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Assessing the Impact of Organisational Culture when Introducing Web 2.0 Technologies into a Non-Profit Organisation for Knowledge Management

Heather Madden

A dissertation submitted in partial fulfilment of the requirements of Dublin Institute of Technology for the degree of M.Sc. in Computing (Knowledge Management)

November 2008
I certify that this dissertation which I now submit for examination for the award of MSc in Computing (Knowledge Management), is entirely my own work and has not been taken from the work of others save and to the extent that such work has been cited and acknowledged within the text of my work.

This dissertation was prepared according to the regulations for postgraduate study of the Dublin Institute of Technology and has not been submitted in whole or part for an award in any other Institute or University.

The work reported on in this dissertation conforms to the principles and requirements of the Institute’s guidelines for ethics in research.

Signed: _________________________________

Date: 03 November 2008
ABSTRACT

Some of the key challenges that any organisation faces today are those of knowledge sharing and collaboration.

This research investigates knowledge sharing in existing communities of practice in a non-profit organisation and the challenges that are faced by attempting to facilitate online interactions for these communities.

Organisation culture can either incentivise or impede this process and this research will describe how people and culture are two of the most important factors when considering a knowledge management initiative. Given that the impact of culture is such a key issue, a number of organisations are interviewed and evaluated to compare and contrast their implementations of knowledge sharing facilities. Following this, a pilot group is chosen from a number of existing communities of practice and based on their requirements and level of technology usage, a web 2.0 tool was selected and implemented for this group to create a virtual community of practice. This platform was deployed for several weeks to determine the level of participation that members of the community would engage in. The results of the experiment were then collected, analysed and compared to existing research.

As a result of the experiment, it is clear that the objectives of the knowledge management initiative need to be clearly aligned with the organisation strategy and that buy-in and support from all parties is crucial to its success.
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# TABLE OF CONTENTS

1. **INTRODUCTION** ........................................................................................................ 10  
   1.1 **BACKGROUND** ............................................................................................ 10  
   1.2 **PROJECT DESCRIPTION** ................................................................................ 11  
   1.3 **PROJECT AIM & OBJECTIVES** .................................................................... 12  
   1.4 **RESEARCH METHODS** ................................................................................ 12  
      1.4.1 **Design Methods** ................................................................................ 12  
      1.4.2 **Implementation Considerations** ....................................................... 13  
      1.4.3 **Evaluation** ....................................................................................... 14  
   1.5 **THESIS ROADMAP** ..................................................................................... 14  

2. **KNOWLEDGE MANAGEMENT** ........................................................................... 17  
   2.1 **INTRODUCTION** ............................................................................................. 17  
   2.2 **DEFINING KNOWLEDGE MANAGEMENT** .................................................... 17  
      2.2.1 **Knowledge Management Strategies** .................................................. 20  
      2.2.2 **Knowledge Market and Knowledge Community** .................................. 22  
      2.2.3 **The Knowledge Spiral** .......................................................................... 22  
   2.3 **ORGANISATION CULTURE** .......................................................................... 23  
   2.4 **COMMUNITIES OF PRACTICE** ..................................................................... 26  
   2.5 **CONCLUSIONS** ............................................................................................ 29  

3. **WEB 2.0** ............................................................................................................... 30  
   3.1 **INTRODUCTION** ............................................................................................. 30  
   3.2 **WHAT IS WEB 2.0?** .................................................................................... 30  
   3.3 **INVESTIGATING WEB 2.0 TOOLS FOR A COMMUNITY OF PRACTICE** ....... 31  
      3.3.1 **Blogs for a community of practice** ....................................................... 32  
      3.3.2 **Wikis for a community of practice** ....................................................... 33  
      3.3.3 **Discussion Forums for a community of practice** .................................. 34  
      3.3.4 **RSS Feeds** ........................................................................................... 34  
      3.3.5 **Tagging** ............................................................................................... 35  
   3.4 **CONCLUSIONS** .............................................................................................. 36
4  REQUIREMENTS GATHERING ........................................................................ 37

4.1  INTRODUCTION ......................................................................................... 37
4.2  NATURE OF ORGANISATION .................................................................. 37
  4.2.1  Requirements for the Organisation .................................................. 38
4.3  PHASE 0 – FEASIBILITY STUDY/ANALYSIS .......................................... 39
4.4  PHASE 1 REQUIREMENTS - BRAINSTORMING ...................................... 41
4.5  PHASE 2 REQUIREMENTS – CASE STUDIES .......................................... 42
4.6  PHASE 3 REQUIREMENTS – MATURITY MODEL .................................... 56
  4.6.1  Knowledge Management Maturity Model ........................................ 57
  4.6.2  ITI Knowledge Management Maturity Model ................................... 58
4.7  PHASE 4 REQUIREMENTS – ITI EXPERIMENTAL GROUP 1 .............. 59
  4.7.1  Identifying where a knowledge management initiative may benefit this group 60
  4.7.2  Maturity Model for Branch Network ............................................... 64
  4.7.3  Assessing the Viability of using this Group ...................................... 65
4.8  PHASE 5 REQUIREMENTS – ITI EXPERIMENTAL GROUP 2 .............. 66
  4.8.1  Identifying where a knowledge management initiative may benefit this group 67
  4.8.2  Maturity Model for Tax Administration Committee ...................... 68
  4.8.3  Assessing the Viability of using this Group ...................................... 69
4.9  CONCLUSIONS ......................................................................................... 70

5  TOOL SELECTION ........................................................................................ 71

5.1  INTRODUCTION ......................................................................................... 71
5.2  IDENTIFYING VIABLE CANDIDATES ....................................................... 71
  5.2.1  Installed Solutions .............................................................................. 72
  5.2.2  Hosted Solutions ................................................................................ 74
5.3  VIABLE APPROACH IDENTIFIED .......................................................... 80
5.4  CONCLUSIONS ......................................................................................... 81

6  DEPLOYING THE SYSTEM ......................................................................... 82

6.1  INTRODUCTION ......................................................................................... 82
6.2  CENTRAL DESKTOP ............................................................................... 82
6.3  SETTING UP THE SYSTEM .................................................................... 83
**TABLE OF FIGURES**

FIGURE 2.1 - KNOWLEDGE MANAGEMENT CIRCLE (COLLISON AND PARCEL, 2001) ... 19
FIGURE 2.2 - KNOWLEDGE MANAGEMENT PROCESSES (BOUTHILLIER AND SHEARER, 2002) ... 21
FIGURE 2.3 - SPIRAL OF KNOWLEDGE (NONAKA AND TAKEUCHI, 1995) ... 23
FIGURE 2.4 - FOUR BASIC TYPES OF ORGANISATION CULTURE (GOFFEE AND JONES, 1996) ... 25
FIGURE 2.5 - CHARACTERISTICS OF A COMMUNITY OF PRACTICE (WENGER, 1999) ... 27
FIGURE 3.1 - WEB 1.0 v WEB 2.0 (SIMON SOLUTIONS, 2008) ... 31
FIGURE 3.2 - TYPICAL KNOWLEDGE MANAGEMENT BLOG (COYNE, 2008) ... 32
FIGURE 3.3 - EDITING A WIKI ... 33
FIGURE 3.4 - TYPICAL RSS READER ... 35
FIGURE 3.5 - WEB 2.0 TAG CLOUD (ANGERMEIER, 2008) ... 35
FIGURE 4.1 - MINDMAP OF BRAINSTORMING SESSION ... 41
FIGURE 4.2 - KNOWLEDGE MANAGEMENT CIRCLE (COLLISON AND PARCELL, 2001) ... 56
FIGURE 4.3 - KEY PROCESS AREAS ON KNOWLEDGE JOURNEY (KPMG, 2000) ... 57
FIGURE 4.4 - MATURITY LEVELS OF THE KNOWLEDGE JOURNEY (KPMG, 2000) ... 57
FIGURE 4.5 - KNOWLEDGE LIFECYCLE (GOVIL, 2007) ... 58
FIGURE 4.6 – BRANCH NETWORK HIERARCHY ... 59
FIGURE 4.7 - MINDMAP FROM BRAINSTORMING SESSION ... 60
FIGURE 4.8 - BRANCH NETWORK IDEA 1 ... 61
FIGURE 4.9 - BRANCH NETWORK IDEA 2 ... 61
FIGURE 4.10 - BRANCH NETWORK IDEA 3 ... 62
FIGURE 4.11 - USE CASE DIAGRAM - BRANCH NETWORK INTERACTIONS ... 63
FIGURE 4.12 – TAX ADMINISTRATION COMMITTEE MEMBERS ... 66
FIGURE 4.13 - USE CASE – TAX ADMINISTRATION COMMITTEE ... 68
FIGURE 5.1 - DEKI WIKI INSTALLATION ... 72
FIGURE 5.2 – WORDFRAME TRIAL ... 74
FIGURE 5.3 - LEFORA HOSTED FORUM ... 75
FIGURE 5.4 - CONFLUENCE HOSTED SOLUTION ... 76
FIGURE 5.5 - WETPAINT PLATFORM ... 77
FIGURE 5.6 - WIKidot HOSTED SOLUTION ... 78
FIGURE 5.7 - COMMUNITY SERVER ... 79
FIGURE 5.8 – TOOL EVALUATION SCORECARD ... 80
FIGURE 6.1 - TAX ADMINISTRATION COMMITTEE HOMEPAGE ... 84
FIGURE 6.2 – USING A WIKI TO UPLOAD DOCUMENTS WITH COMMENTS UNDERNEATH ... 85
FIGURE 6.3 – USING A FILE UPLOAD SO COMMENTS ARE CLEARLY VISIBLE ... 85
FIGURE 6.4 - ADDING A COMMENT AND NOTIFYING USERS ... 86

7
TABLE OF TABLES

TABLE 4.1 – PMI CASE STUDY 1 ....................................................................................................... 43
TABLE 4.2 – PMI CASE STUDY 2 ....................................................................................................... 45
TABLE 4.3 – PMI CASE STUDY 3 ....................................................................................................... 48
TABLE 4.4 – PMI CASE STUDY 4 ....................................................................................................... 49
TABLE 4.5 – PMI CASE STUDY 5 ....................................................................................................... 52
TABLE 4.6 – PMI CASE STUDY 6 ....................................................................................................... 54
TABLE 4.7 – ANALYSIS OF CASE STUDIES ..................................................................................... 55
TABLE 4.8 – BRANCH NETWORK MATURITY MODEL ................................................................ 64
TABLE 4.9 – TAX ADMINISTRATION COMMITTEE MATURITY MODEL ................................. 69
TABLE 6.1 - SUCCESS INDICATORS FOR KNOWLEDGE MANAGEMENT PROJECTS .......... 96
1. INTRODUCTION

1.1 Background

A number of different views exist as to what constitutes “knowledge management”. Bixler (2002) identifies that cultural and organisational changes are vital to achieving a knowledge management strategy. From this perspective knowledge management is fundamentally about people, but it can be difficult to share knowledge within an organisation without the use of technology.

Ernst and Young, a professional services firm, implemented a knowledge management strategy in the early 1990’s. They have created a knowledge sharing culture over the past decade strengthened by a robust technology platform. The approach taken by Ernst and Young worked well because they built on the foundations of both shared technology platforms and a knowledge management function (Dellow 2004).

Kapma (2007) states that Web 2.0 technologies have the potential to completely transform the interaction and organisation of professional practice. His case study demonstrates the importance of technology within a small farmers’ community in Portugal where geographical distances prevented more regular face-to-face meetings. The use of technology provided opportunities for social interaction and learning and helped the farming group to develop shared new practices.

The Australian Bureau of Statistics (ABS) has long been aware of the extent which technology could inspire different ways of working. The employees at ABS appreciate the benefits of documenting and sharing, particularly for people who move around the organisation (Chatwin 2004).

Although Hinton (2003) reports on an implementation that does not use any new technology initially to implement communities of practice but concentrates more on the knowledge sharing aspect and the organisational culture. He talks about the importance of considering current work habits and communication styles of individuals and groups and attempting to change these to leverage more sophisticated technological options.
Technology is not vital, but it is extremely useful particularly in organisations that need to share knowledge outside the core internal group of employees. The knowledge management experts say that real knowledge is created and shared within the Nonaka and Takeuchi (1995) processes, mentioned in section 2.2.3, and not in any knowledge management technology.

1.2 Project Description

The Irish Taxation Institute (ITI) is the leading professional body for taxation affairs in Ireland. The 6,000 membership comprises qualified tax advisers, accountants, barristers, solicitors and other business professionals. Its mission is to support an efficient, fair and competitive tax system that encourages economic and social progress. The ITI is Ireland’s foremost provider of qualified tax advisers through the three-year (AITI) and one-year (TMITI) tax qualification courses. ITI’s professional development programme provides continued education, appropriate advice, specialist seminars and other support services.

Knowledge sharing needs to become a key part in how ITI operates as a group. There is a lot of tacit knowledge within the organisation. The aim is not to codify all tacit knowledge and create an “information junkyard”, it is about creating new innovative opportunities. “Collaborative knowledge is greater than any individual knowledge” (Johnson, 2001). The wealth of knowledge ITI has, needs to be embedded in the products and services offered to members and not in the heads of key people.

The main benefits of collaboration within ITI are:

- Access to new skill-sets and ideas
- Innovation
- Visibility on projects across the organisation
- Strengthen the group as a whole

There is already top-level support from the CEO, who identified the need for some type of collaboration tool. As a result of this, a one-hour knowledge management session was scheduled on June 23rd 2008, where the fundamentals of knowledge management were introduced to the management team and a brain-storming session was facilitated to help understand the requirements as a group. The initial investigation will be to discover what type of collaboration is required and the best tool to suit this.
The tool must facilitate collaboration in a small educational institute, registered as a charity. Much of the learning that occurs in ITI is as a result of working with others rather than formal training. Any pilot project needs to have the capability to be rolled out to external institute members and students in the future with strict security features in place.

### 1.3 Project Aim & Objectives

The aims and objectives of this project are;

- To investigate collaborative tools available for knowledge sharing within a small organisation.
- To investigate existing tacit knowledge within ITI.
- To make the work and knowledge of all employees and members more transparent.
- To identify the factors within the organisation that will help with the implementation of a knowledge management tool.
- To closely align any implementation with ITI strategy and objectives.
- To show the relationship between the various organisational factors – culture, people and technology and the choice of tool for knowledge sharing.

### 1.4 Research Methods

As outlined in the introduction of this chapter, knowledge management is a multifaceted and multidimensional concern. It would be difficult for a single research method to capture the scope and impact of a knowledge management initiative in ITI, therefore a range of techniques will be employed both in the design and implementation of this research.

#### 1.4.1 Design Methods

When considering the design of a knowledge management initiative, it is vital to identify previous exemplars of best practice from existing research, therefore an extensive review of the literature will be undertaken that will not only consider literature published in knowledge management journals and conferences, but will also consider dissertations from previous MSc students on this course to compare and
contrast the implementation of a collaboration tool. To facilitate this, meetings will be arranged with other students to formally discuss their projects.

Case study research will also help to add strength and experience to what is already known. Research questions will be determined based on previous experience on this course and the cases will be selected based on their similarity in scope. Once the data is collected, it will be analysed to find linkages between each case study.

Finally Brainstorming techniques will be used to bring out the ideas of the key stakeholders involved and encourage them to be innovative in their thinking. It will help to expand the thinking of individuals which may in turn spark new thoughts or conceptions in others.

