

Minerva Access is the Institutional Repository of The University of Melbourne

Author/s:

Wong, Diana Mei Leng

Title:

Individual use of Enterprise 2.0 and its impact on social capital within large organisations

Date:

2020

Persistent Link:

<https://hdl.handle.net/11343/241865>

Terms and Conditions:

Terms and Conditions: Copyright in works deposited in Minerva Access is retained by the copyright owner. The work may not be altered without permission from the copyright owner. Readers may only download, print and save electronic copies of whole works for their own personal non-commercial use. Any use that exceeds these limits requires permission from the copyright owner. Attribution is essential when quoting or paraphrasing from these works.

Individual Use of Enterprise 2.0 and its Impact on Social Capital within Large Organisations

by

Diana Mei Leng Wong
B. Information Systems (Honours)
M. Information Management

**Submitted in total fulfilment of the requirements
of the degree of Doctor of Philosophy**

January 2020

**School of Computing and Information Systems
The University of Melbourne**

Abstract

Over the past years, there has been a significant momentum in the adoption of Enterprise 2.0 in larger organisations. Enterprise 2.0 adoption encapsulates the use of integrated social media tools in a unified social networking platform to support business operations. Many organisations are adopting Enterprise 2.0, with the hope of achieving the benefits of better knowledge retention, faster information discovery, innovation, employee engagement and higher productivity through social networking. Whilst organisations herald Enterprise 2.0 with great promises, it is still not clear how the individuals' use of Enterprise 2.0 will result in organisational benefits. This thesis aims to contribute to a better understanding of the individual use of Enterprise Social Networks (Enterprise 2.0) in large organisations and how this leads to organisational benefits. To achieve this objective, this research applies social capital theory as the basis to analyse the organisation's rich set of relationships and the organisational value they bring as a result of using Enterprise 2.0. In-depth research and a critical review of relevant previous studies and established theories have been conducted to delineate the components within structural, cognitive, and relational social capital dimensions. Sixty in-depth interviews were conducted with participants from six large organisations in Australia who were actively using an existing implementation of Enterprise 2.0 (i.e. Yammer and Oracle Social Network). For an all-encompassing and unbiased view, participants from varying roles and responsibilities, levels of expertise and usage types were selected from the identified organisation. To ensure unbiased and granular categorisation of use modes, the research analysed the data collected from the interviews, observations and notes using a grounded approach to identify emerging trends and patterns of individual Enterprise 2.0 use. The results generate new insights in the form of seven distinct individual use modes of Enterprise 2.0. The findings also present rich insights into the impact of these varied individual use modes on each structural, relational, and cognitive social capital dimension. In addition, the research also reveals novel insights on how different user types benefitted from using Enterprise 2.0 from a social capital perspective. Finally, the study demonstrates the supportive and enabling role of Enterprise 2.0 as a platform to build social capital. The research contributes to a deeper understanding of the individual use of Enterprise 2.0 and social capital theory. The research also includes seven insights to help shape future research and as outcome to guide managers in large organisation to set up, manage, and promote individual use of Enterprise 2.0.

Declaration

This is to certify that:

- i. the thesis comprises only my original work towards the PhD except where indicated in the Preface.
- ii. due acknowledgement has been made in the text to all other material used,
- iii. the thesis is fewer than 100,000 words in length including quotes and exclusive of tables, figures, appendices, and references.

Diana Mei Leng Wong

Date

Acknowledgement

The completion of the thesis would not have been possible without the support and encouragement of several special people. I would like to take this opportunity to show my gratitude to those who have assisted me in a myriad of ways.

First of all, I would like to express heartfelt thanks to my supervisors Asst. Prof. Rachelle Bosua, and co-supervisors Assoc. Prof. Shanton Chang and Assoc. Prof. Sherah Kurnia, for their continuous support and encouragement. Thank you for your time, untiring support, and guidance throughout my journey. I also appreciate all the times you have challenged my thinking by helping me question assumptions and view from multiple perspectives. You have always steered me back to the path.

I am also thankful to my friends and colleagues who always listen and cheer me on. To my dear friends, thank you for your thought, phone calls, texts, visits, and being there whenever I needed you. Thank you for making me smile when I needed that most. To my colleagues, thank you for your understanding and advice.

I am so grateful to my parents for their love and support. To my late father Wong Kuek Choong, thank you for showering me with so much love and for all the precious memories. You have always been my inspiration in life. Thank you for encouraging me in all my pursuit and inspiring me to follow my dream. This thesis is dedicated to you, Papa! To my mother Lella (Jenny) Narian Singh, thank you for all the sacrifices you made for the family, and especially for me to continue with my studies. Thank you for always supporting me emotionally. I would not have completed this research without your support. I always knew that you wanted the best for me.

Last but not least, thank you to my loving partner who is always present and supportive in my journey. Thank you for bringing out the best in me and for believing in me. Thank you for taking care of me when I'm sick and for being there with me in my most difficult times. Through good times and bad, your kindness and extensive support have been ever-present during this important time of my life.

Preface

The following presentation and conference papers are from this research:

Doctoral Colloquium

Wong, D. (2016) Individual use of Enterprise 2.0, *4th Annual Doctoral Colloquium*, Department of Computing and Information Systems, The University of Melbourne.

Conference Publications

Wong, D, Bosua, R, Kurnia, S and Chang, S (2015). Exploring the use of Enterprise 2.0 and its impact on social capital within a large organisation, *Australasian Conference on Information Systems (ACIS) 2015 Proceedings*, Adelaide, Australia, 30 November - 4 December 2015. (Best Paper, 3rd Place)

Wong, D, Bosua, R, Kurnia, S and Chang, S (2013)., 'Leveraging Enterprise 2.0 for knowledge sharing', in Hepu Deng and Craig Standing (ed.) *ACIS 2013: Information systems: Transforming the Future: Proceedings of the 24th Australasian Conference on Information Systems*, Melbourne, Australia, 4-6 December 2013, pp. 1-11.

Table of Content

Chapter 1: Introduction	12
1.1 Background of Study	12
1.2 Problem Statement	14
1.3 Motivation and Aim of Study	16
1.4 Summary of Key Findings	20
1.5 Summary of Chapters	21
 Chapter 2: Literature Review	 22
2.1 Emergence of Social Networking Technology and Enterprise 2.0	23
2.2 Enterprise 2.0 Features and Capabilities	28
2.3 Understanding the Individual Use of Enterprise 2.0	33
2.3.1 Classification of Individual Users of Enterprise 2.0	36
2.4 Enterprise 2.0 Use in Seven Leading Organisations: Examples	41
2.4.1 Leading Providers of Enterprise 2.0	47
2.5 A Knowledge Management Perspective on the Use of Enterprise 2.0	48
2.6 Addressing Knowledge Gaps related to Enterprise 2.0 Use: A Social Capital Theory Perspective	52
2.6.1 The Concept of Social Capital	53
2.6.2 Theoretical Substantiation	55
2.7 Conceptual Model	60
2.7.1 Level of Analysis: Individual versus Collective Social Capital	66
2.8 Chapter Summary	70
 Chapter 3: Research Methodology	 71
3.1 Research Philosophy	71
3.2 Case Study Method and Selection of Case Organisations	74
3.2.1 Selection of Case Organisation and Research Participants	75
3.2.2 Selection of Interview Participants	79
3.3 Data Collection	80
3.3.1 Interviews	82
3.3.2 Direct Observations	86
3.3.3 Document Analyses	87
3.4 Data Analysis	87

3.5 Research Validity and Reliability	89
3.6 Chapter Summary	92
Chapter 4: Overview of the Case Organisations	93
4.1 Case A: Professional Services Organisation.....	93
4.2 Case B: Banking and Financial Services Organisation.....	95
4.3 Case C: Public Sector Organisation.....	96
4.4 Case D: Telecommunications Organisation.....	98
4.5 Case E: Software Solutions Organisation.....	99
4.6 Case F: Tertiary Education	100
4.7 Enterprise 2.0 Platforms Used by the Case Organisations	101
4.7.1 Yammer.....	101
4.7.2 The Oracle Social Network.....	105
4.8 Chapter Summary	107
Chapter 5: Findings related to Individual Use of Enterprise 2.0.....	108
5.1 Summary of Themes resulting from Individual Use of Enterprise 2.0.....	109
5.2 Finding Quick Answers or to Get Help (U1).....	110
5.3 Gathering Insights or Knowledge (U2).....	113
5.4 Observing and Learning about other Individuals' Activities and Behaviour (U3)	117
5.5 Keeping Informed of Organisational Updates and Events (U4).....	119
5.6 Sharing Insights, Knowledge, or Artefacts (U5)	123
5.7 Sharing Status or Work Updates (U6)	126
5.8 Acknowledging or Encouraging Others (U7)	129
5.9 Chapter Summary	131
Chapter 6: Findings related to Individual Use of Enterprise 2.0 and its Impact on Social Capital Dimensions	132
6.1 Structural Social Capital Dimension.....	133
6.1.1 Breaking Down Communication Barriers	134
6.1.2 Establishing Serendipitous Connection	137
6.1.3 Increasing Social Presence.....	139
6.2 Cognitive Social Capital Dimensions	142
6.2.1 Developing Shared Understanding	142
6.2.2 Developing Awareness	145
6.2.3 Developing Shared Interpretation	147
6.3 Relational Social Capital Dimensions	149

6.3.1	Building Trust	149
6.3.2	Developing Feelings of Interpersonal Obligations	151
6.3.3	Fostering Norms of Social Behaviour.....	154
6.3.4	Developing a Sense of Belonging.....	156
6.4	Individual Use Modes and their impact on Social Capital Dimensions	158
6.4.1	Finding Quick Answers or to Get Help (U1).....	158
6.4.2	Gathering Insights or Knowledge (U2).....	161
6.4.3	Observing and Learning about other Individuals' Activities and Behaviour (U3) 164	
6.4.4	Keeping Informed of Organisation Updates and Happenings (U4).....	166
6.4.5	Sharing Insights, Knowledge, Ideas or Artefacts (U5)	167
6.4.6	Sharing Status or Work Updates (U6)	170
6.4.7	Acknowledging or Encouraging Others (U7)	172
6.5	Different User Types and their associated Use Modes	175
6.6	Chapter Summary	182
Chapter 7: Discussion.....		183
7.1	Individual Use of Enterprise 2.0	184
7.1.1	Finding Quick Answers or to Get Help (U1).....	185
7.1.2	Gathering Insights or Knowledge (U2).....	186
7.1.3	Observing and Learning about other Individuals' Activities and Behaviour (U3)	187
7.1.4	Keeping Informed of Organisation Updates and Happenings (U4).....	187
7.1.5	Sharing Insights, Knowledge, Ideas or Artefacts (U5)	188
7.1.6	Sharing Status or Work Updates (U6)	189
7.1.7	Acknowledging or Encouraging Others (U7)	189
7.2	Individual Use Modes and their impact on Structural Social Capital Dimensions.....	190
7.2.1.	Individual use of Enterprise 2.0 opens a pathway to conversations and connections within social networks	191
7.2.2	Individual use of Enterprise 2.0 leads to new connection(s) through exchanging of knowledge	194
7.2.3	Individual use of Enterprise 2.0 boosts visibility of one's online social presence drawing greater interaction with others	195
7.3	Individual Use Modes and their impact on Cognitive Social Capital Dimensions.....	197
7.3.1	Individual use of Enterprise 2.0 aligns understanding in context.....	198

7.3.2 Individual use of Enterprise 2.0 triggers one's consciousness of both virtual and physical organisation's environments.....	200
7.3.3 Individual use of Enterprise 2.0 fosters common ways of thinking	202
7.4 Individual Use Modes and their impact on Relational Social Capital Dimensions.....	204
7.4.1 Individual use of Enterprise 2.0 alters individual's willingness to be vulnerable and dependant on others	205
7.4.2 Individual use of Enterprise 2.0 creates perception of belongingness and social identification	207
7.5 Linkages between Social Capital Dimensions: From an Individual Use of Enterprise 2.0 Perspective	213
7.6 User Type Benefits associated with Enterprise 2.0 Usage	218
7.7 Refining the Conceptual Model	222
7.8 Chapter Summary	226
Chapter 8: Conclusion.....	227
8.1 Research Summary	227
8.2 Outcomes of this Thesis.....	230
8.3 Contributions to Theory	231
8.4 Contributions to Practice.....	233
8.5 Limitations and Future Research	237
References.....	239
Appendix A: Plain Language Statement.....	259
Appendix B: Interview Consent Form.....	260
Appendix C: Example of Interview Transcript.....	261
Appendix D: Classification of Individual Use of Enterprise 2.0 and User Types	271

List of Figures

Figure 2.1 Purpose of Using Enterprise 2.0 (Source: Riemer and Richter (2012))	31
Figure 2.2 Categorisation of User Type (Source: Brandtzæg (2010)).....	37
Figure 2.3 Evolution of KM and Technology (Adapted from Dixon (2012) and Okimoto (2007)).....	50
Figure 2.4 Conceptual Model	68
Figure 3.1 Thesis Structure and Processes.....	74
Figure 4.1 Example of the <i>All Company Newsfeed</i> in Yammer (Mock Interface Adapted from Yammer Website)	103
Figure 4.2 Example of <i>Groups</i> in Yammer (Mock Interface Adapted from Yammer Website)	103
Figure 4.3 Yammer Analytics Dashboard (Source: King, 2012).....	104
Figure 4.4 Example of OSN: The Oracle Social Network and Group Discussion (Source: Oracle Social Network Data Sheet, 2013)	106
Figure 4.5 Thesis Structure for Chapters 5, 6, and 7	107
Figure 6.1 Use Mode U1 and its Impact to Social Capital Dimensions	159
Figure 6.2 Use Mode U2 and its Impact to Social Capital Dimensions	161
Figure 6.3 Use Mode U3 and its Impact to Social Capital Dimensions	164
Figure 6.4 Use Mode U4 and its Impact to Social Capital Dimensions	166
Figure 6.5 Use Mode U5 and its Impact to Social Capital Dimensions	168
Figure 6.6 Use Mode U6 and its Impact to Social Capital Dimensions	170
Figure 6.7 Example of Acknowledging or Encouraging Others on Enterprise 2.0 (Mock Interface Adapted from Yammer Website).....	172
Figure 6.8 Use Mode U7 and its Impact to Social Capital Dimensions	174
Figure 7.1 Examples (Nodes) of Connected and Disconnected Network	193
Figure 7.2 Co-Relationships between Social Capital Dimensions	213
Figure 7.3 Refined Conceptual Model (Abstract Layer) and MRQ	224
Figure 7.4 Refined Conceptual Model and SRQ1	224
Figure 7.5 Refined Conceptual Model and SRQ2	225
Figure 7.6 Refined Conceptual Model and SRQ3	225
Figure 7.7 Refined Conceptual Model.....	226

List of Tables

Table 1.1 Glossary of Key Research Terms	19
Table 2.1 Enterprise 2.0 Features (Adapted from Chin, Evans, and Choo (2015)).....	29
Table 2.2 Review of Literature on the Individual Use of Enterprise 2.0.....	35
Table 2.3 Synthesis of the Use of Enterprise 2.0.....	36
Table 2.4 Differences in the User Types (Adapted from Brandtzæg (2010))	38
Table 2.5 User Type and Motivation to Use Enterprise 2.0 (Adapted from Rogers (2003)) ..	40
Table 2.6 Driving Forces to Adopt Enterprise 2.0 in Large Organisations	46
Table 2.7 Overview of Leading Providers of Enterprise 2.0 Platforms.....	48
Table 2.8 Use of Enterprise 2.0 in relation to KM (Source: Murphy and Salomone, 2010) ...	51
Table 2.9 Theoretical Support for Social Capital Dimension through Enterprise 2.0 Use.....	57
Table 2.10 Studies related to the Use of Enterprise 2.0 and impact to Social Capital Dimensions	59
Table 3.1 Overview of Case Organisations, Number of Employees, Industry, Enterprise 2.0 Platform Used, Job Position of the Interview Positions	78
Table 3.2 Interview Details: Participants, Data Collection Methods and Interview Duration Times.....	82
Table 3.3 Case Study Interview Questions and Themes.....	84
Table 3.4 Summary of Actions taken to address Validity and Reliability Aspects	91
Table 4.1 Comparison of Yammer Basic and <i>Yammer</i> Enterprise (Source: Why Yammer Enterprise n.d.).....	102
Table 5.1 Summary of Findings on the Individual Use of Enterprise 2.0	110
Table 6.1 Summary of Findings on the Individual Use of Enterprise 2.0 and its impact on Social Capital Dimensions.....	133
Table 6.2 Summary of Individual Use Modes (U1-U7) of Enterprise 2.0 and their Impact on Social Capital Dimension	175
Table 6.3 Evidence of Active Users on Enterprise 2.0	177
Table 6.4 Findings related to Active Users' Impact on Social Capital Dimensions.....	177
Table 6.5 Evidence of Average Users on Enterprise 2.0	178
Table 6.6 Findings related to Average Users' Impact on Social Capital Dimensions.....	180
Table 6.7 Evidence of Inactive Users on Enterprise 2.0.....	180
Table 6.8 Findings related to Inactive Users' Impact on Social Capital Dimensions	182
Table 7.1 Summary of Individual Use Mode and their impact on Structural Social Capital	191
Table 7.2 Summary of Individual Use Mode and their impact on Cognitive Social Capital Dimensions	198
Table 7.3 Summary of Individual Use Mode and their impact on Relational Social Capital Dimensions	204
Table 7.4 Summary of Enterprise 2.0 User Types and associated Use Modes	218

Chapter 1: Introduction

1.1 Background of Study

An enterprise social networking site, more commonly known as Enterprise 2.0, refers to a private, or internal social networking site for business use. Enterprise 2.0 shares the same convergence as Web 2.0 and provides a social networking site which consists of a wide range of integrated social media features for realising of business objectives, such as comments, crowd sourcing, collaboration, communications, blogs, media and file sharing, content management, community of interest group, and tagging (Li et al. 2012).

Over the past years, the adoption of Enterprise 2.0 has gained significant momentum. Many leading professional services organisations, banking, telecommunications, government-linked and non-profit organisations are jumping on the bandwagon in adopting Enterprise 2.0 to promote communication and collaboration between individuals, groups, and functional units, with the aim of breaking down silos between these, especially in large organisations. Cogently, there are also numerous vendors for Enterprise 2.0 providing these technologies, for example, Yammer, Jive, Chatter, IBM Connections, Slack and more.

