Improving Knowledge Sharing in an Open Informal Network: Knowledge Management in Open Coffee

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Improving Knowledge Sharing in an Open Informal Network: Knowledge Management in Open Coffee

Adrian Mihai

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

March 2009
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: DD Month Year
1 ABSTRACT

The 21st century opened a new era in communications bringing in faster, more efficient and more advanced information and communication technologies than ever. New ideas and innovations, as well as interactions and collaborations determine the landscape of knowledge and consequently add new requirements to the know-how. The creators of knowledge and design add new communication architecture bodies through the use of technology.

Meanwhile knowledge management inspires 21st century enterprises to adopt new learning patterns throughout organisations and adopt new ideas. However, internal sharing mechanisms leverage a trusted environment where people can engage freely and securely in sharing knowledge and feel involved in the process of change. Sharing knowledge constitutes an endorsement for personal opinions, views and new ideas. Making this knowledge available to others using multiple techniques constitutes a key element which initiates an internal process and leverages organisational learning. Knowledge management constitutes a powerful instrument through which organisations can evolve.

The Open Coffee phenomenon is just one of the many informal self-organising events meant to bring together communities of professionals which have emerged in recent years. At the moment, Open Coffee meet-ups are organised in 83 locations worldwide. The purpose is to allow entrepreneurs, professionals and venture capitalists to connect. The success and growth of the Open Coffee phenomenon seems to be based on the informal nature of knowledge exchange, on the adaptable format and the open and welcoming environment created by attendees. During the Open Coffee meetings attendees freely contribute to the discussions and serendipitous interactions are stimulated, creating learning and sharing opportunities for everyone. This project examines the scope and examines key elements of knowledge creation, sharing and exchange observed in the meetings of the Dublin Open Coffee club, as well as the usage of emergent technologies such Web 2.0 technologies for facilitating knowledge exchange in these informal meetings. The particular focus of the project is knowledge creation, sharing and transfer which occur when participants make connections and
how technologies can be used in this context. In the light of the informality of Open Coffee meetings and of knowledge propagation among Open Coffee participants, this project provides an insight into the activity of informal learning ad-hoc organisations based on openness and trust.

**Key words:** knowledge, knowledge management, knowledge exchange, informal knowledge sharing, Open Coffee.
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1. INTRODUCTION

1.1 PROJECT INTRODUCTION

This master’s dissertation will explore the emergent use of Web 2.0 technologies within an All-Ireland community of people with an interest in ICT and entrepreneurship. Knowledge creation, knowledge sharing and knowledge retrieval will be examined in the context of this community, together with the use of emergent Web 2.0 technologies.

This community is the Irish incarnation of a worldwide phenomenon which started in London and is known as Open Coffee. The Open Coffee Club was started to encourage entrepreneurs, developers and investors to organise real-world informal meet ups to chat, network and grow. Open Coffee’s mission statement is “to provide an environment where people interested in technology meet and discuss different topics and seek for collaboration and business” (Open Coffee 2007).

Open Coffee opens its doors to people interested in technology and these informal meetings facilitate entrepreneurs to meet with investors, developers and other entrepreneurs to exchange experience and knowledge and make contact with other attendees that add value to their business.

Open Coffee meetings started in London on 1st of March 2007, and they were replicated in many places around the globe. What made these meetings to spread across the globe and become so successful is the mission statement:

“Entrepreneurs want a place to meet. So come enjoy meeting other start up fans, every Thursday between 10:00-12:00. You are likely to meet other entrepreneurs and some investors - if not; at least you can work in peace” (Klein 2007).

In Ireland, the first Open Coffee meeting happened on the same day, March 1 2007 and soon after those regular meetings started taking place in Cork, Limerick, Dublin, Waterford, Galway and Belfast. The Cork Open Coffee club is by far the most active

1 http://www.meetup.com/opencoffee
and the most popular. Cork Open Coffee meetings attract a regular attendance of 20-25 participants actively encouraging entrepreneurship and collaboration. In Dublin the average attendance is of 10-12 people.

The Cork meeting serves not only Open Coffee’s stated aim but also facilitates the development of technologies by entrepreneurs. Most of the applications used are in Cork are beta, and on top of testing them, new uses for the tools are envisaged. Sometimes, the creators of these technologies are among the participants. In Dublin Open Coffee meetings the attendance usually does not use technology to capture the knowledge exposed during these meetings unlike Cork where this knowledge is usually captured in video, text and picture format and then posted to the internet for further access. (Cork Open Coffee Club 2007)

The research project discussed in this dissertation will examine the needs of the Dublin Open Coffee community from a knowledge management perspective, identifying their needs with regard to knowledge creation, sharing and retrieval in the context of how participants connect within the meeting and build on these connections to make relationships of value to their business. It will then examine how emergent technologies such as the Web 2.0 technologies such as podcasting, video broadcasting, online meetings, blogging and micro-blogging, social calendars and social bookmarking, image sharing applications and feed aggregators etc could be applied to meet these needs and investigate further the application of specific tools for specific needs in the context of this community. A small experiment will be designed and implemented with a specific technology deployed to facilitate a meeting of the Open Coffee in Dublin and the examination of its usefulness for the purposes of the community.

1.2 Background

The Open Coffee Club was started in London by Saul Klein. His stated aim was to bring together entrepreneurs, developers and investors to organise real-world informal
meet-ups to chat, network and grow (Klein 2007). The founders of Open Coffee recognised that within the world of entrepreneurs there were many individuals with diverse backgrounds and businesses who were seeking solutions to technical problems. With this in mind, the first Open Coffee meeting took place in London on 1st of March 2007 with the aim to create a common ground for these to meet with others in similar situation and those in the world of ICT who could assist with providing solutions.

Open Coffee now has meetings in many cities worldwide and regular meetings take place where different technical topics are discussed and relationships can be built. The number of participants at any meeting can vary. Open Coffee meetings are promoted by local websites where usually place, time and topics are displayed prior each event. Individuals who would like to join an Open Coffee event usually express their intention to do so via the website. Where a topic is chosen for discussion at a meeting, the topic is posted on the local website and individuals can express their interest to attend.

Open Coffee is about creating connections between people from that collaboration can grow. Collaboration is a recursive process where two or more people or organizations work together toward an intersection of common goals — for example, an intellectual endeavour which is creative in nature by sharing knowledge, learning and building consensus. (Dillenbourg 1999) Case studies demonstrate how collaboration can be successfully applied to solve problems of wide-ranging scope and complexity (Newman 2000). Key steps are outlined for undertaking a successful collaborative effort: exploring how to get parties together to define the problem, establish an agenda, and implement a solution. (Charles 2008). Other issues addressed are when not to collaborate, how to ensure compliance with agreements, and how to determine the mediator's role that includes how the mediator contributes to successful collaboration (Gray 1989).

Participation is mostly encouraged by informality where individuals are joining conversations freely and connect with each other from a common neutral ground (Klein 2007). Open Coffee can be characterised as dealing with aspects of collaboration, facilitating getting parties together to define and problem and set a foundation from which deeper collaboration can evolve.
A key function of setting up collaboration relates to management of knowledge between Open Coffee participants. An effective definition of knowledge in the context of Open Coffee is proposed by Drucker:

"Knowledge is information which changes something or somebody either by becoming grounds for actions, or by making an individual (or an institution) capable of different or more effective action." (Drucker 2007). Yogesh Malhotra comments that knowledge management is present where opportunities and organisational challenges are present and where practical concepts apply (Malhotra 2005).

In the context of Open Coffee, knowledge management requirements are different than the ones applied by large enterprises where knowledge is widespread and flavoured with internal corporate strategy. In Open Coffee meetings, knowledge management is characterised by a need for more real-time, short timeframe activities which rely mainly on create and share knowledge for a limited period of time. The types of knowledge to be created, shared or retrieved vary and the form in which these activities take place influences the way in which the knowledge is expressed. Open Coffee is trying to leverage a comfortable, easy going and informal environment where individuals share tacit knowledge in real time. This knowledge exchange results to quick fixes, answer questions and turn into new common projects. Knowledge is also formulated in the Open Coffee meetings where short videos, quick demos or presentations are shared.

By investigating the knowledge needs of the Open Coffee attendees and the types of technologies which can be used to manage these knowledge needs better, Open Coffee can evolve to meet the needs of its participants and perhaps further expand.
1.3 Research problem

The research project discussed in this dissertation will examine the needs of the Dublin Open Coffee from a knowledge management perspective, identifying their needs with regard to knowledge creation, sharing and retrieval with particular focus on the knowledge needs to facilitate the creation of connections between participants.

Using the results of both a literature survey into knowledge management and the results of primary research into the needs of the community the project will examine how emergent technologies such as podcasting, video broadcasting, online meetings, blogging and micro-blogging, social calendars and social bookmarking, image sharing applications and feed aggregators etc could be applied to meet these needs and investigate further the application of specific tools for specific needs in the context of this community. The results will then be used to undertake an experiment within the community to use a set of technologies to assist with improving a set of knowledge needs considered important by the community in a meeting of the community.

1.4 Research objectives

The following objectives have been achieved throughout the dissertation and contributed to the overall outcome:

- Conduct a literature review on knowledge management focusing in particular on issues surrounding collaboration,
- Conduct a literature review on emergent technologies such as Web 2.0 technologies and their use within knowledge management,
- Using the results of the literature review to inform the process, assess the knowledge management needs of the collaborative community Open Coffee through interviews and surveys with the community particularly focused on the knowledge needs when creating connections between participants,
• Investigate the current technologies used by this community and identify clearly how they currently map to the knowledge needs identified through interviews and surveys.
• Investigate and identify a selection of appropriate technologies and assess how they could be better applied to the community knowledge management needs,
• Perform a small experiment deploying the identified toolset to assess the usefulness of this toolset for one or more of the knowledge management needs identified.

1.5 Research methodology

In order to successfully achieve the above objectives both primary and secondary research was conducted.

An extensive literature review on Knowledge Management was conducted to ascertain appropriate knowledge management activities and key features which can be useful in improving collaboration in knowledge sharing communities. An extensive literature review in the field of emerging technologies, Web 2.0 in particular, was also conducted to investigate current situations of modern knowledge sharing associated with different communities.

The main sources used to complete the literature review topics included:
• Conference proceedings
• Journals
• Books
• White papers

The primary research conducted for this project involves developing and conducting surveys and interviews with Open Coffee community members. Following the results obtained from the literature review, this primary research was conducted to investigate the roles users within the community play in current knowledge sharing arena and
knowledge management. This primary research was conducted via an online, questionnaire-based survey covering the Open Coffee community members. Thereafter interviews with key members of the audience were conducted to evaluate the findings. Face to face interviews with members, use e-mail, telephone or online chat to capture experiences, opinions and uncover possible gaps which would lead to improvements of technology used by the community.

From the results of the literature review, survey and interviews an appropriate technology toolset was identified and deployed in a single experiment in a meeting of the Dublin Open Coffee community and its usefulness for knowledge sharing, creation and retrieval assessed in this context.

1.6 Resources

In order to successfully complete current dissertation, a number of resources were necessary. The availability of these resources was essential to examine, compare and capture different stages of my research.

1.6.1 Human Resources

- Access to supervisor
  The access to supervisor was extremely useful and made contact through meetings and use of email. The advice provided was extremely helpful as provide a valuable direction in writing my dissertation.

- Access to administrator in Open Coffee
  Investigating the background and current Open Coffee concept was necessary and was fully supported by the administrator that provided valuable guidance and support.

- Access to audience of attendees in Open Coffee
Accessing the Open Coffee audience helped me integrate with the community and it provided a valuable source of information though individual opinions which were necessary to conduct my research.

1.6.2 Technical resources

- Personal Laptop
  The access to personal laptop made possible my access to different sources of information, run applications as well as facilitates documenting my findings.
- Virtual meeting room
  Virtual meeting room which was based on Active Worlds software made possible to organise and experiment an Open Coffee virtual event. This event was supported by IBM and supervised by a senior technologist.
- Web 2.0
  The access to Web 2.0 tools was necessary during my research as they were part of my research as outlined in my dissertation.
- Internet and e-mail
  The availability to internet proved to be extremely valuable as this made possible to research online material and different publications, while the e-mail helped me communicating with the supervisor.
- Online library
  The access to online library was extremely valuable during my research and conduct literature review via the internet.

1.7 Scope and limitations

The aim of this dissertation is to examine knowledge management practices which occur in Open Coffee event and measure those through the effect of knowledge sharing
and collaboration. Open Coffee meetings in different locations share common aims and objectives but differ in terms of attendance and mechanisms used to facilitate the meeting. Some meetings, such as the Cork meeting, are more advanced in their use of technology and have a more technological focus than others. This research is focused on the Open Coffee Dublin meeting which has less focus on technology and has less formal use of technology than other meetings.

Within Open Coffee meetings a variety of knowledge creation, sharing and transfer occurs. However, this research focuses in particular on one aspect of the Open Coffee meetings, creating connections and how technologies are used for this purpose. Other knowledge sharing, creation and transfer does occur.

1.8 Organisation of the dissertation

Chapter 2 introduces the topic of knowledge management to introduce key concepts in the area and clarify key concepts needed to support the discussion of the research conducted in this project. A discussion of what knowledge management, the processes of knowledge management and collaboration in particular are discussed.

Chapter 3 introduces emergent technologies focusing on describing the most commonly used Web 2.0 technologies and assessing their usefulness from a knowledge management perspective.

Chapter 4 introduces the Dublin Open Coffee, in which the research was conducted providing details of the organisation, meeting formats and key players. The survey undertaken to assess the community knowledge management needs and current technology use is described and the key findings presented.

Chapter 5 presents a mapping of technologies to the knowledge management needs of Dublin Open Coffee and describes the experiment undertaken to assess the
usefulness of one toolset to assist an aspect of the knowledge management within the community.