1.4.2 Implementation Considerations

A key consideration in this research is to determine which group (or groups) within ITI will be used for the experiment. There are three/four groups within the organisation that may serve as potential pilot groups:

1. Internally in ITI, there is plenty of scope for collaboration initiatives. There is a wide range of cross-functional collaboration but currently the only tools available are e-mail and file shares. This means that there can be many versions of a single document stored in many places. This could result in unreliable or contradictory information and may also lead to damage the reputation of key people when sharing critical information. ITI needs to maintain its competitive advantage and remain the market leader as the premier body for qualified tax advisers in Ireland and the main provider of tax qualifications in Ireland.

2. Many queries to ITI are from other educational institutes who are of similar size and doing similar work to ITI. Typically these queries are in relation to the tools and techniques used to share key information with members/students and also how that information is used for competitive advantage internally in the organisation. Processes and procedures are also discussed and debated. There is a need to be able to facilitate more ongoing knowledge sharing with this wider group.
3. Amongst the membership of ITI there exists a number of groups called “committees”; who serve as communities of practice. They meet face-to-face on a regular basis to make decisions. There is currently no way of collaborating, sharing documents or information. It is worth noting that many of these members do not have much time for work outside the hours of the face-to-face meetings.

4. The ITI Branch Network is an already existing community of practice that meet regularly to discuss tax administration issues. The community is divided into a number of regions and districts but they have no on-line facilities currently.

1.4.3 Evaluation
Evaluating the success of the experiment will also take a multifaceted approach, including both qualitative and quantitative methods.

In contrast to this, the qualitative measurements will attempt to capture some of the key organisational issues that are in operation during this experiment. In particular, questionnaires and interviews with key participants will be used as principal means of capturing interaction with the new tool. As mentioned previously, similar research exists from previous students and in the wider research world, therefore the results of this research will be contextualised into the broader knowledge management body of research.

In terms of quantitative measurements, the principal measurements will involve identifying statistics pertaining to the use of the collaborative system (e.g. no. of views, no. of edits, no. of users, no. of pages created, etc;).

1.5 Thesis Roadmap
Phase 1: Problem Assessment

In chapter two a number of papers were researched to analyse the success of knowledge sharing in communities of practice. This helped to identify possible problem areas in the organisation being investigated.
Chapter three was used to investigate the problem areas relating to existing groups within ITI. The motivation for knowledge sharing will also be investigated and a plan created to try and solve these barriers to knowledge sharing and collaboration.

Phase 2: Data and Knowledge Acquisition

Documents and emails relating to the various ITI groups will be reviewed. What knowledge are ITI trying to capture outside of the branch/district meetings?

- Interviews, Group meetings – a number of meetings will be held with the various stakeholders in order to understand what they do as part of the various groups involved. A number of unstructured interviews will also be conducted with key people.
- Case Studies – interviews with other organisations.

Bell, (2005) discusses the key points for designing a questionnaire. The main aspects that will be brought to the survey aspect of this research will be:

- Using the objectives of the project to find out exactly what is needed from the survey participants:
  - To investigate collaborative tools available for knowledge sharing within a small organisation.
  - Investigation of existing tacit knowledge within the organisation.
  - To make the work and knowledge of all employees and members more transparent.
  - To closely align any implementation with ITI strategy and objectives.
  - Use of quantitative and qualitative methods to assess the success of the collaboration implementation.
- What value will the responses give to the implementation of a tool?
- Precision in the wording of the questionnaire to give real value to the answers.

Phase 3: Development of a prototype

A prototype will be developed for the experiment group to examine the functionality of Web 2.0 technologies in the organisation. The prototype will enable ITI to investigate the interaction with a tool and also the behaviour of the test group. It will provide a means for examining any design issues and also any User Interface issues. The prototype will also allow ITI to make clear decisions for the future regarding Web 2.0
tools and their use in the Institute. The choice of a tool and its implementation will be discussed in chapter four.

There are four main categories of prototypes: (Houde and Hill, 1997)

- Role prototypes – investigate what a tool could do for the user. It would be more concerned with the functionality a user would benefit from.
- Look and Feel Prototypes – concerned with what the tool would look like and how one would interact with it.
- Implementation Prototype – concerned with the technical aspects of a tool and how it might work in the future. It is not concerned with look and feel or role.
- Integration prototypes – is a combination of the above three and where the prototype for this research fits in. It represents the complete user experience.

Phase 4: Development of a complete system

As part if this dissertation a complete system will not be developed, but the prototype will be used to plan for the development of a complete system, along with the evaluation after the prototype.

Phase 5: Evaluation

Chapter four will discuss and evaluate the results of the research and the implementation of a prototype. The users will be interviewed and surveyed to explain their expectations and impressions of the system. The functional requirements should have been met by the prototype.
2 KNOWLEDGE MANAGEMENT

“Knowledge is experience. Everything else is just information” Albert Einstein.

2.1 Introduction

This chapter begins with a review of the various perspectives on knowledge management. Organisation culture is also an important dimension when we refer to any knowledge management initiative and this chapter will look at its role and how it impacts a change in any organisation. It continues with a look at communities of practice and their role in the effectiveness of knowledge sharing and leveraging the knowledge of experts.

2.2 Defining Knowledge Management

Knowledge Management is not well understood by most organisations. According to Sinclair (2006), in order for knowledge management to be successful, there are four basic strategic activities: Marketing, Aligning, Deploying and Measuring.

- Marketing: knowledge management is essentially a marketing activity and one needs to decide whether to target the whole organisation or individual business units. Communication is also crucial in the marketing plan. It is a good idea to market to already existing groups who share knowledge in some way.

- Aligning: any knowledge management strategy or initiative must be aligned with the organisation-wide strategy. If an organisation’s strategy is to provide value to its members then the initiative must be clearly aligned with the strategy. It must reflect the long-term goals.

- Deploying: Sinclair discusses whether the success of deploying knowledge management is a top-down initiative or a grassroots initiative. It is clear from other research that both approaches have been successful in their own way.

- Measuring: It is difficult to manage a knowledge management initiative. Many metrics appear to be too “warm and fuzzy” and do not have any real value. It is still important to develop measures of success for the management team involved.
Bixler (2002) identifies four dimensions that must be addressed for a successful knowledge management initiative and these are: \textit{Leadership, Organisation, Technology,} and \textit{Learning.}

- **Leadership:** Bixler talks about aligning knowledge management with business goals and strategies, a similar view to that of Sinclair (2006). Management buy-in is a necessity.
- **Organisation:** processes and procedures are the basis of success of knowledge management in an organisation and introducing change should be as painless as possible.
- **Technology** is an enabler for knowledge management and any tools must support the processes and procedures.
- **“Learning is an integral part of knowledge management.”** This includes collaboration and the facility to share ideas across business units.

Knowledge management is therefore about creating an environment where people have ease of access to knowledge which makes a difference to their everyday working lives. It is not about the systems used to make knowledge available, it is how that knowledge is shared, the processes and procedures that surround those systems that enable effective knowledge sharing. It is interacting and thinking outside the box and having the tools to collaborate on these ideas.

Tacit knowledge is the knowledge embedded in people’s heads. People gain this knowledge through learning and experience and it also comes from their own values and beliefs. It is difficult to capture or codify this type of knowledge because often “organisations don’t know what they know” (Ackerman et al 2002). Tacit knowledge is used to create explicit knowledge through the spiral of knowledge which will be discussed in section 2.2.3.

Explicit knowledge is captured knowledge in the form of documents, video clips, books etc; It is much easier to share and transfer explicit knowledge than it is tacit knowledge. Explicit knowledge can be stored and searched. Both categories of knowledge are extremely important to an organisation because they help employees/members to solve problems, become more creative and innovative and above all learn from past experiences – both successes and failures. Many experts argue that a document cannot contain knowledge but only information and the reader
of a document then uses their own knowledge or past experience to gain from this information.

People, process and technology are essential to any change process. All three must be aligned to ensure the change is successful and this can prove difficult for organisations.

![Knowledge Management Circle](image)

_Figure 2.1 - Knowledge Management Circle (Collison and Parcel 2001)_

The people involved are those that own the process and the roles that have been created for those involved. Technology is usually applied once the other two are aligned to ensure the process is on track. If a group of people don’t already share knowledge, don’t already understand what insights and information will be useful to each other, then it is unlikely that information technology will create that. (Lesser et al 2000)

If we concentrate our energy disproportionally on one circle or two:

- People and technology are the focus of many knowledge management projects but if the processes surrounding the implementation are neglected then we are simply automating the past.
- Technology and process are powerful together but without buy-in from people there will more then likely be a risk of resistance to change.
- People and process are also powerful but the power IT brings to make the knowledge accessible to all, irrespective of location, is not to be taken lightly.
Polanyi (1967) said that “We know more than we can tell” which means that it is difficult to codify tacit knowledge (the knowledge in people’s heads). Knowledge management is not about trying to codify everything in people’s heads, it is more about collaborating to increase the knowledge in ones head and sharing your know-how so that others may benefit and innovate from it.

- Know-how – skills or capabilities to act or do something.
- Know-why – understanding the value of your actions.
- Know-when – timing of efforts.
- Know-where – navigating to the right information.

Gurteen (1999) uses the analogy of cake making to describe knowledge management. The molecular constituents of a cake are its data, it might not be easy to ascertain it were a cake. The list of ingredients is information which is much more useful and gives context to the data. The recipe is the written explicit knowledge which gives instruction on how to combine the data to bake the cake.

An inexperienced cook might not bake a good cake even with all the relevant explicit knowledge. A cook with the relevant tacit knowledge, experience and skill may bake an excellent cake. Just as knowledge of cake making is measured by the cake itself – taste, quality, appearance. ITI knowledge is measured by the value of the coordination of effort, action & process which all add to the products and services provided to members and students.

2.2.1 Knowledge Management Strategies

A knowledge management strategy must do more than outline high-level goals such as ‘become a knowledge-enabled organisation’, it must identify the key needs and issues within the organisation (Robertson 2004).
Knowledge discovery involves locating knowledge within the organisation whereas knowledge acquisition means conveying knowledge from external sources. These are part of the “capture knowledge” process which involves capturing both tacit and explicit knowledge. A knowledge map can help to find where the knowledge is and where there are gaps in knowledge.

The creation of new knowledge is innovation and this often occurs within groups such as communities of practice.

The storage and organisation of knowledge will involve some sort of a knowledge repository and developing a taxonomy and meta-data to classify the knowledge.

Sharing and targeting knowledge means making knowledge available to those that are interested, perhaps even personalising the user experience. It involves the transfer of
knowledge from one person to another. It is important to have different methods for sharing different types of knowledge. There are many issues with knowledge sharing, both technological and cultural. It is important to create a knowledge sharing culture if one does not exist and encourage people to collaborate and share. Commitment and co-operation from those using a knowledge management system must be gained.

Once the knowledge is embedded within the organisation, it needs to be maintained and updated on a regular basis. Users must be given roles and responsibilities for doing this.

Knowledge Management should support an organisation’s strategy:

- Do we have this knowledge? **(Create/Capture)**
- How should we organise this knowledge? **(Organise)**
- Who needs this knowledge, when, and how? **(Disseminate/Target/Transfer)**
- How do we ensure that we get value from this knowledge? **(Embed/Maintain)**

2.2.2 Knowledge Market and Knowledge Community

Davenport and Prusak (1998) suggest the concept of the *Knowledge Market*, where knowledge is exchanged, it has buyers and sellers and there is a market for knowledge in organisations. They say that knowledge is for sale and there is an issue with people not feeling they get anything in return from sharing knowledge. This proposed a competitive perspective on knowledge where the free sharing of knowledge is not common and intellectual property is a concern because the holder of the knowledge has the rights to that knowledge. People invest their time and effort into acquiring tacit knowledge and are often reluctant to share it. This view is in contrast to that of Nonaka (1995) who says that knowledge is easily codifiable and communicable and is inherently social.

2.2.3 The Knowledge Spiral

The spiral of knowledge helps us to understand how knowledge is acquired, transformed, shared and created. Nonaka (1995) came up with the concept of two types of knowledge – tacit and explicit. Explicit knowledge is knowledge that be easily captured, stored, transferred. “Tacit knowledge is hard to formalise and therefore
difficult to communicate to others”. For Nonaka, tacit and explicit knowledge are not separate but mutually complementary entities.

![Figure 2.3 - Spiral of Knowledge (Nonaka and Takeuchi 1995)](image)

- Socialisation happens in meetings, informal chats, presentations. No knowledge is captured.
- Externalisation involves documenting ones tacit knowledge – a document, report, video of a seminar. Tacit knowledge is transformed to explicit.
- Combination involves the grouping of explicit knowledge from a number of experts.
- Internalisation involves acquiring tacit knowledge from a number of explicit knowledge sources.

### 2.3 Organisation Culture

It is important to understand the role organisational culture plays with regard to change. When organisations install new collaborative software, they expect knowledge to flow and when it doesn’t, they usually end up blaming the technology – software will not solve a knowledge culture problem. Culture is the key to success for any knowledge management activity.

Organisation Culture impacts:

- How people talk to each other.
- How they work with each other.
• How they share knowledge and experience with each other.

Allee (1997) recommends not being too rigid with rules and trying to control knowledge too tightly. Knowledge should take care of itself if the barriers to self-organisation are removed. “Knowledge is a social process”. She also talks about a culture of knowledge sharing and to encourage this sharing, one should be rewarded.

Culture is in simple terms “how we do things around here” according to Smith and McKeen (2003). It is extremely hard to change and exerts its influence in different ways. It will most definitely affect any knowledge management initiative. A knowledge sharing culture is one where there is a willingness and openness to share and teach others. There also needs to be a willingness among the participants to adopt new knowledge about other areas within the organisation. It must come from the top-down and be part of the overall strategy of the organisation. This is where communication plays a strong part. Any change going on in an organisation must be communicated regularly so people can see clearly what is going on and some momentum is built up. We need to promote knowledge sharing. Research shows that a “willingness to share” is positively related to profitability and productivity and negatively related to labour cost (Jarvenpaa and Staples 2000).

We also need to create an environment for creative thinking and innovation. This is difficult to achieve when much of what we do in everyday business is structured and orderly and process oriented. Innovation on the other hand requires thinking out of the box. The senior management team are responsible for creating this kind of environment.

Changing the culture for purposes of knowledge management would be like the tail wagging the dog. If you don't have a friendly political or cultural environment, you need to find a part of the organisation that does, and work within it for a while (Brint, 1998). This is an important point to note for introducing any knowledge management or change initiative, the key is to start small and with a group who are already conducive to some sort of knowledge sharing.

“Cultural transformation is a non-linear process and that culture will only change after people’s actions are altered, after benefits have been observed for some period of time and after people have seen the connection with the change” (Kotter 1996)
The diagram in Figure 2.4 displays a matrix for understanding organisation culture, there are two dimensions:

- Sociability is the friendliness between members of an organisation.
- Solidarity is when these members come together to act as one.

These dimensions are used to identify four different types of culture:

- Fragmented: low on both dimensions.
- Mercenary: high on solidarity, low on sociability.
- Communal: high on sociability, low on solidarity.
- Networked: high on both dimensions.

Some activities which are known to increase knowledge sharing are:

- Teamwork – gives the members a sense of community.
- Rotation of staff throughout an organisation – helps to build networks.
- Informal atmosphere where people can chat and ask for help.
- Open plan work areas.
- Rewards and recognition.