Organisational initiatives to implement Enterprise 2.0 is guided by the intention to improve communication and collaboration, increase employee productivity, accelerate problem solving, knowledge sharing, and innovation (Chui et al. 2012; Liang et al. 2008; Turban et al. 2011). For example, EY, a global professional services organisation with offices worldwide, has implemented Yammer with the aim of increasing engagement and collaboration on a global scale (Goldwasser and Edwards 2014). EY recognises the importance of Yammer as a nexus of innovation, collaboration and a way to better engage a hyper-connected and technology savvy workforce. EY uses Yammer to horizontally and vertically connect its employees across the organisation through Yammer groups dedicated to knowledge areas and other community topics such as Diversity and Inclusion, Women's Leadership Network, Working Moms, and wellness groups ("The Super Power of Communities at Work" 2019)

In another example, Royal Dutch Shell, an international energy company with 84,000 employees worldwide, implemented Yammer to improve communications, engagements, and collaboration (“Employee Engagement Soars as Shell Energizes Internal Communication with Office 365” 2018). It was reported that employees use Yammer to share best practices, success stories, and acknowledges other colleagues. The Internal Communications Advisor at Shell also remarked that Yammer supports internal communications which is crucial for supporting the delivery of Shell business goals and strategies. Westfield Group owns and operates shopping centre across Australia and adopted Yammer to improve operations by leveraging insights of employees, management, and partners. The giant shopping centre conglomerate claims that Yammer is used to crowdsource ideas and solution leading to improved process efficiency (“Using Enterprise Social for Better Teamwork and Operations” n.d.).

The rise of Enterprise 2.0 enables individuals to connect, collaborate, and interact with each other by way of sharing knowledge and insights. Enterprise 2.0 is also considered a vehicle to encourage new ideas and fresh thinking essential for problem solving. Various authors have also made claims of the use of Enterprise 2.0 as an organisations’ arsenal for knowledge sharing (Leidner et al., 2010; Levy, 2009; Li et al., 2012; Miles, 2009). Hence, the evolving landscape of knowledge sharing initiatives necessitate the leveraging of emergent social networking technologies into a vehicle that is less top-down, corporate, monolithic, people-centric, database oriented, to a more open, participative, people centric platform (McAfee 2006; Ribiere and Tuggle 2010). However, there is still lack of empirical evidence of the underlying influence of knowledge sharing that enables the use of Enterprise 2.0 to truly impact business operations.

Prior anecdotal evidence indicates that the use of Enterprise 2.0 provide benefits to both organisations and individuals (Giermindl et al. 2018). According to the authors, Enterprise 2.0 transform how employees communicate, share, and create expertise and ideas, thus yield potential to increase efficiency at work. Furthermore, PWC, a global professional services organisation, presents a report with findings that indicate 30% increase in employee satisfaction, 34% less time to locate information and experts, 27% decrease in duplicated tasks, 27% decrease in emails send, and a 32% increase in the generation of idea (“Enterprise Social Platforms Driving Productivity and Collaboration” n.d.). While these findings provide useful insights into the potential of Enterprise 2.0, however, it is not clear what the driving factors or elements of use are which lead to these results.

According to Chui et al. (2012), despite numerous claimed benefits from the use of Enterprise 2.0, there are few organisations that are close to achieving the full potential benefit from the use of Enterprise 2.0. While there are widespread interest and acceptance of Enterprise 2.0 within large organisations, there are still many wait-and-see attitudes amongst business leaders to anticipate the purported benefits from the use of Enterprise 2.0. In general, organisations have difficulties to assess the potential benefits of adopting and using of Enterprise 2.0 (Faria and Sousa, 2017). Hitherto, the potential impact of Enterprise 2.0 is still not well understood.

1.2 Problem Statement

Up until now, although the use of Enterprise 2.0 has shown some business benefits, there are still many organisations that are sceptical towards the implementation and adoption of Enterprise 2.0. The negative implications and risks associated with information security and privacy and loss of productivity seem to outweigh the potential benefits from using Enterprise 2.0. Consequently, organisations struggle to define the business case for implementing and adopting Enterprise 2.0 and are doubtful in the ability to capitalise on this social associated with adopting this platform (“Understanding the ROI of Enterprise Social Networks” 2011). According to research (Alarifi et al. 2015; Giermindl et al. 2017), most organisation struggle to gain momentum to leverage and materialise the usage benefits. From a return on investment (ROI) perspective, whilst there is increased evidence and success stories of using Enterprise 2.0, there is no proven equation that connects the dots between social and business performance.

Consistently, Denyer et al.’s (2011) research found little evidence that Enterprise 2.0 was delivering the benefits claimed in the literature. The authors mentioned that whilst organisations herald Enterprise 2.0 with great promises, it is still not evidently clear how the use of Enterprise 2.0 will result in organisational benefits. Numerous recent scholarly articles suggest that the use of Enterprise 2.0 positively impacts knowledge management (Ellison et al. 2014; Mäntymäki and Riemer 2016; Riemer and Scifleet 2012), enhanced work performance (Giermindl et al. 2018), and employee engagement (Yingjie et al. 2019). Nonetheless, there is still lack of empirical evidence to methodologically delineate the use of Enterprise 2.0 and show that the use of Enterprise 2.0 is driving benefits. Scholarly articles mostly explain the

capabilities of Enterprise 2.0 and draw references to organisational benefits without focusing on the individual and collective benefits and how these provide value to the organisation.

Rierner and Hafermalz (2018) echo the same response and further describe the nature of Enterprise 2.0 as a collection of malleable technologies that require a bottom up approach to understand its usage. Numerous studies (Mäntymäki and Rierner 2016; Richter and Rierner 2009, 2013) have attempted to categorise the use of Enterprise 2.0. Richter and Rierner's (2013) categorisation at a contextual/functional level that includes some overlapping usages. For example, the authors categorise the usages as *discussion* or *idea generation* drawing references to Enterprise 2.0 capabilities. Their study does not provide a clear view of actual individual or collective use that enable discussion or idea generation. Whilst the categorisation fits the purpose of the authors' work, it is not granular enough to explain how individuals use Enterprise 2.0. In another study (Richter and Rierner 2009), the authors categorise three modes of use include i. identifying experts and knowledge bearers, ii. building personal context, and iii. fostering relationships between individuals. These categorisations however is guided by user motivation and similarly does not delineate the actual usage required to achieve the above. Up until now, existing literature does not provide the granularity of individual use of Enterprise 2.0 crucial to form foundational understanding and draw inference of the impact of individual use of Enterprise 2.0.

The seminal work of Brandtzæg (2012) on user typology suggests there are different types of users in Enterprise 2.0. The author describes the different types of social networking site users as *sporadic*, *lurkers*, *socialisers*, *debaters*, *advanced users*, and *non-users*. He categorises the users based on their level of skills and interest. Within the same context, there are different user types in Enterprise 2.0. However, there is lack of studies that explain how individuals use Enterprise 2.0 and if the different level of use will provide social capital value or that results in organisational benefits. According to Majchrzak et al. (2013), the understanding of the individual use of Enterprise 2.0 should not be limited to technology features but should also focus on the affordances which explains the action potential in the relationship between the individuals and the technology. As such, the studies on the individual use of Enterprise 2.0 necessitates a theory-driven approach to understand the individual use of Enterprise 2.0 and its impact on the social networks and interactions that develop social capital between individuals connected via Enterprise 2.0.

1.3 Motivation and Aim of Study

Enterprise 2.0 provides the mechanism to build social relationships, connect and collaborate, enables communication and ad-hoc knowledge sharing among individuals (McAfee 2009). Scholarly articles also explain that Enterprise 2.0 provides multiple capabilities to build and maintain large networks of heterogeneous relationships without considering the key dimensions that underpin these networks and social structures (Steinfeld et al. 2009). Cogently, social capital theory explains that resources embedded in a social structure, the different types and sources of social networks, and the mutually benefit collective actions lead to organisation benefits (Adler and Kwon 2002; Bourdieu 1986; Coleman 1988; Lin 1999; Nahapiet and Ghoshal 1998; Portes 1998; Putnam 1993; Uphoff 2000). To further describe, social capital describes the character of social relations within the organisation. Consistent with various scholarly renditions (Bourdieu 1986; Burt 1992; Coleman 1988; Lin 1999; Putnam 1993), Lin (1999) explains the notion of social capital as “*resources embedded in a social structure which are accessed and/or mobilised in purposive actions.*” The individual use of Enterprise 2.0 therefore holds the potential of creating and further developing individual’s social capital by leveraging the social networks and interactions between individuals enabled via the platform.

The concept of social capital has also been studied in many disciplines and is proven valuable to individuals and organisations (Basu et al. 2017). Social capital has been found to be significant for knowledge management (Huysman and Wulf 2005; Nahapiet and Ghoshal 1998; Wasko and Faraj 2005), organisation learning (Chang et al. 2006; Field 2005; McGrath and Sparks 2006), innovation (Dakhli and Clercq 2003; Laužikas and Dailydaitė 2013), job performance (Basu et al. 2017; Vincenzo and Mascia 2012), organisational performance (Leana and van Buren III 1999), happiness and wellbeing (Rose 2000). Scholars also have the view that more social capital like any other form of capital is generally seen as better than less (Leana and van Buren III 1999).

Therefore, social capital theory which explains that social networks of different types and sources create value for the organisation (Bourdieu 1986; Coleman 1988; Putnam 1993) is highly relevant to assess the individual use and impact of Enterprise 2.0 within large organisation settings. This postulates that the fundamental of Enterprise 2.0 is tightly coupled with social capital theory, thus, the main research question (MRQ) is formulated as follows:

MRQ: How does the individual use of Enterprise 2.0 in large organisational settings impact social capital?

Due to the dearth of prior research and lack of theory on the individual use and value of Enterprise 2.0 in large organisation settings, to answer these questions, the research uses social capital theory as the basis to explore the individual use of Enterprise 2.0 to understand its impact on the different social capital dimensions. This research therefore aims to explore the implications of individual use of Enterprise 2.0, through the various dimensions of social capital theory such as social network ties and configuration, elements of relationships, and individuals' perspectives which derive collective benefits for the organisation.

The emphasis on social capital theory as the basis of understanding provides a foundation for describing and characterising the organisation's set of relationships and removes any bias towards the fad associated with technological intervention. Social capital adopts a sociological view of individuals' actions and aptly illustrates the phenomenon of individual use of Enterprise 2.0. As evident in the above-mentioned studies, social capital acts as the driving factor for individual and organisational success. Consequently, the research question unfolds the distinct individual use of Enterprise 2.0 and seeks to delineate the impact of Enterprise 2.0 use on social capital that leads to benefits to both individual and the organisation.

In addition, social capital has aspects that impact both the individual and collective level (Leana and van Buren III 1999), and its quantification therefore involves phenomena on both levels of analysis. For the purpose of this research, limiting the study to an individual level of analysis would over-simplify the complex social environment which may lead to an incomplete understanding of Enterprise 2.0 use and its impact. Thus, in defining social capital, this research focuses on a dynamic view where social capital includes both the individual and the collective unit level. This view is consistent with that of Nahapiet and Ghoshal's (1998) who define social capital as:

The sum of actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit. Social capital thus comprises both the network and the assets that may be mobilized through that network.

Consequently, the following sub-research questions (SRQs) are formulated to guide the research process:

SRQ1: How does the individual usage of Enterprise 2.0 impact the social network configuration and ties that need to be in place for the structural social capital dimension?

SRQ2: How does the individual usage of Enterprise 2.0 support shared understanding, interpretation or awareness that need to be in place for the cognitive social capital dimension?

SRQ3: How does the individual usage of Enterprise 2.0 influence new and existing relationships that are essential for the relational social capital dimension?

At the onset of the research, it was not clear how the different user types use Enterprise 2.0. Evidence (Jarrahi 2018; Qi and Chau 2016; Makkonen and Virtanen 2015; Mäntymäki and Riemer 2014; Richter and Riemer 2013; Koch et al. 2012) has also proven that attempts to categorise Enterprise 2.0 usage lacks clarity in terms of discernment between individual or collective use, overlapping usages, or a clear separation between implications of use vs. actual usage. Riemer and Hafermalz (2018) also describe that the use of Enterprise 2.0 is malleable and as such Enterprise 2.0 can be used by individuals in numerous ways and that the varying form of individual use may lead to different or similar outcome. Therefore, the research adapts Brandtzæg's (2010 and 2012) framework, and categorised user types effectively into: 1. Active User, 2. Average User, and 3. Inactive User, and seeks to unfold the impact of Enterprise 2.0 on social capital dimensions based on the different these different user types.

In addition, to frame the scope of study, according to Coleman (2009), Enterprise 2.0 is highly suited for adoption within medium and large organisations as compared to small organisations. In Coleman's report, he depicts that the size of the organisation has great impact on the social networking site's adoption and behaviour associated with its use. Organisations under 500 employees would generally use social networking sites to connect with customers, suppliers, or other business networks. Coleman (2009) describes this as external facing social networks. These networks are less about content and more about the connections between the organisation and its value network. In general, large organisations would extend the use from connecting externally to *internal facing networks* emphasizing the networked relationships between employees within the organisational boundary. Therefore, this study of individual use of Enterprise 2.0 will focus on large organisations only. Accordingly, in-depth qualitative case studies were conducted with large professional services organisation, with existing

implementations of Enterprise 2.0. Multiple data collection techniques were employed - in-depth interviews, documents analysis, and observation. The findings and discussions are presented in the last part of the research paper delineating the impact on various dimensions of the social capital. The main research question and sub research questions are presented in a conceptual model illustrated in Figure 2.4 in Chapter 2. Table 1.1 below presents useful definitions of key terms which will be referenced throughout the report. The Index column indicates where the term is first introduced and explained.

	Definition of Key Research Terms	Reference(s)	Index
Enterprise 2.0	Private or internal social networking platform which enables individuals within an organisation to connect to each other and utilise the integrated social media features in an activity stream to create, enhance, and exchange content.	<i>Li et al. (2012), Chui et al. (2012), Reimer and Richter (2012), Andrew McAfee (2009), Boyd and Ellison (2007)</i>	<i>Section 2.1</i>
Social Capital Theory	Social capital theory explains that resources embedded in a social structure, i.e. the different types and sources of social networks, and the mutually beneficial collective actions lead to organisational benefits. Social capital is the aggregate of actual or potential resources which are linked to a network of relationships	<i>Adler and Kwon (2002), Uphoff (2000), Lin (1999), Nahapiet and Ghoshal (1998), Portes (1998), Putnam (1993), Coleman (1988), Bourdieu (1986)</i>	<i>Section 2.6</i>
Structural Social Capital Dimension	An individual's direct and indirect social network ties and the network configuration which explains the channel for information transmission and the underlying mechanism that leads to the emergence of social network ties.	<i>Chiu et al. (2006), Nahapiet and Ghoshal (1998), Granovetter (1973),</i>	<i>Section 2.7</i>
Cognitive Social Capital Dimension	An individual's ability to cognitively connect with each other to make sense of the knowledge context and communicate meaning to others.	<i>Huysman and Wulf 2005), Nahapiet and Ghoshal (1998)</i>	<i>Section 2.7</i>
Relational Social Capital Dimension	An individual's socially approved otherwise sanctioned characteristics of relationships through linking and bonding through interactions with others.	<i>Chow and Chan (2008), Gilsing et al. (2008), Nahapiet and Ghoshal (1998), Coleman (1988)</i>	<i>Section 2.7</i>
Types of Enterprise 2.0 User (Individual Level)	Three different user groupings: • Active User: Frequent usage and very diverse and broad online social behaviour. • Average User: High on social interaction with other individuals but limited in sharing and discussions. • Inactive User: Rarely connect socially on Enterprise 2.0 and predominantly use Enterprise 2.0 to observe the network or to connect occasionally	<i>Brandtzæg (2010 and 2012)</i>	<i>Section 2.3.1</i>
Use Modes	Distinct individual use of Enterprise 2.0 based on individual's attitudes and beliefs, social influence and self-efficacy.	<i>Riemer and Hafermalz (2018), Brandtzæg (2010 and 2012), Jones and Karsten (2008), Orlikowski and Gash (1994), and Daft and Weick (1984)</i>	<i>Section 2.3.1</i>

Table 1.1 Glossary of Key Research Terms

1.4 Summary of Key Findings

The study investigates the individual use of Enterprise 2.0 and identifies seven distinct individual use modes:

- U1: Finding Quick Answers or to Get Help
- U2: Gathering Insights or Knowledge
- U3: Observing and Learning about other Individuals' Activities and Behaviour
- U4: Keeping Informed of Organisation Updates and Events
- U5: Sharing Insights, Knowledge or Artefacts
- U6: Sharing Status or Work Updates
- U7: Acknowledging or Encouraging Others

In addition, based on the empirical evidence, the research identified three different user types or levels of users, i.e. *active users*, *average users*, and *inactive users*, and how these user types typically use Enterprise 2.0, and how this use impacts individuals' structural, cognitive and relational social capital dimensions.

To conclude, the research expands the understanding of individual use of Enterprise 2.0 and contributes to a categorisation of individual use at a granular level. This research also contributes to the understanding of the configurations of social relationships within Enterprise 2.0 and the implications of strong and weak social network ties. The research sheds insights into how cognitive social capital can be obtained by using Enterprise 2.0 and advances the understanding of the key components within cognitive dimension. Lastly, the research provides rich insights to the important antecedents of relationships, i.e. trust and norms, and how the use of Enterprise 2.0 may alter the social dynamics.

1.5 Summary of Chapters

The thesis consists of 8 chapters outlined below:

Chapter 1: This chapter discusses the problem statement, background and significance of study, research questions, and the structure of the research.

Chapter 2: This chapter discusses the scholarly work related to Enterprise 2.0, review of established theories relevant for this study, and social capital theory applied in this study. A conceptual model is presented at the end of this chapter which outlines the sub-research questions (SRQs) to be investigated in this study.

Chapter 3: This chapter presents the research methodology and the data collection techniques and procedures. This chapter also includes a detailed discussion of the structure and rationale for the interview protocol. The research rigour and controls are discussed in the last section of this chapter.

Chapter 4: This chapter provides the background of the six case organisations that participated in this study and also presents at a high level the respective organisation's Enterprise 2.0 strategy and current state of Enterprise 2.0 adoption.

Chapter 5: This chapter presents the first part of the findings which focuses on how individual uses Enterprise 2.0 in large organisational settings. This chapter also presents the findings related to the different user types: active, average, and inactive users.

Chapter 6: This chapter presents the second part of the findings which focuses on how the various social capital dimensions are impacted through the individual use of Enterprise 2.0. Detailed findings are presented in relation to all aspects related to structural, cognitive, and relational social capital dimensions.

Chapter 7: This chapter synthesises the findings from Chapters 5 and 6 and discusses the implications of corresponding individual Enterprise 2.0 use modes on structural, cognitive, and relational social capital dimensions.