Chapter 6 presents a summary of the research conducted and critically evaluates the results of the research proposing possible future work.
2 KNOWLEDGE MANAGEMENT

2.1 Introduction

Knowledge management tries to achieve a better organisational value and through its input to influences decision making processes and commit to quality changes. Numerous definitions exist of what knowledge is and what knowledge management is. In context of this research, knowledge management will be examined along with identifying paths which could enable a successful knowledge platform implementation.

In order to clearly understand the knowledge management needs of the Open Coffee community it is first necessary to establish a clear definition of what knowledge is and what knowledge management is and in particular the role of collaboration within knowledge management.

This chapter starts by exploring categorisations of knowledge before discussing a range of views on what knowledge management is. The chapter then discusses an issue key to this dissertation, knowledge sharing collaboration in the context of knowledge management.

2.2 Categories of Knowledge

Knowledge in context of organisations is widely spread. This knowledge can be identified in different structures and levels of each business regardless the size. Nevertheless knowledge is identified as a core asset inside each organisation which helps them improve enterprise’s ability to act and solve solutions, create new ideas and grow. However what knowledge actually is a key to being able to better manage it.
During the years, many knowledge classifications have been outlined through different individual views (Blackler 1995; Crowley 2000; Snowdon 2000; Choo 2002; Alter 2002). Recognised by individuals and organisations, knowledge management is a broad area which raises a big interest in spotting it, seize it and more than anything capture it. In deep correlation to that, knowledge embodies in a number of categories: tacit, explicit, procedural and declarative (Alavi & Leidner 2001).

2.2.1 Tacit knowledge

Tacit knowledge is knowledge which is embedded in people heads and is accumulated through and by applying the knowledge components such as experience, common sense, rules of thumb, values, beliefs, etc. (Polanyi 1966, p.140), while J.C. Spender describes Tacit Knowledge as not yet explicated (Spender 1996).

Tacit knowledge can be shortly described as knowledge which is present in people’s minds. Extracting this tacit knowledge can often be a painful process as people who possess the knowledge won’t easily share it with others. Usually people gained their life time experience and professional expertise sometimes during long working years and this individual tacit knowledge, from personal opinion is worth not to be shared with others that easily. Other barriers in extracting this knowledge is sometimes the fear tacit knowledge holders have of making public their way of doing things and their approach to different matters working environment. Ultimately, extracting the tacit knowledge concludes to a difficult task to achieve (Nonaka & Takeuchi 1995, p. 177).

Unclassified and unstructured, tacit knowledge can be difficult to be organised and in many aspects difficult to capture in a document or a database. Tacit knowledge can become explicit knowledge through different mechanisms of capturing and sharing. Usually people are not fully aware of the knowledge they possess and its valuable content. Polanyi valued about tacit knowledge that ‘‘we can know more than we can tell’’ (Polanyi 1966, p.140); Polanyi brought to the matrix of knowledge that people’s mind is a complex algorithm which collect knowledge everyday and store it to be later used by our human nature, when we need it.
However, people’s tacit knowledge which was accumulated by experience, common sense or belief, combined with human creativity results in a new form of knowledge in some sense - new ideas - which creates a new set of knowledge (Nonaka&Takeuchi 1995, p. 177). Tacit knowledge represents a special attribute of knowledge as many organisations are determined to invest a substantial amount of effort to materialize it (Tamer Cavusgil et al 2003).

Modern technology through digitalization allow knowledge to be easier stored and retrieved, organised and searched, accessed and updated without being altered by any of these processes. The importance of this knowledge is gaining an increased attention as this asset produces new organisational strategies and unlock innovative paths which companies can built on to achieve competitive advantage (Fuller, S. 2002).

Tacit knowledge opens large communication gates through socialization and determines this to grow by use of phone, by email, or video conferences (Hansen et al, 1999).

In order to achieve an effective transfer of tacit knowledge, in general a level of trust is required. Usually, people make use of personal creativity to explain and demonstrate their point to communicate personal tacit knowledge to others (Steward 1997).

2.2.2 Explicit knowledge

Explicit knowledge however, represents a form of knowledge which can be easier identified but this process encounters challenges as well. Explicit knowledge is usually stored in books, journals, internal or external databases, different forms of digital storage, and communities of practice or online. Nevertheless, finding the relevant knowledge is the real challenge. In order for this to be captured, searching can be laborious, time consuming and difficult as this knowledge can be spread in internal or external locations or in order to gain access to particular databases some security clearance is required. (Hansen et al. 1999, p. 106-116)

Mapping the explicit knowledge in order to be captured, could simplify the entire process and achieve better results as locations and format where this knowledge exists.
Identifying and converting this explicit knowledge in final format which is readable, organised and accessible whenever is needed, should satisfy the goal of capturing knowledge.

Smith tried to expose tacit and explicit knowledge inside organisations as the one which execute the joint between people and process by use of technology or communication, quantify it as an asset (Smith 2001).

Figure 2.1 relates differences which occur between explicit and tacit knowledge which is happen in the workplace. As main points, the contrast regards to the work process and work practice which are generic described through organisational differences specific to routine (explicit) and spontaneous (tacit). Learning and teaching are also differentiated and divided by – on the job and by trainer in the explicit area and by share and mentorship in the tacit area. Differences are also encountered in type of thinking and knowledge share and characterized by logical and by the use of specific knowledge formats in the explicit environment as oppose to the tacit way which is creative and make use of networking.

<table>
<thead>
<tr>
<th>Explicit Knowledge</th>
<th>Tacit Knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic knowledge</td>
<td>Practical knowledge</td>
</tr>
<tr>
<td>Described in formal language</td>
<td>Described as experience</td>
</tr>
<tr>
<td>Often based on established work processes</td>
<td>Usually expressed intuitionally</td>
</tr>
<tr>
<td>Use people-to-document approach</td>
<td>Use personal networks</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Work Processes</th>
<th>Work Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organized, routine, orchestrated</td>
<td>Spontaneous, improvisational, web-like</td>
</tr>
<tr>
<td>Assumes a predictable environment</td>
<td>Responds to a changing, unpredictable environment</td>
</tr>
<tr>
<td>Linear, repeatable knowledge</td>
<td>Channels individual expertise</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Learn</th>
<th>Teach</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-the-job, trial-and-error</td>
<td>Trainer designed using syllabus, uses format selected by organization</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of Thinking</th>
<th>Type of Thinking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logical, based on facts, proven methods</td>
<td>Logical, based on intuition</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Share Knowledge</th>
<th>Share Knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extract knowledge from persons, case, store and reuse knowledge</td>
<td>Extract knowledge from personal networks, sharing</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rewards</th>
<th>Relationships</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tied to business goals, competitive within workplace</td>
<td>Tied to personal interests, informal, unstructured</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Technology</th>
<th>Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Related to job, based on availability and cost</td>
<td>Based on demonstrated performance, ongoing, spontaneous evaluation</td>
</tr>
</tbody>
</table>

Figure 2.1: Explicit and Tacit Knowledge in the Workplace (Smith 2001)
2.2.3 The spiral of knowledge

The spiral of knowledge relates to the interaction between tacit and explicit knowledge as shown in figure 2.2. This interaction is take place and result to a model which combine four factors together as this knowledge turns the interaction between tacit and explicit knowledge as shown in figure 2.3. Each quadrant represents both tacit and explicit knowledge which is transferred and these are: socialization, externalization, combination and internalization (Nonaka & Takeuchi 1995, p.175).

- Socialization represents the transfer of knowledge between individuals which can take place within organisations via observation, imitation or practice.
- Externalization refers to the changing of tacit knowledge to explicit knowledge by use of metaphors and can take place at the edge of face to face conversations, communication or idea exchange.
- Combination regards to explicit knowledge which exists in different types as databases or documents. This design relies on accessing the right knowledge by the right people and makes it relevant for organisations.
- Internalization as opposed to externalization use active learning processes which allow employees to share explicit knowledge. However, internalization is responsible to conversion of explicit knowledge to tacit knowledge.

![Figure 2.2: The Spiral of Knowledge (1) (Vincent van Wylick 2007)](image)
2.3 What is Knowledge Management?

There have been a number of definitions about knowledge management for some time and a number of people tried to define it differently. One of these definitions highlighted knowledge as been the perception of the agreement or disagreement of two ideas (Locke, J. 1689).

As expressed by John Locke, an agreement or disagreement between two ideas can therefore create knowledge in some extent through the process of sharing individual positions and opinions. Completing this definition, knowledge is expressed as information which results in changes something or somebody or affecting changes which relate to individuals or institutions (Drucker 2003, p.38).

Malhotra articulated that knowledge management is found where the knowledge applies and created, sized that "Knowledge management (KM) is more about the pragmatic and thoughtful application of any concept or definition, as it is not in the
definition but in real world execution where opportunities and challenges lie” (Malhotra, 2005).

In relation to knowledge management inside organisations, this process can be defined as an effort to improve the creation of knowledge including how this should be delivered and used (Pohs, 2001). Organizations should adopt a tangible strategy which addresses each of these key activities. By doing so, organisations will stand a better chance to collect knowledge management's full benefits (Davenport et al 2008).

Pohs defined knowledge management as an activity which gather content and expertise to enhance innovation, increase efficiency and find answers to common problems (Pohs, 2001). Indeed, knowledge management can produce innovation and increase efficiency based on knowledge creation, sharing and dissemination. In the context of large enterprises, these actions are vital in moving these organisation forward as in the past decade knowledge management take the lead in strategy and development, while become more and more a core element which add constantly value to enterprises.

Bill Gates however, characterizing knowledge management as being a non critical activity and having more in common with managing information flow or ensuring that this needs to be qualified to reach people in charge and helping them in taking decisions quickly (Gates, 1999). Based on Gates approach, knowledge management should represent more than manage information. As oppose to Gates approach, managing information or transporting it to the people they need it is done by the use of technology and this represents just one part of the knowledge management process.

In order to fulfil entirely the function of knowledge management and provide the scenery of functionality and access, French Caldwell identified 10 technologies (Caldwell 2006). These are: capture and store (activities which absorb knowledge from different sources, organize it and make it available for further use), search and retrieve (relates to actions which make knowledge available when is needed), send critical information to individuals or groups (relates to possibility to forward this information to different people that need it), structure and navigate (technology which enables to organize the knowledge), share and collaborate (consists of ability to distribute the knowledge and work together with other groups), synthesize (blend particular
knowledge), profile and personalize (shape the knowledge and direct it to right people), solve or recommend (based on the knowledge which was created, this result in valuable asset which allow problems to be tackled and solutions to be found), integrate with business applications (allow knowledge being incorporated in business use) and maintenance which provides the mechanism of a continuous flow of knowledge (Caldwell 2006).

In contrast, Stankoski explained in his Four Pillars of Knowledge that technology represents just one piece from the entire knowledge management mechanism along with leadership, organisation and learning as shown in figure 2.4. He also added that technology represents just an element to enable and support knowledge management tools within enterprises; technology being there to support knowledge management implementation within the enterprises and acting as a facilitator which connects and manages people’s knowledge. (Stankosky, 2005, p. 3)

In addition to technology, according to Stankosky, the next pillar which knowledge management stands on is leadership. To be more concise and agree with this position, Charles H Bixler outlined that leadership enables organisations to succeed in today’s tough business competition and allow enterprises to calmly navigate within a rough business environment (Stankosky, 2005, p. 3).

Indeed in order to apply knowledge management inside organisations, leadership is required to drive internal activities and organising effort of applying knowledge in internal processes. In addition, to be successful in implementation of a knowledge management program across any institution, this needs business leader’s support. These leaders will add their contribution to the effort of changing the mindset of entire organisation and accept internal change.

Organisation is the next pillar of knowledge management as this represents the value of knowledge creation and collaboration within an enterprise (Bixler 2002). Knowledge management processes will need to meet the internal operational framework and objectives while they need to be designed to assist with rolling of knowledge management activities across the enterprise. From this perspective,
Organisations are the pillar which apply the knowledge and embedded to internal process, result in finding solutions and create new knowledge.

Next pillar is represented by learning. According to Charles H Bixler, learning is ranked as a fundamental part of knowledge management. In regards to learning and organisational knowledge, internal processes need to follow a defined structure embedded with a common goal; apply best practices in knowledge management projects and focus on people and process – not to technology needs (Kaplan et al. 2002). In this context, learning can be described as the acquisition of knowledge or a skill through study, experience or instruction. (Bixler 2002).

Applying the learning pillar of knowledge management, organisations achieve more and result in creating new knowledge which is built on people’s new ideas. Organisational learning completes the circle of knowledge management and this results in new ideas, build new strategies and foster innovation. In conclusion, the four pillars of knowledge management consists the right formula to effectively adopt and successfully implement knowledge management across organisations.

To support this position, passive learning is one way to acquire knowledge from different sources such as internal, external trainings or seminars, while enhance interaction and assimilate tacit knowledge. Learning completes the picture of sharing knowledge and result to a systematic problem solving throughout organisation by creative experimentation. From this perspective, Cross and Baird added that sharing and learning improve business performance by lessons and experience using technology; but these technologies are just one way to address organisational knowledge which can be embedded overall to internal knowledge processes (Cross & Baird 2000).

Learning form experience, past successes or failures, knowledge sharing is seen as a result of a dynamic learning process which was built into a continuous interaction with customers and organizations (Kim & Nelson 2000, p. 229). Learning from others, organisational memory or exploiting tacit and explicit knowledge are seen as another innovative ways to increase organisational knowledge.
Figure 2.4: The four pillars of knowledge (Stankosky, 2005)

Peter Drucker brings us another definition and outlines that knowledge management is based on internal organisational resources which sensibly result in benefits and competitive advantage (Drucker, 2002). This theory can successfully be implemented in any size organisation: small, medium and large but needs to be achieved via an intensive communication mechanism with the help of various knowledge management tools and management support.