Some organisation cultures may feel threatened by the freedom knowledge sharing technologies such as a wiki gives as it moves away from the usual protocols and office applications.
Corporate culture strongly influences how things get done. It can often work against an organisation by placing barriers in the way of change. Culture is most often unwritten rules and behaviour. It is also about the way management behave and exercise leadership and authority. Culture is slow to change and the first step in trying to change it is to understand it. Why are organisations resistant to certain types of change?

### 2.4 Communities of Practice

Effectiveness of knowledge is multiplied if it is in the form of a conversation where people can educate each other (Kimball and Rheingold, 2003). It feels good to share and learn, interacting with others who have a common sense of purpose. Tyler et al. (2003) discuss a method for the automatic identification of communities from email logs – using a graph to show information flows. Investigation of these information flows enables the discovery of shared interests and relationships. The volume of emails between two people or groups of people suggests shared interests and relationships. If an organisation is only using email as a medium for collaborating then this is a useful resource for extracting patterns of collaboration. For example, from a sequence of emails, it would be easy to distinguish the role of each participant. Essentially these email groups are informal networks which provide effective learning mechanisms to their participants.

Communities of practice are groups of people who share information, insight experience and tools about an area of common interest (Wenger et al 2002). They are an effective medium for creating and sharing knowledge whether the purpose is business or social. The people involved in communities of practice do so because they find relevance and value in the interactions. The communities develop a sense of identity over time and establish ways of interacting and relationships.

A virtual community of practice is when these groups communicate online, a dispersed group of people who work together in a virtual environment. All of the discussion in a virtual community takes place online, which can be analysed at a later stage. These types of communities are becoming more popular with the growth of the Internet and globalisation. Many believe that communities cannot survive without the face-to-face interactions, this is arguable although it is probable that their longevity is shortened.
Wenger (1999) distinguishes between a community of practice that is bound by what they do and a community of interest or a geographical community. A community of practice, by contrast, has a "tight focus on a common set of practices and composed of people who share professional responsibilities or activities" (Carotenuto et al 1999)

Etienne Wenger in one of her papers describes the three fundamental characteristics of communities of practice:

- Domain – the area of knowledge that brings the community together – a passion or common interest.
- Community – the group of people for whom the domain is relevant.
- Practice – the body of knowledge, methods, tools, stories, cases which members share and develop together.

![Figure 2.5 - Characteristics of a Community of Practice (Wenger 1999)](image)

- Executive Sponsorship: provide the community with legitimacy, funding and support and help to eliminate any barriers.
- Participation: members of the community need to actively perform activities and discussion.
- Nurture: the members need to nurture the community but also the community leaders need to encourage use and act as facilitators.
- Support: is usually provided by people on the periphery of the community, be it technical support or more importantly finding new members and managing the interactions of the community.
The key to communities of practice is how to combine informal and formal aspects of learning in an organisation. People learn by participating in communities. “To show that communities of practice are important to the organisation, they must be formed around topics at the heart of the business, where leveraging knowledge will have a significant financial or competitive impact” (McDermott 2000). McDermott also quotes a senior AMS manager in this same paper - “It’s not what you know that gives you power, it’s what you share about what you know that gives you power.”

Meeting face-to-face is important for communities to establish and maintain relationships. The real challenge is to create real value for the community members. Technology should enable these members to think together in the case of virtual and distributed communities, but they still need the human touch in order to flourish. The development of a strong network of likeminded individuals who share a common understanding is conducive to the development of an environment typified by high levels of trust, shared behavioural norms, mutual respect and reciprocity (Lesser and Storck 2001).

The sharing of information covers a broad spectrum of exchanges and does not necessarily lead to the creation of new knowledge (Van Beveren 2002). Knowledge sharing on the otherhand is when the recipient generates new knowledge.

The benefit of virtual or online communities of practice is that the conversation becomes accessible to all members who may be dispersed geographically, and they can also be archived for later retrieval. So in online communities, members share what they know based on a request for information.

Once engagement is accomplished, our experience is that only facilitated communities remain productive. Community facilitation is a skilled task that takes time and energy, and its centrality to success should not be underestimated (Restler and Woolis 2007). Facilitation seems to be key to virtual communities, they require care and nurturing. Facilitators provide the leadership and focus of the group – a sort of referee to keep things in order.

According to White et al (2008), experts in the area of online communities, there are a number of factors involved in the success of an online community:

- A topic that members care about.
- A community coordinator/facilitator who can orchestrate activities.
• Regular social activities to build new connections and trust.
• Opportunities to gain experience from other practitioners – members must see value.
• Leadership that sees value in the community and encourages their people to engage.
• A core group of community members that are enthusiastic about the group and provide direction.
• Regular community meetings.
• Appreciation for the “legitimate peripheral participation” (Lave and Wenger 1991) – the theory of how newcomers become experienced members of a community of practice.
• Interactive, democratic, contextualised and self-paced.

2.5 Conclusions

Knowledge helps people to do their jobs better, it should be a synergistic process – one should get more out of the knowledge sharing process than one puts in. Knowledge management should allow for the dynamic interchange of ideas and the motivation for exchanging knowledge has to be an interest in the community one is sharing with and not just self interest. Discussion of any type, whether online or face-to-face, highlights deviations and errors to a solution/problem. Introducing any knowledge management system or initiative to an organisation will have to deal with social, cultural and technical issues that come with knowledge exchange.

“Learning, knowing and innovating are closely related forms of human activity and inexorably connected to practice” (Schultze 1999).
3 WEB 2.0

3.1 Introduction

In this chapter the concept of Web 2.0 will be explored and its origins investigated. Essentially Web 2.0 is a platform for knowledge sharing. Until recently knowledge management was about providing a central knowledge repository, but the recent explosion of new tools means that knowledge sharing is becoming simpler and more flexible. Many of these tools have been given the label “social networking” tools as they support or extend already existing social activity.

3.2 What is Web 2.0?

Web 2.0 is not describing a mere version change as you would with software products, the emergence of all that comes with Web 2.0 is actually a much bigger deal. Web 1.0 is now considered to represent many static HTML pages that were available on the Internet. HTML was just used to give structure to a web page, it was never meant to provide dynamic content. E-Commerce and internet shopping were the biggest things to emerge from Web 1.0. With Web 1.0, the webmaster was responsible for updating a website to push information to customers or members. Technology is now transforming the way people use the World Wide Web. With Web 2.0, the responsibility is up to everyone to update and people gather on websites to interact with each other. Form and content can be separated and the content delivered in different ways.

The term was first used at the first O'Reilly Media Web 2.0 conference in 2001. Some people think it is just a marketing buzzword but it refers to a set of new tools and technologies that allow users to interact, share, collaborate and converse online.
In the diagram above, the old and new ways of updating the Internet are displayed – the old webmaster “1.0” way versus the new “2.0” way where the users are responsible for their own content. It is a new interactive process and not a static one.

3.3 Investigating Web 2.0 tools for a Community of Practice

Web 2.0 is really a social revolution and many of the tools associated with Web 2.0 allow for information and knowledge sharing, collaborating and communicating in new and innovative ways. This section will consider some of the more popular Web 2.0 tools and their suitability for a community of practice. The key concept of using these tools is that users add value so the more people that participate, the more value users will get.

Blogs and Wikis are already potentially communities of practice but only if the face-to-face and online environments are interconnected and balanced (Mackey 2008). Blogs and Forums both have a tendency to have different norms/culture emerge.
3.3.1 Blogs for a community of practice

Blogs allow users to create posts and for other members to view them and comment on them. They are usually an easy-to-use text editing tool. Blogging tools offer much the same functionality as forums with slight differences in relation to navigation, excerpts and front-end usability. Some tools allow comments to be approved before they are published. Other features include the ability to subscribe to a blog via an RSS feed. Another important factor when choosing a tool is how much configuration one is allowed with regard to appearance and layout. Blogs are more focused than forums and replies tend to be directed to the primary author. They are also generally used for posting longer messages.

There are numerous blog tools on the market today and to help decide on one, a number of questions should be first considered;

- Is a hosted or installed tool more suitable?
- Is a tool required that will help one manage a number of different blogs?
- Will an editor need to approve posts from multiple authors?
- Will a blog support a closed community where only a specific group of people can view and comment?
- Does one want to customise the look and feel of the blog?
- Does the blog need to integrate with an existing website?

Figure 3.2 - Typical Knowledge Management Blog (Coyne 2008)
3.3.2 Wikis for a community of practice

Wikis are open editing environments that allow for collaborative writing. A wiki is a website that allows users to add and edit content as a group. Wikis are usually used for collaborative purposes and have just two states – read and edit. The term wiki comes from the Hawaiian term WikiWiki which means “Super fast”. Wikis usually provide versioning and access can be restricted based on groups.

![Figure 3.3 - Editing a Wiki](image)

Features include:

- Ideal for collaborative authorship
- Versioning and page locking.
- Structurally capable of handling conversation but this is more suited to discussion forums.
- They are not the best tools for airing opinions – this is more suited to a blog.
- Intension is to maintain a series of documents as the content evolves.
- Facilitate the exchange of information between teams and groups.
- Users can simply and easily update and visit a site.
- They allow users to embed items such as email, instant messaging.
- They are good for organising meeting minutes, calendars, agendas etc;

A wiki is suitable for a community of practice because it allows for collaborative activities, such as writing a paper or co-ordinating a project. It can also be used to exchange ideas and to organise events, including posting agendas, collecting attendance and adding meeting minutes. A wiki imperatively keeps track of versions, which makes it easy for users tracking additions to a document.
3.3.3 Discussion Forums for a community of practice

Forums allow members to share thoughts, ideas, issues and knowledge. Users can be notified by email when a new reply has been posted. Some of them also feature “answer approval” technology. They provide a way to quickly gather opinions and ideas from everyone. Asynchronous discussion is when users are not communicating in real-time but replying to or posting on a website. Synchronous discussion is where the users can take part in live discussion. Many forums do not just allow users to “discuss” topics, they also allow for important resources to be made available to the rest of the community. This was originally done by posting links and the resources were not collaborated on. A search feature is an important aspect of forum software and allows users to search through archived discussions.

Most forums have some sort of information architecture and are generally sorted by categories. Blogs are generally designed for single user input whereas forums are discussion between several people. Forums are generally made up of many short messages whereas blogs tend to have longer replies.

One of the simplest ways to engage people in online conversation is through threaded discussion forums.

3.3.4 RSS Feeds

Really Simple Syndication is used to give subscribers updates on a news site, wiki, community forum or anything that has discrete items. An RSS feed would generally contain a headline and a content summary. The main benefit is that they deliver content to the reader without overwhelming the reader with too much information – the reader can then decide if they want to view more. The other main advantage is that the user will only receive RSS Feeds they have subscribed to. They don’t contain SPAM or advertisements. RSS Feeds are popular for wikis as they report all changes to a particular page.
3.3.5 Tagging

Tagging involves assigning keywords to pieces of information. It describes the information and makes it easier to be searched and retrieved at a later stage. A collection of tags is called a *Folksonomy*. It is essentially classifying information. Tag clouds are used to display these user-generated tags based on their weighting. The importance of a keyword is shown using font and colour.
3.4 Conclusions

Web 2.0 has the potential to serve as a platform by which communities of practice can interact and collaborate online. Web 2.0 technologies are definitely suitable to communities of practice, whether one tool is more suitable than another depends on the nature of the community of practice, essentially one must fit the tools to the community. Based on the research in this section, communities of practice fundamentally need two things, a threaded discussion area and an area to exchange, discuss and possibly collaborate on documents. Choosing a tool is an important step in the engagement process – the tool must be suited to the purpose of the engagement.
4 REQUIREMENTS GATHERING

4.1 Introduction

In this chapter a number of methods will be used to elicit requirements from various users and communities. Literature was reviewed to familiarise the designer with current trends in technology and the area of knowledge management and to find case studies of both successes and failures and to use these studies to guide the design of this experiment. Requirements gathering will take the form of brainstorming techniques, structured interviews, use case diagrams and user interface analysis.

Case studies will be carried out on six organisations and the results compared in order to derive useful analytics to apply to this experiment based on the experience of other organisations.

The choice of a pilot group will also be crucial to the design and selection of a suitable tool. Once the experiment has been conducted, a number of methods will be used to analyse the results, including interviews and questionnaires.

There are six phases in the requirements gathering which allow for an incremental design.

4.2 Nature of Organisation

The Irish Taxation Institute (ITI) is a non-profit organisation and this type of organisation can often be a step behind in capitalising on new technology – this is not the case in ITI. ITI sees the importance of the Internet in achieving organisational objectives. The potential includes providing information, “educating, developing, representing”, as the ITI slogan says, and building expertise among members, volunteers and the public.

ITI has many established communities of practice. The advantages of these communities and groups to ITI members are:

- Opportunities to share ideas and exchange experiences with fellow professionals.
- Engagement with stakeholders to advocate the need for an efficient, innovative tax system that contributes to a successful economy.
- Access to senior figures from the tax profession, Revenue, Government and the broader business environment.
- Views and recommendations are represented at all levels.
- Ensure members are well-armed with the most up-to-date briefing materials.

The objective of this research is to gather as much information as possible in order to design an experiment whose purpose is to discover how introducing an online Web 2.0 tool will improve community learning and sharing.

### 4.2.1 Requirements for the Organisation

ITI are aware that there is a need to create an online resource for some of the existing groups. All groups currently use email to communicate. There are currently “small islands of knowledge sharing” but no “bridges between these islands” (Smith and McKeen 2002). To remain competitive, ITI need to enable some form of electronic resource of knowledge for its members. “The collaborative knowledge of the community is greater than any individual knowledge” (Johnson 2001). Essentially members should be able to trace back to old queries without having to rely on their memory or email archive. They should also be able to post tax administration questions. The members will be able to deepen their tax administration knowledge even more by interacting with the online tools on an ongoing basis.

Wenger (2004) talks about translating the strategy of the organisation into a set of domains of knowledge – what knowledge does ITI require to compete effectively? ITI need to use the knowledge they already have to enable both ITI and its members to compete effectively.

Another important aspect is that the members need to find value and relevance in participating in the online version of their community. A key point to note is that the circle of people whom tax advisers need to interact with to manage their knowledge is often different from the groups they work with on a daily basis. This is why they get value from participating in their relevant communities. Members need to be able to engage directly with each other online, in between the face-to-face meetings. They need to be able to post questions and items of interest. All communities need
sponsorship to ensure they have the adequate resources to function – sponsorship and support will come from ITI.

Phases are used to show that the requirements gathering process is more than a list of features and needs to be done in incremental steps to ensure that nothing is missed and it also improves the likelihood of success of the end product. Requirements gathering phases are usually in the form of gathering, documenting, communicating and transferring the knowledge that has been learned. The requirements artifacts are then assembled in one document. It is necessary to have the users tell you what they want rather than deciding as the project progresses. Although users may not be familiar with software or user interface design, they are good at demonstrating what they do and showing what is important to their working experience. This is a suitable approach for ITI as it introduces each part of the experiment in a phased method.

4.3 Phase 0 – Feasibility Study/Analysis

Why are existing ITI communities suitable to being moved online?