Chapter 8: This chapter concludes and summarises the overall findings for this study in relation to the research objective. A number of limitations, contributions of study, and possible future research are highlighted.

Chapter 2: Literature Review

Guided by the overarching research question, Chapter 2 reviews the existing literature to identify the main scholarly arguments, research gaps, industry examples, theory and approaches to understand the individual use of Enterprise 2.0. This chapter begins by explaining the emergence of social networking technology and Enterprise 2.0. As indicated in the section below, there are numerous definitions of what Enterprise 2.0 is about. Through critical evaluation of the existing literature, the research posits the definition of Enterprise 2.0 as *“Private or internal social networking platform which enables individuals within an organisation to connect to each other and utilise the integrated social media features in an activity stream to create, enhance, and exchange content.”*

A clear definition of Enterprise 2.0 is eminent to solidify the understanding of the platform including the features and capabilities. This chapter starts by discussing the emergence of social networking technologies and Enterprise 2.0, its features and capabilities in Sections 2.1 to 2.2 based on scholarly literature. Section 2.4 and 2.5 then provides examples of Enterprise 2.0 usages in leading organisations and from a knowledge management perspective.

Section 2.6 provides a Social Capital Theory perspective on social networking relations and presents this study’s focus on individual use of Enterprise 2.0 from a social capital perspective. Relevant theories are discussed to provide a holistic understanding and relevance of social capital theory to be applied in this research. This chapter concludes with discussion on the conceptual model, each construct, and suggested sub research questions that relate to the individual use of Enterprise 2.0 and its impact on structural, cognitive, and relational social capital dimensions. Further analysis is also provided to explain the different levels of social capital.

Literature Search Methodology

As the research aims to study the use and impact of Enterprise 2.0 from a social capital perspective, the initial step was to set up a literature database including all peer reviewed papers on Enterprise 2.0. For that purpose, the researcher conducted extensive search through EBSCO, JSTOR, SCOPUS, and Google Scholar using a combination of key words: "enterprise social media", "enterprise social network", "Enterprise 2.0", respectively, and obtained 120 related

literature. This is followed by a quick review of the abstract and the full text to narrow down to 50 high quality articles published in peer-reviewed conferences and journals closely related to the use and impact of Enterprise 2.0 within large organisational settings. Where necessary, the researcher excluded literature that were atypical social media study, non-relevant to the field of Computer or Information Systems and/or any studies that were overlapping with the same authors' prior studies. For further analysis, out of the 50 articles, 26 articles have been confirmed important to frame the context and initial understanding of the use of Enterprise 2.0, as presented in Table 2.2 in later section.

In the subsequent step, further research was also conducted to analyse the theoretical perspectives of social capital and the linkages with Enterprise 2.0. The researcher followed the same set of literature review activities and searched through the similar literature database using a combination of key words, examples as follows: “enterprise social network and social capital”, “enterprise 2.0 and social capital”, “enterprise 2.0 and structural dimension”, “enterprise 2.0 and cognitive dimension”, “enterprise 2.0 and relational dimension”, and more. The literature was analysed in detail from three perspectives of structural, cognitive, and relational social capital dimensions. As there is a limited number of publications, the researcher only managed to identify 11 articles which explicitly mentioned use of Enterprise 2.0 and its impact on social capital theory. This is further discussed in Table 2.10.

2.1 Emergence of Social Networking Technology and Enterprise 2.0

An enterprise social networking site, more commonly known as Enterprise 2.0, refers to a private, or internal social networking site for business use. Enterprise 2.0 shares the convergence of Web 2.0 architecture - an umbrella term to describe the integration a wide range of social media features which enables collective creation of web content and harnessing of users' collective intelligence (Soriano et al. 2008). As mentioned in Li et al. (2012), there are a plethora of major social media features which are identified from the Web 2.0 platform, for example, blogs, microblogging, news feeds, wikis, social networks, polling, tagging and social bookmarking.

Enterprise 2.0 and Web 2.0 represents an evolution in the way social networking technologies are designed, used, and interpreted. The emergence of social networking technologies has

introduced new pathways connecting individuals via the online community. The study of social networking technologies therefore constitutes an important research area in Internet technologies and their social impact as evident from various researchers (Boyd and Ellison 2007; Ellison et al. 2007; Steinfield et al. 2009). Social networking describes the grouping and interaction of individuals based on their interest, values, beliefs, and activities. Although, social networking can be established face-to-face, however, connectivity through online social networking technology is a growing phenomenon occurring more frequent and conveniently via the World Wide Web.

Social networking technology presents a platform to facilitate the occurrence of social networking. This technology allows individuals to construct a public or semi-public profile within a bounded system, articulate a list of other individuals with whom they share a connection, and view and traverse their list of connections, and those made by others within the virtual network (Boyd and Ellison 2007). Fundamentally, social networking technology has a two-fold structure: identity management and keeping in touch with others in the network (Richter and Koch 2008). Social networking technologies therefore create a new paradigm of communication methods that enables sharing of information, experiences, and personal interests in one or more central, virtual places.

According to Boyd and Ellison (2007), the first social networking technology originated in 1997, with the launch of SixDegrees.com which allows individuals to create their own profile, list and network with their friends. While SixDegrees.com attracted millions of users, the social networking technology was closed in 2000, partly due to the timing and maturity of Internet and mobile technologies. Thereafter, numerous other social networking technologies were developed all with the same purpose of connecting individuals whilst providing personalized and interactive services based on individuals' interest and activities through the Internet. Subsequently in 2003, LinkedIn was introduced and became one of the largest social networking technologies in the world. The audience for LinkedIn is however targeted to connect business professionals. The emergence of specialised social networking technology targeted towards specific user groups, such as business professionals indicates that social networking can potentially provide value to business organisations.

It is, however, the ubiquitous Facebook which was introduced in 2004 that transformed the way individuals connect and socialize with one another. Facebook presents itself as social

utility that helps individuals communicate more efficiently with their friends, family and co-workers (Facebook, 2010). As Ellison et al. (2007) suggest, the use of Facebook is closely related to the formation and maintenance of social relationships. In 2007, Facebook was further enhanced with the introduction of third party developer site to create social applications (Nazir et al. 2008). These social applications include games and other interactive features which foster greater social interaction online using Facebook. Increasingly over the years, social network relationships are being formed through friends and non-friends' interactions via social applications such as Twitter, Instagram, Pinterest, and more.

Statistics indicated that Facebook has 2.38 billion monthly users as of March 31, 2019 which represents an 8 percent increase in Facebook monthly active users year over year (Facebook, April 2019). Starting out as a social networking technology designed for college students, Facebook has gradually proliferated to become an important part of business Internet marketing strategy. Furthermore, as a comparison, Skeels and Grudin (2009) conducted a research in Microsoft on the employees' use of Facebook and LinkedIn. The study confirmed that LinkedIn, ideally positioned for business professionals, is widely used to build and maintain external professional networks. Facebook, on the other hand was adopted by the individuals within the organisation to connect with each other whilst creating and strengthening ties. In addition, the study also indicates that leveraging the social networking capabilities, LinkedIn and Facebook provide some expertise location and question answering.

Thus, with the rising numbers of individuals using social networking technology, such as Facebook and LinkedIn, business organisations are finding it hard to ignore the implications associated with adopting social networking technology at work. As apparent, the significant presence of social networking technology marks a paradigm shift of how individuals are no longer bounded by their geographic distance and are able to connect with one another virtually and simultaneously. In many cases, the increased communication between individuals in an organisation strengthens relationships whilst promoting collaboration. Finally, (Li et al. 2012) explained the need for Enterprise 2.0 where the authors described that Enterprise 2.0 is not simply Facebook behind a firewall. Every organisation has distinct needs and nuances that require a reframing of a social network in business settings. Gartner also predicted that by 2016, 50% of large organisations will have internal Facebook-like social networking technology, and that 30% of these will be considered as essential as email and telephones are today (Stamford 2013). Organisations that embrace this phenomenon also claim that they are able to build

expertise by making knowledge more accessible, fuel innovation by crowdsourcing ideas, improve productivity with better collaboration, and expand customer sales, loyalty and advocacy by providing exceptional digital experiences (IBM Smarter Planet 2014). Further evidence of industry use of Enterprise 2.0 will be further discussed in Section 0.

Leveraging these social media features, Enterprise 2.0 enables individuals to connect to each other and utilise the integrated social media features in an activity stream that is relevant, secure, and collaborative (Sturdevant 2011). Nonetheless, as Richter and Riemer (2013) discussed, it is also essential to understand that Enterprise 2.0 is a suit of malleable technologies that do not lend themselves to immediate forms of usage determined or prescribed by their features. This implies that it is hard to predict how and in what form Enterprise 2.0 will be applied when rolled out to a particular organisational context.

Professor Andrew McAfee (2009) of Harvard Business School explained that Enterprise 2.0 is “the use of emergent social software platform that enables individuals to connect and collaborate through computer mediated communication and to form online communities.” In McAfee's (2009) research, he describe Enterprise 2.0 using the acronym SLATES (Searching, Linking, Authoring, Tagging, Extensions, and Signals). To further illustrate, Enterprise 2.0 provides models and tools for emergent collaboration and co-creation. In doing so, Enterprise 2.0 facilitates ‘Search’, whereby information is made discoverable for use and reuse. The ‘Linking’ mechanism emphasizes on forging interconnections between individuals and content available in the platform. ‘Authoring’ ensures the ability to create and update content which leads to the collaborative work among different authors. Individuals may extend, undo and redo each other's work. Conversely, ‘Tagging’ allows categorization of on-the-fly organisation of data from every point of view, in the most natural and organic way. Individuals may tag content in a meaningful manner to facilitate searching without dependence on pre-made categories. ‘Extensions’ extends knowledge by mining patterns of use and user activity. Finally, ‘Signals’ enables syndication of information by pushing out changes, notifications, bringing awareness to individuals. The central principles behind Enterprise 2.0, as emphasized by the author, are the simple free platforms for self-expression in publishing platforms, the emergent rather than imposed structure that enables new ideas to emerge organically, and the order from chaos that enable quick and easy filter of information.

Dion Hinchcliffe, Chief Strategy Officer of the Dachis Group and also one of the subject matter experts in enterprise technologies proposed the transition from SLATES to FLATNESSES (Hinchcliffe 2007). Hinchcliffe argued that SLATES is meant to depict the capabilities of the Enterprise 2.0; however, it fails to convey the intended outcome particularly on social capability. FLATNESS (Freeform, Links, Authorship, Tagging, Network Oriented, Extensions, Search, Social, Emergence, and Signals), as Hinchcliffe explained, is an extension from SLATES which captures the social (non-hierarchical and transparent), network oriented, emergence, and freeform aspects of Enterprise 2.0. The basic premise of this framework is that for the technology to be considered a relevant Enterprise 2.0 platform, it must directly or partially intersect with one or more of the FLATNESSES. Both the mnemonics serve as a fundamental checklist to verify that the essential features of Enterprise 2.0 which will be discussed in the subsequent section.

Definition of Enterprise 2.0

As apparent, there are numerous connotations of what Enterprise 2.0 is about and how it is used. Thus, for the purpose of this study and to determine an all-encompassing definition of Enterprise 2.0, the research refers to the following scholarly definitions of social networking technologies and draw inferences to frame the definition of Enterprise 2.0.

Boyd and Ellison (2007) define social networking technology as “*web-based services that allow individuals to:*

- 1. construct a public or semi-public profile within a bounded system,*
- 2. articulate a list of other users with whom they share a connection, and*
- 3. view and traverse their list of connections and those made by others within the system.”*

Based on Boyd and Ellison (2007) definition of social networking technology, Enterprise 2.0 are in essence social networking technology implemented inside bounded organisations to support social networking within the organisation which is consistent to McAfee (2009), Leidner et al. (2010), Martin and Bavel (2013), and Fulk and Yuan (2013) understanding of the Enterprise 2.0.

In 2009, Richter and Riemer further explained that social networking technologies are application systems that offer individuals features for (1) identity management (i.e. the

representation of the own person him/herself e.g. in form of a profile) and (2) to keep in touch with other users and the administration of own contacts. In a subsequent study, Reimer and Richter (2012) described Enterprise 2.0 as the result of applying technologies that emerged on the public Internet within organisations as a way of facilitating workplace communication and collaboration. In this context, Chui et al. (2012) described Enterprise 2.0 as Internet technologies used by individuals to interact socially and together to create, enhance, and exchange content.

As, there is no single definition to Enterprise 2.0 which encapsulates the multi-faceted digital platform, and due to the similarity and the convergence of Enterprise 2.0 and Web 2.0, the definition of Enterprise 2.0 adopts the definitions of earlier researchers where Enterprise 2.0 is described as:

“Private or internal social networking platform which enables individuals within an organisation to connect to each other and utilise the integrated social media features in an activity stream to create, enhance, and exchange content.”

2.2 Enterprise 2.0 Features and Capabilities

Enterprise 2.0 Features

Enterprise 2.0 consists of numerous varied and distinct features depending on the platform service provider. However, based on synthesis of literature (Chin, Evans, and Choo 2015; Stamford 2013), the following features in Table 2.1 are commonly found across the different Enterprise 2.0 platforms, where the capabilities are consistent with the mnemonics discussed in the earlier section. These features enable the derivation of crucial capabilities for Enterprise 2.0.

Enterprise 2.0 Features	Description	Enterprise 2.0 Capabilities
Microblogging	Microblogging exist in the form of classic web blogs which facilitates broadcasting of information in a smaller scale.	Authoring
Blogs	Blog is a term derived from web log, generally described as a lightweight content management tool that enables content to be updated and shared with the social network.	Authoring
Social Networking and Personalisation	Enables individuals to find and connect to people with whom they have strong professional ties, colleagues and people they do business with, who they trust enough to be associated with and even recommend to others (Zyl 2009).	Linking

	The social networking feature also includes the ability to create and manage user profile, configure group and community of interest.	
Polling	Polling is a social media approach to derive day-to-day sentiments by gathering public opinion.	Extensions
Document Sharing	Provides the ability to upload, store, organize and share documents.	
Discussion Forums (Communities)	The Communities tool provide the ability for individuals to create virtual communities group for specific skills, purpose or interest. The forums enable knowledge exchanges in real-time asynchronous communication.	Social/ Linking
Searching and Indexing	Enable the ability to locate specific content within the database and is critical for searchable content and conversations.	Searching
Wikis	Enable individuals to add, modify, or delete web content in a virtually collaborative environment. Wiki differs from blog in which content is created without any defined owners and have less implicit structure, allowing structure to emerge according to the needs of the users.	Authoring
Real Simple Syndication (RSS) or Newsfeed	RSS is a method to provide update of the frequently updated web content. Each RSS feed is an XML-formatted document containing summaries or the full text of each item (Cook 2008). RSS gathers and distributes already published knowledge in different places (Klamma et al. 2007).	Signals
Social Bookmarking or Tagging	Enable individuals to specify keywords or tags from the web content that are of interest to them. Cook (Cook 2008) described social bookmarking as a way to store, organize, share, and search bookmarks to web content rather than the bookmarks (or favourites) function in a typical web browser.	Tagging

Table 2.1 Enterprise 2.0 Features (Adapted from Chin, Evans, and Choo (2015))

As apparent in Table 2.1, Enterprise 2.0 features are epitomised based on principles of Web 2.0 technologies, whereby the aim is to build collective intelligence. The list of social media features, as presented, is non-exhaustive depending on the service provider and the ways in which the features are used and customized. Nonetheless, it is also important to note that too many Enterprise 2.0 features may be overwhelming for individuals leading to user dissatisfaction in the form of ‘feature fatigue’ (Thompson et al. 2005). Therefore, it is pertinent to assess Enterprise 2.0 features based on the desired capabilities considering the organisation’s strategic direction and desired outcome from the Enterprise 2.0 adoption, users’ behaviour, nature of work being conducted, and other valued attributes. As Richter and Riemer (2013) describe, Enterprise 2.0 is a malleable technology whereby the set of features do not precipitate its forms of usage.

Enterprise 2.0 Capabilities

Capabilities in this context are distinct from features as different features provide different capabilities (Orlikowski, 2000). Drawing upon the metaphor of Sambamurthy and Zmud's (2000) research, the Enterprise 2.0 is perceived as a platform that provides a rich ensemble of IT-enabled features. The platform is therefore viewed as the means for enabling and harvesting the capabilities that support business conduct in value adding ways. In this context, capabilities stem from amalgamated features to achieve an organisation's desired benefits. Furthermore, capabilities should also be perceived as actions or tasks enabled via features that transform inputs into valuable outcomes Bhatt and Grover (2005). As such, capabilities are derived from individual's routine use of Enterprise 2.0 which translates to value added contributions to the organisation. Recognising the distinction between features and capabilities, the subsequent discussion explores the fundamental capabilities Enterprise 2.0 promises.

Enterprise 2.0 provides the familiarity of a personal social networking technology, i.e. compared to Facebook. However, Enterprise 2.0 is not to be confused with personal social networking technology. Charlene Li from Altimeter Group published a report (Li et al. 2012), "Making the Business Case for Enterprise Social Networking" to which the authors explained "Enterprise social networking are not simply Facebook behind a firewall. Every enterprise has distinct needs and nuances that require a reframing of a social network." In other words, organisations deploy Enterprise 2.0 with the intention of envisaged capabilities such as information sharing, crowd sourcing, problem solving, context and relationship building Riemer and Richter (2012). Comparing public social networking technology and Enterprise 2.0, Enterprise 2.0 is more versatile whereby the platform not only provides a social layer but also productivity features to improve individual's engagement and to help support business objectives. These additional features may include instant messaging, document management, calendars, task management, and so on.

The promised capabilities sought to be achieved through Enterprise 2.0 can be understood from Riemer and Richter (2012) and Riemer and Scifleet (2012) research. Riemer and Scifleet (2012) conducted a genre analysis on the communication data sets that resulted from the use of Enterprise 2.0 in a large professional services organisation. Through this analysis, the study concluded that Enterprise 2.0 provides a common background through discussions and sharing updates between groups of individuals with similar interests. The emergence of shared background enables individuals to understand and interpret the problems, ideas, and knowledge

shared. Other than that, the authors observed the common practice of posting content, files, and links related to sharing of knowledge. The action of sharing or posting content, files or links lays the seed for other individuals to come across the information serendipitously and potentially get passed on to a wider social network. In this study, Riemer and Richter (2012) exemplify how individuals use distinct social media features in knowledge-intensive work contexts to achieve knowledge management capabilities, i.e. communication, coordination, collaboration, and knowledge capture and storage.