Important to mention is that knowledge management comes to public eye via a number of definitions while different organisations apply own print and understanding around this topic which creates a slight contrast; but this contrast fortunately doesn’t impact the mission statement of knowledge management. Members of organisations seek often answers at problems they’re facing everyday and try to solve them. They need somehow to overcome challenges and the answer of all these questions is knowledge. They need to access this knowledge and make use of any mechanism to gain it. But after knowledge is acquired, learning process needs to take place in order to close the knowledge circle. Moreover, in regards to solving different issues which arise across
organisations, tackling different matters generally leading to new knowledge which results in new solutions to particular problems (Davenport & Prusak 2000, p.37).

Companies which are successfully implementing knowledge management projects outline that knowledge management is not intended to triumph over business as a separate entity but increase knowledge which leads to common success (Chatzkel 2002, p. 21). Many knowledge management projects fail because focus of entire project is usually distracted by minor issues. In knowledge management, this distraction is often associated to technical requirements and not with the scope of entire project. In any organisation, business should lead the technology and not the technology should lead the business. Indeed, technology is very important as we need to setup tools and configure databases but finally the results should be entirely associated with the company’s business goals.

Across organisations, knowledge management helps businesses to evolve and lead them to better results. These benefits result in an overall increase of organisational awareness, gather people around different topics and increase communication and collaboration through the use of knowledge management tools: blogs, wikis, discussion boards or communities of practice.

In relation to organisational behaviour and its acceptance to change, Harvard Business School highlighted that across organisations, managers and employees need to contribute together to organisational challenges, identify new ways to solve common problems and accept change. From this perspective, the idea of organisational change relies on people's acceptance to engage in internal learning process and make use of common knowledge (Harvard Business School Press 1998).

Enterprises today acknowledge the need of knowledge champions that add their contribution to the effort of making knowledge available for people. Interesting to mention is that unrestricted knowledge should be accessed at all levels without limitation and in enterprises which embraced knowledge management this access should be encouraged. Access to knowledge and transforming organisations in knowledge organisations relate often to a number of key words which have become familiar phrases. (Davenport & Prusak 1998, p.32).
Knowledge is gained through various ways and we discover everyday new avenues of gaining it. Books, journals or accessing online resources, we are involved everyday in an active or even passive knowledge acquisition. We gain knowledge from personal experience as well and add it to personal repository. Davenport and Prusak refers to that experience as what we have done and what has happened to us in the past; we add this knowledge into our heads and we access it every time we face a new situation or need to solve a particular problem (Davenport & Prusak 1998, p. 39).

But in order to make this knowledge available to others inside organisations, knowledge management needs a right atmosphere where an individual’s knowledge is recognised and rewarded (Santosus & Surmacz, 2001). Along with encouragement of making knowledge available to others, organization’s culture needs to welcome a climate of continuity and trust where employees should be given the confidence that trying, experiencing and well unintentional failures are acceptable. Organisations will need to accept these mistakes and treat them as learning experiences which can be further added to the internal knowledge repository (Pan & Scarbrough 1998).

### 2.4 Key Processes of Knowledge Management

Knowledge management processes represent the mechanism which oversees the entire roadmap of knowledge which collects a number of key factors. Capturing knowledge is a key component of the knowledge management process. This stage in the process involves a number of main steps. As shown in figure 2.5, first of all, knowledge needs to be found inside or outside organisation and identify people or places where this might be present. (Nonaka & Takeuchi 1995)
In order to be accessed, knowledge needs to be organised and brought to a common format. A number of iterations need to be followed to structure knowledge as follows (MacGregor, McCulloch 2006):

- Devise a taxonomy which will help the knowledge to be classified into specific knowledge areas. This step will make the knowledge visible and significantly minimise access time when this is requested.
- Generate a thesaurus which will identify a list of words or phrases of the language used in the knowledge area. This feature brings the opportunity to easily search and find relevant content in a particular area of knowledge.
- Designing metadata and supporting data structures. In order for knowledge content to be found and access into details, this attribute will facilitate the search in content with focus on granularity.

Figure 2.5: Capturing knowledge within organisations (Nonaka and Takeuchi 1995)
- Generate metadata. In regards to this element, metadata is associated with content items and achieve important milestones when search for specific knowledge material.
- Devise and generate indexes. This represents an important feature in knowledge management access as will support searching and retrieval of different types of knowledge.

In order to access the knowledge, this must be targeted; the target of knowledge process involves a number of steps:
- Identify generic roles and operations which will interact with the knowledge repository
- Identify role rights which will control the roles’ interactions with the knowledge repository
- Register users that, in the context of the knowledge repository, will associate real users, rights and knowledge interests
- Form groups that will link real users with common interests in the knowledge repository

The next step in knowledge management processes is the knowledge transfer. This is a very important step in the overall process of knowledge management as this refers to a key component which enables knowledge to be available, visible and to be delivered through different ways. The purpose of making this step available to the knowledge workers is to make best of use so that can be absorbed and put into action, based on which new knowledge can be added and created and present the option of open repository for further knowledge add-ons.

Knowledge transfer involves a number of steps such as choose knowledge delivery options which decides on how users are informed about the presence of relevant knowledge content in the knowledge repository or define publication services which is a set of automated activities involving users which result in knowledge content being formally made available in the knowledge repository.

The last step of knowledge management process is represented by maintaining the knowledge. Maintaining the knowledge involves a number of steps such as the
knowledge embedded in the yellow pages (which holds the knowledge of organisation about who knows, where is located and how can be contacted), maintaining taxonomy, thesaurus relevant and maintaining content, user profiles and publication services up to date.

In conclusion, as shown in figure 2.6, these steps: capture, organise, target, transfer and maintain knowledge, are key steps which enable knowledge management initiatives to be successful to any organisations which embrace knowledge management as defined action.

Figure 2.6: Knowledge process (MacGregor, McCulloch 2006)
2.5 Knowledge Sharing

Knowledge sharing provides new opportunities to enable organizations fulfil needs and generate solutions, increase efficiency while provide a business with competitive advantage. (Reid 2003) Knowledge sharing is important because it facilitates organizations to enhance innovation performance and minimise redundant learning efforts (Calantone 2002), (Scarborough, 2003). From this perspective, knowledge sharing enhances employees’ access to relevant information, builds and uses knowledge networks within organizations (Lin 2007).

A set of definitions about knowledge sharing define this activity in a number of ways but what is important to retain from these points is that knowledge sharing engage people in communication and exploring different paths of a given topic. Relevant information which can be accessed by employees can increase chances to find solutions to problems or different working issues. Engaging in knowledge sharing activities should be promoted across any organisation as these activities can add tremendous value and speed up learning process (Reid, 2003).

Knowledge sharing can also be described as a social interaction between people or employees, as they expose their knowledge to community in exchange of new knowledge throughout organisations (Taylor & Wright 2004). But in organisational terms, knowledge sharing relates to capture, organise, target, transfer and reuse; or based on that, knowledge management is organised, categorized in specific formats in order to make it available for business reasons (Nonaka 1994).

Knowledge sharing which takes place at certain level between employees helps them to access knowledge and get done faster and easier a particular task. From this perspective, a number of studies describe the correlation between knowledge sharing enablers and internal processes (Lin 2007).

In regards to knowledge sharing across organisations, different elements of organizational environment are important drivers of knowledge sharing, such as
reward systems linked to knowledge sharing (Bartol & Srivastava 2002), open leadership climate and top management support (Taylor & Wright 2004).

Knowledge sharing is strictly correlated with willingness to join discussions with others. However, the expectation to collaborate and return knowledge to the person or group where the knowledge came from is basically expected. In addition, organizational climate is fundamentally built to capture efficiently the benefits of innovation-supportive culture (Saleh & Wang 1993).

As shown in figure 2.7, the four quadrants clearly demonstrate a connection between collaboration and communication (blogs, social network, news release and collaboration space) and added that people use a number of tools to facilitate knowledge to be shared, transferred and disseminated with the help of powerful internet tools (Bosserman et al. 2007).

Often employees are motivated to share their knowledge for the simple reason of helping and show their support for others. Employees are often motivated to add their
knowledge because engaging in intellectual pursuits and solving problems is challenging or pleasurable, and because they enjoy helping others (Lin 2007). In regards to motivating employees to share their knowledge, organisations should create compensations schemes or include promotions and other benefits which would encourage further employee participation. These rewards can include monetary incentives such as increased salary and bonuses to non-monetary awards such as promotions and job security (Davenport and Prusak, 1998, p. 37; Hargadon, 1998). Unfortunately this aspect is not happening as much as happened in the past. In some of the big organisations today, knowledge recognition which impact at larger scale organisational knowledge are publicly recognised through announcements; seldom job promotions and almost never financially. Hence, new skills or higher degrees added to employee’s portfolio rarely are recognised in present days but nevertheless the knowledge gained as result of sharing, records immediate impact to daily tasks.

In regards to knowledge and places where this exists, employees who have this knowledge are likely to share what they know with others, regardless company’s incentives; but if from any reasons employees need to leave organisation, this source of knowledge leaves as well.

Dunford commented that individuals possess an important piece of knowledge unless organisations utilize tools to assess it inside organisational repository (Dunford 2000). Dunford cites Pasternack and Viscio: “when a person leaves the organization a mass of knowledge goes right out the door with that person” (Pasternack & Viscio 1998; Dunford 2000).

Sharing knowledge process takes place by the help of technology or not. By the use of technology, Garvin notes that people won’t share knowledge easily even with the help of best technology unless that would result in personal benefits (Smith 2001).

Technology which drives knowledge management within organisations should allow knowledge management as business to lead, such in pure business arena should happen. Davenport argues that “many managers still believe that once the right technology is in place, appropriate information sharing will follow,” but in agreement
with Davenport, the reality confirmed that employees do not share knowledge easily (Davenport 1994).

Making use of latest technology and include the latest gadgets, won’t make knowledge flow or knowledge sharing flourish. People constitute the main factor of knowledge sharing and senior management should find ways to promote it and commercialized it within company walls.

Knowledge sharing can be described from two theoretical perspectives in this context. Roger (Roger 1983) investigated early and late adopters of technological innovations and more recently through (Szulanski 1996) added his study to best practices transfers within organizations. Some researchers utilize communications theory (Shannon & Weaver, 1949) to explore and outline any factors which would present knowledge transfers as a difficult task to achieve. In this respect any transfer of knowledge can be recognised as a message from any source to a recipient in a particular context. This message transfer can be rather ‘stickier’ (Szulanski 1996) in the context of particular situations of making this message transfer possible. Today, organizational learning theories have been identified as core exercise in order to successfully achieve productive knowledge transfer which is not seen as simple communication but as an ongoing process and learning interactions (Szulanski 2000).

Bring new ideas into discussion and share them with other people aim to impact our society and become part of human culture. From this perspective, make these messages available to others through various ways will increase common knowledge and raise individual interests (Nonaka 1994). Ideas which often define the beginning of any process improvement or organisational design are described by Romer as significant value added when shared with other people and result in invaluable knowledge capital (Romer, 1993, p. 71).

In terms of knowledge transfer, knowledge transfer is part of daily organizational life but important to mention is that knowledge is transferred inside organizations whether or not we manage the process at all (Davenport & Prusak 1998 p. 10).
It is well understood that in terms of making knowledge available, knowledge management is a key component which enhances organization’s ability to take advantage of its intellectual asset and use it for strategic and tactical decisions (Silver 2000).

Knowledge is shared differently across organisations through use of tools, through face to face meetings, in a formal or informal format or simply around water cooling. But in order to effectively apply knowledge across organisations, this process addresses people’s ability to learn from each other and increase the common knowledge (Szulanski 1996). Hubert and Nonaka describe knowledge sharing and learning activities as correlated and result in enterprise’s ability to utilize this process to achieve competitive advantage and result in effective action (Hubert 1991; Nonaka 1994).

The view can be extended by Cross and Baird’s opinion which brings into focus organisation’s higher management which needs to support a knowledge philosophy and where knowledge is described as a strategically resource which organizations possess (Grant 1996, p. 376) and a principal source of value creation (Nonaka, 1991; Spender & Grant 1996; Teece et al 1997). From this perspective, collaboration increases the chances to find solutions to different problems and amplifies the effort to resolve different issues.

As expressed in the figure 2.8, inside organisations communication can be achieved throughout a number of ways, mostly by the use of email, bulletin boards and meetings, by the use of conferencing or collaboration tools.
In respect to knowledge management across different types of organisations and how these apply the knowledge internally, small organisations typically found that best knowledge sharing experience is associated with lower transfer costs which is often shared into an informal and unstructured format which typically proved to be very effective (Mansfield et al 1979; Teece, 1976, 1977).

Larger organisations typically focus on knowledge management formats which vary from organisation to organisation but in general this should achieve a common goal. In
contrast, this format is organised in repositories, available and accessible online by employees. The need of accessing this knowledge by employees is critical and has the main goal to create new knowledge which can be added to existent one (Caldwell et al 2006).

2.6 Knowledge Management Collaboration Tools

Organisations need to propose innovative ways to seed the knowledge. Just like 2000 years ago when the world was ruled by Rome and a new roman village born, building bridges, develop basic road infrastructure and bringing water, propagated Rome to be one of the marvellous civilisations of that time.

Knowledge management in order to be born, develop and transform the organisation needs people to help bring the knowledge inside company’s walls, build bridges necessary to connect with others and develop basic infrastructure to facilitate interaction and communication between employees. Even 2000 years of knowledge passed by, today in our modern era the basic rules still apply.