- There is already an existing motivation as these members are already part of a community – they already have a sense of belonging.
- It allows more contact between members in between face-to-face meetings. Some groups may only meet four or five times per year.
- There is already participation between meetings in the form of emails – online communities need this to maintain the energy.
- To sustain the community, there needs to be a moderator – which is already in existence.
- Trust already exists in the community which has been developed in the face-to-face interactions.
- It is a practice or subject based community of practice which will develop more organically and be less transient in comparison to a task based community of practice (Fowler and Mayes 1999)
- There should not be any issues with conduct or abusive material as members are all existing members of a professional organisation.
- Members of various committees are currently frustrated with using the “track changes” feature in Microsoft Word and a wiki would be a perfect tool to use for this type of document collaboration.
Potential barriers to virtualising communities within ITI:

- Members need to pre-register to get access.
- Members will need to conform to the community rules but members already conform to a Code of Conduct so this should not be an issue.
- Ease of use of a tool. Usability and accessibility of any tool is a key factor to its success. Technical difficulties can obstruct collaboration among members.
- Collegiality – respect for others views and comments on a given topic can cause concerns in environments like this.
- Amount of member engagement – participants may feel a sense of inequality. In an anonymous environment, users are less worried about “losing face”.
- Legal issues: If a user were to give “tax advice” which was inappropriate, would this have legal implications? Often, when a forum or online area is password protected and requires a user login, this is not a concern.
- Security and intellectual property: the sensitive aspect of the information being shared. Who does the information belong to?
- Time: members may not have the time to contribute to an online community but if they find benefit in it then they will find the time.

“Technology needs to provide clear solutions to real problems, not create its own set of problems” (Shepherd and Rothenbuhler 2001).

In many organisations, knowledge management is realised when a senior executive returns from a conference and they have heard a lot about this new buzzword and want to get started implementing knowledge management in their own organisation. There are some factors to consider in deciding if an organisation is ready for knowledge management.

Is ITI ready to implement knowledge management?

ITI seems to be willing to implement processes and practices that come from outside of the organisation. It values individual contributions from both internal and external people and tries to maximise these. As an organisation it encourages learning and growth in individuals and as an organisation as a whole. There needs to be more incentives to encourage sharing across the organisation and any new implementations need to ensure that everyone involved contributes in some way to the success of the implementation. Above all the management and the communities need to understand the importance of knowledge management both inside and outside of ITI. These
groups also need to understand that knowledge management is much more than implementing an IT tool and sponsorship for knowledge management needs to come from the leaders in each community.

4.4 Phase 1 Requirements - Brainstorming

The first task was to introduce the organisation to the idea of knowledge management and how it could be used to implement ITI’s strategy. The management team was introduced to knowledge management by the way of a ten minute presentation, which was followed by a brainstorming session. Many of the group was focused on the technology aspect and what kind of tools would be used rather than the more basic questions:

- How can ITI use their knowledge to make them the leading provider of a tax qualification in Ireland?
- How can ITI’s knowledge be better managed to deepen relationships with members?

It was a presentation to the management team in order to get management buy-in. It only became clear later in the experiment, the true significance of what management buy-in is; it happens when projects or ideas start getting pushed towards the knowledge champion. Management buy-in is also important to ensure a shared vision for how knowledge management will be undertaken in the organisation and what it will do for the organisation.
4.5 Phase 2 Requirements – Case Studies

A range of organisations were contacted to identify best practice in the area of introducing a knowledge management Initiative using Web 2.0 technologies. The key points are covered below using a template developed in a previous module of the MSc in Knowledge Management.

The template is broken up into nine questions which were used as a basis for each case study. The questions are then used to compare each case study and its similarities and differences to ITI.
Case Study Review: 1

1. What is the case study about?
Wiki based collaboration in a large organisation – AIB.

2. Who is the author and what do you know about them?
Mr. Colin Mooney – previous student of MSc in Computing.

3. Key Points/Issues covered:
   - AIB introduced Confluence wiki into the Operations & Technology division with a view to rolling it out to other teams.
   - They had looked at MS Sharepoint as a solution but the cost would prove to be too high.
   - Confluence is hosted internally in AIB.
   - A database administrator was required to help with the installation and configure the database.
   - Mooney had used Moodle as a student in DCU and did not like the functionality.
   - Confluence is used as a distribution channel and a collaboration tool.

4. PMI:

<table>
<thead>
<tr>
<th>Positive</th>
<th>Minus</th>
<th>Interesting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial cost - €8,000</td>
<td>A lot of time spent installing &amp; configuring</td>
<td>Rabobank – business blog. Should AIB be doing something similar?</td>
</tr>
<tr>
<td>Grassroots rollout</td>
<td>Email is not good collaboration</td>
<td></td>
</tr>
<tr>
<td>Get users to fully commit to the tool.</td>
<td>Tool for pilot may not be same tool for real project – migration issues?</td>
<td></td>
</tr>
</tbody>
</table>

Table 4.1 – PMI Case Study 1

5. What are the outcomes/conclusions of the paper?
Mooney made the point that he spent a lot of time installing and configuring the wiki. We discussed the possibility of using a hosted solution for a pilot test. Realistically, the
experiment of the dissertation should only take a couple of weeks as it is not the key part of the dissertation.

6. What viewpoint is the paper delivered from?
The viewpoint is that of an MSc student having completed his dissertation and looking back on the project and how he would have done things differently, if at all.

7. What technology was discussed in the paper? Did it play a positive or negative role?
We discussed the use of wikis, blogs, forums, hosted or not hosted. Technology definitely played a positive role in this situation, in that it enabled collaboration across departments in AIB.

8. Are metrics used in this paper, if so in what way?
Metrics included activity diagrams for the wiki –
   - How many times pages and new posts were viewed.
   - How many pages, news posts, comments had been created or updated.

9. What future work was discussed in the paper?
Mooney mentioned that an interesting project would be to review the wiki in a year and also the plan for rolling it out to the organisation as a whole. There currently is no knowledge management strategy within AIB and maybe this is something that will be developed in the near future.
**Case Study Review: 2**

1. **What is the case study about?**
The implementation of a wiki in a large organisation – Bord Iascaigh Mhara (BIM), the Irish Fisheries Board.

2. **Who is the author and what do you know about them?**
Mr. Colman McMahon, former MSc student.

3. **Key Points/Issues covered:**
   - A number of wiki tools were discussed during the meeting including TWiki, PBWiki, Media Wiki, Tomoye, Moodle and Deki wiki.
   - McMahon also spent a lot of time installing and configuring different tools. He suggested taking advice from other students and organisations about what tools were useful.
   - Deki Wiki seems to have a lot of functionality and can be installed on a VMWare platform in five minutes. There is no markup and easy hyperlinks.
   - “Sense of community” – differences between virtual and non-virtual communities.
   - The benefits and values for users belonging to a community.
   - Ted Nelson and Project Xanadu.
   - A number of questions came up during our discussion:
     - Why would a wiki not work?
     - Difficulty with forums and moderation?
     - Legal advice – who has the rights to do what?
     - Are blogs more of a journalistic tool?

4. **PMI:**

<table>
<thead>
<tr>
<th>Positive</th>
<th>Minus</th>
<th>Interesting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ease of installing DekiWiki.</td>
<td>Computer literacy of BIM staff.</td>
<td>Develop a framework to evaluate a tool for an online Community of practice.</td>
</tr>
<tr>
<td>Outlook integration.</td>
<td>Difficulty in choosing a tool.</td>
<td>Anonymity in a virtual Community of practice.</td>
</tr>
</tbody>
</table>

Table 4.2 – PMI Case Study 2
5. What are the outcomes/conclusions of the paper?
Start simple. Don’t use knowledge management lingo with people who don’t understand – you will only frighten them!

6. What viewpoint is the paper delivered from?
McMahon had already done a lot of reading and research for his own dissertation and was able to give some good advice.

7. What technology was discussed in the paper? Did it play a positive or negative role?
Deki Wiki was implemented in BIM and is currently being used as part of the portal. McMahon also tested a number of other tools which he was able to advise about.

8. Are metrics used in this paper, if so in what way?
McMahon said that there are precious few metrics with regards to a knowledge management project and he thinks this is the weakest aspect of the practice.

9. What future work was discussed in the paper?
In terms of what's next for BIM, it's going to be largely focused on building up the wiki/knowledge base. The overall flavour of knowledge management in BIM is technology-based due to lack of HR support and vision. Additionally, the decentralization plan has many employees thinking that knowledge management is part of taking their jobs away from them. Another factor is knowledge management isn't directly attached to or driven by the business plan.
Case Study Review: 3

1. What is the case study about?
Implementation of Web 2.0 tools in RICS (Royal Institute of Chartered Surveyors).

2. Who is the author and what do you know about them?
Hilary J Oakley BA(Hons) MA MCLIP, Manager - Customer Service and Marketing, RICS Library and Information Services.

3. Key Points/Issues covered:
- 110,000 members – not all active.
- March 2008 – RICS implemented two Web 2.0 tools.
  - Library Blog – open to members of the public. Only RICS staff can create a blog but everyone can comment, although the library do choose to publish comments or not. Some comments are more queries for the library team.
  - Discussion Forum – open to members only.
- RICS use the blog to promote their services.
- Some points to note about the forums:
  - Strict Ground Rules – Compliance
  - Many different sub-groups including Built Environment, Property, Careers, Training & Learning etc;
  - Requires moderation – sometimes posts have to be taken down – flaming/gossip.
  - Members are not allowed to promote their own services.
  - Members get to share their knowledge
  - A lot of regular users, many one-time users and alot of lurkers.
- They decided to go with a blog rather than a wiki because they are easier to moderate than wikis, where users can share and create documents.

4. PMI:

<table>
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<tr>
<th>Positive</th>
<th>Minus</th>
<th>Interesting</th>
</tr>
</thead>
<tbody>
<tr>
<td>24/7 availability for members located internationally</td>
<td>Reporting features</td>
<td>One particular item posted in the blog didn’t receive any comments but created a lot of discussion when posted as a forum item.</td>
</tr>
</tbody>
</table>
5. **What are the outcomes/conclusions of the paper?**
The blogs get a lot of views but not many comments. RICS see it as more of a way of broadcasting their services to members. The forums have a lot of activity – with 71,000 posts from April 2008 to August 2008.

6. **What viewpoint is the paper delivered from?**
The paper is delivered from the viewpoint of the Marketing Manager of RICS who is trying to promote the services of the RICS.

7. **What technology was discussed in the paper? Did it play a positive or negative role?**
The technology used was Community Server from Telligent. It generally played a positive roll with some negative aspects regarding flaming and SPAM.

8. **Are metrics used in this paper, if so in what way?**
As the project is only in existence since April, they haven’t done any real reporting yet but they did mention the 71,000 posts on the forum. Mostly what they can see is the number of views to a particular post. They would particularly like to see what other items the visitors are viewing on the website – particularly those that comment on blogs.

9. **What future work was discussed in the paper?**
They didn’t discuss any future work but said that they are constantly reviewing what they do with the website and member services.

---

<table>
<thead>
<tr>
<th>SPAM control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anonymous comments on public blog are difficult to trace</td>
</tr>
</tbody>
</table>

**Table 4.3 – PMI Case Study 3**
Case Study Review: 4

1. What is the case study about?

2. Who is the author and what do you know about them?
Ms. Catherine Bruen is the project manager for the NDLR pilot group.

3. Key Points/Issues covered:
- Three year pilot program run by the NDLR and funded by HEA.
- Involves all Universities and Institutes of Technology in Ireland collaborating and sharing resources online.
- Bruen discussed the importance of a trust network which comes from the face-to-face meetings.
- They are using a number of tools – Druple, Dumla, PBwiki, Wordpress and Dreamweaver.
- Bruen also discussed the three stages of NDLR communities of practice:
  - How to become a community of practice – initiation stage – “we are open for business” – usually a pilot phase.
  - Mature community of practice – community is beginning to mature.
  - Life after the NDLR project – sustainable model and future plan.
- 12/13 communities of practice were setup during this project.

4. PMI:

<table>
<thead>
<tr>
<th>Positive</th>
<th>Minus</th>
<th>Interesting</th>
</tr>
</thead>
<tbody>
<tr>
<td>NDLR are developing a framework of guidelines for developing Community of practice’s.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know-how and techniques are shared.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4.4 – PMI Case Study 4
5. What are the outcomes/conclusions of the paper?
NDLR will be issuing a Do-It-Yourself guide to setting up a community of practice using the CAMEL (Collaborative Approaches to the Management of e-Learning) model at the end of 2008.

6. What viewpoint is the paper delivered from?
It is delivered from the viewpoint of the project manager Ms. Catherine Bruen.

7. What technology was discussed in the paper? Did it play a positive or negative role?
A number of tools are used by the communities and this is supported by HEAnet – a government funded technical support team for all users involved.

8. Are metrics used in this paper, if so in what way?
Each Community of practice setup under this pilot project must report its activities to the NDLR board once every three months, using a reporting mechanism provided by the group.

9. What future work was discussed in the paper?
Bruen discussed the possibility of rolling the online community facility out to other non-HEA funded groups after the Pilot project has completed.
Case Study Review: 5

1. What is the case study about?
Royal College of Surgeons in Ireland (RCSI) Knowledge Management.

2. Who is the author and what do you know about them?
Mr. Luke Feeney is a KIMQ Consultant (Knowledge, Information & Quality Consultant) for the International School of Healthcare Management in RCSI.

3. Key Points/Issues covered:
   - They are developing a blended learning platform for students using tools such as Articulate, Audacity, Zoomerang.
   - They use Moodle as a knowledge sharing platform both for students and internal project groups. Moodle was designed to help foster online learning communities.
   - They have developed a Professional ePortfolio which will allow any user to consistently manage all aspects of CPD (Continuing Professional Development), competencies, etc.
   - Feeney mentioned the Constructivist On-Line Learning Environment Survey (COLLES) and they are using this to come up with best practice such as surveying students/members to get their opinions on online sharing.
   - Feeney also spoke about the importance of peer support and interactivity.
   - SCORM - Sharable Content Object Reference Model is a collection of standards and specifications for web-based e-learning.

4. PMI:

<table>
<thead>
<tr>
<th>Positive</th>
<th>Minus</th>
<th>Interesting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feeney was chief organiser for the last Moodle Moot.</td>
<td>Metcalf’s law – the value of a network increases as a square of the number of users.</td>
<td>Candidates must be motivated to participate in an online community.</td>
</tr>
<tr>
<td>Moodle is often used to support interactions of Community of practice’s.</td>
<td></td>
<td>Developing a model for Age of participation</td>
</tr>
</tbody>
</table>
5. **What are the outcomes/conclusions of the paper?**
Work is ongoing at RCSI and they are constantly coming up with new and better ways for their employees and students to collaborate.

6. **What viewpoint is the paper delivered from?**
The viewpoint is delivered from the Knowledge, Information and Quality Consultant who has also just completed a research Masters in this area.

7. **What technology was discussed in the paper? Did it play a positive or negative role?**
Technology definitely plays a positive role in this organisation, they are using tools such as Moodle, Alfresco, Audacity, Articulate and Zoomerang.

8. **Are metrics used in this paper, if so in what way?**
Metrics are the usual views and posts to forums and other online content.

9. **What future work was discussed in the paper?**
RCSI are now providing workshops to other similar institutions based on the knowledge they have gained from developing blended learning solutions.
Case Study Review: 6
1. What is the case study about?
Hibernia Online College - Hibernia College offers a blended learning format that combines the many advantages of interactive, multimedia-rich online content with the proven qualities of face-to-face tuition through periodic on-site sessions.