Purpose of Using Enterprise 2.0

In another study, Riemer and Richter (2012) consolidated 11 use cases explaining the distinct purpose of Enterprise 2.0 based on sample communications exchanged on Enterprise 2.0. The authors further categorised these use cases into six categories that represent different benefits organisations are able to realise from using Enterprise 2.0. The Figure 2.1 below delineates the categories and the sub genres identified:

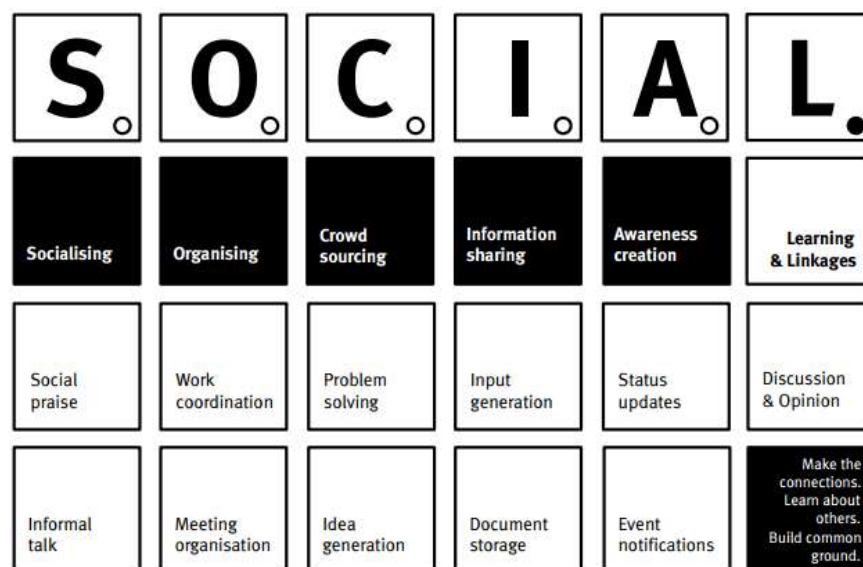


Figure 2.1 Purpose of Using Enterprise 2.0 (Source: Riemer and Richter (2012))

Figure 2.1 shows that Enterprise 2.0 is a place for Socialising, Organising, Crowdsourcing, Information Sharing, Awareness Creation, and Learning and Linkages. To summarise the framework, Riemer and Richter (2012) claim that Enterprise 2.0 act as a social group and provides a place for individuals to have informal talk during work hours (*Socialising*). Enterprise 2.0 also enables smaller teams (i.e. project teams) to coordinate tasks and organise meetings or project related matters (*Organising*). The authors also observe that Enterprise 2.0

enables ad-hoc, internal crowdsourcing, citing that individuals would use the platform to ask for help or ideas (*Crowdsourcing*). One of the most common benefits Riemer and Richter (2012) identified is that Enterprise 2.0 enables sharing of information such as a link to newspaper or articles (*Information Sharing*). The authors further explain that the sharing of information capability leads to serendipitous moments where individuals sometimes find useful information without deliberately looking for it or expecting it on Enterprise 2.0. Riemer and Richter (2012) also state that Enterprise 2.0 provides an ideal platform for making others aware of activities and events in the wider work environment (*Awareness Creation*). Lastly, for *Learning and Linkages*, Riemer and Richter (2012) describe that the conversations in Enterprise 2.0 enables the emergence of a shared background helping individuals to form common ground which yields potential for learning about others and the organisation.

Riemer and Richter (2012) research provides a better understanding of Enterprise 2.0 capabilities and the potential benefits to organisations. These capabilities are made possible through the use of integrated social media features within Enterprise 2.0. However, amidst the Enterprise 2.0 communication exemplary quotes used in the study, it is not clear or conclusive in terms of the tactical ways individuals would use Enterprise 2.0. In this instance, the research is also lacking in terms of delineating the passive use of Enterprise 2.0 whereby individuals could be lurking or merely observing the interactions on Enterprise 2.0. Nonetheless, through analysing of the conversation patterns within Enterprise 2.0, Mäntymäki and Riemer (2014) consequently have identified five generic use cases which delineates individuals' purposeful use of Enterprise 2.0:

- ***Discussion and Informal Talk***: Discussing and voicing opinion on general matters or to have informal talk on hobbies and interest.
- ***Status Update and Notifications***: Informing other individuals of what they are working on or happening in the work environment to create awareness and to be visible in the organisation.
- ***Idea and Input Generation***: Sharing information and artefacts. Sometimes, the individuals' act of sharing is done to solicit input and ideas specified in the message posted online.
- ***Problem Solving***: Asking for help from other individuals online.

- ***Social Feedback***: Sharing success and achievements of other individuals and to broadcast to a wider group of audience online.

Out of these five, Mäntymäki and Riemer (2014) found that exchanging and obtaining ideas appears to be the most important for individuals.

2.3 Understanding the Individual Use of Enterprise 2.0

Section 2.2 distinguishes Enterprise 2.0 features and capabilities and outlines the purpose of using Enterprise 2.0. The study of the individual use of Enterprise 2.0 is based on an individual's understandings of how the technology is used on a day-to-day basis and the likely or actual conditions and consequences associated with use. The term 'use' is a broad concept and can be considered from different perspectives. By merely comparing the features of Enterprise 2.0 may not be adequate to provide a thorough understanding of the individual use of Enterprise 2.0. For an all-encompassing view on the individual use of Enterprise 2.0, it is also important to understand the technology strategy and the nature of technology which determines the use and impact of Enterprise 2.0.

The nature of technology is concerned with individuals' understanding of how Enterprise 2.0 could be used to alter business processes and relationships whilst the technology strategy frames the understanding of the features and attributes of the technology. Orlikowski and Gash (1994) articulated a theoretic framework centred on Technological Frames of Reference (TFR) to make sense of information technology in organisations. The theory presumes that individual needs to make sense of the technology, and in this sense-making process, they develop assumptions, expectations, and knowledge of the technology which then leads to subsequent use of it.

Drawing from the literature on social cognition, the concept of frames explains how individuals make sense of and assign meaning to their environment, organisation, and tasks (Daft and Weick 1984). Understanding individuals' interpretation of Enterprise 2.0 is critical to understanding their interaction with the platform. Individuals have to make sense of the technology, and in this sense-making process, they develop assumptions, expectations, and knowledge of the technology which then leads to subsequent actions toward it. Although, TFR tends to be used to explain the incongruence of IT, it provides a good foundation to study how

Enterprise 2.0 is understood and acted on by different group of individuals, considering the possibilities of the influence from the extensiveness of features, the understanding of the technology role in facilitating their work leading to the motivation to use the technology.

Similarly, the Adaptive Structuration Theory (Jones and Karsten 2008) also explains that the use of technology is shaped by the social structures, rules and resources provided by the technology platform and organisation. Shiel et al. (2011) conducted a study exploring similarities and differences between firefighting organisations using social media for crisis/emergency situations. Using Adaptive Structuration Theory, the study suggests that the original purposes associated with Web 2.0 platform technologies (i.e., ability to interact with organisations, contact with friends and family, self-publishing, etc.) have expanded and evolved beyond the way the technology was originally conceptualized.

Consistently, Enterprise 2.0 can be used by individuals in numerous ways depending on the set up of the technology and the organisational settings. Up until now, there are limited studies and publications on the individual use of Enterprise 2.0 as presented in Table 2.2 and Table 2.3 below.

Key Research Areas related to Enterprise 2.0	Authors	Knowledge Gap on the Individual Use of Enterprise 2.0
Use of Enterprise 2.0	<i>Chin et al. (2019), Jarrahi (2018), Koch et al. (2012), Leidner et al. (2010), Makkonen and Virtanen (2015), Mäntymäki and Riemer (2014), Qi and Chau (2016), Richter and Riemer (2009, 2013), Riemer et al. (2012), Riemer and Scifleet (2012)</i>	Collectively, below is a summary of the limitations of prior research from the shortlisted articles that are closely linked to the use of Enterprise 2.0: • Lacks granularity in the classification of use (i.e. individual vs. collective) • Biased in the classification of use guided by motives, context, and outcome. • Limited empirical evidence (i.e. small sample size, limited study) to draw conclusive study on the usage of Enterprise 2.0.
Motivations to Use Enterprise 2.0	<i>Sun et al. (2019), Chin et al. (2015), DiMicco et al. (2008), Fulk and Yuan (2013), Li et al. (2019)</i>	These articles describe the motivations to use Enterprise 2.0. Usages identified connotes perceived use as opposed to actual use.

Benefits of Enterprise 2.0	<i>Moqbel et al. 2020, Denyer et al. (2011), Giermindl, Strich, et al. (2018), Gordeyeva (2010), Leonardi et al. (2013), McAfee (2009), Steinfield et al. (2009), Treem and Leonardi (2012), Turban et al. (2011), Wang et al. 2018)</i> While not explicit on the use of Enterprise 2.0, the research explains the benefits of Enterprise 2.0. The articles discuss the opportunities of using Enterprise 2.0 but does not provide adequate understanding of the actual use within organisational settings.
-----------------------------------	--

Table 2.2 Review of Literature on the Individual Use of Enterprise 2.0

Table 2.2 broadly summarises and categorises 26 key high-quality articles to frame the context and understanding of the individual use of Enterprise 2.0. Out of the 26 key articles, there are only 11 articles that describe the use of Enterprise 2.0. The remaining 5 articles are related to individual and organisation motivations to use Enterprise 2.0, while the other 10 articles are related to the capabilities of Enterprise 2.0. It is clear from the previous literature that there is limited studies and empirical evidence, lack of clarity and granularity in terms of the use of Enterprise 2.0 and biased in the categorisation of use which is guided by specific research area, i.e. use of Enterprise 2.0 for knowledge management or performance management. Other articles related to benefits and motivations to use Enterprise 2.0 on the other hand describe use of Enterprise 2.0 as perceived use and not actual use.

Subsequently, further analysis was conducted based on the 11 articles identified in Table 2.2 that are related to the use of Enterprise 2.0 to ascertain the use of Enterprise 2.0 within large organisational settings. As mapped in Table 2.3, it can be observed based on past literature that Enterprise 2.0 is used predominantly for networking (for building and maintaining new and existing relationships), discussing opinions, sharing and finding information, and for staying up-to-date with latest updates and events. Nonetheless, the literature does not provide clear indication of individual and organisation (collective) level of use. It is also not exactly clear how an individual would use Enterprise 2.0 based on the following use categories, for example, *what does the individual needs to do in Enterprise 2.0 to engage on discussion or how to stay up-to-date with the social network?*

Authors	Networking	Discuss Opinions	Share Information	Stay Up-to-Date	Create Online Presence	Locate Experts	Locate Information	Show Support	Solicit Input/ Idea	Coordinate Tasks/ Events	Social Learning
Richter and Riemer (2009)	Y	Y	Y	Y	Y	Y					
Leidner et al. (2010)	Y	Y	Y	Y			Y				
Koch et al. (2012)	Y	Y		Y		Y		Y			
Riemer and Scifleet (2012)		Y	Y	Y			Y	Y	Y		
Riemer et al. (2012)			Y						Y		
Richter and Riemer (2013)	Y	Y		Y			Y	Y	Y		
Makkonen and Virtanen (2015)		Y		Y	Y		Y	Y			
Mäntymäki and Riemer (2014)	Y	Y		Y		Y	Y		Y	Y	
Jarrahi (2018)	Y		Y		Y						
Qi and Chau (2016)		Y	Y								Y
Chin et al. (2019)	Y	Y	Y	Y					Y		
TOTAL	7	9	7	8	3	3	5	4	5	1	1

Table 2.3 Synthesis of the Use of Enterprise 2.0

Given the prior knowledge in literature summarised in Table 2.3, the literature shows broad consistency of how Enterprise 2.0 is being used which reinforces the conceptual model discussed in the subsequent Section 2.7.

2.3.1 Classification of Individual Users of Enterprise 2.0

Following the definition of use, it is also crucial to understand the logical categorisation of different user types in relation to the use of Enterprise 2.0. Various studies (Boyd and Hargittai 2010; Brandtzæg 2010; Hargittai 2002; Hargittai and Walejko 2008)) have demonstrated that individuals with similar access to social networking technology engage in fundamentally different ways. Based on the aforementioned theory, Orlikowski and Gash (1994) also explained that individuals are guided by the assumptions and expectations of the technology which then leads to distinct and varied use of Enterprise 2.0.

Brandtzæg (2010) conducted a comprehensive meta-analysis of the existing literature and identified a common framework to define user behaviour on media and Internet platforms. In his research, Brandtzæg (2010) reviewed user typologies across 22 studies focusing on the method, theory, technology platform, context and year, and user type. The author discuss that

most studies (Davis 1989; Rogers 2003; Venkatesh et al. 2003) do not fully explain the nature of media behaviour, but rather the factors determining media behaviour. He further elaborates that it is crucial to study the nature and process of media platform behaviour, actual use, and social implications to delineate the user type. Thus, through this meta-analysis, Brandtzæg (2010) successfully developed a parsimonious framework (Figure 2.2) for describing complex individual reaction, gratifications, and intention to use social media.

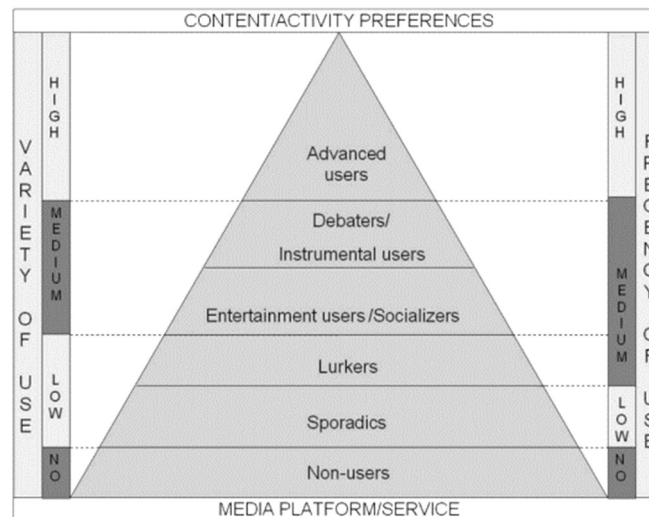


Figure 2.2 Categorisation of User Type (Source: Brandtzæg (2010))

To further elaborate on the user typologies, Preece and Shneiderman (2009) identified four distinct types of social media participation based on their Reader-to-Leader Framework. This framework categorises successive levels of social media participation as reading, contributing, collaborating, and leading. In the context of Enterprise 2.0, based on this framework, individuals would generally participate as ‘Readers’, i.e. new users begin as ‘Readers’ or novice users. They predominantly need confidence, sense of belonging, and a welcoming environment. Brandtzæg (2012) refers to these users as ‘Lurkers’ describing them as individuals whose activities do not produce visible contributions. ‘Contributors’ add pictures or post comments in Enterprise 2.0 and may or may not have the intention of collaborating with one another. Encouraging individuals to contribute can be achieved by contributions, which may lead to exchanges that can develop into collaborations.

‘Collaborators’ involves two or more individuals discussing, cooperating, and working together to create knowledge or share information (Denning and Yahlkovsky 2008). Shared

understanding, trust and empathy are essential for communication and collaboration, which leads to do or deliver the quintessential. Finally, ‘Leaders’ contribute the largest number of comments and are the most active users in Enterprise 2.0. ‘Leaders’ synthesise discussions and arguments and are generally not afraid to show emotions and have a coherent online identity, which usually matches their real identity (Joyce and Kraut 2017). However, Preece and Shneiderman (2009) also mention that it is not always the case that individuals would progress through these levels of participation. On the contrary, the progression from reading to leading diminishes gradually. The categorization of user types was applicable to study the different use of Enterprise 2.0 among individuals across the organisations. The understanding of user types is crucial to study the individual use of Enterprise 2.0.

Universal across cultures, Brandtzæg's (2010) framework categorised distinct user types at the individual level, classifying their behaviour into three different categories: frequency of use, variety of use, and content preferences. According to the Brandtzæg's (2010), these different modes of user behaviour also reflect individuals’ different levels of skills and advancements in technology, where the highest and most skilled, at the top, are labelled Advanced Users and the lowest, at the bottom, are labelled Non-Users.

User Type		Frequency of Use	Variety of Use	Description
Inactive	Non-User	No Use	No Use	Lack access to, or ability or interest.
	Sporadic	Low Use	Low Variety	Less active, socially curious that checks occasionally.
Average	Lurker	Medium Use	Low Variety	Log on for the purposes of “time-killing” and consuming information.
	Socializer	Medium Use	Medium Variety	Engage in ‘small-talk’ activities reflecting less organized and purposeful action.
Active	Debater	Medium Use	Medium Variety	Interact with others for the purpose of discussion.
	Advanced User	High Use	High Variety	Engage in all activities.

Table 2.4 Differences in the User Types (Adapted from Brandtzæg (2010))

Given that Brandtzæg (2010 and 2012) has conducted extensive research in user types as evident in the user typology framework, outlined in Table 2.4, this research adapts this framework and categorised user types effectively into three different user groupings: 1. Active

User, 2. Average User, and 3. Inactive User. This categorisation differentiates between qualitative aspects of a certain type of individual use of Enterprise 2.0, as described below:

- **Active User:** This user type indicates both frequent usage and very diverse and broad online social behaviour. They are highly active in contributing activities (e.g. sharing, uploading content), discussions, and debates. This user type is also likely thought of as leaders generating ideas through socialising online. As such, *Debater* and *Advanced User* types of users are coherently categorised as Active User due to the higher number of interactions and varied engagements with others in the social networks.
- **Average User:** This user type is mainly high on social interaction (building and maintaining relationships) with other individuals. While this user type may not be actively sharing or participating in discussions, they ‘follow’ discussions, frequently ‘like’ or recognise postings/discussions or look around to find more information about other individuals or events. *Lurker* and *Socializer* user types fall under Average User as these types of users may contribute occasionally but may not necessary interact frequently with others on Enterprise 2.0.
- **Inactive User:** This user type refers to individuals who rarely connect socially on Enterprise 2.0. This user type would use Enterprise 2.0 to observe the network or to connect occasionally to check whether somebody has been in touch with them. Cogently, *Sporadic* and *Non-Users* types of users are categorised as Inactive User due to their low level of interaction and use on Enterprise 2.0.

Furthermore, based on Brandtzæg (2010 and 2012) research, the categorisation of varying user type groupings presented substantial differences in the pattern and variety of Enterprise 2.0 use. Riemer and Hafermalz (2018) also describe that the use of Enterprise 2.0 is malleable and as such Enterprise 2.0 can be used by individuals in numerous ways and that the varying form of individual use may lead to different or similar outcome. Lastly, Jones and Karsten (2008), Orlikowski and Gash (1994), and Daft and Weick (1984) also posit that individual use of Enterprise 2.0 is influenced by one’s belief and interpretation of the technology. Drawing back to the synthesis of literature in Table 2.3, up until now, the classification of the use of Enterprise 2.0 lacks clarity and granularity at individual level and is biased in the categorisation of use

which is guided by specific research area. Therefore, research also seeks to unfold the Enterprise 2.0 use modes which refers to the *distinct individual use of Enterprise 2.0 based on individual's attitudes and beliefs, social influence and self-efficacy*.