One of the bridges and basic infrastructure each knowledge organisation should be build upon, are communities of practice. Nahapiet and Ghoshal state that topics discussed with others through a common language results to a reinforced community which gather to support solutions through interaction (Nahapiet & Ghoshal 1998). On the other hand Sharkie suggests that the success of an organization depends on its employee’s confidence degree which would finally result through different ways in create organizational knowledge (Sharkie 2003).

Indeed, communities of practice gather people that share same interests and share a common ground. They apply learning and collaboration and create a charged environment where discussions around given topics are driven by participants themselves. Important to mention is that communities of practice are a growing habit in many enterprises. Along with discussing many interesting topics using different
online tools or face to face meetings, communities of practice bring people together; enhance communication and collaboration (Argyris, C. 1990, p.54).

Another aspect to mention is that being member of these communities brings personal satisfaction as well by expressing personal opinions which were gained during experience and by showing others level of personal knowledge (Grieves, J. 2000).

A number of tools are available to communicate and collaborate inside enterprises. Collaborative tools are computer-based tools which help people connect and share information. Some examples of collaborative tools include: calendar, bulletin board, chat, audio, video, discussion groups, file sharing tools, presentation tools, application sharing, instant messaging or text tools. These tools enhance collaboration and tremendous lowering costs in terms of distance collaboration, allowing knowledge to flow using technology. In general, these tools will need to facilitate knowledge to be captured, stored and accessed. In terms of capturing and storing knowledge the use of databases, team rooms, blogs and wikis, make use of technology and collaboration to build a knowledge mind set which adopts organizational learning.

King and colleagues envision knowledge repositories as databases which facilitate storage and retrieval of knowledge content (King 2002). Some of these are data warehousing, document repositories and document management systems (Hahn & Subramani 2000; Marwick 2001). Davenport, De Long & Beers complete the point of view categorizing knowledge repositories into three distinctive blocks; external, structural internal and informal internal (Davenport, De Long & Beers 1998).

Internal knowledge repositories facilitate storage of intellectual property and research reports, marketing material, techniques and methods. In addition, internal repositories are associated to storage and retrieval of business best practices (King, & McCoy 2002).

Instruments used in knowledge sharing have been analysed by (Dalkir 2005, p. 109) and (Davenport & Prusak 2000, p. 11). Those are: e-mail, online discussion forums, blogs, making use of intranet, extranet or online knowledge repositories.
People focused knowledge sharing tools which allow social interaction between members have been identified by (Wiig 2004) as been communities of practice, forums, storytelling and lessons learned.

Organizations make also use of web 2.0 tools (wikis, blogs, live document sharing, online collaboration and virtual meetings) and attract more and more people. These collaboration tools facilitate interaction, enhance communication, encourage knowledge creation and ultimately enhance innovation that lead to knowledge creation (Nonaka 1991, p. 181) and (Nonaka & Takeuchi 1995, p. 124). Beside this, innovation is also described as a dynamic capability ‘‘and from this perspective, a capability which allows companies to create, extend or modify its resource base’’ (Helfat et al., 2007).

2.7 Conclusion

This chapter analyzed and integrated a few opinions given by a number of knowledge management big thinkers of our century. Based on that, these ideas have been filtered and further categorized through observations along with knowledge management’s major components. Further to this categorisation, knowledge is an important asset inside organisations as this can enhance communication and collaboration between employees, create new knowledge and add new value to the entire enterprise.

Employee’s experiences, individual values and creativity impact how tacit knowledge is shaped inside people’s heads and carefully made it available inside organisations. Tools along with technology are to prove that knowledge management is a matter of human interaction and knowledge management is key driver which stands ahead gadgets at any sort. Transforming organisations in learning communities and encouraging collaboration and innovative ideas are the real factors which propel companies ahead.
Involvement of senior leaders is always required to assure proper support is given. Their contribution to the common effort of applying knowledge management strategies and best practices across enterprises is dependent to their desire to successes. Directly involvement is required in managing change and prepares the organisation for general collaboration and communication, scoping the final goal – to become better, stands against new challenges and ultimately fight the competition.
3 EMERGING TECHNOLOGIES

3.1 Introduction

The project described in this dissertation is to build a toolset for use in Dublin Open Coffee to support knowledge creation, sharing and retrieval needed to facilitate the creation of relationships within the community. This chapter therefore discusses some of the technology which could potentially be used and assesses their usefulness from a knowledge perspective.

As world evolves, new solutions to problems and answer to different questions need to found. The 21st century embodies the source of creativity, technology and new developments and regards to collaboration between people, discovering new methodologies to enhance interaction between people. Distance and travelling are defeated when it comes to new technology. Emerging technologies push the boundaries even further and provoke any present values to a new era of solutions and innovation. Emerging technologies represent a step ahead in principles and attributes of current development than most of people are used today. In terms of knowledge sharing, web 2.0 technology is the ultimate engine, state of the art which represents interaction and collaboration.

The chapter starts by discussing the umbrella term Web 2.0 before discussing particular technologies which are normally grouped under this umbrella. A set of technologies to support collaboration in particular are then discussed.

3.2 Web 2.0

The web 2.0 is translated as the second generation of web development and design. The term of web 2.0 first became known after the O'Reilly Media Web 2.0 conference
in 2004. With regards to the new version of the World Wide Web, this does not point to an update to technical specifications, but how software developers and regular users see the Web. According to Tim O'Reilly ‘Web 2.0 is the business revolution in the computer industry caused by the move to the Internet as a platform, and an attempt to understand the rules for success on that new platform’ (O'Reilly et al. 2004).

The experience of web 2.0 built its history on the billion of people that have access to internet, the easiness and access it for mobile devices and the software which evolved during the years (Musser & O'Reilly, 2006).

As functionality, Hinchcliffe commented that Web 2.0 makes use of links which are created between several internet users which form the web (Hinchcliffe, 2006), along with the progress of technology which initiated computer industry to move to the internet as a platform; build applications around and utilize better and more efficient the power of internet and successfully connect multiple devices (Musser & O'Reilly, 2006).

Web 2.0 implies that technology is not defined by a visible border but as a constantly moving environment which labels the accent software is developed and marketed. (O’Reilly, 2005). Graham added also that web 2.0 is a result of democracy which covers the functionality and usefulness of internet users (Graham, 2005).

In terms of web 2.0 functionality, high numbers of companies make use of web2.0 collaboration tools in order to enhance internal knowledge to be created and spread (Framington, 2007). Snowden however, commented about the use of web 2.0 technology as an impressive environment which build tools, allow those to interconnect with each other and result in big organisational benefits (Snowden, 2007).

3.3 Web 2.0 for Knowledge Sharing and Collaboration

Web 2.0 enhances knowledge to evolve and collaboration to flourish with adoption of different technologies and use of social software between internet users.
In addition, Web 2.0 tools generate an increased focus for organisations and communities to build and use new tools that allow people participate and share knowledge (O’Reilly, 2005).

3.3.1 Knowledge activities

- The Blog is one of many tools which are often used to enhance communication between users. A blog - shorthand term which means “Web log”- represent an online sequential set of individual notes which are relatively easy to create and use from anywhere via an internet connection and are a form of internet publishing which has become an established communications tool. (Educause Learning Initiative 2005)

From knowledge management perspective, blogs are tools which are often used by organisations as well as regular people because they offer a number of specific capabilities to facilitate knowledge transfer by posting information within the blog. By make blogs available on the internet, they smooth the process of knowledge retrieval and assist the social community which use them to information and updates.

As an example, Upcoming combines features of an event calendar and a social networking site. Primarily, the site is a searchable, browseable repository of upcoming events, such as music concerts, art exhibits, business conferences, and so on.

There are many blogs over the internet today – as example, until the end of 2006, 76,000,000 (76 million) blogs were counted worldwide. – a number which relates to the easiness to create blogs today. These contain usually descriptions of events, or different material as graphics, video or text. Blog entries are usually displayed in reverse-chronological order and are maintained by an individual with regular entries of commentaries. The bloggers differentiate themselves as a specific community as their contents defined as a mini WEB, the Blogosphere.
3.3.2 Social Messaging

Social Messaging is a method to exchange messages between two or more people that are present online, in same time. This communication manner is wide spread, easy to use and popular between people that want to communicate in a quick way using the internet and a computer. Knowledge management applies its projection on social messaging by utilize the power of technology to exchange knowledge fast and reliable at no costs. Inside organisations social messaging support the exchange of knowledge between different subject matter experts, business divisions or regular employees and result to an improved communication process.

- Twitter is a free service which allows keeping in touch with people through the exchange of quick, frequent answers to one simple question: What are you doing? Twitter (http://twitter.com) is a free social networking and micro-blogging service which allows its users to send and read other users' updates (otherwise known as tweets), which are text-based posts of up to 140 characters in length.

3.3.3 Knowledge Sharing

- Delicious is a social bookmarking service which allows users to tag, save, manage and share web pages from a centralized source. With emphasis on the power of the community, Delicious greatly improves how people discover, remember and share on the Internet (http://delicious.com). Having the bookmarks in one place and stored on the internet can accelerate knowledge to be accessed, retrieved and positively impact the time which is necessary to search for relevant information.

- Flickr is an image hosting website, web services suite, and online community platform.
Flickr is almost certainly the best online photo management and sharing application in the world (http://www.flickr.com).

By using Flickr, users immerse into an online photo-access experience which facilitates exchange and retrieval of knowledge (pictures, comments) posted by people on the internet. This service is free, easy to access as anyone can create a user account to join the online sharing community.

- RSS is an engine which updates the content of a chosen webpage and feed recent additions. These new additions may be blog updates, news or different content that subscriber selected to receive online. This tool is very important to accelerate knowledge retrieval and receive updates without user’s interaction. Consequently, knowledge is directed when available and constantly updated with new knowledge which is relevant for the user.

3.3.4 Collaboration

- Online Free Hosting – Google is one of the major online free hosting companies. The service provided at no costs extends Google documents to allow users to collaborate online around a document by the use of internet. Google also provides a number of other on-line tools such calendar, spreadsheets or presentations where user can share documents online for collaboration with others.

- Facebook is a free tool which helps and connects people to post and share pictures online. (http://www.facebook.com). Along with utilize the internet to access people’s profiles online, this service provides the exchange of messages as well and complete the knowledge exchange experience. This tool is used by people to socialize as oppose to be an internal tool used by organisations.

- Myspace is another tool which enhance users to create own information and post it online along with pictures or other type of media (pictures or music) (http://www.myspace.com). This tool is used to keep personal information updated and
open to be accessed online by anyone using the internet. However, not used by organisations, myspace facilitates knowledge exchange between people by the use of social software.

- Podcasts are audio or video files available on the internet (Balleste et al., 2006). These files can be accessed online and enclose different content such as music or stories which can be accessed on demand. These files can be accessed and downloaded via the internet, stored and played. (Lee, 2006). Podcasts play an important role in knowledge creation as they instigate and explore unlimited topics and present a flexible access form anywhere, anytime via the internet.

- According to Guardian, YouTube is one of the most popular tools available on the web today (Guardian 2006). YouTube allow users to post their media online (music, video) and facilitates comments to be added by different viewers which have previously opened a personal account (http://www.youtube.com).

Based on Guardian’s comments, YouTube has earned its popularity between users from diversity of knowledge which this tool can offer and different point of views which people bring to the tool. Furthermore, YouTube is a tool that creates knowledge, allow sharing and retrieving and consequently allow user to perform searches for preferred content. While knowledge is added to the tool by different users, a software feature imbedded in YouTube post the last added content in the upper part of the webpage and makes it distinctive as oppose to other old videos. This tool is not used by organisations to leverage internal knowledge but is a tool which is solely used to socialize, provide right to access knowledge and post comments.

- A wiki is a page or collection of Web pages designed to enable anyone who accesses it to contribute or modify content, using a simplified mark-up language. Wikis are open access collaborative online environments which are ease to use, update or modify (Oren et al. 2006).

Wikis are one of the most web 2.0 knowledge management tools used today. They allow an effective interaction between users and achieve live information exchange.
Wiki is software which simply permits webpage updates, changes or creation of online material with the use of a web browser and make it available for others to view it and collaborate (http://wiki.org/wiki.cgi?WhatIsWiki 2002).

Ward Cunningham was the first person who developed the wiki software and since then, wikis are the tools used by many organisations to enhance collaboration, capture online knowledge and allow multiple users to work together on the web. (Leuf et al. 2001, p. 435) Ward Cunningham called “The Wiki Way” relating to editing philosophy which allows people to collaborate and update the web content, without any restriction.

Adopting wikis across organisation can result in great collaboration benefits as this knowledge has a non static character and allow employees to update their activity (sales figures, opportunity stages, etc) or any other related issue which through a live update can result in speed of sharing information and implicit decision making process. Another important feature is that stored on the web, wikis can be accessed from anywhere on the world and through the use of internet, this collaboration can bring teams together and result to an open live collaboration. Wikis became business tools, largely used by different organisations and result in an increased collaboration where knowledge can evolve and share rapidly. Wikis allow through their user friendly interaction a flexible interaction added to a high connectivity level between people that commonly share this tool

### 3.4 Simulation Environments

This chapter will refer to emerging technologies what are available today to enhance collaboration between people. One of key areas where innovative solutions were taking the lead is virtual world. Virtual worlds encapsulate a platform which facilitates communication and collaboration between people via a three dimensional virtual representation of the world (Secondlife 2008).
Relatively new, this technology is starting to be used but there is still a lot to be developed in order for this technology to reach a truly interaction experience. Physical interaction experience cannot be achieved by the technology, but still at the level virtual worlds are positioned today, there are a number of features available which would provide a satisfactory user experience.

Virtual worlds enrich the interaction between people through a three dimensional representation of each person, called avatar. An avatar is taking movement directions through the virtual world by personal command via de keyboards. This will allow to this character move freely and interact with other people or different objects which are present in the virtual world (opening doors, use of stairs or elevators). Some objects require a click of the mouse to engage or disengage interaction (pick/drop objects, open books, or open chat sessions).