2. Who is the author and what do you know about them?
Dr. Nick Breakwell – Chief Knowledge Officer - overall responsibility for course development and e-learning infrastructure.

3. Key Points/Issues covered:
- Hibernia are using a system called iTeach – which is a learning management system. Users have the facility to:
  - Make a blog entry and comment on other blogs.
  - Download relevant documents and materials.
  - View online lectures.
  - Discuss issues with other students in the forum.
- Hibernia has a support team of about 30 knowledge officers and 6 customer support/technical support staff.
- They also use a tool called InterWise for their virtual classroom functionality.
- Students have access to podcasts of various lectures.
- Students and lecturers also collaborate and communicate online.

4. PMI:

<table>
<thead>
<tr>
<th>Positive</th>
<th>Minus</th>
<th>Interesting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Similar to a Community of practice – both online and face-to-face interaction.</td>
<td>Not as much face-to-face interaction as normal classroom environment.</td>
<td>30 knowledge officers supporting the online learning environment and extracting knowledge from key people.</td>
</tr>
<tr>
<td>Anytime anywhere experience for students.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cuts down on time spent travelling for students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>One of founding members</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
6. What viewpoint is the paper delivered from?
The paper is delivered from the viewpoint of the Chief Knowledge Officer who is responsible for the development of next generation learning tools.

7. What technology was discussed in the paper? Did it play a positive or negative role?
Technology is hugely important in this environment and plays a very positive role for the students, it includes:

- Online content
- Live virtual classes
- Learner communities

8. Are metrics used in this paper, if so in what way?
Metrics are used to assess students online contributions in relation to their overall marks.

9. What future work was discussed in the paper?
Hibernia was founded in 2002 and they are continuing to develop their online learning facilities for their growing educational program.
The following table is an analysis of the Case Studies:

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Similar</th>
<th>Different</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIB</td>
<td>&gt; MSc student&lt;br&gt; &gt; Use email for collaboration &amp; all communication</td>
<td>&gt; Large hierarchical organisation&lt;br&gt; &gt; IT support team in place</td>
</tr>
<tr>
<td>BIM</td>
<td>&gt; MSc student&lt;br&gt; &gt; Use email for collaboration &amp; all communication&lt;br&gt;</td>
<td>&gt; Government funded</td>
</tr>
<tr>
<td></td>
<td>&gt; Difficulty in choosing a tool</td>
<td></td>
</tr>
<tr>
<td>RICS</td>
<td>&gt; Member based org&lt;br&gt; &gt; Promote services to members – use blog to do this.</td>
<td>&gt; Large organisation with key people involved in KNOWLEDGE MANAGEMENT specifically&lt;br&gt; &gt; IT support team in place</td>
</tr>
<tr>
<td></td>
<td>&gt; Strict rules for forums&lt;br&gt; &gt; Requirement to constantly review member services.</td>
<td></td>
</tr>
<tr>
<td>NDLR</td>
<td>&gt; A number of Education institutes involved in pilot</td>
<td>&gt; 3 year pilot project&lt;br&gt; HEA funded and strong technical support for all groups</td>
</tr>
<tr>
<td>Hibernia College</td>
<td>&gt; Education Institute like ITI&lt;br&gt; &gt; Private organisation&lt;br&gt;</td>
<td>&gt; Huge technical support group including knowledge officers</td>
</tr>
<tr>
<td></td>
<td>&gt; Lectures similar to Community of practice – both online &amp; face-to-face interaction.&lt;br&gt; &gt; Anytime, anywhere experience for students/members</td>
<td></td>
</tr>
<tr>
<td>RCSI</td>
<td>&gt; Education Institute like ITI&lt;br&gt; &gt; Lectures similar to Community of practice – both online &amp; face-to-face interaction.</td>
<td>&gt; Aimed towards students rather than members</td>
</tr>
</tbody>
</table>

**Table 4.7 – Analysis of Case Studies**
4.6 Phase 3 Requirements – Maturity Model

Maturity Models generally describe the development of an entity over time, in this case, the entity being a community of practice. There are usually a number of levels which describe what the entity has to achieve on that level. The entity progresses from one level to the next.

The Capability Maturity Model (CMM) is an example of such a model which is mainly used in the software development cycle. The main basis of this model is that quality can be achieved through control.

Similarly organisations progress through a series of stages in using knowledge management tools and techniques (Remenyi et al 2001). The know-how and technology grow together within the organisation.

Referring back to the model in section 2.2, the key areas of knowledge management are people, process and technology (Collison and Parcell 2001). There are certain activities to be done in each area.

![Knowledge Management Circle (Collison and Parcell 2001)](image)

KPMG developed a model called the “Knowledge Journey” which is a five-level model that progresses from “knowledge chaotic” to “knowledge centric” (KPMG 2000). KPMG say that knowledge management is a strategic long-term proposition.
and a process that should be embedded within an organisation. This model looks at four key process areas – people, process, content and technology with each area having a checklist of items.

<table>
<thead>
<tr>
<th>Key Process Area</th>
<th>Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>People</td>
<td>Implementing KM training/awareness (e.g. workshops or road shows)</td>
</tr>
<tr>
<td></td>
<td>Appointing knowledge officers and creating knowledge centers</td>
</tr>
<tr>
<td></td>
<td>Incentivising and rewarding knowledge workers</td>
</tr>
<tr>
<td></td>
<td>Building and developing “communities of practice”</td>
</tr>
<tr>
<td></td>
<td>Establishing formal KM networks (e.g. dedicated workers in discrete groups, communities of KM practice)</td>
</tr>
<tr>
<td>Process</td>
<td>Benchmarking or auditing the current situation</td>
</tr>
<tr>
<td></td>
<td>Creating a KM strategy</td>
</tr>
<tr>
<td></td>
<td>Implementing new systems for “communities of practice”</td>
</tr>
<tr>
<td></td>
<td>Designing other KM processes</td>
</tr>
<tr>
<td>Content</td>
<td>Creating a knowledge map</td>
</tr>
<tr>
<td></td>
<td>Implementing knowledge policies</td>
</tr>
<tr>
<td></td>
<td>Measuring intellectual capital</td>
</tr>
<tr>
<td>Technology</td>
<td>Carrying out a knowledge system audit or assessment</td>
</tr>
<tr>
<td></td>
<td>Implementing ways to share best practice</td>
</tr>
<tr>
<td></td>
<td>Use of KM software (either dedicated or Intranet or Groupware software)</td>
</tr>
</tbody>
</table>

![Figure 4.3 - Key process areas on Knowledge Journey (KPMG 2000)]

<table>
<thead>
<tr>
<th>Maturity Stage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Knowledge Chaotic</td>
</tr>
<tr>
<td>2</td>
<td>Knowledge Aware</td>
</tr>
<tr>
<td>3</td>
<td>Knowledge Focused</td>
</tr>
<tr>
<td>4</td>
<td>Knowledge Managed</td>
</tr>
<tr>
<td>5</td>
<td>Knowledge Centric</td>
</tr>
</tbody>
</table>

![Figure 4.4 - Maturity levels of the Knowledge Journey (KPMG 2000)]

From the table above, KPMG found that 43% of organisations were at stage 1 with only 10% of organisations at stages 4 or 5 (only 1% at stage 5). The report clearly showed that although knowledge management is an accepted part of the business agenda, the full benefits are being missed and many organisations are not ready to tackle knowledge management just yet.

4.6.1 Knowledge Management Maturity Model

A knowledge management maturity model is generally used to assess an organisation’s current level of knowledge management maturity. It will also help the organisation to visualise how to raise the level of knowledge management maturity. One of ITI’s
strategic objectives is to deliver value to its members which means performing different activities from other organisations or performing the same activities differently (Porter 2002). Each level in a knowledge management model is related to each stage in the knowledge lifecycle.

![Figure 4.5 - Knowledge Lifecycle (Govil 2007)](image)

4.6.2 ITI Knowledge Management Maturity Model

**Level 1**: No specific attention is paid to the knowledge of the members and how it is transferred across the organisation and to other members.

**Level 2**: ITI needs to focus on sharing knowledge among key groups that have developed within ITI and also across the member base.

**Level 3**: Creation of new knowledge for the members is at the forefront of the knowledge management agenda.

**Level 4**: Knowledge management and sharing is institutionalised for the many ITI Groups.

**Level 5**: Knowledge management is rolled out to all members.
4.7 Phase 4 Requirements – ITI Experimental Group 1

The Branch Network is a network of ITI members which was setup three years ago to communicate on tax administration issues across five regions: Large Cases Division, Dublin, East-South-East, South-West, Borders-Midlands-West. Each region is also broken up into a number of districts. There are regular meetings between the various districts and each of the regions meet approximately twice a year.

ITI representatives of the Branch Network are available to members for feedback on tax administration and customer service issues. They liaise and consult with local senior Revenue personnel on members' behalf and with other branches to monitor consistency of treatment on customer service issues between the various Revenue districts and regions. On a regional level, chairpersons liaise and consult with senior Revenue personnel on issues affecting an entire region and provide structured feedback from various branches to assist and support the consultative process on national-level issues.

The branches also provide regular feedback and support to members countrywide on important tax administration issues.
There exists some information sharing within the individual districts but there is no cross-region communication so one region is not aware of tax administration issues in another region.

4.7.1 Identifying where a knowledge management initiative may benefit this group

A number of ITI staff were interviewed to see what their idea of knowledge sharing for the Branch Network involved. The meeting involved a brainstorming session with key members of staff, out of which a mindmap was developed.

![Mindmap from brainstorming session](image)

**Figure 4.7 - Mindmap from brainstorming session**

The participants were also given blank sheets of paper and markers and asked to draw what they thought a member would see on entering the online area for the community of practice.
Figure 4.8 - Branch Network Idea 1

Figure 4.9 - Branch Network Idea 2
During the group discussion, it was suggested to investigate other similar organisations to ITI that were hosting online communities. After initial investigation, the only community that was found was the Royal Institute of Chartered Surveyors, already discussed in section 4.5.

The participants were also shown ‘screengrabs’ from existing online communities that were using Web 2.0 technology and asked what they liked/disliked. Comments included:

- Some of the forums were too boring in appearance and difficult to read.
- They liked when it was clear how many views/replies a post received.
- Sorting by date and category was a key feature they liked. Categories would have to be high-level.
- The possibility of users only being able to reply/comment on items posted by ITI staff was discussed.
- The key point was that anyone could comment on a “real live issue” that had cropped up on the desk of someone else.
- They like forums more than blogs and the idea of a portal/wiki was discussed too with different sections dealing with latest news etc;
• They liked the “Digg it” concept of being able to rate or “digg” posts/blogs and only the highest ranked ones appeared on the homepage.

During the meetings, the current flow of information was also analysed which currently occurs mainly via email and phone. Currently if a query is received by email/phone, the query will be forwarded to the branch reps in the relevant area who will then respond – either to “all” or just to one person. It was thought that the same users would not have any issue with posting a comment visible to “all” in an online area. A Use Case diagram was developed to describe the flow of information.

![Branch Network Online](image)

**Figure 4.11 - Use Case Diagram - Branch Network Interactions**

Other items of discussion:
• Should some items only be visible to branch representatives?
• Taxonomy – knowledge sub-areas – should the queries be divided up by region or is there a better way to divide them up?
• Tagging/keywords – are these required?
• Should roles be created – leadership, moderator, facilitator, editor – who will care and nurture the site and its members? Who will referee? Will it be up to the chairperson of each region?
• What will be the incentives/rewards for participating in the community?

4.7.2 Maturity Model for Branch Network

<table>
<thead>
<tr>
<th>Level</th>
<th>Engagement of Community</th>
<th>Domain</th>
<th>Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1</td>
<td>No community in existence</td>
<td>Tax administration</td>
<td>No practice in existence</td>
</tr>
<tr>
<td>Level 2</td>
<td>Branch Network is setup – loose network. No connection across regions/districts</td>
<td>Tax administration</td>
<td>Non-technical, regional meetings. Emails between meetings.</td>
</tr>
<tr>
<td>Level 3</td>
<td>Community defines its core values, mission &amp; goals</td>
<td>Defining scope of domain so it elicits interest of all members.</td>
<td>Increase interest from members in development of an online tool</td>
</tr>
<tr>
<td>Level 4</td>
<td>Cross region communication &amp; visibility.</td>
<td>Tax administration and more. Accurate information that answers the right questions.</td>
<td>Online sharing for members is practiced. Accessible areas for all.</td>
</tr>
<tr>
<td>Level 5</td>
<td>Members connect to experts. Members connect to members.</td>
<td>Knowledge of community captured for re-use.</td>
<td>Full keyword searching of all tax related queries. Multiple answers/opinions to all queries/issues.</td>
</tr>
</tbody>
</table>

Table 4.8 – Branch Network Maturity Model
4.7.3 Assessing the Viability of using this Group

There was a lot of discussion on the most suitable group to use for a pilot. The Kildare district of the East South East branch network region was chosen for the following reasons:

- They are very active currently.
- There are a number of key people in this district.
- They are one of the larger districts but are not in the Dublin region.

The initial questionnaire for the pilot group was drafted based on previous discussions. The questions evolved through a number of iterations mainly over and back between two people. In the end, it was decided by management not to survey the members of the various districts. The survey can be viewed in Appendix A.

This experiment was not carried out for various reasons. Change will always create some form of reluctance or resistance. Knowledge is rooted in human experience and social context, managing it well requires paying attention to people, culture and organisational structure as well as to the information technology.

Other reluctance stems from the issue of security and the integrity of knowledge within an online platform and the responsibility of the organisation to moderate and patrol the content.
4.8 Phase 5 Requirements – ITI Experimental Group 2

The ITI tax administration committee was chosen as the second experimental group with a view to rolling out online facilities to other groups if it proved successful. This committee meets approximately five times per year and is made up of 14 to 15 ITI members and chaired by an ITI council member.

![Tax Administration Committee members](figure)

Figure 4.12 – Tax Administration Committee members (author)

This committee deals with all Institute Revenue facing activities and is made up of members from different constituencies:

- Big Four: four largest international accountancy and professional services firms.
- Members in Industry.
- Recently Qualified Members.
- TALC (Tax Administration Liaison Committee) members.
- Member from each of the Branch Network Regions.

This group was seen as the ideal pilot group as it deals with many of the same issues as the Branch Network and is also made up of similar members. The main difference is
this test group is open to a smaller number of people. Most of the requirements gathered for group one will also apply for group two.

The group discusses and liaises on trends in the tax system and problems that may arise with the Collector Generals office. All Revenue publications are also analysed and discussed. They study tax technical items which have a bearing on the administration of the tax system. They are also responsible for identifying problem areas and making submissions to Revenue on behalf of ITI members. Often these submissions stem from the Branch Network and TALC interactions. A few of the members oversee and plan the Joint ITI and Revenue yearly conference.

4.8.1 Identifying where a knowledge management initiative may benefit this group

The group bring their expertise and experiences they are having to the committee table and receive advice and input from their peers. Agendas and working papers are issued well in advance of all meetings and minutes are issued after each meeting, all via email. The Committee has ITI secretariat support for all administrative activity.