Due to the complex nature of Enterprise 2.0, i.e. dynamic user interactions and activities, it is not practical for the research to only classify Enterprise 2.0 users based on Brandtzæg's (2010) framework. Thus, to provide additional depth to the user type definition, the research also incorporates Rogers' (2003) Adoption and Innovation model and establishes linkages between the user type and adopter categorisation to demonstrate the ability and motivation of individuals to use Enterprise 2.0. Rogers (2003) explains that diffusion of innovations manifest itself in different ways and is highly subject to the types of adopters: innovators, early adopters, early majority, late majority, and laggards. Table 2.5 provides insight and justification to the connections between different user types.

User Type		Roger's Model	Justification
Inactive	Non-User	Laggards	These individuals are the last to adopt an innovation and typically have an aversion to change agents. They tend to focus more on traditional ways of working and have constricted access to information.
	Sporadic	Late Majority (and Laggards)	These individuals approach an innovation with a high degree of scepticism. They could be the newcomers to Enterprise 2.0, or the adoption may result from peer pressure or social norms.
Average	Lurker	Late Majority	
	Socializer	Early Majority	These individuals seldom hold positions of opinion leadership; however, they are important links to the diffusion of knowledge. These individuals need to see evidence and be convinced before they are willing to adopt Enterprise 2.0.
Active	Debater	Early Adopters	These individuals have the highest degree of opinions leadership and are respected members of the network. They also actively provide advice, help, and information to others. They have central position in the network and are crucial to trigger the critical mass.
	Advanced User	Innovators and Early Adopters	Innovators are quick to take up new ideas, knowledge, and technology. They have high social presence and maintain close contact with other innovators. They play an important role as a gatekeeper in the flow of information.

Table 2.5 User Type and Motivation to Use Enterprise 2.0 (Adapted from Rogers (2003))

2.4 Enterprise 2.0 Use in Seven Leading Organisations: Examples

The use of Enterprise 2.0 enables individuals to connect to each other and utilise the integrated social media features in an activity stream supporting many different aspects and activities associated with a business's operation. As mentioned in the previous section and in the literature, examples of such integrated social media features are microblogging, real simple syndication, follow and/or connecting to individuals, participation in community of interest groups, commenting on posts or content, instant messaging, file sharing, search, dashboards, recognition, and many more. This list is basically non-exhaustive depending on the platform and ways in which the different platform features are used and customized.

The inevitable social paradigm shift in today's organisation has revolutionised how modern businesses operates, and the way individuals communicate with one another. The emergence of Enterprise 2.0 provides the mechanism for organisations to build, combine, and integrate the knowledge of individuals (McAfee 2009). To further illustrate, Enterprise 2.0 provides the capabilities for bridging and bonding individuals, enabling cooperation, whilst permeating the flow of knowledge among individuals enabling the sharing of existing knowledge, adding perspectives to existing knowledge, or replacing obsolete knowledge with more up-to-date knowledge.

In addition, as evident in study conducted by AIIM (Miles 2009). Enterprise 2.0 plays a significant role in distributed workforce and large teams, where based on the AIIM report 48% of the respondents indicated that Enterprise 2.0 is very well suited for a distributed workforce while 37% of the respondents indicated that Enterprise 2.0 is well suited for large teams. Nonetheless, some of the respondents also indicated that Enterprise 2.0 may also be suitable for small teams and start-ups companies. In order to highlight the applicability of Enterprise 2.0, the use of Enterprise 2.0 in seven large professional organisations is described. The objective and use of Enterprise 2.0 in large geographically dispersed team which performs knowledge intensive work in these organisations is highlighted.

- i. **Ernst & Young (EY)** is one of the largest professional services organisations that specialises in assurance, tax, transaction, and advisory services. EY implemented Yammer with the objective to increase engagement and collaboration on a global scale (Goldwasser and Edwards 2014, p. 0). Citing the report from Pew Research Center

(“Millenials: Confident, Connected, Open to Change” 2010), the authors remarked that by 2025, millennial, or generation Y will make up the majority of the workforce, thus emphasizing the significance of tapping into mainstream communication patterns of this generation, i.e. tweeting, blogging, tagging, posting videos and uploading photos. Within the context of driving business change, the organisation believes that technology such as Enterprise 2.0 is therefore a crucial part of the EY’s change management and communications plan. The organisation challenges to rethink the future of workspaces and perceives Enterprise 2.0 as the nexus of innovation, dialogue and insight. Furthermore, Enterprise 2.0 is envisaged to integrate employees into the organisational culture, creating a sense of value and community, leading to increased employee engagement. Some examples of the use of Enterprise 2.0 includes creating memorable campaigns, seeking opinions and fostering internal communities.

- ii. **Lexis Nexis** as a leading provider of content and technology solutions to the Legal and Tax industry, implemented Yammer with the aim to flatten the organisation hierarchy, devolving leadership, fostering collaboration, and facilitating new forms of communication (“Using Smart Analytics to Drive Greater Value from Enterprise Social” 2013). At the onset of the initiatives, Lexis Nexis UK noticed increased communication between senior management and lower tiers of the organisation and improved employee engagement. The report mentions that employees most engaged and active in Yammer claim a better understanding of the organisation’s business strategy and ability to use their skills and expertise at work. Furthermore, with evidence of hierarchical flattening capabilities, the middle management level acted as a ‘broker’ or conduit of conversations between senior management and the front line. Lexis Nexis UK’s use of Yammer also enables identification of ‘hot spots’ – departments which were regularly communicating, collaborating, and sharing in Yammer in relation to new product development or individuals who are passionate about certain topics. The Human Resource Director of Lexis Nexis UK (Laurie Hibbs) further emphasized that the level of insights gathered from the use of Yammer within the organisation helped to shape the drivers underpinning the business outcomes.
- iii. **Westfield Group** owns and operates shopping centres across Australia, the United States, the United Kingdom, New Zealand, and Brazil. Westfield manages all aspects of shopping centre development, from design and construction to leasing and management.

Due to its highly dynamic business environment, Westfield decided to use Yammer as a platform to empower employees and improve their interaction and sharing of best practices across functions and geographies. Championed by Andy Hedges, the Director of Shopping Center Management at Westfield Australia, Yammer was used by more than 1000 Westfield staff and is supplanting email as a key means of interaction (Howarth 2012). According to Andy Hedges (Howarth 2012), Westfield developed communities within Yammer. The main newsfeed within Yammer has been used to allow employees from all mall locations to share photos, videos and lessons learned and success stories. Other virtual groups were created which centred on individual Westfield shopping centres, retail partners, and functional departments, enabling team members to have more tailored conversations and ask more detailed questions. Other social groups were created to focus on hobbies and interests allowing team members to connect and relate with one another in a more casual and friendly manner. Westfield views Yammer as a vehicle to better engage employees, enabling better conversations and information despite geographically dispersed locations.

- iv. **IBM Beehive/Blue Pages** is an Enterprise 2.0 platform developed and deployed within IBM. Officially launched in 2007, it has more than 50,000 registered users. Similar to most Enterprise 2.0 platforms, Beehive has an individual profile page for each user and standard social networking connecting features such as messaging, sharing photos, lists, and events while connecting users to content. Moore and Neely (2011) state there are three distinct categories of use in Beehive. The first is connecting employees who meet at conferences or when working on interdepartmental or inter-divisional projects. The network provides a mechanism to stay connected and get to know other employees and their area of expertise. The second use is to gain project support and brainstorm with others on how best to complete a project. The connections provide a collaboration channel to promote the project to others and gather ideas from other people at different levels. The third use of Beehive is the opportunity to connect with people at higher levels of the organisation that are not accessible via traditional channels. Employees use connections to these executives as a method to share ideas and get career advice with the hope of advancing their careers.

- v. **Booz Allen Hamilton (BAH)** is a professional services firm which engages in the provision of management and technology consulting services. BAH has over 23,000 employees in worldwide locations (Parise et al. 2012) and due to the firm's size and the nature of project work, it was difficult to locate and match the needed skill sets and the valuable information was scattered across the organisational silo. As a result, the firm recognized the need for internal project collaboration and accessing and leveraging intellectual content and individual's expertise across the firm. Consequently, as part of the initiative to help individuals better connect and share information within the firm, BAH developed and launched its award winning hello.bah.com Enterprise 2.0 in August 2008. BAH describes Enterprise 2.0 as 'the intersection of technology, social interaction, and content development and/or management to improve an organisation's business processes.' A slight variation from McAfee's (2009) definition of SLATES, BAH defines Enterprise 2.0 capabilities as communication, collaboration, community, construction, and search. The hello.bah.com Enterprise 2.0 platform incorporates blogs, wikis, podcasts, RSS feeds, personal profiles, and other familiar social networking tools. While the technologies themselves may not be novel to the industry, the internal adoption rate of hello.bah.com suggests Enterprise 2.0 can indeed become the pervasive force pundit. Since its launch, more than 50% of BAH's employees have added content to hello.bah.com (Salvatore et al., 2012), and the portal contains about 350 sub-communities devoted to various topics, even though participation is voluntary (Kanaracus 2009). Individuals refer to hello.bah.com as an 'internal Facebook', and over time, BAH has also evolved from depending on Microsoft Outlook for collaboration to using an entirely new platform to better connect individuals and information (Salvatore et al., 2012). BAH claims that hello.bah.com helps individuals find information faster, locate mentors, collaborate with subject matter experts, and network with colleagues (Weber 2011). One of the BAH principals – Walton Smith state that hello.bah.com has provided a way for individuals to contribute ideas and thoughts to shape the firm. In addition, with hello.bah.com's implementation, new firm members can now connect with other individuals who have been in the firm for 25 years.
- vi. **Microsoft Corporation** is one of the worldwide leaders in software, services and solutions with annual revenues of more than \$32 billion. Microsoft Corporation's core business comprises developing, manufacturing, and licensing of software products, including operating systems, server applications, business and consumer applications,

Internet software, technologies, and services. Microsoft has acquired and been using Yammer since 2012 (Israel 2012). Microsoft has been using Yammer within the organisation. Collaboration Solution Architect in Microsoft (Bortlik 2015) blogs on how his team uses Yammer to share news, promote best practices, and ask/answer questions. According to the Collaboration Solution Architect, some individuals subscribe to the Yammer group (communities) to receive email notifications when new items that interest them are posted to the group. Individuals are kept in the loop by receiving conversations and notifications and are connected to the conversation which is visible to others. Yammer's live Questions and Answers or Town Hall discussion sessions, or commonly referred to as 'YamJams', are conducted monthly to provide business updates and announcements. Furthermore, Yammer is tightly integrated with Microsoft's technology suite of technology to enable discussions about content and events (i.e. customers, documents, and insights). External Yammer networks and groups have also been setup to collaborate with customers. Within Microsoft, Yammer brought value to a variety of collaboration and engagement scenarios.

- vii. **SAP Harmony** is an SAP internal beta only project for social computing inside the enterprise. This project aims to give SAP employees an environment to find, connect, collaborate and learn from each serving as a test bed that validate social computing and Enterprise 2.0 features, functions, and services. The project is a joint effort between the SAP Labs Management, Design Services Team, Emerging Solutions Imagineering, SAP IT, and product teams interested in evaluating SAP application scenarios in context of social computing. Harmony enables individual employees to develop communities of interest by sharing personal (background/skills/interests) and professional (task/project/program) information. This enables employees to become better informed about each other, their work, and build stronger connections with one another around the globe. While it includes similar features for building 'My Profile' component on many social media platforms, Harmony is not intended as an alternative to public social computing services such as mySpace and LinkedIn, but rather a hub for knowledge acceleration across the enterprise.

These case studies snippets provide an overview of the use of Enterprise 2.0 and demonstrate the business rationale from organisations with existing Enterprise 2.0 implementation. The

following Table 2.6 summarises the purpose and realised outcomes (or purpose of using Enterprise 2.0) as reported in the case studies findings:

Enterprise 2.0	Industry	Purpose of using Enterprise 2.0
Ernst & Young	Professional Services	• To improve employee engagement • To gain access to greater insights leading to potential innovation
Lexis Nexis UK	Legal Research Services	• To improve top-down communication • To improve employee engagement • To gain access to greater insights leading to potential innovation
Westfield Group	Retail Conglomerate	• To share best practices and other useful information • To improve communication and collaboration • To improve employee engagement and sense of community
IBM	Technology Solution	• To connect employees and to encourage sharing of ideas, advices, and brainstorming for projects • To improve top-down communication
Booz Allen Hamilton	Professional Services	• To help employees better connect and share information (i.e. projects insights and expertise)
Microsoft	Technology Solution	• To encourage two-way communication and interaction with groups. • To share news, promote best practices, and to ask/answer questions • To collaborate with external network/ groups
SAP	Technology Solution	• To develop communities of interest by sharing personal and professional experience. • To foster stronger connections between employees.

Table 2.6 Driving Forces to Adopt Enterprise 2.0 in Large Organisations

Based on numerous Enterprise 2.0 case studies, organisations have broadly shown that the purpose of implementing Enterprise 2.0 is to foster collaboration, support communication, and to improve employee engagement to foster knowledge sharing activities. This is broadly consistent with survey research conducted by AIIM (Miles 2009) that indicated that better use of shared knowledge is the biggest driver for Enterprise 2.0, followed by collaboration and rapid communication.

Enterprise 2.0 is focused more on individuals rather than documents (Moore and Tall 2014). On this note, rather than emphasising the capturing and storing of knowledge artefacts as predominantly emphasized in most knowledge management initiatives, Enterprise 2.0 provides distinct user profiles and other social media features enabling individuals to interact virtually, working as a conduit to facilitate knowledge sharing activities which is consistent with other research (Bughin and Chui 2011; Levy 2009; Li et al. 2012; Miles 2009; Treem and Leonardi 2012).

2.4.1 Leading Providers of Enterprise 2.0

As more organisations embrace Enterprise 2.0, many technology providers started launching different variation of Enterprise 2.0 platforms, Gartner's magic quadrant illustrates how various Enterprise 2.0 technology provider can assist organisations in implementing effective social networking business solutions (Drakos et al. 2014). The magic quadrant assesses the capabilities of the various Enterprise 2.0 platforms based on two dimensions: ability to execute and completeness of vision. This tool examines whether an Enterprise 2.0 platform supports employee collaboration and social interaction, and the extension to connect with partners, suppliers and in some cases external customers.

The 'ability to execute' is evaluated based on overall product/service features such as network analysis, browser-based productivity suites, dynamic activity streams, document repository integration, social tagging, social bookmarking, social search, general analytics, expertise location, group formation based on common interests, content/people ratings, people/content recommendations, mobility, and other usability issues. The evaluation also takes into account the vendor's business viability, pricing, marketing, operations, and after sales support.

'Completeness of vision' predominantly evaluates the vendor's strategic understanding of business value of social interaction support and the complementary capabilities such as content, portal and communications services. Essentially, completeness of vision is assessed based on the overall vision of the market that focuses on supporting people-centric activities, rather than a formal, process-centric view of collaboration. Yammer, Chatter, Jive, and IBM fall in the Leaders quadrant, in which it signifies these vendors offer leadership through early recognition of users' needs, continuous innovation, overall market presence, and success in delivering user-friendly and solution-focused suites with broad capabilities. Table 2.7 below summarises the overview of the leading providers of Enterprise 2.0.

Enterprise 2.0	Description	Statistics
	Microsoft Yammer transforms internal corporate communications by bringing together employees inside a private and secure enterprise social network. It enables users to communicate, collaborate, and share easily and efficiently.	Launched in 2008. In 2011, the total users went from 1.6 million in to 4 million (2.5X growth), and employees went from 80 to 250. 200,000 companies are using Yammer, including 85% of the Fortune 500 (Schonfeld 2012).
	Salesforce Chatter is a social and collaborative function that allows users to form community within their business. One of the significant strengths is on its team collaboration whereby users are able to track work progress. It is an enterprise-grade solution targeted for larger organisation.	Founded in 1999, Salesforce.com's Chatter has over 104,000 customers ("Salesforce.Com Growing Fast, Spending Faster" 2011). Forbes named Salesforce.com the most innovative company in the world, having its diverse range of social and mobile cloud solutions.
	Jive is a social business platform that connects employees, customers, and partners, and facilitates communication and collaboration across business functions.	Founded in 2001, the company's base of more than 2,000 customers is extremely diversified, ranging from small businesses to industry leaders, including more than 15% of the Fortune 500. (TechRepublic, 2009; Drakos et al., 2011)
	IBM Connections is an integrated and secure platform that helps people engages with networks of experts in the context of critical business processes in order to act with confidence, and to anticipate and respond to emerging opportunities.	IDC ranked IBM number one in worldwide market share for enterprise social software. 35% of Fortune 100 companies have adopted IBM's social software offerings including eight of the top 10 retailers and banks (Fauscette and Thompson, 2012; Thompson et al., 2012).

Table 2.7 Overview of Leading Providers of Enterprise 2.0 Platforms

In essence, the construct of the Enterprise 2.0 platform is similar to other social networking technology. It consists of wide range of integrated social media features for realising business objectives such as comments, crowdsourcing, collaboration, blogs, instant messaging, media and file sharing, content management, community of interest group, and tagging, as discussed in detail in the following section.

2.5 A Knowledge Management Perspective on the Use of Enterprise 2.0

Based on the envisaged use of Enterprise 2.0 as described in the case studies in the earlier Section 2.3, Hinchcliffe (2012) further reinforced that while there are many drivers of Enterprise 2.0, Knowledge Management (KM) appears to be one of the significant drivers for the emergence and implementation of Enterprise 2.0. Knowledge in organisations manifest

itself in one of two forms: tacit and explicit (Nonaka 1994). An organisation creates new knowledge by converting and combining the expertise and skills of its employees to learn and innovate. The emphasis on internalisation and externalisation of knowledge derived from creating, sharing, and capturing knowledge activities has proven significant results in sustaining an organisation's competitiveness (Ikujiro Nonaka et al. 2006; Nonaka 1994; Wong 2010).

