. A relevant notional system is the most relevant application to the organisation and anticipated output. At this stage it is important to consider stages 4, 5, and 6 to think about what kind of model will follow, what changes are likely to emerge, what is desirable and feasible. “A root definition should thus be a concise description of a human activity system which captures a particular view of it” (Checkland 1993, p167) and should be written in such a way that it incorporates the transformation process i.e. inputs equals outputs. Choices have to be made to establish a relevant definition of a system, however this process is subjective and may therefore change as learning and evidence emerge or perspectives and various definitions show synergy which may lead to an alternative definition.

Conceptual models (stage 4) comprise the minimum set of activities (logically linked) needed to support root definitions. Each activity is itself a system, and can have its own root definition and conceptual model. Each conceptual model activity is stated in the
imperative form, using verbs, therefore demonstrating action and this statement provides the transformation for a root definition relating to that activity. Conceptual models can be used to describe a system through two approaches:

• through designed systems which can be physical or abstract and by describing the elements which comprise it, their current condition, relationship with external elements which affect a system and the condition of those external elements;
• by regarding a system as an entity that receives inputs and produces outputs. This is most relevant to human activity systems.

The relationship between the two approaches is that human activity systems are less tangible, yet clearly observable and "consciously ordered in wholes as a result of some underlying purpose or mission" (Checkland 1993 p111). Essentially, a human activity system is a combination of activities that are linked together in a coherent and ordered way. Human activity systems, however, can not be considered in isolation as they are closely related or associated with designed systems. The structure, processes, procedures, etc are designed abstract systems which represent the order and conscious product of the human mind and can be flexible according to the speed of decision making and communication in the organisation. Designed physical systems are easily identified solid systems such as structure within which change may be less easy to achieve or radically alter in any significant way. Human activities both direct and are undertaken within and around designed systems abstract and physical. The significant difference in the two approaches is that designed systems may have limited outcomes, whereas in human activity systems freedom of choice results in unpredicted outcomes.

A comprehensive knowledge management framework should consider physical and abstract and human activity systems, which provide different perspectives in a multidisciplinary approach. For example, relating human activity and designed systems to KM, in the case of human activity, employees should know of their individual involvement as important to the purpose of a knowledge management system, and as with any organisation will define the mission or purpose, contextualising it according to their
roles. Designed systems are made with fitness for purpose in mind so to design a system within which the concept of knowledge management can exist means that the purpose must be clear, therefore an appropriate definition of knowledge management for a university will be necessary. A strategic knowledge management system that is fit to achieve the purpose and one which recognises the extent of flexibility and influencing variables, may be an overly complex and extensive model if it is to address all aspects of the organisation. However, by reducing the complexity to a holistic position, a generic core model appropriate to the entire organisation may be achieved, and as with the ethos of SSM it may be adapted and used in different ways in different circumstances.

An important contribution to a knowledge management model can be derived from stage 4 of SSM i.e. CATWOE (Checkland and Scholes 1990). CATWOE is an acronym for Customer, Actor, Transformation, Weltanschauung, Owner, and Environment and is used as a guideline to ensure that all components that should be included are included, and those that are not are justifiably excluded. CATWOE can be defined and applied within the scope of knowledge management and higher education as follows:

- Clients or customers of a system who are positively or adversely affected e.g. all University staff and students can be affected by a knowledge management system and subsequently, are likely to develop an attitude or opinion toward this;
- Actors who carry out activities within the system e.g. staff with responsibility for co-ordinating and storing information in the organisation, which could potentially mean everyone or specific knowledge co-ordinators and data inputting staff;
- Transformation – the conversion of inputs versus outputs. How new systems, procedures, and culture change the situation? It is important to establish what measurable targets can be implemented to monitor transformation as this can vary according to different perspectives and therefore be virtually limitless. What do staff think about current systems and procedures? What is in place relating to knowledge creation, sharing and general communication? What would staff regard as being an acceptable knowledge management system?;
Modelling the Current State and Potential Use of Knowledge Management in Higher Education Institutions

- Weltanschauung – The worldview or different perspectives e.g. workforces perception of knowledge and associated management approaches;
- Ownership – Who should take responsibility and make key decisions;
- Environment – external influences on the organisation, but no direct control, for example Government legislation.

Although some or all components of CATWOE may be used, every system should have a transformation to state its purpose. No transformation equates to no purpose, and therefore no system.

Stage 5 is the conceptual model to real world comparison, which involves debate about change and assessment of whether changes are both desirable and feasible. It is a case of judgement by the researcher, as to whether or not conceptual model building should cease and the comparison stage begin. Checkland (1993) points out that this is not a comparison of like with like, but can be an examination of perspectives to reach an understanding about what is trying to be achieved and introduces four ways of undertaking comparison:

- Through a process of structured questioning, using conceptual models as the source of questions about the existing situation. This process reveals richer information about the problem situation. Pidd (1996) points out that in carrying out this comparison there is no need to reveal the conceptual model to those being questioned, but the analyst can retain it for personal use. Otherwise participants will become sceptical and focus on the model rather than on the issues that the analyst is trying to draw out.

- By restructuring a sequence of events of the past and comparing what actually happened with what could have happened if a relevant model had been implemented. This approach is adequate to highlight weaknesses but can engender a blame culture, so it needs to be used with care and sensitivity to avoid antagonising staff.
• Through general discussion about the conceptual models in comparison to the real world, thus highlighting the features of the conceptual models that may be different and then exploring why. This is similar to 1 above, the main difference being that the conceptual model is shared with participants. This depends on the extent to which participants accept and are comfortable using a systems approach to improve the situation.

• By model overlays which is the process of comparing two models, one which is the conceptual model and the second which is a model of the current situation. The aim is to identify mismatches between the models, which then form the basis for discussion of potential change.

Although Checkland (1993) identifies four different approaches to conducting comparisons, fundamentally they all have the same objective, to identify differences between what is and perceptions or expectations of what could be. Checkland and Scholes (1990, p67) highlight this stating, “to improve a problematical situation, it is the original perceptions and the new perceptions which are crucial, not the models. And it is the difference between the two sets of perceptions which stimulates debate about change”. If, during the comparison stage, strong similarities between the conceptual and real world emerge, then a more radical root definition is needed and perhaps participation was not broad enough to move the situation forward. In contrast, if the root definition is too radical, then the gaps between the conceptual and real world are likely to be so great that a compromise can not be reached. Further, in social or human situations, comparisons may reveal some weaknesses or omissions, but ultimately it will not be until implementation is attempted that design inadequacies will be revealed.

The types of issues that can arise during the comparison stage may be extensive, according to the size and complexity of the problem situation. For example Checkland and Scholes (1990, p138) describe in detail the application of SSM to a civil service problem situation focussing on departmental liaison officers (DLO) within the central computer agency (CCTA). This case involved detailed comparison through debate and interviews through the team’s available knowledge and in material previously collected.
through interviews. From this exercise 26 main topics were raised that required further interviews highlighting the extent to which the comparison stage exposes shortfalls and the need for iteration.