There are some reservations about using this group for the experiment. The group is small so there won’t be a huge volume of feedback regarding the use of a tool and experiences with the experiment. The group also do not have a large volume of communication between meetings and a lot of the communication is done face-to-face.
The committee was introduced to the concept of the pilot at one of their committee meetings. The pilot will be driven by ITI Management and the chair person of the tax administration committee. A number of submissions will be made to Revenue in the coming months and members need to collaborate and share expertise on these submissions. The online area will also act as a communication tool for the members.

4.8.2 Maturity Model for Tax Administration Committee

<table>
<thead>
<tr>
<th>Engagement of Community</th>
<th>Domain</th>
<th>Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1</td>
<td>No committee exists.</td>
<td>Tax administration</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No practice in existence.</td>
</tr>
<tr>
<td>Level 2</td>
<td>Members of the committee are conscious of the need to learn from what they do but rarely</td>
<td>Tax administration</td>
</tr>
<tr>
<td>Level 3</td>
<td>Committee defines its core values, mission &amp; goals</td>
<td>Defining scope of domain so it elicits interest of all members.</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Level 4</td>
<td>Knowledge management is viewed as responsibility of a particular group.</td>
<td>Tax administration and more. Accurate information that answers right questions.</td>
</tr>
<tr>
<td>Level 5</td>
<td>Members connect to experts. Members connect to members.</td>
<td>Knowledge of committee captured for re-use.</td>
</tr>
</tbody>
</table>

Table 4.9 – Tax Administration committee Maturity Model

4.8.3 Assessing the Viability of using this Group

The idea was first introduced to the chairperson of the committee who was very keen on letting this group lead the experiment. The group is a closed group of members. It is important to build a community on strategically important topics and this group deals with topics that affect all members. This group is a sort of parent group for the Branch Network, in that it oversees all activities of the “branch” and makes submissions on their behalf.
4.9 Conclusions

Is the issue the bottom-up style of information sharing and collaboration, rather than a corporate imposed top-down strategy? This is something new for the organisation. Are social interaction tools suitable for a member based organisation where the members are not answerable to the management and there is more concern regarding the legal implications of the discussions.

Reputation and trust are fundamental in online interactions. To remain competitive, ITI must deliver the “community need” to its members – the need to connect to people with similar expertise. A reluctance hinders the usage of Web 2.0 tools on any scale in ITI. Possible causes can be the control they are giving to the individual on his/her own generated content – as opposed to the hierarchic control on central knowledge repositories, and their bottom-up approach – as opposed to the classic top-down one. (Avram 2006)
## 5 TOOL SELECTION

### 5.1 Introduction

In this chapter a number of tools will be investigated including blog, wiki and forum software. The tool ITI is looking for is a conversation enabler that will replace email. A lot of research had already been conducted in chapter 3 regarding the type of tools available and their suitability to this type of experiment. It was also discussed in section 4.5 and the tools recommended by other organisations were considered for this project. The tool will need to match the overall objective which is to make the work of members more transparent and to closely align the tool with the organisation strategy.

### 5.2 Identifying Viable Candidates

It is important at this point to note that ITI has a one person IT team and the day-to-day network support is outsourced to an external provider. This will be an important factor in choosing a tool. The interviews conducted in section 4.5 suggest that a lot of time can be squandered on installing and configuring tools and many of the interviewees agreed that a hosted solution would be a viable option if the following concerns can be eliminated:

- It must be possible to easily export the content to another platform, if after the pilot, a decision is made to move to an installed platform.
- Security is paramount and the hosted solution must be with a reputable company that can demonstrate a secure platform.
- Ability for the administrator to perform the same level of customisation as would be possible in an installed solution.

The advantages of using a hosted solution over an installed solution are:

- No major upfront costs.
- No hardware requirements or resource requirements.
- Easy-to-use, user friendly configuration.
- It won’t take up all your time.
5.2.1 Installed Solutions

Initially, a wiki tool was installed internally on ITI servers for testing. Deki Wiki allows people to connect to each other through wiki pages.

Deki Wiki
Deki Wiki is one of the most sophisticated wiki platforms on the market today. Interviews with another MSc student showed that Deki Wiki has many advantages including ease of installation. Deki Wiki runs on a VMWare platform and can be installed in literally ten minutes on any computer running Windows. Features include WYSIWYG (What You See Is What You Get) text editing, file attachments, page linking, versioning, and user permissions. The only support is through user forums which are a bit difficult to use unless one purchases the enterprise edition.

Once Deki Wiki was installed, it was easy to configure and set up a hierarchy of wiki pages. It also allows you to use Deki Script to insert forums and other widgets into your wiki pages.

The main downfall was that after approximately two weeks of the initial Deki Wiki installation, the usernames and passwords stopped working. A number of solutions were tried to fix the problem but no solution was found.

![Figure 5.1 - Deki Wiki Installation](image)
**WordFrame**

WordFrame provide both a hosted and installed solution. It is essentially a wiki, blog and forum tool rolled into one. The aim of WordFrame is to take the place of traditional methods of communication in organisations such as Intranets, email and shared drives. They provide an out-of-the-box solution which makes the solution quick to deploy.

Initially, an installation of WordFrame was considered on ITI servers but this failed for a number of reasons mainly due to a lack of technical resources and a database administrator.

WordFrame gave a very comprehensive demonstration of their tool which was quite impressive. Their head office is based in the United States of America, the development team in Bulgaria with partners in the United Kingdom. Interestingly, all of the implementations that they have done in the United Kingdom since 2005 have been hosted solutions.

All features in WordFrame are very comprehensive and easy to use and no programming skills are required for the administration area. WordFrame have done quite a few implementations where their platform was integrated into an existing website. This is important for ITI as potentially whatever platform is chosen will need to be seamlessly integrated with the current Content Management system and there will need to be single sign-on for all members and students.

The benefits of WordFrame are a quick implementation and customisation, powerful administration tools and strong security and permission policies. WordFrame also put me in contact with a similar organisation to ITI in the United Kingdom that have just implemented online communities successfully using the WordFrame platform. This is discussed in section 6.7.
5.2.2 Hosted Solutions

The following hosted solutions were investigated and while it was still unclear at this stage which type of Web 2.0 platform was most suitable, a combination of both wikis and discussion forums were leading the poll. The community members should decide which type of tool is more suitable during the experiment and perhaps they should be given access to a variety of tools, but at the same time keeping it simple. The users do not need to see the terms “blog”, “wiki” or “forum” anywhere in the online community but these functionalities will be available to them.

**Lefora**

Lefora is a free hosted forum solution which also includes anti-spam support. They provide you with many themes to customise your forum and even allow the user to change layout, colours, background images etc; One can also add third party widgets to the forum such as calendars, chat-rooms, video players etc; The main advantage of Lefora is that it is easy to use and one does not have to put up with annoying advertisements on one’s forum.

http://www.lefora.com
SocialText
This is a business class wiki and the aim is to give the users of the system easy to create workspaces which allow for team work across a number of tools and widgets that can be installed separately depending on the requirements.

SocialText suggested setting up a bespoke demo of their system based on ITI’s requirements. They use methods such as a “white glove” service and “adoption coaching” to get the client up-and-running as quickly as possible. Essentially they apply Web 2.0 technologies to a business solution at quite a large cost. Although this solution looked like it could perform the necessary functions, ITI were not willing to spend a lot of money on a pilot project. SocialText also provide both a hosted and installed solution.

http://www.socialtext.net

Confluence Hosted
Confluence is an enterprise wiki that provides a solution to the communication problem organisations face today. It is based around a number of workspaces and each workspace has a number of features including wikis, blogs and discussion forums. Each workspace is an area where a team can discuss, create documents, comment on a blog and even share calendars. It is strong on permissioning and each workspace can be given permissions that decide who edits, creates or views items in a workspace. It runs on a robust platform and is completely scalable. It was not one of the more usable products tested and was difficult to navigate and find the administration features.
Wetpaint

Wetpaint is a “social website” that allows the user to build a community for any purpose. The platform has many features including wikis, blogs, forums and social networks. It allows one to create a wiki website that is easy to use and free. The main drawback about Wetpaint is that there is advertising all over your website which does not look professional. The adverts can be removed for a small subscription fee. The wiki is a nice, easy tool to use as is the discussion thread feature. The administrator privileges are a bit difficult to use and are not as flexible as they should be with regard to removing features and tabs.

http://www.wetpaint.com
WikiDot

WikiDot.com is a farm of wiki sites, essentially a free hosted wiki solution. Again, WikiDot’s selling point is that they help to build communities so they also provide forum functionality within their wiki suite. Once you have created an account, you can create up to 19 wiki sites. WikiDot seems to be aimed at a younger community that is not looking to use the site for a professional organisation, WikiDot promote having fun on their website! The usability was not a strong point of this product. It does not feature a WYSIWYG editor and this makes it difficult to use.

http://www.wikidot.com
Figure 5.6 - WikiDot hosted solution

**CommunityServer**

This is a product by Telligent and the product that one of the case studies was using, discussed in section 4.5. It sells as a social networking and collaboration platform. It is an enterprise solution and it is the tool that powers *myspace.com* forums. It can support up to 25,000 site members. The website is difficult to navigate and the number of products and what they are offering exactly is confusing. They don’t actually allow one to setup a hosted trial solution, instead they offer a test bed where anyone can login and contribute to the community.

[http://communityserver.com](http://communityserver.com)
ClearSpace
The main focus of ClearSpace is to target the “extended enterprise”, this would include employees, customers, partners, alumnae etc; It provides the usual tools – wiki, blog, forum, along with real-time chat and document management. This product is strong on categorisation and integration features with email, web services and user authentication services. It is focused on creating project-centric collaboration spaces. It is also very much geared towards the social networking side of things.

Although ClearSpace looks like a powerful platform, the people at ClearSpace were reluctant to provide a trial without understanding more of ITI’s requirements first. This is understandable as they need more information about the project in order to line up the right resources, but it is a similar situation to SocialText where the consultants are brought in for a fee at the early stages. ITI does not want to spend any money on consultant fees at this early stage of the project.

http://www.jivesoftware.com/products/clearspace
5.3 Viable Approach Identified

Following a number of issues with the installed solution, it was decided that a hosted platform was the most viable solution in an environment where there is one core IT person and support is outsourced according to the various platforms.

Long-term, following analysis of the Pilot project, it is envisaged that a Web 2.0 plug-in from the RedDot suite of tools will be used as ITI is currently using RedDot as a Content Management System. This would mean that all content would be held in one database which would make the whole user experience much more personalised and efficient.

Central Desktop was chosen as the platform for this pilot project and its features are discussed in detail in the next chapter. A scorecard was used to score each of the tools tested throughout the project.

<table>
<thead>
<tr>
<th>Ease of Setup</th>
<th>WordWiki</th>
<th>WordFrame</th>
<th>Letter</th>
<th>SocialText</th>
<th>Confluence</th>
<th>hosted</th>
<th>WikiPaint</th>
<th>WikiPedia</th>
<th>Community</th>
<th>Server</th>
<th>Clearspace</th>
<th>Central Desktop</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>7</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>9</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Website Attractiveness</td>
<td>7</td>
<td>9</td>
<td>7</td>
<td>0</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>7</td>
<td>9</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Usability</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>0</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>7</td>
<td>9</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>User features</td>
<td>6</td>
<td>9</td>
<td>8</td>
<td>0</td>
<td>5</td>
<td>7</td>
<td>5</td>
<td>7</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>No. of features</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>0</td>
<td>5</td>
<td>6</td>
<td>4</td>
<td>7</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Scalability</td>
<td>6</td>
<td>9</td>
<td>5</td>
<td>0</td>
<td>8</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>7</td>
<td>9</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Easy to find/search</td>
<td>6</td>
<td>9</td>
<td>7</td>
<td>0</td>
<td>9</td>
<td>4</td>
<td>5</td>
<td>4</td>
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<td>5</td>
<td>7</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td></td>
</tr>
</tbody>
</table>

Figure 5.8 – Tool Evaluation Scorecard

A software evaluation scorecard was used to analyse and evaluate all the Web 2.0 products mentioned in this chapter. For each tool, an evaluation score marked out of ten was assigned to the following criteria:

- Ease of Setup
- Website Attractiveness
- Usability
- User features
- Number of features
- Scalability
- Easy to find/search
- Security.

Based on the scorecard in figure 5.8, Central Desktop was chosen as the platform to run the experiment for ITI Group 2, with WordFrame in a close second place. It would
be interesting to use WordFrame to trial another ITI group in the future but not for the scope of this research.

5.4 Conclusions

There are hundreds and thousands of tools in the marketplace, many open-source, many that come with a small fee and many “enterprise” platforms that can prove quite costly after the consultancy fees are included – which is what many of these organisations are doing, selling their knowledge to the users. A hosted solution is definitely a very practical answer for testing platforms and testing a pilot group. It allows one to test the full functionality of the tool with none of the aggravation that comes with configuring an installation on your own servers. Many of these organisations are trying to do too many things at once which can be confusing for the end user or the person choosing a solution. If one was to go “shopping” for a product and one wasn’t entirely sure what kind of product they wanted, many of the websites above would leave the “shopper” even more confused.

Essentially in the end, it is not about the tool but how the users interact with and use the online space. The tool will enable ITI to test this online interaction.
6 DEPLOYING THE SYSTEM

6.1 Introduction

In this chapter the chosen tool, Central Desktop, will be discussed in detail and also how it was introduced to the pilot group. The setup and configuration are important aspects to this pilot group to ensure that the user experience is the primary focus. Once the tool is setup and users are given access, the performance and management of the tool will be monitored closely. The use of the tool will be driven by ITI staff in order to get end user buy-in.

6.2 Central Desktop

Central Desktop (http://www.centraldesktop.com) is a web-based collaboration tool that allows users to share and communicate information securely. It also helps to foster group discussion and track documents and files. It is a low cost yet feature rich solution. It brings lots of tools under one umbrella including blogs, wikis and forums. There is a documents and discussions section which allows users to upload a file and then discuss it.

The tool is very easy to use and configure and comes with a small hosting fee but when compared to the time saved, the fee is unimportant. It also allows the organisation to experiment with a number of different tools in a real-world situation before investing in a long-term solution. The tool will be used to communicate to ITI group two members for all discussions and documents. ITI will promote and encourage use of the tool in order to gain a good understanding of the user interactions with an online tool.

The licence option that was purchased allows ITI to create up to 25 workspaces with 25 internal users and 25 external users per workspace at a fee of €135 for three months. This fee includes a discount for non-profit organisations. At this low cost and minimal time for setup, it is the perfect choice for this pilot project.

The company plan option from Central Desktop that was chosen has the following features:

- 5GB of storage
Central Desktop is organised around workspaces which have a number of features. These features include a file and discussion area, tasks, milestones, calendar, databases, reports, media, blog, forum and company directory. The features that will be used for this pilot will be a main wiki page with additional wiki pages linking off this.

6.3 Setting up the System

ITI Group 2, the tax administration committee was introduced to the concept of using the tool at one of their committee meetings. They were given a brief introduction to the research and the purpose of using this group for a pilot, with a view to rolling an online area out to a wider audience. The last section of the meeting was used as a start-up workshop for the new online tool.

After the meeting the users were sent login details for the new workspace via Central Desktop. There are two members of ITI staff on the committee so these people will essentially be the enforcers for using the tool. All communications that will come from ITI will now come through this new medium. Key roles have been developed for these users, these include facilitator and main sponsor. There are also a number of senior members on this committee who are involved in ITI Council and Branch Network activities among other things. It is important to get these members engagement for the pilot if this tool or a similar tool is to be rolled out to other ITI groups.