Traditionally, Knowledge Management Systems (KMS) aim to capture tacit and explicit knowledge and are generally based on socialisation, externalisation, combination and internalisation (SECI) activities Nonaka (1994) knowledge creation model. However, two researchers Davenport (1996) and Gardner (2013) argue that the promises of these KMS have largely not been realised. Organisations are limited by the required knowledge within its formal boundaries (Wasko and Faraj 2005). This natural flow of knowledge is severely disrupted in distributed organisations, spanning across various service lines, departments, geographical regions and time zones (Brown and Duguid 2000). From a KM point of view, Enterprise 2.0 provides wide set of integrated social media features that enables knowledge sharing activities - personalisation and codification of information (Hansen et al. 1999). In this context, personalization refers to the transfer of tacit knowledge through a multifaceted and interpersonal approach (Goh 2002) while codification explains the storing and categorising of explicit knowledge. This is further reinforced by Riemer and Scifleet's (2012) research which explains that social media features integrated within Enterprise 2.0 are crucial for KM as it enables individuals to communicate, collaborate and innovate in ways that were not possible previously.

To further illustrate, numerous KM strategies predominantly focus on the static approach of collecting, organizing, classifying, and sharing of knowledge. The transformation of the business environment towards emphasising social presence and harnessing the benefits of collective actions necessitate a change in the way we look at knowledge management strategy (Dixon 2012). KM strategy needs to be leveraging Enterprise 2.0 that is less top-down, corporate, monolithic, centric, database oriented (e.g. focusing on lessons learnt, and best practices), command-and-control driven, to a more open, participative, social, emergent, strategy that is built around tools that help individuals connect with each other virtually in a simultaneous 'place'. Figure 2.3 describes the evolving landscape of KM and the purported use of Enterprise 2.0 for KM.



Figure 2.3 Evolution of KM and Technology (Adapted from Dixon (2012) and Okimoto (2007))

The initial KM phase was driven by the new way of thinking about knowledge that began in the mid-90s. Drucker (1988) coined the term ‘knowledge workers’ to refer to individuals within the organisation that contributes knowledge to their work. Knowledge created is perceived as an organisational asset and should be well-managed to achieve competitive advantage. KM strategy was aligned towards developing knowledge repositories to harness and capture the knowledge. The assumption was that with best practices in place, individuals will use the knowledge in the repository to facilitate their daily work activities. The emphasis on technology was minimal at this earlier stage.

The second KM phase addresses the limitations of the earlier stage. There are gaps whereby capturing explicit knowledge is not sufficient as a great deal of knowledge residing in an employee’s mind, for instance experience, insights, know-how, was not successfully captured. Moreover, the initial phase created resistance in sharing and using knowledge among employees. The second wave of KM came to a realisation that technology alone was not sufficient to manage knowledge. This led to the formation of Communities of Practice, to facilitate the sharing of tacit knowledge among individuals. Communities of Practice (CoPs) are groups of individuals who share a common concern, set of problems, or similar passions about a topic, and who deepen their knowledge and expertise in these areas by interacting on an on-going basis (Wenger et al. 2002). A CoP is a way to break down functional walls to facilitate better networking and sharing of knowledge among employees who have similar background and interest. During this phase, there was a strong focus of information technology to facilitate KM through the use of intranets, extranets, groupware, web conferencing and other KMS.

Finally, the inevitable transformation to a social organisation is described in the third KM phase which concentrates on the leveraging of collective knowledge. The most untapped resources in most organisations is embedded in its collective knowledge. In this phase, what an organisation is particularly interested is not the harnessing of existing knowledge, but the creation of new knowledge from the collective learning processes. This is exemplified by the three enablers - *convening*, *cognitive diversity* and *transparency* (Dixon 2012). Convening explains the skills and practice that bring together individuals to understand a complex issue, creating new knowledge, and spurring innovation. It can also be viewed from a problem-solving perspective as the ability to assimilate knowledge to refine its understanding of the environment, increases its absorptive capacity and improves its ability to react appropriately to future stimuli by attempting to solve a problem (Gray 2001). When dealing with rich knowledge as a result of the propagated use of social networking technologies, cognitive diversity necessitates the collective effort in scanning, noticing and constructing meaning from individuals with diverse background of experience. Lastly, the transparency describes the willingness of management to support the decentralized, self-organizing structure of knowledge exchange within the highly networked relationships. To link it all together, Murphy and Salomone (2010) define an Enterprise 2.0 typology which describes the use of Enterprise 2.0 in relation to KM (knowledge creation) as summarised below in Table 2.8:

Type of Enterprise 2.0 Use	Enterprise 2.0 Capabilities	Social Media Features	Type of Knowledge Creation (from Nonaka, 1994)
Communicative	Sharing ideas, information, and creations	- Social Networking - Blogs	- Socialisation - Externalisation - Combination - Internalisation
Collaborative	Working with others for specific defined purpose in a shared work area	- Wiki - Communities of Practice - Authoring	- Socialisation - Externalisation - Combination
Documentative	Collecting and/or presenting evidence of experience and thinking over time	Blogs	- Combination - Externalisation
Generative	Creating something new that others can see/use	Mashups	- Socialisation - Combination - Internalisation
Interactive	Exchanging information, ideas, resources, and/or materials	- Social Bookmarking - RSS - Communities of Practice	- Socialisation - Internalisation

Table 2.8 Use of Enterprise 2.0 in relation to KM (Source: Murphy and Salomone, 2010)

The use of social media features such as blogs, wikis, social bookmarking, group authoring and broadcasted searching is eminent to enable knowledge conversation (Gardner 2013; Levy 2009). The manifested use of Enterprise 2.0 allows unstructured, self-governing ways to share, capture, and create knowledge. The use of Enterprise 2.0 alters the dynamics of people, processes, and technologies that integrate social and digital strategies to support knowledge management. Various examples throughout history of knowledge management depict the importance to design a way that allows new thinking to emerge. This social paradigm shift explains the opportunity to harness the potential of the social networked relationships, bringing together individuals for improved knowledge sharing. Therefore, the motivation to use Enterprise 2.0 to support KM strategy is imminent in today's highly interactive business environment (Levy 2009).

2.6 Addressing Knowledge Gaps related to Enterprise 2.0 Use: A Social Capital Theory Perspective

Section 2.1 to 2.5 provide an in-depth study of Enterprise 2.0 and illustrate how some leading organisations are using Enterprise 2.0 to achieve organisation benefits, also in, knowledge management. Despite numerous claimed benefits from the use of Enterprise 2.0, there are few organisations that have realised the full benefits from using Enterprise 2.0 (Chui et al. 2012). There is also lack of empirical evidence of how the use of Enterprise 2.0 is aptly supporting the business objectives.

On this note, it remains unclear how individual use of Enterprise 2.0 in large organisational settings and the emerging benefits that come along with it. According to Majchrzak et al. (2013), understanding of the individual use of Enterprise 2.0 should not be limited to technology features themselves, but also focus on affordances which explain the action potential in the relationship between individuals and the technology. As such, the research posits that a study on the use of Enterprise 2.0 necessitates a theory-driven approach to understand the individual use of Enterprise 2.0 and the impact it gathers from the social networks and interactions between individuals connected via the platform.

Cogently, social capital theory explains that resources embedded in a social structure, i.e. the different types and sources of social networks, and the mutually beneficial collective actions

lead to organisational benefits (Adler and Kwon 2002; Bourdieu 1986; Coleman 1988; Lin 1999; Nahapiet and Ghoshal 1998; Portes 1998; Putnam 1993; Uphoff 2000, 2000). Bourdieu (1986), Coleman (1988) and Putnam (1993) also describe social capital as the aggregate of the actual or potential resources which are linked to a network of relationships. Therefore, social capital constitutes a particular type of resource available to individuals or groups in social networks. Some resources are owned by an individual, for instance, skills and tacit knowledge; other resources are not directly possessed and can be accessed within connections in social network.

The use of Enterprise 2.0 may create and further develop an individual's social capital by leveraging the social networks and interactions between individuals enabled via the platform. This postulates that the fundamental of Enterprise 2.0 is tightly coupled with the social capital theory, thus, the main research question is formulated as follows:

MRQ: How does the individual use of Enterprise 2.0 in large organisational settings impact social capital?

The research aims to unfold the individual use of Enterprise 2.0 within large organisational settings using social capital theory as a theoretical lens to draw inferences on the relevance and significance of individual's use of Enterprise 2.0 as explained in the subsequent sections.

2.6.1 The Concept of Social Capital

Bourdieu (1986) defines social capital as the aggregate of actual or potential resources which are linked to a network of relationships. Similarly, Coleman (1988) defines social capital as a variety of entities that shares some aspect of social structure and they facilitate certain actions of actors within the structure. According to Coleman, social capital is a structure of relations between actors that facilitates productivity, whereby; there exists obligations, expectations, information channels and norms. Putnam's (1993) characterises social network relationships within the organisation in varying contexts, such as trust, norms, and networks, that can improve the efficiency of the organisation by facilitating coordinated action. Putnam distinguishes two different kinds of social capital – bridging and bonding.

Bridging refers to relationships between different groups that consist of diverse individuals. This is also described as strong or weak social ties (Burt 2000; Granovetter 1973; Kane et al. 2012). Strong ties are between individuals who share the same associations or groups. They tend to form dense clusters of strong ties and are more likely to interact and share more information within the network. The stronger the network ties, the more similar they are. Burt (2000) explains that network closure (dense network) creates advantage by lowering the risk of cooperation and enabling greater trust. It increases access to information, through association with the network groups. Weak ties, however, are relationships among individuals outside of their social networks. Granovetter's (1973) classic work on the strength of weak ties explains that weak ties present opportunities for bridging new networks and increase the efficiency of information diffusion and are more likely to be the source of novelty. The weaker connections in the network are described as structural holes which increase the value of cooperation. Information brokering activities occur across structural holes. Similar to Granovetter's (1973) research, structural holes separate the non-redundant information and are sources of novelty and diversity in information.

Bonding, on the other hand, is correlated to the strong ties one has access to, for instance, individuals within the same social groups. Bonding strengthens the relationships between individuals connected in the network and may have the tendency to reinforce exclusive identities and homogenous groups. Bonding is important to cultivate trust, cooperation and collective strength among individuals with a shared history, experience and common purpose. While bonding may have positive effects for the members belonging to this closed social group or network, Fukuyama (1995) warns of the potential negative for the organisation as a whole. The shared norms and cooperative spirit as a result of bonding provides safety nets for individuals to protect themselves from external invasion and may lead to exclusionary practices or convergence of thoughts among individuals in the same network. Bonding is geared towards *maintenance* whereas bridging is oriented towards moving ahead, development and growth. Bridging and bonding are both crucial to the development of social capital (Putnam, 2000) and will form the basis of understanding social capital theory.

In a nutshell, the theories of Bourdieu, Putnam and Coleman emphasise the same aspect that social networks of different types and sources lead to organisational benefits. Social capital theory thus explains that resources embedded in a social structure, the different types and sources of social networks, and the mutually beneficial collective actions lead to organisational

benefits (Adler and Kwon 2002; Bourdieu 1986; Coleman 1988; Lin 1999; Nahapiet and Ghoshal 1998; Portes 1998; Putnam 1993; Uphoff 2000).

2.6.2 Theoretical Substantiation

Whilst social capital theory is the core guiding principle for this study, the research also acknowledges that there are other theories relevant to the study which inform the constructs for the conceptual model (see Table 2.9 that lists eight relevant theories). To ensure a holistic understanding of Enterprise 2.0, the following section discusses four key theories in the realm of information systems, social science, and behavioural which are relevant for studying the use of Enterprise 2.0. However, not many of these theories are referred to specifically in the research on Enterprise 2.0.

Social Network Theory

Social network theory (Borgatti and Cross 2003; Granovetter 1973) describes how individuals, organisations, or groups, connect and interact with one another within the set of relationships established in the social network. Social network theory views social relationships in terms of nodes and ties. Nodes refer to the individual actors within the networks, and ties are the relationships between the actors. The understanding of social network theory also postulates the need to examine the configuration of nodes and the strength of the network ties established by using Enterprise 2.0. To guide the research, some key considerations include:

What conditions make it more or less likely that the network configuration path will exist between them, the attributes of the social connection, and if there will be a balance reciprocal relationship?

Social Information Processing Theory

Social information processing theory (Salancik and Pfeffer 1978) also provides a useful lens to examine the interpersonal influence processes as an important source of information and cues for behaviour and action for individuals (Subramani and Rajagopalan 2003; Wellman et al. 1996). The theory explains how individuals get to know one another online and how they develop and manage relationships in the online environment. The theory suggests that individual's use of Enterprise 2.0 requires on-going interaction and maintenance of relationships to be able to influence the cognitive dimension. The theory posits the research to examine impersonal, interpersonal, and hyperpersonal communication cues. Impersonal

explains communication similar to email notification of business quarterly reports. Interpersonal communication is more socially oriented (Turner et al. 2006), extending online communication online with both individuals with whom the person has a face-to-face relationship as well as those with whom they did not. Lastly, the hyperpersonal model proposes to explore concurrent routines from sender, receiver, channels, and feedback to understand individuals' relationship. These factors are important considerations to determine the impact on cognitive dimension.

Social Cognitive Theory

In addition, to explore social cognitive determinants and the association with Enterprise 2.0 usage, Bandura's social cognitive theory (2002) is useful to help explain individuals' thoughts, feelings, and behaviour in identifying reciprocal causation among personal factors (e.g., cognitive, affective), behavioural patterns, and environmental events (Bandura 2002). Through the processes of interaction and influence among the three determinants, individuals tend to retain, change or solidify their thoughts, affections, and actions, which constitute the intrinsic nature of human beings, also referred to as 'plasticity' (Bandura 2002). Some of the key considerations to guide the research includes identifying individual's capacity to symbolize through cognitive processes related to his/her experiences, responsiveness to sanctions and demands, individual's retrospective assessment of him/herself, and indirect learning.

Structuration Theory

Last but not least, Structuration Theory (Jones and Karsten 2008; Giddens 1984) is a social theory that has a several unique nomenclatures (structure, modality, and interaction) to explain the relationships between individuals. Giddens (1984) refers to structure as procedural rules, moral rules, and resources. Within the social structure, it contains agents (individual's action) which is the fundamental element to create change. The modality of the structure explains the means by which structures are translated into actions. Interaction is the agent's activity within the social structure. To put this into perspective, Giddens's structuration theory provides a notion for understanding how an individual's routine behaviour using Enterprise 2.0 influence the structure of the social networks they are part of.

In summary, the theories listed in Table 2.9 are essential in shaping the underlying knowledge of how a social network is formed and the explanation of the influence that stems from the relationship between individuals. The subsequent section provides a deeper assessment of

social capital theory and how the use of Enterprise 2.0 impacts the quality and depth of each social network relationship, and how positive exertion of Enterprise 2.0 on the configuration of social network ties as well as the explanation how the behaviour and actions of individuals connected within the social network are influenced. A conceptual model is presented at the end summarise the key arguments and accompanying sub research questions of this thesis.

	Structural Consideration	Cognitive Consideration	Relational Consideration
Social Network Theory	Structural Hole: Network structure explains variation in learning and innovation.	None	Network Closure: Social structures evoke common attitudes and behaviour.
Social Information Processing Theory	None	Individuals are able to accrue impressions of and relations with others online that achieve the level of development that is expected through offline communication.	Interpersonal relationships between those individuals that are involved in Computer-mediated Communication.
Social Cognitive Theory	None	The dynamic relations of how individuals acquire and maintain certain behavioural patterns through perception and interpretation of the environment.	None
Structuration Theory	Social process that requires reciprocal interaction of human actors and structural features of organisation.	Reflexivity – individuals routinely observed and understand. Knowledgeable – knowledge one's possesses.	None
Transactive Memory Theory	None	Individual can serve as external memory aids to each other (Wegner 1987). Members are able to benefit from each other's knowledge and expertise if they develop a good, shared understanding of who knows what.	None
Social Action Theories	None	None	Communications over spatio-temporal distances are social, reciprocal, symbolic interaction.
Structural Theories	None	Structures that objectify human interest, understandings, goals, and intentions.	None
Theories of Social Cooperation	None	None	Social networking brings individuals together and mediate feelings of virtual belonging.

Table 2.9 Theoretical Support for Social Capital Dimension through Enterprise 2.0 Use

Relevance of Social Capital Theory

As discussed in Sections 2.1 to 2.5, Enterprise 2.0 provides the mechanism to build social relationships, connect and collaborate, enable communication and ad-hoc sharing among individuals (McAfee 2009). Social capital theory which explains that social networks of different types and sources creates value for the organisation (Bourdieu 1986; Coleman 1988; Putnam 1993). It is therefore highly relevant to assess the individual use and impact of Enterprise 2.0 from a social capital perspective within large organisation settings.

There is a limited number of publications exploring the use of Enterprise 2.0 and the implications of this use on social capital. The literature summarised in Table 2.10 below juxtaposes the use of Enterprise 2.0 by ways which individuals connect with each other across organisations, providing individuals the ability to socialize and manage the network of relationships with other individuals via a unified platform, which could potentially lead to an impact on the dimensions of social capital.

No.	Authors	Context	Research Method	Platform	Level of Analysis	Social Capital Dimension		
						Structural	Cognitive	Relational
1	Steinfeld et al. (2009)	Business	Quantitative - Web Survey	Enterprise 2.0 (IBM Beehive)	Individual	Y	N/A	Y
2	Valenzuela et al. (2009)	University	Quantitative - Web Survey	Facebook	Not Specified	Y	N/A	N/A
3	Yokoyama and Sekiguchi (2014)	Business	Qualitative - Case Study Interviews	Both	Not Specified	Y	N/A	Y
4	Steinfeld et al. (2008)	University	Mixed Method - Survey Interviews Longitudinal Analysis	Facebook	Individual	Y	N/A	Y
5	Brandtzæg (2012)	Business	Quantitative - Longitudinal Analysis	General	Individual	Y	N/A	N/A
6	DiMicco et al. (2008)	University	Quantitative - Web Survey	Facebook	Not Specified	Y	N/A	Y
7	Ellison et al. (2007)	University	Quantitative - Web Survey	Facebook	Individual	Y	N/A	Y
8	Fulk and Yuan (2013)	Business	Conceptual Paper	Enterprise 2.0	Both	Y	N/A	Y

9	Burke et al. (2011)	General	Quantitative - Longitudinal Analysis	Facebook	Not Specified	Y	N/A	Y
10	Ferron et al. (2010)	Business	Quantitative - Web Survey	Enterprise 2.0	Not Specified	Y	N/A	Y
11	Makkonen and Virtanen (2015)	Business	Qualitative - Case Study Interviews	Enterprise 2.0	Both	Y	Y	Y

Table 2.10 Studies related to the Use of Enterprise 2.0 and impact to Social Capital Dimensions

Past research predominantly explored the relationship between social networking site, for example Facebook, and social capital among undergraduate students (Boyd and Ellison 2007; Brandtzæg 2012; Valenzuela et al. 2009). These studies have shown that a social networking site is related to bonding ties such as reciprocity and trust and bridging ties such as spanning structural holes and network size. The empirical evidence from Steinfield et al. (2009) also demonstrates that the use of IBM's Enterprise 2.0 enables individuals to locate useful information, draw on resources and make contributions to the network. The usage of Enterprise 2.0 is measured in terms of intensity of site usage, scale reflecting the tendency to use the site to connect with new individual, and scale reflecting the tendency to use the site to connect with existing and former contacts. Similarly, Steinfield et al.'s (2009) research indicates the significance of establishing network ties and configuration (bridging) and the strengthening of individual's relationship (bonding) within the organisation.