Comparisons can be recorded using a matrix format in which the conceptual model activities are listed in a column and other columns are used to note comments about each activity. In undertaking a comparison and progressing to the next stage various factors can be considered based around efficiency effectiveness and efficacy (3 Es) of a notional system. Table A4.2.1 provides an example of a comparison matrix:

Table A4.2.1: Comparison Matrix. (Adapted from Checkland and Scholes 1990)

<table>
<thead>
<tr>
<th>Conceptual Model Activities</th>
<th>What</th>
<th>When</th>
<th>Performance Measurement: How is it judged?</th>
<th>Strengths &amp; Weaknesses</th>
<th>Proposed Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficiency, Effectiveness, Efficacy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Checkland and Scholes (1990) define the 3 Es as a logical analysis of input to output, (do X by Y in order to achieve Z). Efficiency of a system is measured according to the amount of output in relation to the amount of resources used to achieve an effective process within the scope of the situation. Effectiveness relates to whether or not the transformation will meet the longer-term aim and efficacy is whether or not the means to undertake action works. Measurement of efficiency is fairly straightforward in hard quantifiable cases, with measurement made against a well-defined system, objective or achievement. By contrast, in soft complex human situations measurement becomes more subjective, as Checkland (1993, p39) states “the outcome is never an optimal solution to a problem, it is rather a learning which leads to a decision to take certain actions that will improve the current situation”. Although the analysis may indicate success in one area it does not necessarily mean success in the others, so a system could be effective in meeting the longer term aim, but may not be efficient from a cost perspective. Efficacy is
different, because if the means to undertake action does not work, then it is not effective or efficient.

When comparing a conceptual model to the real world, it is not realistically possible to assess whether a conceptual model is viable according to the 3 Es, because it has not yet been tested in the real world. It can, however, be “technically defensible or indefensible” (Checkland and Scholes 1990, p41). At this juncture, Checkland (1993) argues that it helps to clarify the overall direction, feasibility or practicality and ability of the system. Used in conjunction with root definitions, CATWOE and conceptual models it will help identify weaknesses that can be rectified and reduce the amount of work when actually implementing in the real world.

During the comparison stage, desirable and feasible changes begin to emerge, and stage 6 is the assessment of those potential changes in terms of systemic desirability and cultural feasibility. The cultural feasibility and systemic desirability of the notional system and its activity should be assessed as to whether the system will be acceptable and from the logical analysis, the ability of the system to actually work. Checkland (1993) identifies three kinds of changes: structure; procedure; and attitude. Structural changes relate to organisational groups, reporting structures and functional responsibility. Procedural changes are the processes of reporting and informing (communication). Attitude change is more complex involving individual and collective intangible characteristics. This includes “changes in the expectations which people have of the behaviour appropriate to various roles, as well as changes in the readiness to rate certain kinds of behaviour ... relative to others” (Checkland 1993, p181).

When considering feasible and desirable change it is important to compare with conceptual models to maintain objectivity because as a participant in the process, the researcher can become as involved in emotive perspectives as others. Therefore, by referring back to root definitions and conceptual models a balance of objectivity can be maintained and debate continued. Depending on the extent of change aversion in an organisation, it may be necessary to continue iterating and debating at this stage until a
bridge between feasible change, current circumstances and cultural feasibility can be established.

If systemic change is to be successful, decisions have to be made and accountability for such decisions should be recognised, otherwise a review of the root definition may be necessary to ensure that constraints are taken into consideration and action from that basis can be progressed. Further it may be that the desirable change overall can not be achieved in its entirety, therefore there may be occasion to consider part of a process of change that is systemically desirable and culturally feasible enough for an organisation to cope with at that time. Essentially, systemic desirability and cultural feasibility are linked to the extent that if people in the organisation are ready and open to change, which can be achieved through participative debate, then it is possible to achieve change. As Checkland (1993, p189) points out “in a human activity system ... action must seem to be obvious to people in the system, it must fit in with the state of their perceptions of the situation and their valuations of what constitutes good or bad activity”. Similarly and in relation to knowledge management, Snowden (2000) points out knowledge can not be taken, but voluntarily offered, and to volunteer, staff must be ready to accept a new type of involvement in the organisation.

Stage 7 in the SSM process, is where action is taken to implement change to improve and the cycle continues. At the point of implementation the continuation of the cycle does not necessarily have to begin at stage 1 again, but could be at any point. Stage 7 represents the true impact of reality and can result in individuals raising issues that should have been raised earlier in the process, however clearly the SSM cycle allows for such an eventuality. To successfully implement any new system, the organisation must have the will to change from senior management down and this is where cultural analysis is crucial to success. Cultural analysis includes the assessment of attitude, feelings, values, myths and associated intangible influences that contribute to people’s perceptions of the situation. This is discussed further in A4.3.
A4.3 Cultural Analysis

Cultural analysis extends the breadth of SSM beyond the logical process, delving further into the intangible domain of an organisation and following the discussion in appendix 3 is relevant to the concept of knowledge management given the emphasis placed on people, culture and processes. Cultural analysis involves three approaches - intervention or role analysis, social system analysis and political system analysis. Intervention analysis includes the roles of the client, the problem solver and the problem owner. These roles will depend on who initiates the investigation into potential problem situations; after which clarity of the role of problem solver and problem owner can be made from the client base (i.e. the users of, or participants in the system). This is not, however, fixed since the circumstances may change according to how the situation develops. For example, roles relate to social positions that are recognised by individuals in the problem situation and defined either by position or behaviour. Positions can change and subsequently roles in the intervention can change. The aspirations and value of an intervention should be clarified with the chosen problem owner/s. In addition, the level of decision-making, power base and political agenda of the problem owner needs to be understood to establish the extent to which change or improvement can be achieved. Intervention analysis also includes consideration for clients to establish what the potential impact of change on those who use a system might be. Finally the resources available such as financial, human resources, and documentation, and constraints including time, politics, and support should all be considered.

One of the bases for SSM originates from the work of Vickers' (1965) ‘appreciative systems’ and his reflection on the mental and social activities carried out in policy making, implementation and change (Checkland and Scholes, 1990, p263). Appreciative systems are described as human experiences that develop within individuals, for example certain aspects of an individual’s situation are placed in context and measured against previous experiences that have also been internalised. Using the work of Vickers as a platform, Checkland and Casar (1986, in Checkland and Scholes 1990, p49) developed a simplified model of social systems analysis for use in SSM: The model shows three
separate elements roles, norms and values. Roles relate to the position in the organisation, relationships with others, job content and external links.

![Diagram of Social Systems Analysis]

Figure A4.3.1: Social Systems Analysis for use in SSM (Checkland & Casar 1986, in Checkland and Scholes 1990, p49)

Norms include expected behaviour in relation to the role and in this case assessment of management and peer assessment could reveal much about management skills and abilities. Norms also relate to individual perceptions of the organisation, whether it is bureaucratic, cross-functional and how systems support or perhaps obstruct roles. Values relate to the level of commitment and sense of purpose in the organisation, levels of flexibility, autonomy, perspectives of others, and performance and reward. Overall, roles, norms and values might be assessed differently according to position and clearly different perspectives will emerge. Checkland and Scholes (1990) recommend that the user of SSM should conduct a social systems analysis after every interview, conversation or review of related documentation. Given the complexity of this analysis, the use of metaphors and rich pictures can be used to draw out this type of rich information to reveal issues that are otherwise difficult for individuals to communicate clearly and reflect the real world situation more accurately. In this context, Ragsdell (2000, p110) states “the process of rich picturing is more important than the actual rich picture that is produced...to bring some tricky issues to the surface”. Checkland and Scholes (1990, p263) explain that metaphors and rich pictures “reveal what facts are noticed by the
owners of the problem situation. What aspects are regarded as important, what conflicting norms and standards underlie interpretations of the observed happenings”?