Features of the new committee workspace are:

- Users login through a secure SSL layer.
- Users can choose to get regular feeds from the workspace – hourly, daily, weekly.
- Once logged in, the user will see the homepage of the committee which is a Wiki page containing a number of items.
- Users will also get access to the discussion functionality so they can discuss topical items.
The main role of the facilitator is:

- Organising meetings.
- Keeping the group informed of latest news.
- Uploading or creating new documents on the workspace that need contributions from the group experts.
- Stimulating and encouraging use of the tool and monitoring the activity.
- Acting as a focal point for the group.
- This person will essentially be keeping the community alive or “on the boil”.

### 6.4 Configuring the system

As mentioned previously this tool was chosen because of the ease of setting up a new workspace. A workspace was created for the tax administration committee and a number of documents were uploaded by the facilitator including the agenda for the current meeting and minutes of previous meetings. The committee will also be working on a number of submissions to the Revenue Commissioners and wiki pages were created for each of these to get users started. The administrators were unsure whether to create new wiki pages or just to upload the original MS Word documents. This is because when a wiki page is generated all comments appear at the end of the
page so a lot of scrolling is involved if there is a lot of text/content. This concerned some ITI staff. It was decided that if a document just required comments and not editing, it would be uploaded as a file to the workspace. If editing and input is required from the users, then a wiki page is created. See Figures 6.2 and 6.3.

Figure 6.2 – Using a wiki to upload documents with comments underneath

Figure 6.3 – Using a file upload so comments are clearly visible
The ITI website template was applied to the workspace to give the same look and feel as the ITI website – www.taxireland.ie.

There are three main areas of the workspace:

1. Wiki: the main wiki homepage with links to other areas
2. Files and Discussion:
   a. Users can upload files of any type including MS Word and Excel.
   b. Users can create a new wiki page.
   c. Users can create a discussion and wait for comments.
3. Calendar – this was a suggestion of one of the committee members where users can see all upcoming activities or events that are relevant to the committee.

Communication will be kept to a minimum as users will not want to be bombarded with emails each time an update occurs on the site. The system has been configured to release a weekly update email to all users that displays a list of recent activity on the site. Aside from this, if something new is added to the site, the person can decide to notify all or some users of the new post. Users will then receive an email with the comments and a link to the relevant page.

![Figure 6.4 - Adding a comment and notifying users](image-url)
6.5 Using the System

Web 2.0 technologies generally require minimal training if any at all. The tool chosen for this experiment is intuitive to use and a quick demonstration to the group was all that was required to get them started. This is important as the users are external to the organisation and training would be difficult to organise. For the future, if a tool is rolled out to more communities in ITI, it is important that it is very simple to use. In this era, the workforce in Ireland is generally technology savvy and is becoming more familiar with social networking tools everyday.

6.5.1 Wiki

The homepage of the site is a wiki page that links to other wiki pages and discussion areas. It has all the editing functionality of other wikis and is very easy to use. The homepage also uses the same styles as the main website so all members are familiar with this look and feel. The list of extra wiki features can be seen in Figure 6.6, which includes features such as revision information, a complete history and revision comparison features. Users or members of each workspace can also be given read, add, edit or delete permissions for each workspace, or it can also be done at page level.

Other features include:

- Full text and document search – Word, Excel, Powerpoint, PDF, HTML, etc;
- Searchable conversation threads.
- Search across multiple workspaces simultaneously – a member can be a member of more than one workspace at a time.
6.5.2 Files & Discussion

This section allows the administrator of the workspace to create folders to categorise the information and files. It allows users to upload their own documents from Microsoft Office or to create their own wiki pages or discussions.
This area allows a user to store online documents, create edit and share online spreadsheets or import and export spreadsheets from Microsoft Excel. Other features of this area are seen below in Figure 6.8 and include creating new documents, spreadsheets, discussions and folders and uploading files.

6.5.3 Calendar

Calendar features are similar to that of Microsoft Outlook. All users can add events to a calendar. It uses simple WYSIWYG editing and allows the user to add participants and notify them when an event is posted.
Users also have the feature to add events to their own Microsoft Outlook calendar – see figure 6.11. Microsoft Outlook is the email/calendar system in use by all members of this group.
6.6 Data Collection

The Central Desktop tool produces reports and statistics based on user activity. Activity is based on workspace and members of the workspace.
As visible in Figure 6.13, some of the members never logged into the workspace even though they received an email when something new was added to the space.

The key people involved in the experiment were interviewed after the experiment had run for one month and their views and opinions are summarised in section 6.7. Two other organisations similar to ITI were also interviewed as part of the evaluation.

As the experiment did not produce the results anticipated and participation was low, there is not a huge amount of analysis that can be done.

### 6.7 Evaluation of the system

An early indicator of potential problems for the project was when the original group envisaged for the pilot was changed for a number of reasons but mainly due to the fear on both personal levels and a wider organisational level that “stems from both
individuals and organisations being aware of the worst case scenarios that can stem from ineffective knowledge sharing” (Pawar et al 2001). This type of knowledge sharing leaves the organisation open to the risk that the information will be revealed to competitors or others, either intentionally or unintentionally.

The experiment did not achieve what it was set out to achieve in the one month that it was allowed to run for. A number of key factors were assigned as the main causes for the experiment not being a success:

1. **Computer Anxiety**

   Some of the participants may be experiencing what is known as computer anxiety – which is when people experience feelings of apprehension regarding online interactions. It is a similar apprehension that users may experience when public speaking, an anxiety about what they are going to contribute. It is not familiar territory for many users. The more experience people have with technology, the less apprehensive they feel about using it. So maybe in this case, time will tell. After posting many items to the workspace and in the hope of encouraging users to login, minutes of the last meeting were sent out by email including a list of the latest documents posted on the workspace. Two users responded to the email but did not post any comments to the workspace. Users are familiar with email, most of them use it all day and it is far easier for them to reply to an email than to login to a workspace and post a comment to a document. The difficulty in most knowledge management initiatives is trying to change people’s work habits – moving them away from email and onto a more collaborative system where they can really share.

2. **Economic Situation**

   In the current economic downturn, a tax professional that works for a large or small organisation will be more concerned with working up billable hours for their clients. Any work done as a member of ITI is voluntary and in essence should be done outside these hours. The benefit to the members’ own organisation is only visible when they bring their own particular issues to the table.
3. Budget

Budget 2009 was brought forward to October 14th by An Taoiseach Mr. Brian Cowen – a force majeure which was completely out of the control of this project. This was a major impediment to the project as it was assumed the budget would not occur until December as normal. This meant that users on the pilot project were more concerned with tax related budget issues than they were with the tax administration committee. Another deadline which may have affected the project was the Tax Pay and File deadline for Revenue of October 31st.

4. Time and Effort

People may see that they do not have unique information to contribute. The difference between information management and knowledge management is that the latter suggests active involvement of the users, the capturing of the tacit knowledge. Time is also considered a big factor in that people are willing to share their knowledge if they simply had the time to do so. This allocation of time to give to knowledge sharing should come from senior management. If people don’t have the time to practice knowledge sharing then it will definitely fail. The situation for the tax administration committee is that it is a sporadic community and a lot of what happens is in ‘fits and starts’ and usually right before or after a meeting. The benefit to the members of being a part of this community is that they will hear about tax related documents earlier than normal that they would not normally have access to. Their membership also increases their own profile and the profile of the firms they work for. In addition to this they also get access to high profile people in the community and they get to hear what the Institute is up to and possibly influence this, after all the Institute belongs to its members.

Davenport et al, (1998) mention a number of success indicators for knowledge management projects:

- Growth in the resources attached to the project.
- Growth in usage and volume of content or contributions.
- Likelihood that the project would survive without the support of one individual.
• Evidence of financial return.

The experiment conducted on ITI Group 2 has none of the characteristics above and although a pilot project, there was only one or two people committed to the project, it struggled to get members to contribute online, and there definitely was no financial reward. Conditions for this group may change in the future but in the timeline for this dissertation, the success was not visible. Many knowledge management projects have one or a few of the above characteristics but projects that made an organisation wide impact are rare.

During the evaluation period, a couple of similar organisations appeared on ITI’s radar that seemed to be trying to achieve similar goals to ITI. When contacted, these organisations were very clear about the pitfalls and the opportunities that arose from their implementations.

One was an accountancy body (Org A) with a membership of approximately 5,000 people, similar to ITI. They currently have discussion forums running for 18 months that have little or no activity. They think that the system is awkward to use and not user-friendly. For example, when users make a post/comment, the comment is then released by an administrator and published. There is no facility whereby users get notifications when their post receives a comment – they have to login in and check. One member of this organisation created a post on the forum and received no comments. The same member created the same post on a forum of another accountancy body and received four responses that same day. Is it because this forum is much more popular and widely used than the first one? Is it a culture thing? Is the technology or tool used far easier to navigate?

Another member organisation (Org B) in the UK was contacted with 130,000 members. They have a very successful online community area. Their main aim is to change their entire business model, to move from old style media to new style media. This means moving from the traditional methods of generating revenue through subscriptions and publications to a new sponsorship model whereby revenue is generated from online advertising in the communities. An example of this is an IT forum that provides technology advice to members and is sponsored by Microsoft. They agree that getting users to contribute online is a very difficult task. They seeded their blogs with good content and paid professional bloggers to create the initial content to generate interest. They definitely recommend having a community manager
who takes on a similar role to a host at a party – looking after contributors, making sure they are comfortable with the technology and introducing them to other contributors. They also identified champions in each community who commit to posting once a week/month. The metrics they use are a comment to post ratio which is always more than 2:1. An important factor to note in this organisations project was they hired the services of one of their member firms to guide them in the right direction.

Based on the success indicators mentioned by Davenport et al and the organisations that were contacted, the table below was developed to compare and contrast the success of the projects.

<table>
<thead>
<tr>
<th></th>
<th>Org A</th>
<th>Org B</th>
<th>ITI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth in Resources attached to the project</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Growth in usage and volume of content or contributions</td>
<td>No</td>
<td>Yes</td>
<td>Not in time allocated</td>
</tr>
<tr>
<td>Likelihood that the project would survive without the support of one individual</td>
<td>No</td>
<td>Yes - plenty of champions involved although also a lot bigger project.</td>
<td>No</td>
</tr>
<tr>
<td>Evidence of financial return</td>
<td>No</td>
<td>Yes</td>
<td>No (advertising/sponsorship)</td>
</tr>
</tbody>
</table>

Table 6.1 - Success Indicators for knowledge management projects

### 6.8 Conclusions

A factor that has to be considered is that the project ran for just one month in a very busy tax period. Outside of the scope of this dissertation, the project will be allowed to run until the end of 2008 to see if the community involvement can be boosted.

So many organisations have got stung by buying into knowledge management “solutions”. They invest huge amounts of money on software that doesn’t do what they want it to do or maybe they were never really clear in the first place what they wanted to do. If anything has been learned from this exercise, it is that culture is fundamental to any change exercise. Start small and simple. Try out a hosted solution on a few key
groups. Get their feedback. Do more internal and external research. When the time is right, then invest in a scalable solution suitable to the needs of the organisation.

After spending a very small amount of time and money on this project, it is very apparent to ITI where they should go from here. The key thing is to talk to as many organisations as possible about their online community experiences. It is also important to understand what the members want. Although it was thought a good idea to survey the Branch Network members at the early stages of this project, an organizational reluctance prevented this going ahead. Maybe in the future, members can be surveyed and interviewed on a wider scale and their needs targeted by creating a useful service and a number of dynamic communities.
7 EVALUATION AND DISCUSSION

7.1 Introduction

In this chapter, the knowledge management activities that were assessed in chapters two and three will now be analysed with regard to the experiment conducted in chapter six. Each principle will be discussed with regard to this project and a conclusion reached with regard to the challenges implementing a knowledge management initiative.

7.2 Knowledge Management

In section 2.2.2 the idea of knowledge markets was mentioned. In the case of this project, knowledge market transactions are when the members of a community “buy and sell” or share knowledge online. Any knowledge management initiative must take into account the dynamics of human nature or they are doomed to fail.

In the case of ITI:

- Knowledge buyers are: members who post a query seeking knowledge, insight or understanding.
- Knowledge sellers: experts who have answers to these queries or members who have come across similar issues.
- Knowledge brokers: connect buyers and sellers – sort of moderator or referee – maybe even a promoter of these online negotiations.

In a professional organisation a “seller” of knowledge would want to be regarded as a knowledgeable person, willing to share and often they just enjoy sharing the knowledge that they have gained through their own experiences. Markets also depend on trust and with all ITI groups this trust has been developed already at face-to-face meetings.

Within many of the ITI groups there is an already existing fusion of expertise where people with different perspectives are brought together to work on solutions. This is particularly the case with the tax administration committee where there are members from various constituencies.
It is important for all ITI groups and members to realise that knowledge generation is a very important activity for business success. ITI wants its members to create new knowledge for the organisation that will benefit all. As mentioned in section 2.5, knowledge sharing must be a synergistic process and ITI and its members will benefit according to the amount of knowledge shared.

Knowledge Management must be aligned to the organisation’s strategy and business goals. ITI want to be the market leader in the provision of member driven services so ultimately the need for online collaboration must come from the members. ITI want to be a dynamic and forward thinking organisation and this includes maximising the opportunities to engage and interact.

### 7.3 Organisation Culture

As part of this research, it was decided to start with small islands of knowledge sharing before gaining senior management and widespread support. Is it realistic to try and get company-wide buy-in before people even see any benefits? The key is to get one group to take on a project and from there the work will be done for you – i.e. the knowledge sharing benefits will speak volumes or it will be clear what the failures were.

ITI has a collection of overlapping communities, whether it is the bigger member group or the committees that govern ITI. Technology should be utilised to enable more discussion, mutual engagement and exchange between these groups. Currently information is pushed to these group members in the form of documents, submissions, meeting minutes etc. There is no feedback or discussion around important matters apart from email which is solely meant for one-to-one conversation. The availability of knowledge or information to members of ITI groups may not translate into new knowledge creation; it is the conversation around this “static” knowledge that leads to an increase in knowledge.

The culture in ITI is such that although there is a trust and respect between members of various communities and groups, the underlying issue seems to be the nature of the knowledge being shared. Tax is complicated and there are many wrong answers for the one right answer. A fear exists because nothing like this had been tried before, a fear of the unknown. The issues of confidentiality, security and liability seemed to override the need for enabling online conversation. The big picture is that there is a need to provide a service to the members to enable knowledge sharing but the smaller picture
is delving into the unknown and the fear associated with this. This is why choosing the tax administration committee was the perfect solution for this situation for the following reasons:

- Closed membership of 15 people.
- All members of the group are existing members of ITI and many involved in Branch Network activities.
- Existing culture of trust as this group were already together for more than one year.

When a decision is made in an organisation to undergo an innovation, it often happens that doubts creep in and this leads to receding back from the initial idea. It is the job of the knowledge management champion at this stage to create assurance among the key people involved. A good way to achieve this was to introduce the initiative among a smaller and safer group to demonstrate the capabilities of knowledge sharing.

In section 2.3 of this paper, the importance of communication in a knowledge sharing initiative was mentioned. Members need to clearly see what is happening so a momentum is built up. Where fear exists about trying a new initiative, this communication is not going to happen and the results of the initiative will not be the same.