Another feature available in the virtual worlds consists in display 2d images or pictures and make possible to interact in such manner as the avatar which is controlled by the person via de keyboard can approach to these and look them from closer distance. In addition, approaching to another avatar allow the possibility to interact with it via chat or simply by the use of microphone and speakers. As addition the features, technology also allows to interact via chat or voice (Voice Over IP) with two or more people (avatars) in real time so that approaching to these, they can hear and talk back in same way as in real life – talking and hearing each other from short distance.

As shown in figure 3.1, attendees can choose a presentation from a set of presentations available and view them at their own request. One of real life feature brought in the virtual worlds is the ability of one of the avatars involved in a group interaction to move away from the group and not being able to talk or hear the others. This feature is very useful when applied to different groups which share same environment (virtual room). Important to mention is while technology tries to replicate real life human interaction and bring this in the virtual world, the acceptance of using such interaction is still at the beginning but committed to become more popular in the future.
3.4.1 Second Life

Second life is a real example of virtual worlds. Anyone with an internet connection can simply create an account and log in to this environment (www.secondlife.com). This experience can be immersive into this fascinating virtual environment where almost anything is possible with just a click of the mouse. Features include flying which allow user to oversee the world below from virtually lifting the avatar from the ground and make possible transportation of it to desired area.

Another feature of second life is teleporting. This facilitates changing virtual locations quickly and explore other areas of this interactive world by simply clicking ‘‘teleport’’ to the desired place. In the light of business, many organisations are present in this virtual environment by simply creating a virtual building where different products, services or solutions are sold just like on the simple way used of the web. This virtual environment allows businesses to create another representation of their interaction with customers and often is accompanied by big savings as well.
The latest 3D virtual technology platform allows organisations to build custom environments and applications which increase productivity, creativity, and innovation while cutting travel costs and doing business in a more eco friendly way. Figure 3.2 shows the meeting place in the virtual environment; but according to Karen Keeter, IBM Marketing Executive, IBM saved 320,000 $ by using second life meetings while Joanne Martin, President, IBM Academy of Technology added that second life meetings can accomplish same goals as real life meetings at just one fifth the costs without jet lag. (Virtual Worlds News 2009).

Figure 3.2: Attending presentations in virtual worlds (Virtual Worlds News 2009)

Craig Becker, Global architect for IBM’s Digital Convergence EBO Life commented about attendee’s sensation one day after the virtual meeting as they remembered the event as a real meeting, where attendees interacted and exchanged thoughts or opinions.
with other participants as oppose to associate the experience with any form of technology. (Virtual Worlds News 2009).

In terms of attendees and easiness to attend virtual meetings, Neil Katz, IBM Distinguished Engineer, Academy of Technology Member added that “It would have been difficult for many participants to take time off to attend a live event.” (Virtual Worlds News 2009).

3.4.2 Active Worlds

An active world is software which allows anyone with an internet connection to build a 3d virtual environment, connect and interact with people (Active Worlds 2008). By using this software tool, users submerge into a virtual world where can visit virtual locations, chat and build their own virtual environment.

However, a number of enhancements are available in active worlds such as shopping, exploring more than 1000 different worlds, playing games and making friends. From knowledge perspective, Active Worlds enhance communication and collaboration between people, facilitate knowledge exchange and smooth the progress of users to interact with each other via personal avatars (Active Worlds n.d.).

3.5 Conclusion

This chapter explored the leading technology edge in communication. Virtual meetings are by far tools which support organizations achieve low costs interactions, lower travel barriers and improve knowledge sharing experience. Technology continuously improves while innovation supports solutions and improves collaboration.
As a 21st century challenge, innovation is adopted by many organizations as a key element to develop new products, services or offerings and to add value to organizations overall.

Supporting collaboration via adopting latest technologies justifies the core functionality which is required to enlarge world wide attendance and increase communication based on user experience. New functionalities are expected to be added to the current features portfolio in just few years time when the real 3d experience can finally become a reality. This feature refers to 3d projections of real objects and persons over the internet and makes possible a real life interaction experience through the use of high speed data exchange. Knowledge management could then achieve another milestone, the one of replicating a real life interaction between two or more individuals and easily convey knowledge exchange into reality.
4 KNOWLEDGE MANAGEMENT IN OPENCOFFEE

4.1 Introduction

This chapter will outline a tangible part of Open Coffee and knowledge management. These two sectors can be characterized in the context of informal knowledge which is shared during Open Coffee meetings. Moreover, this chapter will identify knowledge management ingredients which are present in communities of interest and communities of practice and intersect those with current Open Coffee structure.

Knowledge management applies its statute but as opposed to formal knowledge management processes adopted by organisations, knowledge sharing in Open Coffee endorses a concept of open communication and non-standardization. Topics discussed are randomly chosen during which attendees exchange knowledge and connect for the purpose of achieving common goals.

4.2 Open Coffee

The Open Coffee Club was started to encourage entrepreneurs, developers and investors to organise real-world informal meet ups to chat, network and grow (www.opencoffee.ning.com). The founder of Open Coffee, Saul Klein recognised that within the world of entrepreneurs there were many individuals with diverse backgrounds and businesses who were seeking solutions to technical problems. With this in mind, the first Open Coffee meeting took place in London with the aim to create a common ground for these to meet with others in similar situation and those in the world of ICT who could assist with providing solutions.

Open Coffee is an event where different technical topics are discussed and relationships between participants built.
The number of participants at any meeting can vary. Open Coffee meetings are promoted through local websites (http://opencoffee.ning.com) where usually place, time and topics are displayed prior each event. Individuals who would like to join an Open Coffee event usually express their intention to do so via the website. Where a topic is chosen for discussion at a meeting, the topic is posted on the local website and individuals can express their interest to attend.

As part of the Open Coffee event, participants come from a wide range of backgrounds from technical to business. Start-ups entrepreneurs are often taking part of these meetings with the purpose of extending their collateral of knowledge and promote collaboration which result in building relationships and enlarge their business portfolio.

In particular Open Coffee event in Dublin is solely a technical event. Web developers, programmers and technical individuals are joining to discuss and outline their professional opinions on different topics.

In Open Coffee transfer of knowledge and collaboration on different topics are exemplified openly and informally during these events. This collaboration is often continued beyond the face to face meetings and is driven by the common interest in respect to knowledge transfer.

Important to mention is that participants’ expertise is openly shared with other participants without any expectations in return where informality plays an important role. Open Coffee grew extensively and evolved based on informal relationships. It is well known that participants don’t need to dress up, prepare material or be on time. Participants join anytime and leave anytime after their knowledge is shared or when participants are satisfied with relationships created. The spirit of openness is promoted among Open Coffee attendees, an environment which leverage comfort and generates a welcome feeling throughout people who share the same interest.

In terms of attendees, entrepreneurs are also taking part of the Open Coffee event besides the technical participants. They are usually joining conversations and interact
with purpose of building joint ventures or simply looking for skilled individuals who
could perform a technical skilled activity during a short or long time project.

There is another category of entrepreneurs who attend Open Coffee meetings just for
education reasons, knowledge which they would further use to analyze current
opportunities in the market place and rethink their business strategy.

OpenCoffee is about creating connections between people from that collaboration can
grow. Collaboration in Open Coffee flourished – one factor could be the informality
and openness which characterize these meetings where people share their knowledge
with others while enjoy a cup of coffee.

In the context of Open Coffee, knowledge management prerequisite would be slightly
different than one adopted by larger organisations where is widespread and flavour
with corporate strategy. In Open Coffee knowledge management is characterise by a
need for real-time short timeframe activities which rely mainly on create and share
knowledge for a limited period of time. The types of knowledge shared or retrieved
vary and the form in which these activities take place influence how knowledge is
expressed.

Open Coffee is trying to leverage a comfortable, easy going and informal environment
where individuals share tacit and explicit knowledge in real time. The common
interest is technology where discussions orchestrate one or more topics, in general
discussions around quick fixes, tips, lessons learned or how to solve one or more issues
which surround a particular problem. This knowledge exchange results to quick fixes,
answer questions and turn into new common projects. Knowledge in Open Coffee is
present also in additional formats during Open Coffee meetings where short videos,
quick demos or presentations are shared.

Real Time Knowledge Management in Open Coffee has a different characteristic as
opposed to the Knowledge Management which applies in organisations. Open Coffee
leverages an environment where knowledge is shared amongst its members or ad-hoc
participants. Open Coffee interactions are mostly characterized by short term
knowledge share. Some individuals who take part in these meetings are sometimes
present for just a limited period of time as opposed to remain longer for the whole duration of the meeting. Attendees exchange the knowledge which interested them the most throughout direct discussions with members that possess the wanted knowledge. After relatively short discussions and knowledge shared in a common topic, individuals exchange contact details, agree on further actions or simply leave the Open Coffee meeting.

If common actions are agreed by the individuals with the purpose of further collaboration or joint forces to complete a project, they agree on a number of knowledge management tools throughout they would keep the knowledge flow for a common agreed time frame until the project ends. Real Time Knowledge Management which Open Coffee promotes encounters success around the globe because it facilitates a fast informal knowledge sharing with good results where interactions between members address common issues.

4.3 Assessing Open Coffee from a Knowledge Management Perspective

Open Coffee is making use of knowledge management tools and physical interaction to facilitate knowledge share, creation or knowledge exchange. Human factor prove to formulate the base of these informal meetings, distinguish their existence within a consequent steady progress and conduct the knowledge to evolve and flourish in real time, when is needed - a new form of Knowledge Management is unveil – The Real Time Knowledge Management.

Open Coffee event can be associated in some extent to Communities of Interest (Lesser et al 2000, p.85). A Community of interest is a community of people who share a common interest or passion. People exchange ideas and thoughts around a personal interest, but may know little about each other outside of this area. Participation in a community of interest can be persuasive, interesting and generate a ‘sticky’ community where people return recurrently and attend extended periods.
Communities of Interest gather participants of different communities of practice to solve a fussy problem of common interest. They can be contemplated as “communities-of-communities“ (Brown & Duguid, 1991) where members can learn from experts that belong to other areas of knowledge and where members of must learn to communicate with others (Engeström, 2001).

Learning and education are based on the theory of learning as being an activity which individuals perform. Furthermore, Wegner and Leave discuss the idea of learning takes place for a specific period of time and is detached by other activities, capturing the end result – teaching. (Wenger et al. 1998).

Communities of Practice are around for a very long time and they exist among us even without us to realize it. People gather around a car, discuss, engineers or technicians talk about a technical topic - they all actually take part of one or more communities of practice learning from each other.

Open Coffee events can be as well associated in some extent to Communities of Practice. Therefore, the concept of a community of practice is to convey the process of social learning with people who have common goals and join those in the purpose to achieve those goals.

Communities of Practice as well as Open Coffee are groups which appear to share ideas and to learn from one another – knowledge which is further use intended to solve solutions or parts of a persistent issue (Nickols et al. 2003).

According to Wenger, a community of practice defines itself along three dimensions: what is the community about, how is it working and what potential generates. (Wenger 1998).

Progress is based on improvement, upgrade or sparkle one or a set of products, offerings or services. Based on communication between two or more people, usually this result is fusions of ideas which materialize further in create more knowledge around a given topic.
In the Open Coffee events knowledge management takes a turn, from the knowledge managed in the organisations where is flavoured with corporate strategy - to a real time knowledge management which relies on creation and sharing knowledge instantly, for limited period of time. Common topics are often to be discussed face to face through meetings or use of various social software tools, where usually people come together to express their vision and learn form each other.

Real Time Knowledge Management extends the form of knowledge beyond the point of time, beliefs and values – it is the true moment knowledge itself.

With tacit knowledge, people are not often aware of the knowledge they possess or how it can be valuable to others. Tacit knowledge is considered more valuable because it provides context for people, places, ideas, and experiences. Effective transfer of tacit knowledge generally requires extensive personal contact and trust.

A very important factor to be mentioned is that tacit knowledge relies on relationships between people. An effective tacit knowledge can hardly be achieved. Open Coffee is trying to leverage a comfortable, easy going and informal environment where individuals share tacit knowledge in real time. This knowledge exchange results to quick fixes, answer questions and turn into new common projects. As opposed to tacit knowledge, explicit knowledge is also present sometimes in the Open Coffee meetings where short videos, quick demos or presentations are shared.

Knowledge sharing is an activity through which knowledge (i.e. information, skills, or expertise) is exchanged among people, friends, and members of a family or community. Peter Senge outlined that sharing knowledge is not characterized by a simple information exchange but by the help people are willing to offer while leverage a learning environment which results in action (Senge 2003).

Knowledge sharing in Open Coffee events is determined by the need of exchange, challenge the tacit knowledge, storm the known rules and replace them with new ones. Individuals, who seek an answer to a problem, express their wish to collaborate and explore their knowledge along with other participants underlining their ability to generate valuable knowledge source.
Based on the knowledge shared, an effective collaboration for short term projects can be discovered in the context of performance and typically created with the goal of achieving personal results.

Open coffee stands out as a unique event. These meetings prove to be successful and spread around the world. This clearly demonstrated that informal exchange of knowledge differentiate itself by the formal one and propelled by common interest of attendees. Knowledge in open coffee is not following an organised structure. This flows along the meetings and is seldom captured by a member of the group and posted on the open coffee web site. Knowledge management tools come into place following the communication initiated during those meetings. The scope of open coffee meetings is to discuss technical related issues, link with others and find solutions to help tackle different IT issues. Knowledge continues to be shared outside the meetings with the use of tools: chat, twitter, sms. Some of these relationships result in business relationships as well.