The political system analysis considers how power is obtained and disposed, and how that power is utilised in relationships between different interest groups. The political dimension is unavoidable in any human situation. Individual perspectives, agendas, interests and positions of power will influence every aspect of a social type investigation and balance between these elements is important. When referring to political analysis, SSM is particularly concerned with power; “politics is taken to be power related (and) concerned with managing relations between different interests” (Checkland and Scholes 1990, p50).

Checkland (1993) explores power from the individual perspective, recognising different types of power positions such as formal (role based) authority; intellectual authority; personal charisma. Checkland and Scholes (1990, p51) draw out the context in which questions relating to power are undertaken stating that they enrich “the cultural appreciation ...(and complement) ...the work on selecting, naming, and modelling relevant human activity systems going on simultaneously in the logic driven stream of thinking".

The disposition of power changes according to the circumstances, for example in a stable environment the disposition of power could be clear, however in changing circumstances it may become more uncertain. Handy (1993) argues that the disposition of power depends on the type of power in question and the organisational situation. Competition for power increases if the organisation is going through change. Power could be intellectual resting with the specialists in an organisation, or it could be that certain teams or departments hold power. The power that may be perceived on the surface may be more or less than that which is exercised behind the scenes. The process by which power is obtained could be based on professional credibility, personal connection, personality; filtering or withholding knowledge, editing minutes and so on. Considering this in relation to knowledge management, the challenge will be how to motivate, recognise and
reward the sharing of knowledge whilst understanding and maintaining the perceived power based position.

The foregoing demonstrates the breadth of SSM beyond a logical process of investigation and the importance of exploring beyond this logical process. The application of SSM, however, depends on the researcher's interpretation and implementation of the principles, theories and philosophy which underlie the methodology. The principles of SSM are discussed next.

A4.4 Principles of Soft Systems Methodology

SSM was not based on any particular theory, but has, however, been applied retrospectively and in reflection. Checkland (1993) describes the complexity of social situations as compared to a scientific basis through three main features:

- generalisations that might be made will be inaccurate in comparison to physical, quantitatively based controlled experiments;
- the researcher or investigator will always be an active participant in the situation being investigated resulting in personal perspectives, meanings and values. For example scientists' observations may include interpretations for others, the social scientist requires a "sympathetic appreciation of the situation from the viewpoint of (others)" (Checkland 1993, p69);
- making predictions about social situations is problematic, because although there might be particular outcomes intended, when these are observed and shared, through learning and increased knowledge with others the outcomes may change. In contrast, physical systems cannot react to predictions made about them.

From these observations and through action research, Checkland's SSM has developed as a learning process and is underpinned by four key principles as identified by Lehaney Clarke and Paul (1999, p888):
- holistic systems thinking based on the concepts of emergence and hierarchy, and communication and control;
- a learning rather than an optimising approach to problem situations;
- relationship handling as opposed to goal achieving;
- action research paradigm.

Exploring the four principles further, the first, emergence and hierarchy, communication and control are core to systems thinking. They provide a "systems account of the universe and a systems approach to tackling its problems" (Checkland 1993, p92). Emergence relates to properties at a particular level, which can not be reduced to lower levels for explanation such as the reductionist approach. Emergence and hierarchy together relate to emergent properties at particular layers in the structure of a system, which interact to make up the whole system. Communication and control relate to the overall direction and development of the system. All of this relates to the complete organisation of a system, which is complex yet organised. Checkland (1993, p78) explains "the general model of organised complexity is that there exists a hierarchy of levels of organisation each more complex than the one below, a level being characterised by emergent properties which do not exist at the lower level and are meaningless". Relating this to communication within the concept of knowledge management, figure A4.4.1 provides a simplified illustration of how a system can develop and multiply through the contextualisation of information:
Figure A4.4.1 Multiplying Through Layers, a System of Communication

Each unit of communication at each level generates additional information appropriate overall and to that level only. Each unit of information may have detail that is irrelevant to another unit, but the compilation of units is relevant to the whole system. Figure A4.4.1 identifies limited multiplication of information as a system, and is only representative to illustrate the point. Further if it is recognised that the exchange of information is a socially based activity, then figure A4.4.1 does not adequately represent the variables, digression and potential changes to the information that distort the original message or indeed generate new knowledge and ideas. Mingers and Taylor (1992) indicate that SSM can be time consuming, indicating that a system may have moved on
before a reasonable model is built. Lehaney, Clarke and Paul (1999) extend discussion about multiplicity and emergence of diverse perspectives through participation and debate, highlighting that the process can be overly time consuming. They also point out, however, that in applying SSM to intervention at an outpatients department, participation and debate “was not prolonged without useful outcomes” (Lehaney, Clarke and Paul 1999, p887), and engendered learning and understanding, commitment and ownership of the system.

Learning and understanding relate to the second key principle. Checkland (1993) argues that SSM is learning rather than optimising process and in this sense the intention is not necessarily to find an answer, but to learn, share knowledge, understand, and improve in a cyclical process as figure A4.4.2 illustrates:

![Knowledge Sharing and Learning Cycle](image)

Figure A4.4.2: Knowledge Sharing and Learning Cycle (Checkland and Scholes 1990, p21).

In this sense the relationship between SSM, the learning process and knowledge management becomes more apparent from an interpretative perspective, because the generation of knowledge and knowledge sharing is derived from a combination of information, experiences, and contextualisation according to personal understanding and perceptions of a role in an organisation or the world. For example, every proposed idea in an organisation may be assessed and assigned different values according to each
individual considering the idea. An idea may only be logically valuable if it is perceived as acceptable under all standard interpretation according to the rules of the organisation. It may be culturally valuable according to the extent of political and power based influences, perhaps associated with the proposer or personal intentions of those assessing its value. It is only through a redefinition and change in perceptions, a cycle of learning, understanding and a review of experiences and values that the idea may become desirable, if not yet feasible, or feasible if not yet desirable, which will then generate new concepts and associated creativity.

This learning cycle in an organisational context leads to the need for an appropriate management style or approach which regards effective communication as high priority and control that is capable of relationship handling, which is the third key principle. Relationship handling is relevant whether managing groups or individuals and the need to engender a culture of trust, honesty, empowerment and participation in the real world to direct and develop a system for a sustainable future. Relationship handling is explicit in SSM, and important when considering any change that requires shifting attitudes or perspectives and understanding.

Checkland (1993, p258-264) retrospectively draws on Vickers (1974) 'appreciative systems' and Churchman's (1971) 'inquiring systems' both of which develop a tradition of learning as opposed to optimising and in doing so, suggests that organisational or cultural activity involves the maintenance of desired relationships and avoiding undesired ones. Of particular note is the recognition of social conditioning, i.e. "previous experiences (that create) certain 'standards or 'norms' which are usually tacit" (Checkland 1993, p282). These norms or values are achieved through a process of filtering information to establish the perceived 'facts' that are relevant to a situation. The new situation and 'facts' are evaluated against the current norms, which modify attitude and change how future experiences may be evaluated. In relation to knowledge management, the creation of knowledge can be recognised as the transformation of information, that is in essence another's perspective, and which is put through a process of contextualisation and evaluation, and challenges an individual's norms and values.
Management problem situations in the real world are commonly ill-structured (Checkland 1993, Jackson 2000), to a greater or lesser degree of intangibility. Problem situations are not necessarily resolved to all participants’ satisfaction, but they can be improved for the organisation as a whole. The organisation can be perceived as a human activity system with general and specific requirements. Managers and researchers are participants in that system. SSM recognises such participation and has been developed in the context of the third key principle, action research. The action researcher uses SSM to structure debate, improve real situations, whilst also improving soft systems ideas and methodology. Checkland (1993, p152) notes that “the concept of action research arises in behavioural sciences and is obviously applicable to an examination of human activity systems carried out through the process of attempting to solve problems”. The researcher’s involvement is central to this making the focus of actual change and improvement the main focus or subject of the situation.