Evidently, there have been some studies around the impact of Enterprise 2.0 on structural and relational social capital dimensions largely focusing on its impact on bridging and bonding social capital. Makkonen and Virtanen's (2015) research was the only article that examined Enterprise 2.0 based on structural, cognitive, and relational dimensions. Whilst the research provides good indicators that Enterprise 2.0 is associated with social capital theory, it is still unclear how specific usage leads to development in each dimension. In addition, the analysis on the impact on the different social capital dimensions is at a broad level, inadequate to provide insights into specific aspects in each dimension. In general, there is lack of research, within the context of Enterprise 2.0, that provides a complete view of social capital impact examining all structural, cognitive, and relational dimensions and unfolding the next level of details within each dimension.

Therefore, this poses an opportunity to further explore the use of Enterprise 2.0 and its impact on the various dimensions of social capital, delineating how resources can be combined together through the use of Enterprise 2.0 to produce different outcomes and behaviours and to facilitate realisation of collective benefits.

2.7 Conceptual Model

For an all-encompassing view of social capital, this research adopts Nahapiet and Ghoshal's (1998) definition of social capital as the theoretical explanation for the interrelationship between the use of Enterprise 2.0 and social capital. The definition of social capital is similar to that of Bourdieu (1986), Coleman (1988), and Putnam (1993) whereby these authors view social capital as the sum of actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit. The authors have further categorized the understanding of social capital into the following three different dimensions: 1. structural, 2. cognitive, and 2. relational dimensions.

Recall that the main research question is:

MRQ: How does the individual use of Enterprise 2.0 in large organisational settings impact social capital?

To further unpack this main research question, each of the social capital dimensions and accompanying sub-components are described below:

The Structural Dimension of Social Capital

The structural dimension refers to the overall network configuration and network ties which explains the channel for information transmission and the underlying mechanism that leads to the emergence of social network ties (Nahapiet and Ghoshal 1998). The structural dimension includes both direct and indirect social network ties (Granovetter 1973). The analysis of network ties strength will provide an important perspective of timely access to knowledge, and the quantity (Chiu et al. 2006) of knowledge shared through the use of Enterprise 2.0. The configuration of the network ties will provide insights into the redundancy or novelty of knowledge resources shared across the network. The structural dimension also presents the existing or lack of opportunities or lack thereof to connect and share knowledge with each

other. As such, the three sub-components for the structural dimension identified from the literature analysis include:

- *Breaking Down Communication Barriers*: Social network ties provide the channel for information transmission (Tsai and Ghosal 1998) while the network configuration explains the underlying mechanisms that lead to the emergence of social network ties. According to Böhringer and Richter (2009), Enterprise 2.0 features enable communication between individuals. Thus, individual use of Enterprise 2.0 establishes social networks that bridge hierarchical, geographical, and functional barriers forming linkages (strong and weak social network ties) and provide access to broader social networks.
- *Establishing Serendipitous Connection*: The study of network configuration concerns the density, connectivity, and structural holes of social networks (Aslam et al. 2013; Bolino et al. 2002; Burt 1992; Wasserman and Galaskiewicz 1994). Generally, a sparse network with fewer redundant contacts provides greater benefits. The individual use of Enterprise 2.0 connects loose social ties (structural holes), allowing individuals to reach out to a larger network of relationships from which they could potentially draw resources. Individuals get connected to other individuals through brokering activities of other individuals by recommending and acknowledging their expertise.
- *Increasing Social Presence*: Establishing and sustaining social presence is important for the structural social capital dimension as it enhances the closeness of the social network ties. Social presence theory (Short et al. 1976) is the degree to which mediated communications conveys the presence of communicating participants. Social presence refers to the ability of individuals to project themselves socially and emotionally as a 'real person' through the medium of communications used (Akyol and Garrison 2011). Individual use of Enterprise 2.0 therefore increases an individual's visibility amidst the vast social network, enabling individuals to establish network ties through frequency of interaction with others and association of one's profile, interest, or knowledge expertise.

The Cognitive Dimension of Social Capital

Nahapiet and Ghoshal (1998) state that cognitive social capital as resources shared within social networks could lead to similar thoughts, judgements, and interpretations. Huysman and Wulf (2005) describe the cognitive dimension of social capital as an individual's ability to cognitively connect with each other in order to make sense of the knowledge context and communicate meaning to others (Huysman and Wulf 2005). According to these authors, the higher the cognitive ability of individuals connected within a group, the more likely they are to share knowledge. In addition, Vandaie (2007) also states that the cognitive dimension relates to the perceptions made by individuals about others as well as the perceptions they take from others. The cognitive social capital dimension is closely related to the notion of a mental model. As seminal work by different authors (Craik 1943; Dijk 2008) describe, a mental model constitutes an individual's representation of the real world based on his/her collection of thoughts, experiences, beliefs, concepts, and ideas. Individuals rely on mental models to help them make sense of the environment, process information quickly, and make decisions (Senge 2000, 1997) which is pivotal for cognitive social capital.

As such, the three sub-components identified from the literature for the cognitive dimension of social capital include the development of:

- *A Shared Understanding*: Bittner and Leimeister (2014) refers to shared understanding as individuals' ability to integrate knowledge stemming from different concepts in a sensible manner. According to Deshpande et al. (2005) shared understanding is a state achieved through iterative processes by which common ground between individuals is constructed and maintained. The individual use of Enterprise 2.0 aligns understanding of the business, and what other teams are working on to support the business, and where information resides by means of interacting and engaging with others to reach mutual agreement to achieve shared understanding.
- *Awareness*: Awareness is described as the understanding of the activities of others which provides a context for individual observing the social interactions of others (Dourish and Bly 1992). Awareness exists when individual develops a topic of thought by observing the interaction (Wegner and Giuliano 1982). Leonardi et al. (2015) suggest that Enterprise 2.0 can improve the accuracy of people's metaknowledge, i.e.

knowledge of “who knows what” and “who knows whom”. The individual use of Enterprise 2.0 enables individual to observe interaction in the social network and be conscious of events and updates in the organisation or community.

- *Shared Interpretation*: Shared interpretation, from symbolic convergence theory perspective, describes how individuals in a collective environment construct the reality by sharing stories that co-create meaning (Bormann et al. 2001). The individual use of Enterprise 2.0 enables interaction in a form of knowledge flow enabling shared meanings between individuals. Individuals can observe activities (in context) on Enterprise 2.0 and relate the information to past experiences, stories, observations to provide meaning to the context.

The Relational Dimension of Social Capital

Enterprise 2.0 provides the pathways for connecting individuals from diverse background and expertise across different geographic locations which lead to configuration and strengthening of network ties. The scholarly articles by Coleman (1988) and Gilsing et al. (2008) explain that a dense network of direct and indirect ties facilitate the building of trust and other social traits. Therefore, the relational dimension refers to aspects of social dynamics associated with the linking and bonding of individuals and/or groups formed through interactions with one another. The relational dimension connotes socially approved otherwise sanctioned characteristics of relationships such as trust, norms, obligations/reciprocity, and identifications (Chow and Chan 2008; Nahapiet and Ghoshal 1998). As Vandaie (2007) describe, the relational dimension is a transition from the holistic view provided by the structural dimension towards a detailed view of the role of individuals. The relational dimension is associated with the qualities, good or bad, of on-going relationships. Thus, the four sub-components for the relational dimension of social capital include:

- *Fostering Norms of Social Behaviour*: Social norms describe the rules of behaviour that individuals display within a group (Bicchieri 2005; Fishbein and Ajzen 2005; Rimal and Real 2005; Stamper et al. 2000). Social cognitive theory explains that individuals’ thoughts, feelings, and behaviour is motivated by the expected consequence of their behaviour (Bandura, 2002a, 2002b). Thus, social norms provide a guide for individuals to understand ‘desirable’ or normative behaviour. The individual use of Enterprise 2.0

impacts social gestures in a cohesive network. Individuals' behaviour is instigated by the perception of the interaction within the network whether the behaviour is accepted, encouraged, and implemented by the individual's circle of influence.

- *Developing Feeling of Interpersonal Obligations:* Interpersonal obligation refers to individual's helping behaviour based on intrinsic motivation consistent with one's value system (Whatley et al. 1999). Scholarly articles by various authors (Adler and Kwon 2002; Coleman 1988; Fukuyama 1995; Nahapiet and Ghoshal 1998; Uphoff 2000) explain obligation as the motivation that results from feelings and conscience. The various aforementioned literature suggest that interpersonal obligation is derived from the pleasure of sharing and providing support, benevolence, and altruism. The individual use of Enterprise 2.0 therefore impacts the relational dimension of social capital whereby there exist authentic dialogues motivated by good deeds between individuals to share information based on relationships established with one another.
- *Building Trust:* According to Tang and Liu (2015), trust in the context of social media, provides evidence about who we can trust to share information with and from who we can accept the receiving information. Scholarly articles (Powell and Owen 2006; Rousseau et al. 1998; Sheppard and Sherman 1998; Tang and Liu 2015) suggest that trust involves interdependence between individuals and presents some form of expectations and accompanying risks. Thus, individual use of Enterprise 2.0 has the potential to influence trust by enabling individuals to engage and interact with one another, and building credibility based on the information shared or received.
- *Developing A Sense of Belonging:* A sense of belonging describes an individual's feeling related to being an integral part of a group, being valued, needed, and accepted (McMillan and Chavis 1986). The authors (1986) also explain that sense of belonging is a feeling that individuals have of belonging to one another in a group and the trust that each other's needs will be met through their commitment to be together. The individual use of Enterprise 2.0 has the potential to cultivate the feeling of belonging enabling individuals to engage and interact with one another, whilst creating the sense of identification whereby individuals feel better about who they are in an organisation and creating a sense of involvement with the groups or organisation. The activities

occurring in the common interest groups provide excitement and attractions to individuals feeling a desire to be part of the group whether to observe or to participate in the group activities.

KM indicates that knowledge sharing, and social capital are deeply anchored in each other. Therefore social capital theory is often cited as a suitable theoretical framework to better explain knowledge sharing mechanisms in organisations (Hansen et al. 1999; Nahapiet and Ghoshal 1998). Cogently, the three respective social capital dimensions have been found useful to explore the use of Enterprise 2.0 and its influence on knowledge sharing in this study.

Linkage between Social Capital Dimensions

The research also posits that the structural social capital dimension impacts the relational dimension whereby the strength of the formal and informal relationships between individuals within a social network impacts social inclusion which translates to the relational dimension. Coleman (1990) argues that the number, intensity and structure of “horizontal” interactions among individuals in a community facilitate the emergence of desirable norms and trust. Common group membership may reflect and nurture common interests/expertise, therefore increasing trust. In addition, the use of Enterprise 2.0 and its impact on the structural and relational dimensions explain the formation of attitudes, perceptions, and beliefs about the organisational environment. The impact on the cognitive dimension depends on factors which include the degree to which the individuals know each other, the topic forming part of the interaction, the individuals’ familiarity with the topic of interaction or the extent to which they can anticipate the communication partner’s current context of interaction. This is based on the shared understanding, awareness and sharing of similar experience and topics of interest. The impact on the cognitive dimension also stems from activities such as crowdsourcing for managing exceptions (problem solving), seeking opportunities or brainstorming of ideas. Finally, coherent with Vandaie (2007), the cognitive dimension is shaped by the joint influence of the structural and relational dimensions on each other. The combination of the structural and cognitive dimension will provide the opportunity to share knowledge (Cabrera and Cabrera 2005). The opportunity to share knowledge is increased when individuals are interconnected and are able to interact easily with one another which leads to an increase mutual understanding.

2.7.1 Level of Analysis: Individual versus Collective Social Capital

Social capital has aspects on both the individual and collective level, and its quantification therefore involves phenomena on both levels of analysis. According to the Yang et al. (2009) and Portes (1998), individual social capital refers to the resources generated by an individual's social network for his/her mutual benefit as a member of the network, which is coherent to Bourdieu's (1986) and Coleman's (1988) definition of social capital. As Van der Gaag and Snijders (2003) explain, individual social capital is 'the collection of resources owned by the members of an individual's personal social network, which may become available to the individual as a result of the history of these relationships.' Therefore, individual social capital is equivalent to get 'access to social resources' (Lin et al. 2001) to be used (mobilised) by an individual when needed. Lin et al. (2001) emphasized the importance of understanding 'access' and 'use' to evaluate individual social capital.

To illustrate individual social capital, an individual invests in personal relationships by attending networking events or interest groups to meet new people and form new relationships. As a result, this may lead to building goodwill, personal reputation, and branding. The focus of individual social capital is on bonding, bridging, and linking between individuals and tends to be conceptualised as the property of an individual.

On the collective level, Putnam (1993) and Woolcock and Narayan (2000), consider social capital as both an individual's social networks and their moral attitudes, or social norms, which contribute to the common good of a community or even a nation. The authors describe social capital on the macro-level where social capital is seen as a collectively produced and owned entity, from which the whole community may benefit. Similar to the individual level, the need for social resources and to being able to mobilise these resources is important. The concept of social capital has therefore expanded from the individual to the collective level as Putnam (1993, 2000), argues that the character of social capital as a community level resource is that social networks have value. Social capital is about the connections among individuals where there arises norms of reciprocity and trustworthiness, as opposed to an individual's personal morals, ethical codes towards asking others for help, and other personal considerations. On a collective level, the extent to which social capital gets mobilised is dependent on what Coleman (1990) calls 'the level of trustworthiness [in a society], which means that obligations will be repaid', which varies across organisational settings. Nonetheless, the result of subsequent

studies (Adler and Kwon, 2002; Fukuyama, 2000; Nahapiet and Ghoshal, 1998; Woolcock and Narayan, 2000) support Putnam's assertion.

As an example, a social group creates shared experiences and a sense of belonging for a common cause. Groups form norms and beliefs that influence individual behaviour. Collective social capital therefore includes assets and resources made available through relationships within the social structure of the group and/or organisation that can be utilised collectively. It is also often conceptualised as public good; however, it consists of both individual and collective assets.

There are divergent views in the literature that posits social capital at the individual, collective, and dynamic level. However, according to Claridge (2018), the actual reality is not clearly divided into the different levels of analysis and these categorisations is not adequate to make sense of a complex social environment. The collective level of analysis (i.e. culture, norms, and values) allows observation of large-scale patterns and trends but may risk seeing these trends as abstract entities that exist outside of the individuals who enact them on the ground. The individual level of analysis allows on-the-ground analysis (i.e. perception, beliefs) but may fail to consider the larger forces that influence individual behaviour.

Social relations require two or more individuals to exist. Whilst individual social capital is perceived as private good, it heavily relies on the social relationships which translates to shared ownership, also referred to as public good. To further illustrate, by investing in individual social capital, one would also benefit others in social groupings. Although previous studies of social capital focus on either the individual or the collective level, social capital is still nonetheless concerned with both individuals and collectives (Coleman 1988; Nahapiet and Ghoshal 1998; Yang et al. 2009). Markus and Robey point out that the mixing of the levels of analysis may also be useful in studying IT and organisational change, since some technologies are neither strictly collective nor individual in character (Markus and Robey 1998).

For the purpose of this research, limiting this study to the individual level of analysis would over simplify the complex social environment which leads to an incomplete understanding of the use and impact of Enterprise 2.0. Thus, this research focuses on a dynamic view where social capital includes both the individual and the collective unit as defined in Nahapiet and Ghoshal (1998) research in Section 2.6 Addressing Knowledge Gaps related to Enterprise 2.0 Use:

A Social Capital Theory Perspective as, *"the sum of actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit. Social capital thus comprises both the network and the assets that may be mobilized through that network"*.

Finally, the conceptual model in Figure 2.4 illustrates the research question with reference to various scholarly articles and guided by Nahapiet and Ghoshal's (1998) core definition of social capital theory, whereby the authors categorised social capital into 3 dimensions:

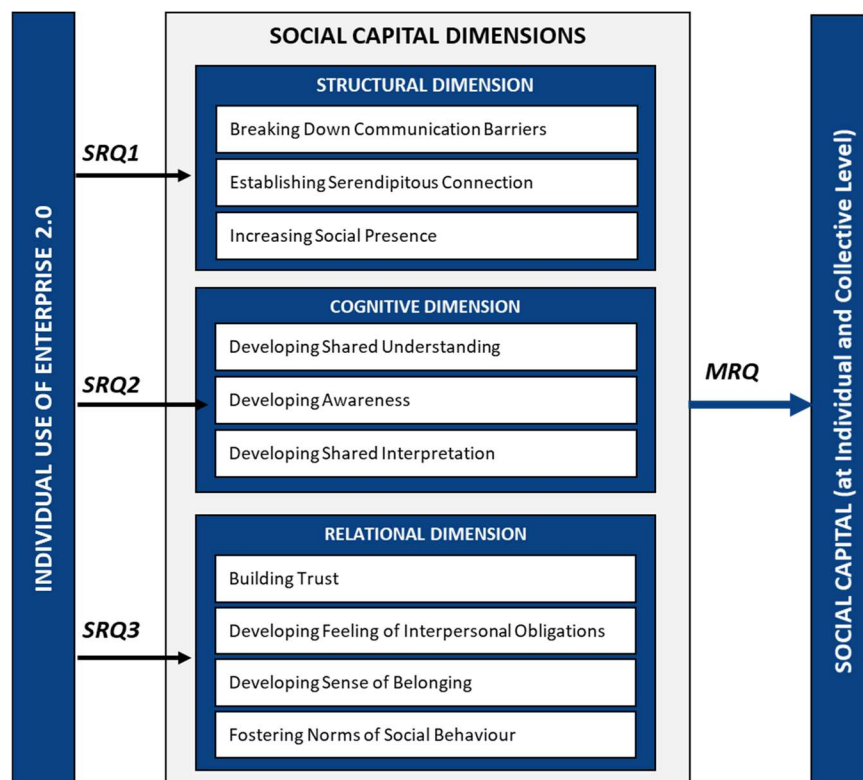


Figure 2.4 Conceptual Model

Structural Dimension: Drawing from literature discussed in Section 2.7 Conceptual Model, the structural dimension refers to the overall network configuration and network ties which explain the channels for information transmission and the underlying mechanisms that lead to the emergence of social network ties (Nahapiet and Ghosal, 1998). Scholarly articles suggest that network ties provide the channels for information transmission (Granovetter 1973; Tsai and Ghosal 1998) while the network configuration explains the underlying mechanism that leads to the emergence of social network ties.