4.4 Interviews and Surveys

The meaning of the surveys and interviews consists of gather information necessary to outline how knowledge exchange and collaboration map together in respect to timeframe and circumstances these are taking place.

The purpose relates to explore these attributes inside and outside Open Coffee events, while explore tools preferred by open coffee participants.

4.4.1 Audience

Since the Open Coffee is designed to invite anyone interested in technology to discuss and explore different topics around IT, participants surveyed had mostly technical background and some of them started their own software development companies.
Audience that takes part of the survey is based in Dublin area and travel to this event to exchange knowledge with other attendees, make new contacts while enjoy a coffee during these meetings.

As part of the research completed during this project, two surveys and two interviews were conducted in order to evaluate the view of Open Coffee attendees and explore their opinion about current knowledge exchange format.

4.4.2. Aims and Objectives of Survey and Interviews

To summarize, the results of the surveys will assist identify the following:

- How familiar individuals are with OC events and in which locations are they attending,

- Reasons and benefits they witness by attendance to Open Coffee events,

- Number of contacts achieved, number of follow ups, how long these would last, tools and what knowledge is exchange during and after the meeting or business relationship,

- Uncover if during Open Coffee events participants recommend known contacts to new ones and the knowledge map extends outside the Open Coffee network,

- Setup the scene of virtual Open Coffee meeting; acquire answers concerning right tools to be assembled for such event to succeed,

- Run a virtual Open Coffee event and interview the participants about their overall experience,
Based on first survey results, an open coffee knowledge map was built, showing representations of face to face meetings followed by number of contacts and type of knowledge exchanged during these meetings.

In the other side of diagram, has been exposed in contrast the average number of contacts which follow a face to face meeting along with the knowledge type, which changes after this event. In correlation, average number of contacts which follow a face to face event is represented, followed by tools which attendees prefer to use to keep in touch with each other. Based on the collaboration and tools used, the diagram was used for expressing the business relationships generated.

These surveys and interviews have been designed to extract the opinion of the Open Coffee participants in order to provide sufficient information to satisfy current research goal. The scope of these tools however, is to explore current Open Coffee knowledge environment in respect to knowledge exchange and map them to user’s feedback before and after attending an Open Coffee virtual meeting.

Therefore, this surveys and interviews have been divided in two main categories; before and after the virtual open coffee event. Each category refers to a specific timeframe in the research spectre and was built to capture audience’s opinion before and after the proposed experiment. The questionnaires were designed and built into a survey online tool called Survey Monkey\(^2\) and distributed online through email invitation to the participants.

After these questionnaires have been sent to participants and results were analyzed, then interviews have been followed where more questions about user experience have been asked.

\(^2\) www.surveymonkey.com
4.4.3 Surveys and interviews design

Before designing the surveys and interviews, it was necessary to identify from a set of knowledgeable participants their understanding of goals they want to achieve attending Open Coffee.

Initially, informal meetings were conducted with key participants to develop a skeleton questionnaire which could then be distributed to a wider audience. From these discussions it emerged that typical reasons for participating were to look for skilled individuals to fulfil a particular requirement in order to complete a short term project or to simply exchange knowledge in a given or ad-hoc topic. Some of participants were start-uppers that explored collaboration paths with other members or simply used these meetings for expanding their knowledge or customer database.

As a general particularity, individuals attended these meetings for the need of linking with other participants that shared same interest and carried out discussions within an informal, friendly environment.

From these results it was decided that the surveys and interviews would need to expand and investigate activities beyond the Open Coffee meetings since these meetings are just starting point of a possible longer collaboration. The aim of this investigation was to not only identify how participants used the Open Coffee meetings but also to uncover activities post meetings which were currently hidden to other participants.

The frequency that participants interacted with Open Coffee meetings is another area which needed to be explored as well. This expectantly reinforced the aim of members to outline the end results they wanted to achieve by a frequent involvement.

Another area of surveys and interviews focussed on tools which participants usually exploited during their collaboration, how often were they used and what is the reason they chosen one instead another.
Defining number of contacts achieved during the open coffee meetings, how many of those pursue afterwards and how long they last, would formulate another interesting aspect in respect to my current research, as well as type of knowledge exchanged while building the connection and if this is changing afterwards.

As part of this investigation, answers to questions like type of knowledge exchanged and at what stage is taking place, as reasons of choosing web 2.0 tools during the collaboration.

Another approach to explore web 2.0 tools and their capabilities comes in relation to virtual open coffee meetings.

In first part of the survey I proposed an emerging technology tool to fully support such meetings virtually and raised participants if they would like to attend a virtual open coffee event. The point of this question was to discover whether participants would consider virtual events valuable or less valuable as the regular events.

In terms of knowledge exchange, smooth the process in building connections and facilitate interaction between different individuals was also to be determined, but differentiated whether emerging technology was able to provide bare minimum requirements to support virtual open coffee events.

4.5 Interviews and Surveys Results

After the survey completion, the process followed was survey data analysis. From the data obtained, there were a number of interesting points discovered. This section describes the analysis process undertaken, presenting results of a number of 21 people surveyed and the analysis undertaken.

The structure of the surveys and interviews differ but were designed to achieve the same goal. This section is divided into four phases; questionnaire and interviews
To face to face Open Coffee attendees that took place before and after the virtual event; results finally elaborated in conclusion section.

4.5.1. Survey results (face to face meeting)

Question 1 talk about current position that Open Coffee attendees have. This information is important to oversee the scenery of entire business view (if the attendee owns a start-up) or he is a regular employee.

As this is an IT community, the breakdown of attendees background exposed that 80% is an IT population and only 20% other backgrounds, as shown in Figure 4.1.

![Figure 4.1: Attendees background in Open Coffee](image)

Information which is trying to gather question number 2 and shown in figure 4.2 is regarding to demographic data and trying to gather the information about the location of the surveyed. This information is very important as is translating the motivation of the subject for long travelling to attend the Open Coffee event and to present those and the others the opportunity to attend a virtual Open Coffee event as well.
The community replies 90% from Dublin area and only 10% from outside Dublin. This information outlines that attendees are locals and relatively closed to the Open Coffee event.

![Open Coffee attendance - location](image)

**Figure 4.2: Open Coffee location attendance**

Question 4.3 trying to uncover the size of the organisation the subject is part of, in order to add more information the background of opinion.

The answer to the survey was divided in no organisation, less than 10 people organisation, between 10 and 100 people and more than 100. Attendees reply in proportion of 23% that they belong to no organisation, 38% less than 10 people organisation, 14% between 10-100 people organisation and 23% belong to larger than 500 people organisation.
Following question as shown in figure 4.4, specifically referring to leading role in the organisation. This is part of the background information needed to uncover the number of start-up attendees to the Open Coffee event. Attendees responded 40% as being leaders of their own start up organisations and the rest of 60% did not have management roles within their own organisations.
As Open Coffee is an environment where business relationships are explored, the number of company owners is very important in order to match this information with the other number of other attendees to the Open Coffee event.

The next question refers to the nature of the organisation. This will help us confirm a strong technical area attendance. As shown in Figure 4.5, high number of attendees responded that nature of their organisations is 86% IT, services 46% and only 6% other areas.

![Nature of organisation of the Open Coffees attendees](image)

**Figure 4.5: Nature of organisation of the Open Coffees attendees**

Figure 4.6 shows how long attending organisations existed in the context of how successfully this organisation is and how long is in business. Less than a year 25%, 1-3 years 18% and 56% more than 5 years.
Along with this information, figure 4.7 shows attendance frequency to Open Coffee meetings, while next questions figure location and reason of attendance. Attendees reply 80% between 1 to 5 Open Coffee events attended, 10% between 5 to 10 events, and 10% between 10 to 50 events. This means that Open Coffee attracts new people all the time and the majority attend a few meetings only.
As location, figure 4.8 shown that Dublin was the place chosen with 90% and the rest of 10% voted that they attended outside Dublin. This information results in majority are locals and attend this event locally.

![Attendees location chart](image)

**Figure 4.8: Open Coffee attendees location**

In terms of reasons of why people attend Open Coffee events, figure 4.9 shown where attendees seen the benefits; the answers could be one or more choices where 80% saw the benefits in the social aspect, same rate as knowledge increase, followed by 65% in the business area.
In the context of active involvement and social networking, a question about how many contacts have been made and how many follow up after the Open Coffee meetings was asked.

In figure 4.10, 10% of attendees did not make any contacts, 60% made less than 5 contacts, 25% between 5 to 10 contacts and 5% more than 10 contacts. These answers express that in general, people that attend the Open Coffee events made an average of few contacts.
In regards to contacts which follow after Open Coffee meetings, figure 4.11 shows that 70% from people surveyed have less than 5 contacts, followed by 17% answered that no contacts go ahead, and 11% with 5 to 10 contacts. This result accomplished the goal of Open Coffee as people meet, discuss different topics and connect successfully with each other.
Following question regards to old known contacts which attendees have and their will to introduce those to new contacts made during Open Coffee events. This question is important to determine if Open Coffee is a hub which generates contacts to flow outside the face to face meetings. As result, figure 4.12 shown 73% of attendees answered yes (they do introduce new to old contacts), while 27% answered negatively.

![Figure 4.12: Open Coffee attendees (introduction to new contacts)](image)

Tools however, are very important to keep in touch, communicate and collaborate. In figure 4.13, Open Coffee attendees make use in equal range of percentage of 87% phone chat and email, followed by twitters and blogs with 13%.
Important to mention is that business relationships are established as well behind Open Coffee meetings. In figure 4.14, 57% of attendees responded that between 1 to 2 business relationships are going ahead, followed by 7% with less than 5 business relationships but the rest of 35% answered that no business relationship follows.

Figure 4.13: Tools used by Open Coffee attendees

Figure 4.14: Contacts which lead to business
Next question refers to web 2.0 tools and technology used by Open Coffee attendees. Figure 4.15 shown that 73% make use of web 2.0 tools as oppose to 27% which don’t see any value added.

![Figure 4.15: Tools used by Open Coffee attendees](image)

Type of knowledge exchanged during and after the meetings and what tools have being used to make and keep connected in time was another question asked in the survey. Figure 4.16 shown that during face to face Open Coffee contact, 98% of the attendees answered that basic information is exchanged during the first contact and only 2% answered that they exchange other information but after the meeting, figure 4.17 shown this information changed in deeper technical and business discussions 92% and around possible collaborations with 8%.
Ultimately, the proposal of a virtual meeting is introduced and asked participants about their interest to attend such event. Figure 4.18 shown 50% of the answers as attendees might attend the event, followed by 34% in favour of attending and 16% answered that they won’t be interested in a virtual Open Coffee event.
4.5.2. Interview (face to face meeting)

In order to complete the research, an interview was conducted which enclosed eight attendees. The audience was carefully selected and enclosed people from three categories: people that just have been introduced to Open Coffee meetings and had their first attendance, another part which have had a medium attendance and the third part of participants that attended long time Open Coffee meetings and have been very familiar with the Open Coffee events.

In terms of background, the audience was composed by software developers, employed or start-uppers. The interview was divided in two sections: First section regards to current knowledge share which Open Coffee facilitates through regular meetings and second session which represents a desirable Open Coffee knowledge sharing format.

As part of first section, a question was asked about what attendees like about Open Coffee event. As shown in figure 4.19, majority of six out of eight attendees recognised that they like the format as regards to informality which characterise Open Coffee meetings. The other two answered that they like meeting people during this event and discuss about technology.
Next questions relate to benefits of attending this event and if they will continue attending the Open Coffee event in the future. At this question, figure 4.20 outlines that seven out of eight attendees will continue attending the event and introduce new people to it as well, while one answered that he might not continue attending these events at all.
In terms of benefits of attending Open Coffee events, figure 4.21 overseen seven out of eight attendees recognised the need of communication, meeting new people and learn from each other, while one answered that cannot see immediate benefits as result of attending these meetings.

![Benefits of attending Open Coffee events](image)

**Figure 4.21: Open Coffee attendance benefits**

Next question which was asked regarded to what is currently missing in Open Coffee event. As shown in figure 4.22, five out of eight people answered the absence of a knowledge capturing system; the other three answered that they would like to have a format (predefined topics) which would bring value to the Open Coffee content.
The second session of the interview relates to a desirable Open Coffee format. This section contained a question about a future location which would be more convenient for attendees. All eight people interviewed answered that they have no specific preference but these events will need to take place in Dublin City Centre, where currently is taking place.

In terms of knowledge share, the next question referred to knowledge which people share around a cup of coffee and as result of that, if this increases after attending Open Coffee events. Figure 4.23 shown seven out of eight attendees recognised that is absolutely beneficial to attend Open Coffee events as this result in an increase of common knowledge. The other one has answered that attending these events does not always result in a knowledge increase.
When asked what is missing in sharing this knowledge and how they would like to change, figure 4.24 shown five out of eight answered that they are satisfied with the present knowledge sharing format, while three interviewed answered that will like to see even more openness and proposed this event to take place weekly.
The last question regards to the capture of knowledge and if they would like this knowledge which was exchanged during previous Open Coffee meetings to be captured in a repository for later access. Figure 4.25 outlines unanimously answered they would like to have the option to access and retrieve the knowledge exchanged in past open Coffee events not only because this would facilitate their access to knowledge which they missed because attendees could not attend but also to deepen the knowledge and explore even more topics already discussed.

![Like Open Coffee knowledge to be captured](image)

**Figure 4.25: Open Coffee attendee’s opinion about knowledge capture**

### 4.6 Conclusion

This chapter highlighted the opinion of Open Coffee participants and their input on event’s knowledge sharing structure. Making use of surveys and interviews, this chapter evaluated the position of participants towards Open Coffee and completed the entire picture regard of this research. Knowledge sharing in the informal environment which Open Coffee promotes, results in a good interaction between attendees that often conducts to further collaboration and form new business relationships.
Open Coffee is an informal event which manages to bring together many people to tackle a common interest – the technology. Attendees that are joining this event are overall pleased with the informal environment, where they can exchange knowledge, make new contacts and increase personal knowledge.