Applying this principle to this research, the researcher, also a manager, is a participant in the creation of a framework to evaluate the readiness of a university to engage with knowledge management. Broader participation in various ways helps to ensure triangulation. A self-awareness of the role, with the ability to self evaluate in a critical manner is important for potential improvements in the methodology, but may also raise issues from which managers can benefit and learn in the process of organisational change and development. Argyris (1985, p82) supports this stating “becoming an action scientist involves learning to reflect on reflection-in-action, making explicit the theories-in-use that inform it, and learning to design and produce new theories-in-use for reflection and action”. Fundamentally, the research role is involved at every level, because the research is joined with action to plan, implement and monitor change. Researchers can use their knowledge and expertise derived from research to improve an organisation.

Action research stems from the phenomenological philosophical tradition and in social situations is a journey with an emergent and semi planned route, because as a participant, the researcher may have a general direction, cannot plan with certainty, but can react to
variables or occurrences in a given situation. This is in conjunction with the task of maintaining the direction and ethos of participation through debate, consultation, exploration, learning and understanding, to achieve improvement. In the development of a knowledge management framework, this process of development may provide a common understanding about what it could be, which is particularly relevant since there are varying definitions of knowledge management. The testing will refine this and the application in different organisations will result in further improvement, either to the overall framework, or to suit an organisation’s particular needs. In this sense the development of a knowledge management framework requires an action research approach and hence demonstrates the appropriateness of SSM.

As established, SSM is a learning process, which does not have a definite end, but is a process of continual improvement, through iteration, debate and modification. It recognises the process by which people learn, interpret, generate new ideas and perceive the world from an individual perspective through their own experiences. Similarly knowledge management is a continual process that incorporates people, their knowledge, the processes by which knowledge is generated, organisational strategies, and technology, and the environment within which all of this takes place. SSM recognises the need for relationship handling, holistic systems perspective and action research and in this sense shows positive synergy to underpin the overall concept of knowledge management. SSM, therefore, is appropriate for investigating, developing and implementing a knowledge management framework. In essence there is enough flexibility and synergy to be derived from SSM to be able to develop a sound underpinning for knowledge management, based on human activity systems and social theory beyond just organisational structure and strategy.

A4.5 Soft Systems Methodology and Social Theory

The foregoing established that SSM is underpinned by four key principles that are appropriate to the development of a knowledge management framework. Further retrospective analysis of SSM in relation to theory reveals that SSM falls within the
overall umbrella of social theory. Checkland (1993, p280-281) uses Burrell and Morgan’s (1979) framework, figure A4.5.1, to draw out the social theory implicit in SSM stating that it “would lie in the left hand quadrants with hermeneutics and phenomenology” toward regulation.

<table>
<thead>
<tr>
<th>Subjective</th>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soft</td>
<td>Hard</td>
</tr>
</tbody>
</table>

### Radical Change

<table>
<thead>
<tr>
<th>Radical Humanism</th>
<th>Radical Structuralism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical Theory</td>
<td></td>
</tr>
<tr>
<td>Hermeneutics</td>
<td></td>
</tr>
<tr>
<td>Phenomenology</td>
<td></td>
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<tr>
<td>Phenomenological Sociology</td>
<td></td>
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<tr>
<td>Interpretive Sociology</td>
<td></td>
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<tr>
<td>Functionalist Sociology</td>
<td></td>
</tr>
</tbody>
</table>

Figure A4.5.1 Burrell and Morgan (1979) in Checkland (1993, p280)

The left-hand quadrants relate to the subjective where social reality is perceived as having an existence that is a product of individual or shared consciousness. The subjective domain endeavours to seek knowledge by attempting to understand the views of others in creating social reality. At the extreme, people possess free will and the preferred method of gathering knowledge is by getting as close as possible to the subject under investigation.
Regulation is about understanding the status quo, with the perspective that society is basically consensual and change is generally incremental. Hermeneutics and phenomenology provide the philosophical base for interpretative studies. Interpretive sociology assumes that access to reality is only through social constructions such as language, consciousness and shared meanings. Interpretative studies generally attempt to understand phenomena through the meanings that people assign to them. Jackson (2000) points out that the combination of people and free will mean that it is not normally possible to construct a model of such a system and the purpose is to understand the status quo better so that predictions and control can be better facilitated.

Hermeneutics is defined as knowledge gained by interpretation and became the established definition through Wilhelm Dilthey (1822-1911) who described it as historical, cultural and social facts that require interpretation and understanding, (Mautner 2000, p248). Cross referencing this with knowledge management, the knowledge cycle of gathering and interpreting information is influenced by the cultural and social, present and past of an organisation, and is contextualised by individuals or groups, which enhances understanding and knowledge. Phenomenology has its origins in the work of Edmund Husserl (1859-1938) and is the attempt to describe experiences directly and “independently of the causal explanations that historians, sociologists or psychologists might give...(and seeks)... to go beyond that which is given in our experience” (Mautner 2000, p421). In this case, the relationship with the concept of knowledge management may fall in the area of creativity and ‘thinking outside the box’.

Checkland (1993, p281) also points out that SSM “covers the area in which Burrell and Morgan locate the critical theory of the Frankfurt School”, for example Habermas (1971) theory of Knowledge Constitutive Interests. Overall critical theory assumes that social reality is historically constituted and that it is produced and reproduced by people. Critical theory advocates that although people can consciously take action to change their social and economic circumstances, they are constrained by various forms of social, cultural and political domination and seek to expose the types of constraints or obstructions to achieve emancipation. If the concept of knowledge management involves
innovation and creativity to think and produce beyond individual experiences, then social, cultural and political domination should be key considerations. SSM has been criticised for not fully addressing the issue of political domination and emancipation, for example Mingers (1984) argues that two forms of subjectivism, strong and weak, should be considered. He suggests that pure, strong subjectivism which does not allow for the possibility of some extra individual reality, creates a weakness in the value of SSM, as any one view of the world is as valid as any other. In addition, the proposition that the world is socially constructed must also be a socially constructed view. Mingers goes on to advocate weak subjectivism in which the subject is emphasised, but extra individual structures are accepted. This subjectivist stance raises criticisms of the ability of SSM to be utilised as a tool of radical change, as social norms might work to preserve the status quo. Recognition of this argument is important in the context of this research, because to evaluate an organisation’s readiness to engage in knowledge management requires understanding about the human activity systems. In particular the recognition of social constraints and obstructions if progress is to be made to free individuals and groups from political domination, may enable the successful implementation of a knowledge management cycle and such issues can be considered through Habermas’(1971) theory of Knowledge Constitutive Interests.

Ulrich (1994) describes Habermas’ theory of Knowledge Constitutive Interests as the process of learning, gaining experience and knowledge through different contexts and action, influenced by social and historical experience. He states that “different contexts of experience and action, and hence the meaning of knowledge or experience is domain specific” (Ulrich 1994, p131). Habermas (1971) distinguishes between three primary cognitive experiences through which people create knowledge, termed technical, practical and emancipatory interests. These areas define cognitive experiences or learning domains and are grounded in different aspects of social existence - work, interaction and power.