The culture within the general tax community extends beyond ITI and is one that is often seen among professional groups. The environment is dynamic and requires a high degree of confidentiality and rightly attracts constant and intense external and internal scrutiny. Sharing online involves sharing ones approaches with the community and inviting feedback on the decisions one makes which leaves one open to constructive criticism. Is the tax industry ready for this approach?

Why are so few organisations providing online sharing facilities for their members? A learning culture is one that enables, encourages, values, rewards and uses the learning of its members, both individually and collectively. ITI currently does this through the provision of seminars and conferences, weekly newsletters, bi-monthly magazine and various other publications. Members get to meet at these events but currently there is no online provision for learning in the Institute.

Many opportunities for our members to connect is facilitated by face-to-face meetings and seminars and conferences hosted by the Institute. The life of the connections made
at these meetings does not always last and an online community will provide a means to support these connections over time. It is proven that networks of people can solve problems for each other and an online network just accelerates this process. Sometimes opportunities are lost if you wait for the next face-to-face meeting.

Members of ITI agree to abide by a code of conduct and an online resource or knowledge sharing area should not undermine this code of conduct. The Code is binding upon all members, so that failure to comply with them shall render a member or student liable to disciplinary action.

### 7.4 Communities of Practice

Real community is a self-creating thing, with some magic spark, easy to recognise after the fact but impossible to produce on demand, that draws people together. Once those people have formed a community, however, they will act in the interests of the community, even if those aren't your interests. You need to be prepared for this. The hallmark of a successful community is that it achieves some sort of homeostasis, the ability to maintain an internal equilibrium in the face of external perturbations. (Shirky, 2002)

Online communities that are created using a top-down approach will usually fail; it needs to come from the members. There needs to be a grassroots requirement before it will really happen. Do these community members really need technology? Is the nature of the domain such that it is not suitable for online discussion? Online communities also need to evolve as a need of the members – maybe this need does not yet exist within ITI. The organisational value needs to be moved to the communities that exist and away from individual members.

Schuler (1994) notes that introducing a new technology to an existing community can disrupt prior conventions and patterns of interaction in the user community although it is proven that most successful online communities are developed from an already existing community.
7.5 Web 2.0

The use of any type of Web 2.0 tool within ITI was always meant to extend the reach and enhance the speed of knowledge transfer and more importantly the efficiency of this knowledge transfer across the organisation. Email is not a sufficient knowledge transfer tool and the meetings of the ITI groups are not regular enough to support the speed at which this organisation needs to move.

The question many organisations are asking is whether Web 2.0 will work for them – the answer is to go out there and try it. It is not just a technological revolution with tools like wikis, blogs, forums, RSS and tagging, it is a people-based social revolution. Web 2.0 is not trying to change the core activities of an organisation; it is helping organisations to perform these activities more efficiently. It allows organisations to so what they are already doing better and with much more flexibility. For example, many ITI members are not based in Dublin but still want access to the same services as Dublin-based members. Web 2.0 will allow members to communicate anytime, anywhere.

Many people cannot imagine travelling across the country without the use of a satellite navigation system, the thought of using an old-fashioned map is ridiculous. Similarly, Web 2.0 will become the norm for many people and the thought of using email or file shares to collaborate will become unthinkable.

Web 2.0 will make an impact in ITI because it won’t be about the members accessing information anymore, it will be about members taking part in the making of this information and ultimately creating new knowledge for themselves and others.

7.6 Conclusions

This research introduced ITI to the concept of knowledge management and communities of practice. The organisation culture is better understood now but not completely diagnosed; it does require delving a little deeper into the member arena. The key learning in this chapter and the experiment overall is that knowledge management comprises a number of modules and each module needs to be assessed both individually and then as a group.
8 CONCLUSIONS AND FUTURE WORK

8.1 Introduction

There are no golden rules when it comes to the development of knowledge management initiatives. The requirement for knowledge by members of an organisation will be driven by the gap between what they know and what they need to know. In this ever-changing world, organisations are engrossed with the digital world and suffer a lot of anxiety about how they can use digital media to maintain competitive advantage and more importantly to provide value to their customers, or members in this case. In some cases, should organisations stick to what they know works? ITI was established 40 years ago and the member and student numbers increase every year. Sometimes pushing technology where it is not wanted will only produce the wrong results and fail.

People are an organisation’s most important resource and in the case of ITI, these people include employees, members and students. Even more importantly, these people include contributors to the organisation – lecturers, examiners, authors, seminar speakers. Most of these people belong to a “community” within ITI and it is these communities that are ITI’s most valuable resource.

Several factors about ITI means that this study is relatively unique in terms of the introduction of a knowledge management initiative, first the type of information being shared by members has significant value, not only in terms of its monetary impact, but also in terms of the legal ramifications of the information, secondly contributors do so on a voluntary basis, there is no association between number of contributions and job performance for members, unlike typical knowledge management initiatives where it is employees (as opposed to members) who contribute to the community. Thirdly, ITI is a non-profit organisation that is in essence owned by its members through their yearly subscription. Any initiatives that ITI engage in need to get ITI Council approval in order to ensure that resources are being used proactively to give high value to members in these challenging economic times.
In Figure 8.1 the different types of knowledge that exist in ITI are demonstrated. Technical knowledge with regard to tax is one of our core assets and ITI needs to utilise this knowledge for the advantage of ITI as an organisation and for the advantage of the members in their particular industries. The internal ITI knowledge will support this and the external knowledge will have a direct impact on what ITI does in the future.

![Figure 8.1 – The “Big Picture” – knowledge management (author)](image)

8.2 Conclusions

This research sought to investigate the introduction of a knowledge sharing initiative into a non-profit organization. The process by which this study was undertaken illuminates a large number of issues associated with knowledge management initiatives.
The Capability Maturity Model was used as a framework to help structure the improvement path from a “knowledge chaotic” environment to a “knowledge centric” environment. At each level of the model it should be clear at what stage a knowledge sharing community should be at with regards to domain, community and practice and these levels can be used as a benchmark for future initiatives.

Web 2.0 tools allow conversation to happen outside of face-to-face meetings. The choice of tool for a community will depend on the type of community and the type of knowledge being shared. Some communities just want simple discussion threads, others want to collaborate on documents. ITI communities require a mix of tools and this is why the Central Desktop tool was chosen as it provided an opportunity to experiment with different features.

In this research a range of techniques were employed to capture the broad set of requirements that were necessary for this organisation, these included presentations, brainstorming techniques, use case diagrams, structured interviews and user interface analysis. Case studies were carried out on six organisations and the results compared in order to derive useful analytics to use in this experiment.

A tool was implemented and configured according to the requirements of the tax administration committee. It allowed the members to organise, collaborate and share documents and to communicate with each other outside of email. The system was used by ITI staff to upload documents and Revenue materials, a number of users logged in but none made any contributions or comments. Time is one of the possible influences here and it will be interesting to see if there is a surge of activity before the next face-to-face community meeting in December.

The main point to note is that organisation culture not technology has a greater impact on whether people exchange knowledge (Orlikawski 1992). Considering this, the opposing opinions of Davenport and Nonaka become evident here. ITI and its members are dealing with more of a knowledge market than a knowledge community. Although there was little uptake of the implemented system, there are many lessons to be learnt from the process. No matter what solution is chosen, the key is in the implementation and how one gets people to use a new system. The implementation should be phased which is what ITI did; selected a small group to test a solution. The other important point to note is that knowledge management is not easy and this could be the most valuable lesson learnt from this exercise.
8.3 Future Work

It is the short term plan to test the Central Desktop tool with other ITI groups mentioned in section 1.4.2. ITI senior management have already requested for a workspace to be setup to collaborate, discuss and share documents with regard to the following:

- Previous and upcoming events
- Feedback from members and students
- Financial performance updates
- Market intelligence.

The tool could be rolled out to many other groups including the president’s committee, other ITI committees and internally for project collaboration.

ITI are currently looking at a blended learning solution for the two education programmes – the three year AITI course and the one year TMITI course. Student forums would provide a less bureaucratic environment to examine online communities. Many ITI students choose the home study option which means they don’t have the advantage of networking with other students and would definitely gain many benefits from an online student community. Students also regularly make requests to ITI regarding study groups and contacting other students in their area; an online community would be a huge benefit to these students.

Another possible project that would be very interesting based on the findings in this research would be to develop a framework for implementing a tool for existing communities of practice. This was one of the items discussed with a colleague during the case studies section. It would guide implementers in assessing the type of existing community they have and how to go about providing online interactions for this community.

Social Networking in organisations is when people connect to each other to exchange information and knowledge. People or groups are nodes in a network and links show the information that flows between these nodes. A tax network could be established whereby upon registering, a member would assign keywords to their profile such as “corporate tax” or “value added tax”. When new users register, they will be automatically linked to people based on the keywords they choose and they get to be part of an already existing network. A weighted tag cloud could be created that would allow users to see the most popular communities or networks.
TaxFind is an electronic database of the primary sources of Irish tax law, commentary and practice used by many tax professionals. It would be advantageous for the users to be able to annotate and discuss various pieces of legislation. It would be controversial to make these annotations viewable by everyone, but users could add notes to cases and legislation that would benefit them in the future.

A key weakness in the practice of knowledge management is the ability of organisations to measure the success or failure of a knowledge management initiative. There could be a way of developing a model that will allow organisations to benchmark their own knowledge management projects. It is difficult to measure knowledge management but some of the metrics that could be used are:

- Participation – knowledge sharing.
- Satisfaction – surveys, interviews, feedback.

### 8.4 Summary

This dissertation demonstrated how the implementation of a knowledge management initiative can be used to help understand the culture of a specific organisation. The success or otherwise of a knowledge management initiative depends on a range of factors which can be considered under three main headings:
- **People:** Is there management buy-in? Is there grassroots support? Is there support from various departments, Human Resources, Finance, Technical Support, Public Relations, etc?

- **Process:** What does this organisation do? Do they share at a data, information or knowledge level? How is the sharing process facilitated?

- **Technology:** What technologies are currently available for knowledge sharing? What level of technological experience is present within the organisation? What new technologies might be most appropriate for this organisation?

In the case of this research, although there was management support, grassroots support was not achieved on any major level and this is as a result of uncertainty in declaring plans to implement knowledge sharing initiatives to members that may not come to realisation. It can also be questioned whether some members would rather just share information and not real knowledge. In an industry where members charge a fee for their knowledge, maybe information sharing is more suitable to this type of culture.

It is easy to set up an online community, it can be compared to seeding a lawn — it is easy to start off but there needs to be a lot of watering and fertilising to make it grow.
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APPENDIX A – MEMBER SURVEY

1. Introduction

Dear Branch Member,

As part of a review of the ITI Branch Network activities, we would like to pilot an online area for members to supplement the interaction at meetings.

The pilot will be run across the Kildare and Kerry districts from mid-September.

The online area would allow members to:
- Communicate with all branch members
- Post tax administration queries
- Respond to queries
- Search for previous queries/Issues

We would like to provide more innovative opportunities for all our members including:
- Access to new skillsets and ideas
- Visibility across all branch regions
- Strengthen the group as a whole

"The collaborative knowledge of the community is greater than any individual knowledge"

Please follow the link to the survey and complete it at your convenience.

2. Default Section

* 1. Do you think there is a requirement for online management of the discussion that emerges from ITI Branch activities?
   ☐ No
   ☐ Yes

   Comments, if any:

* 2. How often do you rely on feedback from members of ITI Branch Network (approximately)?
   ☐ Daily
   ☐ Weekly
   ☐ Monthly
   ☐ Few times a year
   ☐ Never

   Comments, if any:

3. Would you see benefit in getting feedback/input from all qualified ITI members?

- No
- Yes

Comments, if any:

4. What type of shared information would be of most benefit to you?

5. Which of the following tools have you used or taken part in before as part of work or otherwise?

<table>
<thead>
<tr>
<th>Tool</th>
<th>Frequently</th>
<th>Occasionally</th>
<th>Rarely</th>
<th>Never</th>
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<tbody>
<tr>
<td>Email</td>
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<tr>
<td>face-to-face interaction</td>
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<tr>
<td>File Share</td>
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<tr>
<td>Discussion Forums/boards</td>
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<td>Blogs</td>
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<td>Wikis</td>
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<td>Instant Messaging</td>
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<td>Social Networking applications</td>
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<td>Other (please specify)</td>
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</table>

6. Are you a member of another organisation that has an online presence for members?

- No
- Yes

If so, please give details:

...
* 7. With regard to sharing information online, please rate the following attributes in terms of their relative importance to you:

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<th></th>
<th>Very Important</th>
<th>Important</th>
<th>Somewhat Important</th>
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<tbody>
<tr>
<td>Ease of Access</td>
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<td>Security</td>
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<td>Anonymity</td>
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<td>Collaboration with members</td>
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<td>Deeper</td>
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<tr>
<td>Knowledge/expertise</td>
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</table>

Comments, if any:

3. Thank you

Thank you for completing the survey.
APPENDIX B – PRESENTATION TO MANAGEMENT TEAM

Knowledge Management
Heather Madden

What is Knowledge Management?
- Know-how
- Know-why

Our Strategy
- Provision of best-in-class information and professional services
- Deepen our relationships with members and regional Revenue representatives
- Leading provider of professional tax qualifications
- Attractive workplace – employer of choice

How should KM support our strategy?
- Do we have this knowledge? (Create/Capture)
- How should we organise this knowledge? (Organise)
- Who needs this knowledge, when, and how? (Disseminate/Target/Transfer)
- How do we ensure that we get value from this knowledge? (Embed/Maintain)

IT Knowledge
- Technical knowledge
- Working knowledge
- External knowledge & Competitive Intelligence
What do we need to do?

- Tacit knowledge – recognize, generate, share & manage it
- Only sustainable competitive advantage is continuous innovation in context of new [Work smarter, not harder]
- Not about codifying it – about learning from each other
- Synergistic process – sharing knowledge is power

Finally

- Not trying to create vast knowledge repositories
- Increase mobility of knowledge in people’s heads
- Invest time & energy in processes & technologies that stimulate connections between people
- KM - Ongoing process

Brainstorming

- No judgement of ideas
- Go for large quantities of ideas (short)
- Build on each other’s ideas
- Encourage wild & exaggerated ideas
- Every person & every idea is equal
- What are we currently doing correctly?
- What do we need to change?
- How are we managing talent knowledge—i.e., key employees leave or transfer to a new position?
- What kind of knowledge areas do we have in the organization?
- What kind of knowledge areas must we develop in the near future?
- How can we transfer existing knowledge better and faster?
APPENDIX C – TOP TIPS FOR ENSURING A SUCCESSFUL KNOWLEDGE SHARING INITIATIVE

1. Start small and simple.
2. Knowledge sharing does not have to involve technology.
3. Management buy-in is important but even more grassroots buy-in is crucial – the need must come from the users.
4. Any initiative should be seeded and allowed to grow over time. Knowledge management doesn’t happen in a day, week or month.
5. Culture has a huge influence and should be well understood. It is difficult to change. Technology cannot overcome cultural barriers.
6. Talk to the users and listen to what they want. Get feedback and ask questions.
7. Talk to external people who have experienced knowledge sharing initiatives – their experience is invaluable.
8. Raise awareness and shout it out loud! “Knowledge sharing gives power”. Communicate continuously.
9. Champions are necessary to help gain support and contributions.
10. Don’t give up! If one initiative fails then you must learn from experience and apply this to the next initiative.