As a result of these meetings, Open Coffee grows and attracts new members. Business relationships have also been established and attendees made use of Open Coffee events to form new businesses and enrich on the business arena.

In regards to knowledge which attendees exchange during Open Coffee meetings, this change and technically deepen outside these meetings. Further discussions about how collaboration can be possible and work together to different projects are also explored. In regards to tools usage, attendees mostly found useful making quick phone calls to each other, use email and chat to stay in touch.

In regards to proposing an Open Coffee virtual event, attendees didn’t reject the idea of trying new ways to collaborate. Because Open Coffee is mainly a technology community, attendees didn’t find difficult to use it, familiarized with the environment and took part at the event.

The output however wasn’t positive and attendees were not entirely satisfied with this form of meeting and added that they might not attend in the future to such event. This indicates that attendees like to meet and discuss in person; as oppose to use virtual meeting room capabilities.

Therefore this research identified a growing need to capture Open Coffee events and organise the topics so this could be accessed at later stage. Open Coffee is present in six locations around Ireland so far but my research illustrated opinion of Open Coffee Dublin participants only.
5 WEB 2.0 FOR KNOWLEDGE MANAGEMENT IN OPENCOFFEE

5.1 Introduction

The focus of this chapter will be on web 2.0 technology used in Open Coffee environment and discuss how this relates to this ongoing event.

Web 2.0 technology correlates Knowledge Management with Open Coffee meetings and outlines that such emerging technology stretches boundaries of communication and collaboration between Open Coffee attendees. This chapter will specifically argue the implications of web 2.0 in Open Coffee and highlight benefits of utilize such technology.

5.2 Knowledge needs in Open Coffee

As oppose to organisational knowledge management, Open Coffee is an event where participants are irregularly attending and share common knowledge. Inside enterprises however, knowledge management is mostly organised and structured, constantly updated and maintained in order to enhance a proper knowledge sharing environment. Organisational knowledge is available to employees to be accessed and used but in Open Coffee this asset is not present so that attendees could access it and reuse it when needed.

In terms of needs, Open Coffee could achieve better value if the knowledge exchange during these sessions would be captured. In some Open Coffee locations have been attends to capture the knowledge via video as those have been posted online on the following link of YouTube: http://www.youtube.com/watch?v=RCPJ3Dw8D3s; but this practice seem to not spread among Open Coffee that fast.
Another element which influences Open Coffee Dublin is the knowledge type. In regards to this particular aspect, Open Coffee Dublin is a strong technical community where specific topics are discussed and according to chapter 4.5 (Interview and Survey Results) these discussions are often extended outside Open Coffee meetings and explored even deeper between attendees.

Knowledge which specifically characterize Open Coffee Dublin is predominantly technical (Chapter 4.5 – Interview and Survey Results) and seldom result in forming new businesses and work collaborations between attendees. Open Coffee Dublin does not have a strong business attendance so business relationships could evolve at a higher rate as result of exploring different collaboration paths between technologists and entrepreneurs. Therefore Open Coffee Dublin characterizes itself as a technology learning hub than a business related community where people feel comfortable to exchange technical knowledge in an open and informal environment.

As show in figures 5.1 and figure 5.2, the Open Coffee knowledge map represents the evolutions of knowledge during and after Open Coffee meetings; average of contacts made, how many contacts follow and result in business relationships, tools used as well as common objectives reached by Open Coffee meetings. Important to mention is that the objectives are a common ground which emerged with face to face and after face to face meetings. Moreover, attendance needs to collaborate, build relationships which either result in new businesses or knowledge increase. Consequently, according the surveys and interviews held Open Coffee’s aim and objectives lie in the ability to create progressive networks which compile knowledge, evolve and grow.

<table>
<thead>
<tr>
<th>Face to face meeting</th>
<th>Knowledge</th>
<th>Contacts</th>
<th>Tools used</th>
<th>Business relationships</th>
<th>Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>basic introduction, exchange business cards</td>
<td>between 5-10</td>
<td>-</td>
<td>-</td>
<td>Inform about meetings</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Make contacts</td>
<td>Build relationships</td>
<td></td>
</tr>
<tr>
<td>After face to face meeting</td>
<td>deep technical business collaboration</td>
<td>less than 5</td>
<td>chat, telephone</td>
<td>between 1-2</td>
<td>Build businesses</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Increase knowledge</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Figure 5.1: Knowledge map and needs in Open Coffee**
Open coffee is an event which accomplishes the exchange of knowledge between people interested in technology. Topics are usually open and attendees discuss anything within technology spectre. But knowledge which is shared within the Open Coffee event:

**Figure 5.2: Open Coffee knowledge map**

### 5.3 Web 2.0 for Knowledge needs in Open Coffee

Open coffee is an event which accomplishes the exchange of knowledge between people interested in technology. Topics are usually open and attendees discuss anything within technology spectre. But knowledge which is shared within the Open Coffee event...
Coffee meetings is not captured in any format and attendees cannot access it or retrieve it at later stage for further use. As tackled in the first part of survey, Open Coffee attendees make use of web 2.0 technology already and also accept it as this enhance the exchange of knowledge faster and by use of internet, knowledge can be accessed from anywhere, anytime.

Capturing the Open Coffee meetings in any audio or video format would build a strong repository which could further be accessed and used. This would adopt a knowledge creation philosophy which could evolve above the current knowledge. These methods of using web 2.0 technology are presently not enough explored by the Open Coffee participants but as discussed in chapter 5.2 (Knowledge Needs in Open Coffee), video capturing is modestly part of these meetings but currently not taking place in Dublin location.

Making use of the Web 2.0 technology by video capturing and post the content in a repository can achieve big benefits for Open Coffee participants as this asset could be accessed at later stages and enhance a knowledge creation topology.

An alternative which has been explored in this research is making use of the virtual meetings where attendees can join an Open Coffee virtual event by use of voice over internet or (VOIP) - a technology which allows voice to be transmitted via the internet and replace the use of a traditional telephone device. Along with VOIP, attendees can make use of chat during these virtual meeting and exchange ideas and opinions in same time while listening to conversations or attend presentations.

The most important feature which stands above voice and chat is the virtual representation of meeting rooms where attendees interact with each other right through this environment.

In relation to that, Open Coffee introduces itself under a local blog (http://www.opencoffeedublin.com/) where all Open Coffee ongoing events are posted by an administrator.

As part of this blog, a forum makes possible participants to post comments which mainly relate to announcements of attendee’s presence to a future Open Coffee event.
The Open Coffee blog is the only tool used which facilitates information to spread and by use of internet, anyone can access it, read it and post a comment.

Currently, the blog is the only web 2.0 tool which Open Coffee Dublin currently is using to interact with its participants but in order to notice them by any updates which occur, Open Coffee blog enclosed a RSS feature which makes possible to notice anyone who subscribed to this service to automatically receive updates posted in the Open Coffee blog. This feature is essential because by absence of time, attendees don’t necessarily need to visit the Open Coffee blog and search for latest information, but utilize the RSS tool to receive the information at their choice straight to their email address.

As regards to web 2.0 technology used in Open Coffee, this formulates a superior interaction statement where basic communication elements are embedded with the power of internet. This blend results in clear benefits, add value to collaboration and provide user with a unique experience.

5.4 Using a Virtual Meeting to Facilitate Knowledge Sharing in Open Coffee

In order to research and evaluate the effect of an Open Coffee virtual event, a virtual environment has been prepared to make possible such meeting interaction. This environment facilitated virtual interaction between Open Coffee participants over the internet and allowed their virtual presence through individual avatars (a form of three-dimensional user representation used in computer games). The virtual meeting room was fundamentally customised to allow public interaction as well as private interaction between 2 or more members. The software which allowed this interaction is called Active Worlds and has been used by IBM to facilitate virtual meetings to a number of petrochemical and pharmaceutical enterprises. The software proved to be extremely efficient as eliminated travelling and
logistic related costs while allowed participants all over the world to attend meetings, presentations and enjoy virtual landscapes.

Just like in reality, the software facilitated members to make presentations, conduct discussions and allowed members to control and move their avatars around the meeting room and initiated or joined individual or group conversations. Just like in real life face to face meetings, Open Coffee virtual event based its roots to interactions between members and replicated same user experience but this time over the internet, by use of technology.

As shown in figure 5.3 and 5.4, the virtual meeting room was a simple environment which consisted of reproducing a visual meeting room where avatars could move within this environment and discussed, run and watched a presentation on a screen available into the meeting room. The feature of approaching and hearing/make heard by a group of people presented in this environment, successfully replicated real life experience of approaching, talking and interacting with one or more persons.

The virtual meeting format proposed to minimise costs of travelling for Open Coffee participants and reproduced the interaction between them. My research also looked into how this new format speeded up the process of member’s introduction to others; as during the virtual event they could access webpage references and work published previously, while talking to each other - feature which wasn’t possible in face to face interactions. Nevertheless, using virtual meeting’s features speeded up the introduction process (section 4.5 Interview and survey results).

Virtual meetings purposes was to build and encouraged attendees to be creative and adopt more interactive approaches, taking full benefit of what virtual worlds has to offer.

An important feature brought to the Open Coffee attendees is presentation board which was available in the virtual meeting room. The virtual meeting room allowed a presentation to run without interfering with other groups which were engaged in conversations but in same time allowed them to watch this presentation at their choice.
For example, a presentation or idea could be immediately displayed via the virtual projector and discussed with others. In addition to that, the current meeting room was divided in five areas where five different conversations could take place in same time so that up to five topics could be discussed during a single meeting without interference.

Thanks to the feature enclosed already in virtual meeting room – voice over internet (VOIP) attendees could position their avatar closer to one or another group or presentation and could interact simultaneously and watch the content of this presentation. During this meeting, attendees did make use of chat as well. This feature allowed participants to privately interact with each other even during group sessions.

Figure 5.3: Open Coffee virtual meeting room
5.4.1 Setting up the virtual meeting room

Virtual meeting room has been logistically and technically settled into details before the event took place and has been supervised by the IBM virtual world administrator. Using the Open Coffee blog, the meeting details have been posted along with the username and password which needed to be used to grant the access to the virtual meeting room. The file which needed to be installed by participants has also been posted and accessed via the following link: http://198.20.9.81/imperial/opencoffee.exe. By accessing this link, user just needed to follow on screen instructions which enabled this software to be installed. After installation, an icon named ‘Open Coffee event’ appeared on the desktop and by clicking on it, attendees just needed to identify themselves by using the username and passwords which have been already communicated via the Open Coffee website.

As this application has been used in the past, details like how to enable VOIP, moving around the meeting room or approaching and joining others in conversations have been
simplified by simply using keyboard’s arrows. By pressing these buttons the avatar started moving in desired directions, similar as playing computer games. By approaching to others, VOIP enabled and visitors could talk with each other and engaged in conversations.

Just as in Open Coffee face to face meetings, attendees did not arrive to the event in same time. Figure 5.5 shown the role of administrator; welcome, greet and answer questions to new participants. Active Worlds software simplified user’s technical involvement and focussed to deliver a superior experience, as close to reality as possible and as result of that, attendees weren’t stuck in functionality issues and found relatively easy to utilize the meeting room. Figures 5.6 – 5.10 show the interactions during Open Coffee attendees as well as a presentation run during the virtual event.

![Figure 5.5: Welcoming participants to Open Coffee virtual event](image)
Figure 5.6: Closed interaction between Open Coffee virtual participants

Figure 5.7: Presentation in Open Coffee virtual
Figure 5.8: Different interactions in Open Coffee virtual

Figure 5.9: Open Coffee participants discussing a common topic
5.5 Post Event Analysis

A second survey was completed after the virtual Open Coffee event. A number of questions were asked in order to expose any difference between face to face meetings to virtual ones. The key issues were explored in these questions as regards to lower attendance to the virtual event. In addition, attendees overall satisfaction was questioned and related to that where they see the challenge of attending virtual events. A number of seven attendees have been surveyed and interviewed after the Open Coffee virtual event.

First question related to attendee’s location and outlined in figure 5.11. This is important information in order to determine possible motivation related to travelling to attend a face to face Open Coffee event. At this question, attendees answered that their location is 100 percent Dublin area.
The next question tried to contrast that attending a virtual event would remove completely the need of travelling and the question was if the attendee found easier to attend a virtual event instead of a face to face one. The answer was 90 percent positive and 10 percent negative.

The next question regarded to easiness to install the virtual Open Coffee client. At this question 100 percent were responded positively.

Next question was how attendees characterize overall interaction in Open Coffee virtual event, where figure 5.12, 80 percent answered positively and 20 percent in contrast.
Then a question has been asked about the user experience in connection to how difficult this virtual event to be used was. Figure 5.13 shows that 60 percent answered positive as opposed to 40 percent negative.
Figure 5.14 outlines the question about what did the user like about virtual Open Coffee event, 50 percent answered – the design, 40 percent – user interface and the rest of 10 percent answered – presentation features (user friendly).

Figure 5.14: Open Coffee virtual (likes/dislikes)

Question of what did user not like was answered in figure 5.15 and outlined latency in VOIP feature (70 percent), the need to use headphones because of loud echo (20 percent) and ability to interact with other objects from virtual worlds (10 percent).
At the question of what attendees missed the most in the virtual world is shown in figure 5.16 where attendees answered: delay in answer commands (10 percent), ability to talk hands free (10 percent), avatars move to slow (10 percent), ability to re-connect faster (30 percent), the absence of real face behind a web camera (40 percent).
After the survey, an additional interview aim to uncover the last remaining piece of information necessary to complete a entire picture of knowledge management in Open Coffee virtual event. The interview format was designed to gather necessary information which could be visual represented but offer attendees the opportunity to comment their answers around the questions. Seven attendees were interviewed and questions were built as follows:

First question regards to the difference attendees experienced between the real Open Coffee meetings and virtual one. All of them answered that reality cannot be replicated and the virtual meeting could not articulate reality details and for this reason interaction was not a big success.