The technical interest is linked to work, and involves people achieving goals and material wellbeing. The technical interest is especially concerned with prediction, control and
manipulation of the physical world. The generation of knowledge in this case is based on instrumental action using empirical analytical methods within the positivistic sciences e.g. physics chemistry and biology.

The practical domain identifies human social interaction or communicative action, involving mutual expectations and understanding of participants, and debate. The criterion of clarification of conditions for communication and understanding of meaning is used to determine what action is appropriate. The practical domain falls within the historical hermeneutic methods for example social sciences, history, legal, and so on.

The emancipatory interest relates to coercion and power, which can hinder (or help) the progression of work and interaction. This domain identifies self-reflection and involves one’s own history, social conditioning, values and norms. The emancipation refers to the ability to free oneself from environmental constraints, power of others over self and the awareness necessary to release oneself from such constraints. The importance of the emancipatory interest can be seen in debate, which occurs in the practical interest. A debate that does not deal with the concept of emancipation will develop under constraint and stunt human being’s potential for development. Knowledge in the emancipatory domain is generated through self-reflection leading to a change in consciousness and perspective. Jackson (2000, p37) emphasises this pointing out that Habermas’ (1971) emancipation is associated with the “exercise of power in the social process, which can prevent open and free discussion for the success of work and interaction”.

Applying Habermas’ Knowledge Constitutive Interests to SSM, SSM falls primarily within the practical domain because it is aimed at consensual debate, which explores alternative Weltanschauungen and has criteria of success established through action research. Leeminkam (1999) undertakes a review of systems interventions and highlights that SSM is strongly connected to the practical domain. Leeminkam extends her argument further by developing a generic intervention grid based on the work of Lehaney (1999) that incorporates SSM, illustrated in appendix 6. A review of this grid raises the notion that in the development of a framework to evaluate an organisations readiness to
engage in knowledge management, the technical, practical and emancipatory domains should be considered. Comparing SSM, knowledge management and Habermas’ Knowledge Constitutive interests the components may be linked:

Table A4.5.1 Knowledge Constitutive Interests, SSM and Knowledge Management

<table>
<thead>
<tr>
<th>Knowledge Constitutive Interests</th>
<th>SSM</th>
<th>knowledge management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical - prediction, control, manipulation of physical world</td>
<td>Primary task root definitions.</td>
<td>Technical control of objectified processes - use of IT and clearly defined system to share information. (KM Process)</td>
</tr>
<tr>
<td>Practical debate, participation</td>
<td>Issue based root definitions. Learning cycle, CATWOE</td>
<td>Maintaining, creating, communicating, and improving knowledge. (KM Activities)</td>
</tr>
<tr>
<td>Emancipatory - power and politics</td>
<td>Political analysis</td>
<td>Critical reflection, understanding and freedom to create and share knowledge. (KM Development)</td>
</tr>
</tbody>
</table>

Table A4.5.1 demonstrates the depth of theoretical and methodological underpinning that a knowledge management framework can gain from Habermas’ Knowledge Constitutive Interests and Checkland’s SSM. It is this robust and critical underpinning that will provide the relevant approach to consider the development of a knowledge management framework that distinguishes it from a just a commercial tool. The review of current knowledge management models, typologies and frameworks discussed in chapter 5 confirms that many can be placed within the technical domain, to a lesser extent some may be placed in the practical domain, and few if any will address issues that may arise in the emancipatory domain.
A4.6. Conclusions

This appendix discussed SSM demonstrating the depth of theoretical and methodological underpinning that a knowledge management framework can gain from SSM and by also considering Habermas' Knowledge Constitutive Interests how a new framework can be distinguished from just a commercial tool. The research focuses on human situations in a university in the context of knowledge management and as such is faced with social complexity, ill structured and strategic problem situations, therefore requiring a logical approach to investigation and intervention by way of a framework to evaluate a university's readiness to engage with knowledge management. SSM provides such a process through the seven stage process.

Emphasis is placed on the analyst to ensure appropriate participation and maintain the ethos of SSM. It also indicates the need for senior management commitment to the overall exercise. Initial casework undertaken in the University of Luton (chapter 3) highlights the need for senior management commitment and leadership as does the literature review into organisational management, again confirming the benefits of SSM.

SSM extends beyond the logical investigative process incorporating social systems analysis and points to a fully participative investigation guiding the investigator through the use of CATWOE and helping to contextualise roles, norms, values, power and politics all of which directly impact on the concept of knowledge management readiness in a university.

Step one of the logical process of SSM guides the analyst to establish a root definition of a notional system. Adapting and applying this to knowledge management in a university, it is important to define that which the university is being evaluated against, hence a working definition of knowledge management for this research was established.

Checkland continues by pointing out that the testing of a conceptual model can be technically defensible or indefensible (A4.2) which helped with focus in that the eventual
testing of a critical evaluation framework for KMR in a university, it is the framework that will require testing to determine the feasibility, practicability and ability to work effectively and efficiently, using a university as a means to achieve this. It would not be necessary to undertake a full scale evaluation of the university.

The principles of SSM recognise the complexity of social systems including the challenge of the participant investigator, the potential for variable outcomes derived from similar situations and generalisations will be inaccurate therefore the entire focus of SSM in terms of outcome is based on learning to improve, holistic systems thinking, relationship handling and an action research paradigm. The holistic systems thinking identifies the component parts that may be meaningful to one level of a hierarchical system, but combined, they contribute to the overall system and the dynamics within. Similarly, universities from a loosely coupled systems perspective, or systems and contingency perspective with multi variate interrelations can be considered in a holistic way. In this sense the adaptation of SSM to underpin a framework for critical evaluation of a university provides robustness. This is particularly so when thinking about the potential for the many influencing variables drawn from the initial case work in the University of Luton and review of knowledge management literature.

Considering the foregoing discussion and learning thus far, figure A4.6.1 illustrates the structure of a potential framework:
Figure A4.6.1: Potential Knowledge Management Framework Structure

Although some issues for consideration of the content of a framework have been identified through empirical research, in keeping with SSM some indication of current frameworks available is necessary to establish whether there already exists a framework that addresses KMR and to draw on good practice from previous work undertaken in this area overall. Chapter 5 contains this exploration undertaken through desk top research.
APPENDIX 5

KEYWORDS USED TO CONDUCT INITIAL SEARCH FOR KNOWLEDGE MANAGEMENT FRAMEWORKS

Many synonyms may be used for the word ‘framework’. These include process, approach, method, methodology etc. The word evaluation also has alternatives that may contribute to the process of evaluation. The following grid identifies the keywords chosen. These words were selected using an electronic thesaurus and through an initial test search the language most appropriate to business and organisations finally selected. Words such as assay, execution and gauge were disregarded because they did not feature in any framework or literature appropriate to the review of frameworks.
The chosen key words were cross-referenced with 'knowledge management' and each other to ensure that an effective and comprehensive search was undertaken as indicated above. The search was undertaken in three stages. Using an appropriate database, in this case EBSCO Research Database specifically Business Source Premier provided a useful and easily accessible route. The term 'knowledge management' was used in isolation, which revealed 3718 references from a variety of journals. The second stage was to narrow the search down by searching for 'knowledge management and framework', 'knowledge management and Blueprint' etc. the results of which are as follows:

<table>
<thead>
<tr>
<th>knowledge management</th>
<th>Framework</th>
<th>16</th>
</tr>
</thead>
<tbody>
<tr>
<td>knowledge management</td>
<td>Blueprint</td>
<td>0</td>
</tr>
<tr>
<td>knowledge management</td>
<td>Design</td>
<td>3</td>
</tr>
<tr>
<td>knowledge management</td>
<td>Layout</td>
<td>0</td>
</tr>
<tr>
<td>knowledge management</td>
<td>Outline</td>
<td>1</td>
</tr>
<tr>
<td>knowledge management</td>
<td>Plan</td>
<td>2</td>
</tr>
<tr>
<td>knowledge management</td>
<td>Scheme</td>
<td>0</td>
</tr>
<tr>
<td>knowledge management</td>
<td>Structure</td>
<td>1</td>
</tr>
<tr>
<td>knowledge management</td>
<td>Model</td>
<td>6</td>
</tr>
<tr>
<td>knowledge management</td>
<td>Process</td>
<td>5</td>
</tr>
<tr>
<td>knowledge management</td>
<td>Approach</td>
<td>9</td>
</tr>
<tr>
<td>knowledge management</td>
<td>Method</td>
<td>5</td>
</tr>
<tr>
<td>knowledge management</td>
<td>Methodology</td>
<td>1</td>
</tr>
<tr>
<td>knowledge management</td>
<td>System</td>
<td>202</td>
</tr>
<tr>
<td>knowledge management</td>
<td>Procedure</td>
<td>1</td>
</tr>
<tr>
<td>knowledge management</td>
<td>Technique</td>
<td>15</td>
</tr>
<tr>
<td>knowledge management</td>
<td>Protocol</td>
<td>0</td>
</tr>
<tr>
<td>knowledge management</td>
<td>Modus Operandi</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>267</td>
</tr>
</tbody>
</table>

A total of 267 out of approximately 3000 initial articles were identified, of which 107 focus specifically on technology and information. The results clearly demonstrate that knowledge management is regarded primarily in the context of a system, of which 75 journals focus on technology and information.
Stage three involved narrowing the search further by adding all identified alternative words relating to and including evaluation. Where the column states 'all terms' this means that every word was used against columns two and three. As can be seen all except one framework specifically considered this:

<table>
<thead>
<tr>
<th>knowledge management</th>
<th>Framework</th>
<th>All terms</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>knowledge management</td>
<td>Blueprint</td>
<td>All terms</td>
<td>0</td>
</tr>
<tr>
<td>knowledge management</td>
<td>Design</td>
<td>All terms</td>
<td>0</td>
</tr>
<tr>
<td>knowledge management</td>
<td>Layout</td>
<td>All terms</td>
<td>0</td>
</tr>
<tr>
<td>knowledge management</td>
<td>Outline</td>
<td>All terms</td>
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</tr>
<tr>
<td>knowledge management</td>
<td>Plan</td>
<td>All terms</td>
<td>0</td>
</tr>
<tr>
<td>knowledge management</td>
<td>Scheme</td>
<td>All Terms</td>
<td>0</td>
</tr>
<tr>
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</tr>
<tr>
<td>knowledge management</td>
<td>Model</td>
<td>All terms</td>
<td>0</td>
</tr>
<tr>
<td>knowledge management</td>
<td>Process</td>
<td>All Terms</td>
<td>0</td>
</tr>
<tr>
<td>knowledge management</td>
<td>Approach</td>
<td>All Terms</td>
<td>0</td>
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<tr>
<td>knowledge management</td>
<td>Method</td>
<td>All Terms</td>
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<tr>
<td>knowledge management</td>
<td>Methodology</td>
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<tr>
<td>knowledge management</td>
<td>System</td>
<td>All Terms</td>
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<tr>
<td>knowledge management</td>
<td>Procedure</td>
<td>All Terms</td>
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<td>knowledge management</td>
<td>Technique</td>
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<tr>
<td>knowledge management</td>
<td>Protocol</td>
<td>All Terms</td>
<td>0</td>
</tr>
<tr>
<td>knowledge management</td>
<td>Modus Operandi</td>
<td>All Terms</td>
<td>0</td>
</tr>
</tbody>
</table>

The results indicate a gap in this area of work with only one reference specifically to knowledge management, structure and assessment in knowledge management Review. As a result of this research it was necessary to explore further and conduct a manual search of journals, texts and conference papers to seek out any framework that might contribute to evaluation of knowledge management in an organisation. This was undertaken by reviewing abstracts and literature in more detail from which 35 frameworks, models, systems and so on were found.
# DEVELOPING AND ASSESSING A GENERIC INTERVENTION GRID

<table>
<thead>
<tr>
<th>Identify Problem Situation</th>
<th>Express Problem Situation</th>
<th>Conceptual Idea Generation</th>
<th>Outcome of Idea Generation</th>
<th>Critique Validation</th>
<th>Choice</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical</td>
<td>Rule Based.</td>
<td>Define rules to obtain aims and objectives</td>
<td>Systems design or instrumental reasoning</td>
<td>Solution</td>
<td>Critiqued against rules in stage 2</td>
<td>One best solution</td>
</tr>
<tr>
<td></td>
<td>Clearly definable aims and objectives</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Practical</td>
<td>Contained in the views of those involved</td>
<td>Describe the range of views</td>
<td>Reasoned debate synthesis</td>
<td>Resolution agreement synthesis</td>
<td>Pluralist against views expressed in 2</td>
<td>Reasoned alternatives</td>
</tr>
<tr>
<td>Emancipatory</td>
<td>Characterised by power structures which range from democratic to dictatorial</td>
<td>Describe the location and means of exercising power</td>
<td>Dispute conflict action</td>
<td>Power structure change or status quo</td>
<td>Kantian expose material conditions</td>
<td>Power systems</td>
</tr>
</tbody>
</table>

UNIVERSITY OF LINCOLN (SEMINAR).

This seminar comprised a selection of international academics and practitioners with interests in different aspects of organisational management and systems. The format of the session was to offer a presentation on Knowledge Management and initiate discussion based around case studies. The group was divided into two and critical reflection was facilitated through general feedback.

The two case studies provided were as follows:

Case 1

The pro-vice-chancellor (PVCA) of a UK university has responsibility for academic affairs and research and wants to see more cross-organisational working. He does not like the idea of 'silos' or 'chimneys'. The pro-vice-chancellor (PVCB) responsible for resources and finance favours the existing costing model, and this model drives staff to avoid cross-organisational working, as the existing procedures, systems, and policies make it a virtually impossible task to put together coherent cross-organisational groups that are rewarded for doing such work. Without such reward (for the department) a head of department cannot release the resources for cross-organisational work. The current situation is that the status quo reigns and it is unlikely to change.

PVCA thinks that some kind of Knowledge Management initiative would be helpful. He wants to use a framework to assist in the evaluation of the university’s readiness to undertake Knowledge Management. What sorts of things ought to be in such a framework?
Discussion and Feedback

Discussion highlighted that communication with the PVCA would be essential to establish expectations, purpose and clarify what the PVCA wishes to achieve, for example would cross organisational groups result in effective action. The need to establish why an organisation needs to share knowledge is an important element for consideration, as is the need to understand the whole organisation and its environment. Internal and external knowledge performance requirements, benchmarking and partnerships were considered to be important elements. One proposal was the concept of designing conversation for action and establishing sharing structures that enable communication. Clear knowledge management objectives and goals could then be progressed within an appropriate framework.

The group recognised that communication between relevant stakeholders within the organisation to exchange information would be necessary however based on the group's personal experience in the workplace this does not happen in reality. Such cross-organisational communication should be progressed with some element of 'protection', because there is a tension between cross-organisational working and an individual's core role and expectations. For example an expert in the organisation can become too accessible, shifting their position to that of internal consultant, which can then detract from the core role and may result in experts self organising into a silo, becoming a considerable obstruction to the concept of Knowledge Management. To overcome this, therefore the need to determine what is needed including staff time, physical and financial resources is essential.