At the question if the virtual meeting improved interaction experience with others the answer of six attendees was negative but recognised that indeed, introduction is somewhat accelerated but not significant, while one answered that he didn’t feel any difference.

At the question of virtual meeting positively influenced number of contacts which attendees made; figure 5.17 outlines that number of contacts did not increase as result of virtual meeting so there was not a visible value added by this meeting format.

Figure 5.17: Open Coffee virtual meeting (contact influence)
In regards to type of knowledge exchanged as oppose to face to face meetings, six attendees distinguished that they were distracted by the meeting format, tried to explore other enhancements and occupied more time in discussions than the actual topic, while one answered that type of knowledge exchange didn’t change as related to face to face meetings.

The following question was outlined in figure 5.18 and regards to easiness to exchange knowledge via de virtual meeting room. The answer to this question was that no one find it too difficult but not as efficient as during Open Coffee face to face meetings. In other words virtual meeting room did not add any value to the knowledge exchange.

![Virtual meeting room added value to the knowledge exchange](image)

**Figure 5.18: Knowledge exchange influenced by virtual Open Coffee meeting**

Another question outlined if attendee’s would recommend a virtual event to others. At this question all interviewed answered negative, so they will not recommend such event to others, answers shown in figure 5.19.
As barrier to use such event, six attendees answered that the virtual environment itself is the main issue as reality cannot be replicated, while one attendee outlined that the biggest obstacle is mostly the psychological barrier been the one which represented the main issue.

If attendees would return to a future virtual meeting was last question. In figure 5.20, attendees answered that they may not return to use this meeting format in the future.
5.6 Conclusion

This chapter explored the possibility of using emerging technologies to enhance collaboration between Open Coffee attendees. Therefore, this exercise was not a success from practicality point of view as attendees seemed not ready to accept a new interaction format as such. Attendees completely rejected the proposal for a new virtual event despite successful software functionality and outlined in one voice that they would rather prefer to meet face to face and interact around a real hot coffee.

In regards to the software used to run the virtual event, attendee’s expectation was indeed really high as they anticipated web cam integration capabilities to the avatars in order to replicate a real-life interaction. Such potential technical addition to the Active Worlds software could resume to an immersive interface which would better replicate the interaction between virtual meeting participants. Consequently, people’s capacity to accept a virtual meeting layout as oppose to the face to face format consigns another aspect of resistance.

This chapter discussed about virtual meetings capabilities to enhance knowledge exchange and looked at how this practice has been introduced to Open Coffee participants.

Virtual meetings are an innovative implementation of a number of features which allow visualisation and communication in a new manner. These features are integrated seamlessly within one single application and enable organisations to fully benefit by the use of this tool while substantially lower costs and increase availability through internet access.

After the virtual Open Coffee meeting, a new survey has been sent to the participants seeking answers to a number of questions related to the efficiency of running such virtual Open Coffee interaction and if they (participants) considered that such event could be introduced, along to face to face Open Coffee events.
As deduced in the survey section 4.5 (Interview and survey results), virtual meetings do not entirely suit Open Coffee. Even that such event can eliminate travelling to attend face to face meetings and accelerate the process of introduction which takes place between participants; face to face meetings are still preferred ahead virtual ones. Proposing another virtual meeting was not a successful avenue which people have recognised as valuable. Attendees appreciated that technology is not the answer to facilitate Open Coffee events. Moreover, if the technology could have provided a real three dimensional experience web cameras.

In general, the aim of virtual meetings was not to replace the face to face ones but to complete them when needed.

Nevertheless, virtual meetings represent a new way to communicate and collaborate. In the Open Coffee virtual event, one of attendees successfully delivered a presentation and proved his point across to other two people from his group. Those two asked questions to the presenter and based on answers given, a deep technical communication between the three followed. Important to mention is that the virtual meeting successfully provided the platform to facilitate this knowledge been exchanged, without interference with other two groups which were present in the same room. But even those virtual meeting features proved their value in Open Coffee event, attendees were not entirely convinced that this system could one day replace the regular meetings; as majority outlined that they might not attend a next virtual event.
6 CONCLUSION

6.1 Introduction

This chapter consists of conclusions, recommendations and some insights of further work which may follow the present research. Along with the aim that knowledge management is a concept which fundamentally leverages the mechanism of learning and sharing, the goal addresses a paradigm which outlines a body of knowledge which organisations and non organisations embed, in search for an accurate knowledge management recipe.

Furthermore, knowledge management has been described as an enabler who emerges and encompasses processes and sophisticated technologies which wisely result in better organisational structure. But surprisingly, neither best processes, nor advanced technologies can succeed or measure any form of accomplishment without the help of people.

This dissertation along with many other orators adds another drop to the plain content that people illustrate the main pillar which highest stands in the middle of any knowledge mechanism. People’s determination to collaborate and share, along with the power of technology envisions that knowledge can be after all managed. This compilation result into a unique and wise combination of words: The Knowledge Management.

6.2 Research Definition & Research Overview

The research conducted in this dissertation is based on diverse opinions, views and approaches to knowledge management adopted by brightest thinkers of this century, but given the right to agree or discard points of view in the light of personal label.
Hence the aim of this dissertation is to examine the activity of the Dublin Open Coffee; the research however distinguished a subset of variables which are presented to unveil insight interactions between sprints of knowledge.

Consequently, the research project which was conducted referred to a simulation on knowledge exchange during a virtual event with projection on real life Open Coffee interactions. In addition, I examined the area of knowledge exchange which resides inside real life events and the journey this composes outside Open Coffee meetings; changes which occur in the type of knowledge exchanged as well as tolls preferred. Furthermore, during the virtual event the research outlined that people intend to not accept easily technology which propose to reinstate a new interaction law – the virtual one.

People interviewed after the virtual event took place clearly disagreed with the path of accepting technology to take over the real life; even though the technology efforts sustained to impress the community. The surveys results highlighted how people prefer interaction to be - and that is simply face to face. The resistance Open Coffee attendees expressed was mainly related to the technology. Assume that future technology could integrate the avatar with web cam and 3d capabilities; these would apparently answer main participant’s requests. Meanwhile, attendee’s resistance was also correlated to the new meeting format and their acceptance of change; which would essentially overcome the current interaction where participants physically chat around a coffee. Furthermore, the actual experiment took place in Open Coffee Dublin but the outcome of other locations could be unlike; where attendee’s backgrounds are different and schedules to attend face to face meetings are tight.

6.3 Contributions to the Body of Knowledge

The main contribution of this research is to express knowledge management issues in an informal community. A second contribution is to assess the usefulness of a simulation environment to support one aspect of Open Coffee – creating connections.
Another contribution of this research is related to an adequate collection of ideas, opinions and work sustained by a number of authors. Hence along correlate a part of knowledge, project justification relies to Open Coffee and knowledge which is expressed during and after meetings. The surveys and interviews are standing evidence for type of knowledge which is exchanged in context of time, relationship constrains and tools used to apply common knowledge.

Moreover, virtual meetings represent a form of laborious collaboration in Open Coffee. In contrast, the research categorized virtual meetings which are exploited under corporate direction as they prove to be efficient and beside these eliminate costs of travelling and jet lag; attendees experienced a joyful ride in this new world. Interviews outlined that attendee’s perception of collaboration and interaction in virtual world after the event was positive.

Furthermore, is important to mention sensation attendees have had second day after the virtual event; surprisingly they didn’t seem to associate this experience with the use of any tool of some sort but expressed that it felt like a face to face interaction. In contrast, my research proved the opposite direction and outlined that even though the event felt likewise face to face meeting, attendees encountered minor technical issues, lost track of topics and discussed more about the virtual setup than the proposed topics itself. As result of these trivial subjects, attendees answer was rather negative and highlighted that they wouldn’t attend another virtual event, even though the introduction between participants was somewhat accelerated.

To summarize, the human factor engaged in the virtual Open Coffee event did not record a big success despite the efforts of latest technology which has been utilized to replicate people interaction.
The objectives of the research was to examine current Open Coffee knowledge sharing model, document the findings and propose a live experiment in order to measure the impact a virtual meeting model on the community.

In terms of evaluation, virtual meetings format propose to asses a new paradigm by the use of cutting edge technology; hence knowledge sharing in Open Coffee needed to be evaluated in the prospect of a long period of activity as well as assimilate participant’s experiences toward the current sharing model.

While measured the information gathered by surveys and interviews, a number of important elements have been discovered; knowledge type exchanged in Open Coffee meetings changes while this collaboration continues outside of face to face meetings. Furthermore, investigating tools preferred by participants, the research identified that participants voted in the favour of using phone or chat in order to keep connected. Business relationships which followed have also represented an area of interest as the number of businesses which become visible proved to be relatively slim.

Moreover, the data gathered after the virtual event captured that technology today is not in the position to offer a system which could satisfactory be applied in Open Coffee events. The research also had shown the outcome behind a corporate virtual event as been positive and encouraging.

Therefore, as pat of research limitations, the project did not examine the impact of virtual meetings to different organisations where such system has been repeatedly used. Consequently, the research did not enclose a study of relationships which occurred after the virtual event but focused on the knowledge shared during the meeting, how these evolves and changes while examine the differences in relation to the face to face meetings.

Another research aspect which has been limited in this project is to propose recurrent virtual evens along with face to face meetings and measure the result in time. In the
interest of Open Coffee meetings, virtual impact could be an imperative area of research which could add benefits to informal meetings.

Furthermore, another project limitation consisted in inability to track knowledge shared and identify tools used associated to that after the virtual event.

Another limitation of this project was inability to use the virtual environment for a longer period of time; hence an interesting point to examine could be to measure the impact virtual meeting rooms could have on the individual communication tools used by Open Coffee participants.

6.5 Future Work & Research

One aspect which future work might be consists of identify and measure the impact of technology on knowledge sharing activities. Another area of future research could refer to virtual meeting rooms and their ability to provide an ideal climate to enhance collaboration and innovation. Furthermore, whether business relationships improve and achieve better, faster and become more efficient by the use of modern technology.

Knowledge creation is another aspect which can be further explored as result of using virtual environments. A suggestion would be to launch an investigation into enterprises which make use of second life to promote their businesses and map that experience to the results outlined by my project. This could lead to important conclusions to identify main drivers towards virtual worlds and how enterprises evolve in the virtual environment.

Based on the findings outlined in my project, further research could include an investigation in informal knowledge sharing environment, explore and measure the benefits to encourage such practices. A key driver which contributed to the growth of Open Coffee is informality which is deeply embedded in the traditional meeting
format, where people don’t need to subscribe or register before any of the events or feel pressured for being in time.

Besides informality, a further research may encompass an investigation into the Open Coffee business audience. This could formally identify the reasons behind low attendance and possible avenues to encourage the presence which would eventually lead to an increase in new businesses. Running an additional event in other locations could result in a different outcome as community’s background could be related to its acceptance to change and ability to welcome progress. Furthermore, other knowledge needs in Open Coffee could be related to capture knowledge in different formats and facilitate later accessed by participants—could encompass another area for further research.

6.6 Conclusion

This dissertation examined the importance of knowledge management and the degree it impacts organisations around the globe today. Knowledge creation symbolizes a significant part of knowledge management. Enterprises turn their focus to enhance a favourable internal climate which leverages and envosys this supreme mission along with a level of broad workforce participation.

Furthermore, the creation of knowledge encompasses a blend of tacit and explicit entities beautifully architected into an indefinite spiral which jointly build the foundation of knowledge management. Therefore make this important asset available for masses activates the process of sharing which besides creation, resurrects the seed of knowledge.

Consequently, the technology beautifully compiles communication and collaboration and joins people together. Companies which embrace and adopt knowledge as a core value to manage, they commit to creativity, innovation and no doubt success. In this exercise of knowledge, decision making system relies on new fresh ideas which consistently add tremendous organisational value.
Finally people represent the most and invaluable column which comprehensibly creates entire body of knowledge. People are knowledge and if they are devoted to participate, their power is immense; they together can turn worlds around, find answers to complicated problems and amazingly bring their contribution to world’s knowledge. Collaboration, participation and desire – all conduct ultimately to knowledge.
7 BIBLIOGRAPHY


Argyris, C. 1990, Overcoming Organisational Differences: Facilitating Organisational Learning, Allyn & Bacon, Boston, MA


Caldwell, F., Gilbert, M., Hayward, S., Logan, D., Lundy, J. 2002, New focus on knowledge and collaboration begins in 2002


Dillenbourg P. 1999 What do you mean by collaborative learning, pp 1-19 Oxford: Elsevier


Duffy, J. 2000, Knowledge management: what every information professional should know, Information Management Journal Vol. 34 No.3, pp.10-16

Dunford, R. 2000, Key challenges in the search for the effective management of knowledge in management consulting, Knowledge Management Journal, vol.4, pp. 295-302


Grieves, J. 2000, Navigating change into the new millennium: themes and issues for the learning organization, Knowledge Management Journal, vol. 7, pp. 54-74


Locke, J 1689, Defining Knowledge Book IV, London


McDermott, R. 1999, Why information technology inspired but cannot deliver knowledge management, California Management Review, Vol. 41 No.4, pp.103-17

McDermott, R., O'Dell, C. 2001, Overcoming cultural barriers to sharing knowledge, Journal of Knowledge Management, Vol. 5 No.1, pp.76-85


Rumizen, C.M. 2002. The complete idiot's guide to knowledge management, CWL Publishing Enterprises, USA.