Case 2

A group of small businesses that are geographically diverse, but in the same product area, have mooted the idea of knowledge sharing whilst at their trade conference, late one night in the bar. They are manufacturers of springs. This is a specialised business, supplying globally. All have Internet-trading capabilities. There is some reticence amongst some members of the group but their fears have not been articulated in any rational or even understandable way. Some members are really
excited about the idea, but their hopes have not been articulated in any rational or even understandable way. Their conversation may have been affected by the lateness of the evening and the quantities of alcohol consumed. In the cold light of day, all have been asked to consider if some kind of Knowledge Management initiative would be helpful. More specifically the group have been tasked to develop a framework to assist in the evaluation of the organisations' readiness to undertake Knowledge Management. What sorts of things ought to be in such a framework?

Discussion and Feedback

The group proposed that in the first instance the organisation should undertake a SWOT analysis based around knowledge sharing. In this respect there was recognition of the risks associated with knowledge sharing and the competitive environment. Having established the kind of knowledge that can be shared, the concept of a knowledge bank was considered to ensure that sharing is freely available and this would require appropriate systems and culture to underpin. The point was made that a significant threat to the concept of Knowledge Management is that it is human nature to withhold information to gain competitive advantage, hence the importance of the right culture and the psychological perspectives in organisations. The knowledge bank would operate by withdrawing and depositing information and in essence knowledge.

Although objectives may be vague the organisation could be firmly aware there is an opportunity, therefore brain storming and discussion may lead to a more rational and understandable direction to embark on Knowledge Management and in this respect the concept of systems thinking could facilitate this.

It was suggested that the association and communication with marketing to gather customer information and recognise different sub markets is an important consideration.

Finally, a knowledge management framework could be developed into the organisational centre for knowledge and information sharing and exchange.
A side discussion about the difference between knowledge and information was considered, and the importance of making the distinction. In particular the concept of knowledge sharing that results in positive action and addresses know how. For example, the sharing of knowledge should enable the receiver to carry out a task or take action that benefits the organisation as a direct result of the exchange.
APPENDIX 8

SPRING IT TECHNICAL CONSULTANCY (INTERVIEW)

This session was conducted as a semi structured interview and discussion to gauge a perspective on the framework from technical consultancy in a hard based systems oriented environment.

The questions and discussion covered elements in the framework with the intention of measuring the extent to which the elements would effectively contribute to any assessment of an organisation's readiness to engage with Knowledge Management. Discussion was kept open to ensure that the richness of response was captured:

Spring IT are always developing and operate in a fast changing environment, therefore they have to share knowledge for survival. The mentality in Spring is such that this is easy. In other organisations where I have worked my experience is different. Older staff hang on to knowledge to retain their position. Younger staff seem more open, mobile and career oriented, and as such, willing to share and learn.

The mission statement or vision does not mean anything to me. Although it is a good idea, it needs to be made friendlier. I was recently involved in a group to participate in the development of values, which seems a better way forward. Opportunities were made available for participation across the country. It was very democratic. 10 values were chosen and as a result senior management achieved buy in.

Leadership is important. Managers should have the ability to be open minded to receive new ideas, act as part of the team and share their own knowledge as much as you sharing yours. They need to be aware and understand all levels of the organisation and within reason involve themselves or take an interest. I recognise that in a large organisation this can not always happen, but effort to take an interest inspires staff and motivates them to share knowledge.

Organisations are never going to be able to effectively apply knowledge management within existing frameworks. The ideas are sound, but at the moment the market place
is constantly looking for higher profits from a smaller number of people. People who are non-management hold most of the technical knowledge. The management would like this shared around the teams, but the staff are never going to do this because they know that as soon as they do, they become vulnerable for downsizing.

Right now I'm a system expert. My boss would LOVE me to pass on my knowledge of the system, but I need to ask 'what happens then when they pick the two people who will be left on the team?' Suddenly my position is no longer secure (admittedly I don't want the position, but that's besides the point). Right now I know more than anyone else, right now they cannot afford to get rid of me, right now they would be stupid to let me go.

However if I write the documentation that tells others what I know, automatically I'm not needed anymore because they have a hard copy of what is in my brain! Although a hard copy can never account for those little anomalies that arise it does cost an awful lot less and therefore will look better on the balance sheet. It may be a loss, but it will show as a profit until a major disaster comes along.

To give you an example, PE is one of the system development team. P is a contractor for BT and earns an absolute fortune. BT has been attempting to get him to knowledge share for years but P always evades the issue. He evades the issue because he knows that just as soon as we all know what he knows about the system, he's gone! He holds BT over a barrel and can charge whatever he likes for his services. Until he feels secure he will never pass on that systems information, because it all comes down to personal survival and we all need the money these jobs bring.

Incentive schemes are only going to work in a very minor way, e.g. offering 'micro-money' where by the staff earns credits to buy things from the company such as t-shirts/holidays/mugs. Lovely idea but what it comes down to is this "if I tell my colleague what I know they'll get rid of me, then all the company t-shirts in the world won't pay my mortgage".

Management schemes to help us share knowledge aside, this is how it is working in the real world! The management don't ask for feed back on their schemes, the
derisory laughter amongst the more cynical in the office tells me that these schemes are not going to work while no-one is secure.

I feel that management are too often detached from the people at the coal face. They come up with lovely ideas and mission statements, but if they don't involve the people who actually have to implement these then their changes will never be successful. Usually because a statement of how things 'will be' will not change how things are.

Organisations need to change their priorities if they want people to be comfortable with knowledge sharing. They need to make people feel secure in their jobs. They need to let them know that knowledge sharing will not make them vulnerable. I know the catchphrase is never be indispensable or they won't be able to promote you', but in actual fact we find those that are indispensable promoted to higher positions (so they won't be affected by down-sizing) and those that are left need to ensure that they are experts at something or they'll be shoved by the wayside and pruned at the next 're-engineering' meeting.
APPENDIX 9

SOUTH WALES LEARNING COMMUNITY (FOCUS GROUP)

Attendees

Chrissie Webber MD Lifeshapers
Anne Gimson Strategic Developments (Int) Limited
Martin Business Consultant
Michael Baker The Training and Business Consultancy Ltd
Anthony Hall Guided Imagery and Music Consultancy

This session provided members with an overview of Knowledge Management and discussion about the concept in relation to organisational change and development. The knowledge management framework was presented for critical review.

With regard to Knowledge Management generally, one perspective suggested that it is not essential to share everything in an organisation and that knowledge workers (using solicitors as an example), could function adequately independently of each other. The main thrust for Knowledge Management is a drive toward making the work place more interesting and fun to be in, therefore more motivating. Discussion ensued with the group concluding that lack of communication and sharing of knowledge created silos and little or no learning and development. It was recognised that whilst a group of solicitors could indeed survive and function in this way, it is only sustainable until the environment changes, then the problems of not sharing knowledge become very apparent in any attempt to ensure succession planning, repositioning and adaptability.

One positive approach to sharing knowledge in an organisation and in keeping with organisational memory and succession planning is the pairing of junior members of staff with senior management. This establishes informal feedback mechanisms, keeping senior management in touch with the mood of the organisation and junior members of staff are likely to be more motivated to succeed. This led the discussion into aspects of leadership, senior management's ability to remain self aware and levels of emotional intelligence etc. The concept of leadership

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was seen as crucial to the success or failure of change required to implement an initiative such as Knowledge Management. Although there are many capable managers, there are additional ingredients that distinguish the leader and change manager from others based on personality traits such as dynamism, enthusiasm, adaptability, and genuineness. The term ‘zest management’ was used to describe such leadership management.

Members discussed management approaches and agreed that a pluralistic approach to management is an appropriate way forward. The ability to alter and meet the challenges of diversity in an organisation are important contributory factors. There were differences of opinion in relation to the importance of management versus structure. One argument was that a manager of the right mentality to engage with Knowledge Management may prefer to change the structure to facilitate the concept, whereas the converse argument was that structure whilst important would not result in much of an impact, but it is the manager’s ability to engender the right approach and culture that matters most. Structure does not guarantee anything and it is more about genuine intent and commitment. Equally, an organisation can cultivate the right environment but this may not be sustainable because when the same manager leaves, the original values and norms will re-emerge thus regressing to old ways in the organisation.

Activities that could facilitate sustainable Knowledge Management are the rotating of positions, dispersed power, devolved or participative decision making. The view about rotating decision making is that it engenders mutual and reciprocal respect and reduces the blame culture in an organisation because it engenders greater understanding and knowledge about various positions.

Organisational values are important elements to consider and with this, the power of informal structures and networks. These are aspects of organisations that form the shared history and can have a greater impact than formal structures and communications. This also led to consideration about the physical environment and opportunities to interact informally, thus managing and facilitating the opportunity for informal communication.
With specific reference to the knowledge management framework for assessing organisational readiness it was felt that the definition of Knowledge Management should sit above the Domain senior management, because if senior management are to commit, they need to understand and define the approach to Knowledge Management that is most relevant to them. This should be coupled with the vision or mission of the organisation, which needs to be established to consider the definition of Knowledge Management. One example offered relates to Coca-Cola (South Africa):

The vision or mission is “Our product always within arms length of our customers” although a simple and straightforward mission, this has huge implications that relate to the environment, distribution and transport issues, refrigeration and affordability. In order to implement this vision, a high level of knowledge creation, sharing, utilisation, and action was required and the outcome was successful because Coca-Cola is everywhere in South Africa. It was further successful because the knowledge gained and shared resulted in the development of the paraffin driven fridge for the product, but also led to the introduction of paraffin fridges in health clinics.

A definition of Knowledge Management therefore may not be contained to the organisation, but explicitly recognise the external impact and sharing of knowledge.

The following questions were specifically asked in relation to the conceptual framework presented.

Is the structure of this framework relevant and effective?
The structure and elements may be relevant for looking at an overview of what is happening in an organization, but in terms of effectiveness, any theoretical model is secondary to how people within the organisation relate to one another, what the organization does to value its employees and whether the ethos of the company is truly reflected in the management team.

Are the elements appropriate?
In your experience are there gaps in the elements that could be included.
The overriding principle in any organization must be the people first, and the different elements of how the organization is made up come second. The effectiveness of the organization not just in terms of knowledge transfer will be primarily determined if the employees feel that they are valued and if they feel they are working in a trusting environment – particularly with regard to the management team. Separating senior management from management generally may not be helpful because one would expect the management ethos or approach to be generic.

How would you measure the organisation’s readiness using this framework?
I would talk to all staff top to bottom - the cleaners, the domestic staff and the lower ranks of any organisation to get a measure of what people feel about working there.
UNIVERSITY OF COVENTRY (SEMINAR)

The topic at this seminar (22 attendees) related to ideas about what should be contained in a knowledge management framework for the assessment of an organisation, in addition to critical review of a generic review grid specifically designed for the critical review of knowledge management frameworks. Following presentation, open discussion revealed the following:

The review of knowledge management frameworks is very extensive and reflects an exercise that the group had not come across before. This inspired confidence in relation to the development of a new framework.

The content of the framework presented is relevant, if not too detailed, but in discussing this, the group also recognised that to reduce the content could mean the loss of valuable issues.

The group felt that the framework would not standalone i.e. was not capable of being used independently by an organisation.

Discussion about culture was extensive, with the view that culture and structure are linked, but could be considered separately in assessing an organisation. Alternatively there was a view that culture and structures are both irrelevant in this potential exercise in terms of asking the questions. The type of culture would emerge from the answers revealed.
This focus group explored the concept of a holist framework beyond the dominance of technology and knowledge management.

The focus group agreed that there has been a lot of interest in managing organisational knowledge through technological solutions. A key message emerged that whilst organisations are being sold new software, current common packages such as Microsoft Office have not been used to their full potential and may be adequate to underpin knowledge management, particularly since technology is limited anyway.

The framework for assessing an organisation's readiness was presented and discussion about this type of approach ensued. The group confirmed that a holistic approach that connects readily with the organisation is a practical and possibly methodologically sound way forward.
<table>
<thead>
<tr>
<th></th>
<th>The context of the university settings could be emphasised better by reference to some of the literature that indicates universities as being unique in terms of organisation and culture (bureaucracy vs. loosely coupled systems etc). This would strengthen the thesis by helping to justify further the choice of a KM framework for universities.</th>
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<td>Do a ‘find’ for qualitative and quantitative. Check what you have written and correct it. Argue the rationale for qualitative research based on the human activity system tradition.</td>
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<td>September 20 Achieved</td>
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<td>4</td>
<td>Check the sequencing of your work and check the tense (past vs. present).</td>
<td>September 20 Achieved</td>
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<td>5</td>
<td>Strengthen what you say about triangulation in your own research. It is currently underplayed.</td>
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| 6 | Clarify the roles of different theories and where they fit:  
- SSM has a learning cycle, and KM must be concerned with learning;  
- Much of the KM literature is technically based; because SSM has political and social analyses, it can be used critically (in this case) to avoid your framework looking at KM from a purely technical perspective.  
Produce a clear critical reflection chapter.  
Produce a substantial conclusions chapter. | September 27 Achieved |
| 7 | Check abbreviations (e.g. CATWOE) and make sure they are cited and spelt out in full. | October 11 Achieved |
| 8 | Maintain flow of thesis Organisational Structures, strategies, culture and Systems chapter interrupt the flow. Should be put in appendix to show extent of work and referred to | October 18 Achieved |
| 9 | Change title of thesis to reflect content – proposed new title “A Framework for the Critical Evaluation of Knowledge Management Readiness in Universities” | Not achieved |
CRITIQUE OF THE THESIS

This section discusses improvements to the thesis made as a result of a mock viva held during OR46. The meeting took place at 10.00 on Wednesday 8 September, at the University of York, and it lasted for one hour. The mock viva was held by Professor Steve Clarke (Director of Research, University of Hull Business School) and Ms Barbara Cargill (Dean, Swinburne University Business School). Prior to the meeting, both had received written comments on the draft thesis from Professor Miles Nicholls (Director of Research, Swinburne University Business School), and Professor Krishna Dhir (Dean, Berry College Business School). The mock viva was attended by Professor Brian Lehaney.

Major changes to the thesis structure were suggested, and though these were time consuming, they improved the flow and helped highlight the contributions. Previously Appendices 3 and 4 were major chapters occupying c150 pages. Whilst providing useful background, these detracted from the main thrust and were previously placed between the knowledge management chapter and the review of KM frameworks. The change has enabled a smoother and uninterrupted transition from one to the other. Other changes are shown in Table A13.1.1
Table A12.1.1 Notes from Mock Viva

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