Enterprise 2.0 provides the pathways for connecting individuals from diverse backgrounds and expertise across different geographical locations which lead to one or more networking configuration(s) and strengthening of network ties. The network(s) in the organisation is/are formed through vertical and lateral associations of individuals and groups which includes a wide array of strategic alliances, functional groups, business partners, and more. Consequently, the following sub-research question has been formulated:

SRQ 1: How does the individual usage of Enterprise 2.0 impact the social network configuration and ties that need to be in place for the structural social capital dimension?

Cognitive Dimension: Nahapiet and Ghoshal (1998) describe the cognitive dimension as resources shared within the social networks that could lead to similar thoughts, judgements, and interpretations. Huysman and Wulf (2005) describes the cognitive dimension as an individual's ability to cognitively connect with each other in order to make sense of the knowledge context and communicate the meaning to others. According to the authors, the higher the cognitive ability of individuals connected within a group, the more they are able to share knowledge.

Based on literature discussed in Section 2.7 Conceptual Model, it is envisaged that the combination of features in Enterprise 2.0 enables shared interpretation as interactions between individuals that are generally framed by a unique common context. Enterprise 2.0 streamlines cognitive ability by enabling individuals to connect to each other and utilise social tools in an activity stream, i.e. newsfeed. Besides, the co-creation of content feature in Enterprise 2.0, promotes the formation of transactive memory (Wegner, 1987) whereby individuals develop group thinking and shared understanding by generating content collectively. Therefore, to further explore the impact of Enterprise 2.0 on the cognitive dimension, the sub-research question below has been formulated:

SRQ2: How does the individual usage of Enterprise 2.0 support the shared understanding, interpretation or awareness that need to be in place for the cognitive social capital dimension?

Relational Dimension: As described in Section 2.7 Conceptual Model, the relational dimension refers to the socially-approved otherwise sanctioned characteristics of relationships such as trust, norms, obligations/reciprocity, and identifications (Chow and Chan, 2008; Nahapiet and Ghoshal, 1998). McFayden and Cannella (2004) studied the strength of the relational dimension that emphasizes interpersonal exchange relationship. The authors explained that relationships are developed through social interactions, which require time, energy, and attention to establish and maintain (McFadyen and Cannella, 2004).

Enterprise 2.0 provides the avenue for social networking and interaction which in turn fosters the strengthening of relationships within networks, leading to the development of the relational social capital dimension. However, to ascertain the impact of using Enterprise 2.0 on the various aspects of the relational dimension, the research has formulated the following sub-research question:

SRQ3: How does the individual use of Enterprise 2.0 influence new and existing relationships that are essential for the relational social capital dimension?

This research aimed to ascertain the components within each social capital dimension (see Section 2.7). In addition, at the onset of the study, the research also seeks to identify and categorise individual use of Enterprise 2.0 at a granular level to provide a simplistic and practical view of individual use enabling the drawing of inferences about its impact on the respective social capital dimensions.

2.8 Chapter Summary

This chapter systematically reviewed and highlighted the gap of the seminal work related to Enterprise 2.0 and provided industry examples on Enterprise 2.0 usage. Enterprise 2.0 is a social technical phenomenon which requires understanding of technology and social practices. As such, this chapter also highlights relevant theories and perspectives to be applied in this research. Clear definition of Enterprise 2.0 and Social Capital Theory have been provided respectively in this chapter which will be referred to throughout the study. A conceptual model is presented in Section 2.7.3 to illustrate the salient aspects for each of the social capital dimensions to be investigated. The following chapter discusses the research methodology followed for this study.

Chapter 3: Research Methodology

To answer the research question stated in Chapter 2, this chapter justifies the choice of the research design and then explains how the research was designed and executed to explore the individual use of Enterprise 2.0 and its impact on social capital within a large organisation. In Section 3.1 the research philosophy is discussed to demonstrate understanding of the research discipline and the thought process for selecting case study as the appropriate research method. The mechanism to conduct the case study is explained in-depth in this section. Section 3.2 highlights the approach followed to collect the data. Six large organisations from different industry sectors were selected for the case studies to allow observations and comparison of characteristics and patterns. As the research adopts a qualitative approach, the data collection activities include 60 semi-structured interviews, direct observations, and documents analysis. The approach to conduct each of these activities is detailed in this section. As discussed in Chapter 2.7, due to the complexity of social interactions on Enterprise 2.0, the research factors the collective aspects of social capital such as norms, trust, obligations, and identification. As such the unit of analysis is on the individual use of Enterprise 2.0 whilst examining the impact on both individual and collective social capital. Section 3.3 explains the data analysis process from transcribing the data collected, analysing and coding the content into themes. The last section, Section 3.4, described the principles followed to ensure validity and reliability of the case study findings. Background for each case organisations is presented in Chapter 4.

3.1 Research Philosophy

Information System (IS) research methods can be broadly categorised into quantitative and qualitative (Lee and Hubona 2009; Myers 1997; Venkatesh et al. 2013). Both quantitative and qualitative research approaches are crucial in this field of study. Quantitative research seeks to “explain the causes of changes in social facts, primarily through objective measurement and quantitative analysis” (Firestone 1987). Example of quantitative research methods include survey methods, laboratory experiments, and statistical modelling (Myers 1997). On the other hand, the qualitative research explores the meaning and seeks understanding of the phenomenon shaped by the meanings as understood and perceived by individuals (participants) (Arghode 2012). Example of qualitative research methods are such as observation, interviews, and documents and texts (Myers 1997). Both quantitative and qualitative research methods seek to explain events from different perspectives and are valid ways to evaluate the context of

study. However, by examining the epistemology of the research, which refers to the assumptions about knowledge and how it can be obtained (Hirschheim 1992), the motivation to do qualitative research is clear such that the research seeks to unfold new knowledge within individual use of Enterprise 2.0 and its impact on social capital where little is known about the subject.

Creswell (1998) defines qualitative research as an inquiry process of understanding based on distinct methodological traditions of inquiry that explore a social or human problem. Qualitative research requires that the researcher enters the research field with an open mind and seeing what is to be investigated. Nonetheless, it is pertinent that the researcher has substantial base of theoretical knowledge which inevitably generate certain questions on about the phenomena of studied (Yin 2013). Various authors (Myers 1997; Orlikowski and Baroudi 1991) have also suggested three major research paradigms, namely positivist, critical, and interpretivist which guides qualitative research. The positivists believe that reality is stable and can be observed and described from an objective viewpoint (Orlikowski and Baroudi 1991). Predictions can be made on the basis of the previously observed and explained realities and their inter-relationships. The critical research paradigm takes a neutral approach in an effort to uncover the phenomena. The approach goes beyond to actively challenge interpretation, focuses the oppositions, conflicts and contradictions in order to bring about change. Finally, interpretivism generally attempts to understand phenomena through the meanings that individuals assign to them (Orlikowski and Baroudi 1991). Interpretivism is more subjective and do not seek answers for the research in rigid ways. A case study approach in qualitative research, for example, can be positivist (Yin 2013), critical (Walsham 1993), or interpretive (Myers 1997).

For the purpose of this study, a qualitative research approach was used to investigate the impact of the phenomenon i.e. the individual use of Enterprise 2.0 and its impact on social capital within large organisation settings. A qualitative research approach allows for the gathering of rich data about a subject situated in his/her environment and the actions they engage in while using technology (Yin 2013). The research approach is aptly suitable to explore hidden reasons behind complex, interrelated, or multifaceted social processes that occur in the context of Enterprise 2.0. The interpretivist methodology leans towards the collection of qualitative data and using case studies among other research methods such as focus groups (Weber 2004).

Using a qualitative research approach enabled the researcher to explore in detail individual's experiences in developing social capital through the use of Enterprise 2.0. It helped developed a good understanding of how individual opinions, attitudes, views, beliefs or preferences come into play in order to ascertain the constructs of the conceptual model presented in Section 2.7. The understanding of qualitative research is also based on the underlying assumptions of what constitutes valid research and which research methods are appropriate. These underlying assumptions are also referred to as epistemology, or the theory of knowledge. It is the belief about the way in which data about a phenomenon should be gathered, analysed and used.

Figure 3.1 illustrates the research process from research formulation through to completion of the thesis. There are numerous iterations and review gates at each phase to ensure research quality and completeness. At the onset of the research, significant study was conducted to explore the phenomenon and the research gaps. The research topic is then formulated and discussed with supervisors. Gate 1 represents the decision point to progress with the research topic and question. Several iterations were made with reference to existing literature and research gap before finalising the research question. Research proposal was formulated upon approval of the topic of research and was presented to the faculty at Gate 2.

The next phase of the research involves rigorous thinking of the research design, ethics consideration and approval, interview questions, and data collection methods. This involves the researcher undertaking a course on Research Methods to solidly the understanding before making the decision and embarking on qualitative research method. Interview questions are drafted, discussed, and reviewed with the supervisors to ensure relevance and appropriateness of the questions at Gate 3. Case organisations are shortlisted in this phase. Once ethics approval is obtained at Gate 4, case organisations and interview participants were contacted to confirm participation in the study.

Subsequently, in the Data Collection phase, sixty interviews were conducted across the six case organisations. There were also observations in some of the interviews as interview participant demonstrates how they use Enterprise 2.0. Artefacts and documentation were collected as available to substantiate the information gathered from the interviews. The next phase involves Data Analysis which entails transcription of the interviews conducted and careful examination of data collected in the earlier phase. Thematic analysis is applied whereby codes are developed to represent the identified themes and applied to the data collected for analysis. This phase

involves several iterations of read and re-read of transcriptions to discover the patterned response and meaning from the coding and to ascertain relationships between codes within the data set. Reliability and validity controls are applied as outlined in Chapter 3 to ensure inference and data quality in the findings and analysis.

Based on the findings and analysis, the last phase involves interpretation of findings and reflection and discussion based on previous scholarly work. The checkpoint at Gates 6 and 7 involve critical review and discussion of the findings with research supervisors, fellow academicians and peers, follow by thesis write up and revisions.

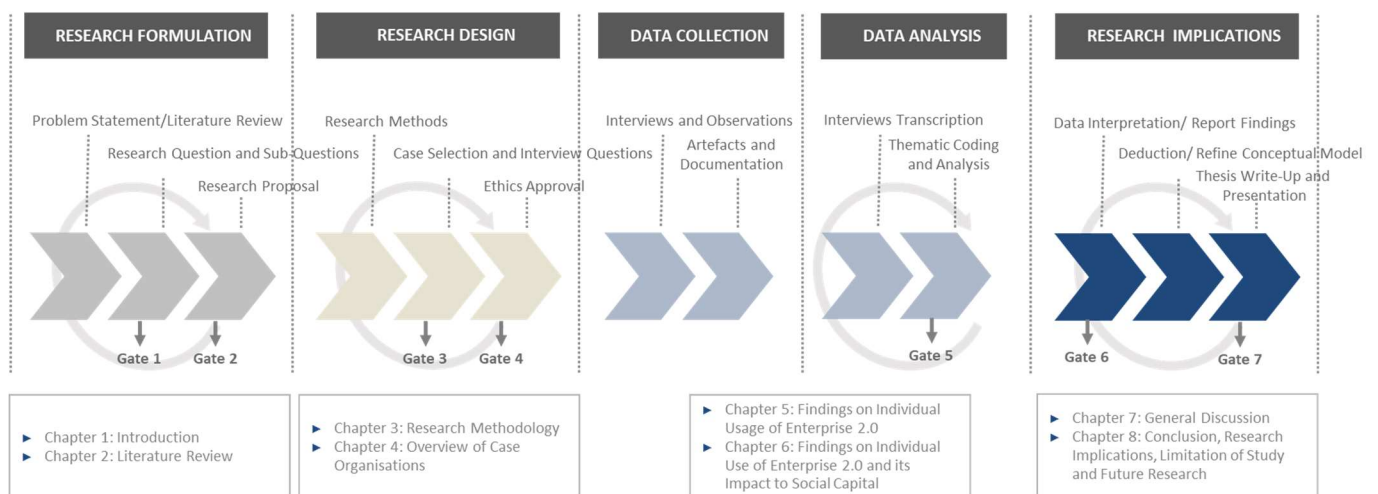


Figure 3.1 Thesis Structure and Processes

3.2 Case Study Method and Selection of Case Organisations

The case study research strategy was chosen as the most appropriate approach to explore the use of Enterprise 2.0 and its impact on large organisations. A case study as an interpretive qualitative research method facilitates exploration of a phenomena within its context using a variety of data sources, especially when the boundaries between the phenomena and the study context are not clearly evident (Baxter and Jack 2008; Yin 2013). The case study begins with the knowledge and assumption of the phenomena and then gradually attempts to understand the phenomena through meanings that individuals assign to them. It does not predefine dependant and independent variables but emphasizes the full complexity of human sense making as the situation emerges (Kaplan and Maxwell 2005). It is a widely used research

method in organisational studies and across social science. The case study research method is well suited for this research considering the object of the discipline is the study of information systems in organisation and the central focus is on individuals within the organisation rather than the technology platform (Benbasat et al., 1987).

The case study research method provided the opportunity to explore the individual use of Enterprise 2.0 and how it impacts the social capital whilst unfolding the behaviours, perspectives, feelings, and experiences of individuals using Enterprise 2.0. In addition, according to Yin (2003) and (Benbasat et al. 1987) case study research allow researchers to retain the holistic and meaningful characteristics of the natural research setting, especially when the researcher has little control over the events. The researcher can ask ‘how’ and ‘why’ question to understand the nature and complexity of the activities and processes in place. This entails employing multiple methods of data collection to gather information from one or a few entities (e.g. individuals, business units, and organisations). Yin (2003) identifies key case study data collection methods as observations, interviews, and document analyses. A key factor of consideration when adopting a case study approach is the number of cases included in the research. In the context of this research, a single case study approach may be prone to bias in terms of the maturity of Enterprise 2.0 adoption, the technology and the nature of the organisation. Yin (1994, 2003) explains the replication strategy in multiple case studies approach to ensure rigour in research. According to Yin (1994, 2003), six to ten cases would be appropriate for multiple case studies and if all the cases provide similar results to confirm or disprove the patterns identified, there can be substantial support for the development of preliminary theory that describes the phenomena. Therefore, this resulted in the selection of multiple cases to seek multiple perspectives to explore the use of Enterprise 2.0 and examine its impact on social capital. In addition, multiple cases permit cross-case analysis, a necessary feature for widespread generalisation of theories.

3.2.1 Selection of Case Organisation and Research Participants

According to Edmonds and Kennedy (2012), purposive case selection enables collection of the most relevant data. Yin (2013) also mentions that multi-case studies lead to more robust outcome. However, each case should be selected so that it predicts similar results or contrasting result with anticipatable results. For this study’s case studies, the researcher selected six large organisations from different industry sectors with existing implementation of Enterprise 2.0

were selected. The different industry sectors across the six large organisations comprised professional services, banking and financial services, telecommunications, government agency, software solutions, and tertiary education. The purpose of selecting organisations within different industry sectors was to gain insights if there were any unique characteristics, patterns, or trends on individual use of Enterprise 2.0 across the varying industry sectors. Various approaches were used to reach out to these organisations which included the researcher's personal contacts, references from supervisors, or cold calling. All six organisations invited to participate agreed to participate in the study.

In Coleman's (2009) research, the author states that the size of the organisation impacts Enterprise 2.0 adoption and the behaviour associated with its use. He also mentioned that Enterprise 2.0 is highly suited for adoption within medium and large organisations as compared to small organisations. As such, the selection criteria for including a case in this study was that the organisation must be within medium to large organisation and a mature adoption of Enterprise 2.0 with over 1000 employees. The researcher also relied on the confirmation from organisation contacted to provide an indication of the Enterprise 2.0 adoption maturity.

Due to the nature of multiple case studies, the research recruited sixty participants for the interview sessions across six large organisations. The selection of interview participants is discussed in detail in the following section. To achieve the required number of interview participants, each case organisations were requested to provide a list of potential employees for the interviews (minimum of twenty from each organisation), on the assumption that the anticipated response rate from the employees of each organisation would be approximately 50%. The aim was to recruit approximately ten interview participants from each of the six large organisations. Table 3.1 outlines each of the six participating organisations, the total number of employees (within Australia) using the Enterprise 2.0 platform, and the total number of interview participants and their corresponding title (role).

Case	Industry	No. of Employees (within Australia)	Enterprise 2.0 Platform Used	Job Position of Interview Participants	Total
Case A	Professional Services One of the largest global accounting organisations which provides range of services including audit, tax, consulting, risk management and financial within Australia.	5,400	Yammer	1. Partner, Digital Transformation, Innovation, Social Capital 2. Partner, Technology 3. Director, Strategy and Operations 4. Director, Corporate Affairs and Communications 5. Director, Information Management Office 6. Director, Knowledge Solutions 7. Knowledge Manager, Knowledge Solutions 8. Client Manager, Tax 9. Senior Consultant, Market Intelligence 10. Senior Consultant, Technology 11. Analyst, Risk Advisory 12. Analyst, Technology	12
Case B	Banking and Financial Services One of the largest banking organisations within Australia which offers a full range of personal and business banking services, financial products and services, wealth planning, and investments.	33,283	Yammer	1. CEO, Health Industry Claims and Payments Service 2. Senior Relationship Manager 3. Senior Consultant, Change Management 4. Senior Business Analyst, Regulatory Change Implementation, Product and Markets 5. Senior Business Analyst, Enterprise Business Analysis, Enterprise Services and Transformation 6. Business Analyst 7. Business Analyst 8. Strategic Marketing Consultant 9. Communications Manager, Property Services 10. Graduate, Cheque Digitization Program 11. Graduate, Frontline and Internal Channels 12. Graduate, Anti-Crime Solutions	12
Case C	Government Agency The organisation is the road and traffic authority in the state of Victoria, Australia which is responsible for arterial road network, delivers road safety initiatives and registration and licensing services.	2,889	Yammer	1. Executive General Manager, People Services 2. Manager, Spatial Service, Information Management and Technology 3. Project Delivery Team Lead, Major Projects 4. Planning Team Lead, Planning 5. Engineering Team Lead, Information Management 6. Senior Policy Officer, Policy and Programs 7. Acting Business Operations Specialist 8. Senior Technical Support Specialist 9. Communication Advisor, Corporate Communications 10. Infrastructure Analyst, IT Operations, Corporate Services 11. Senior Road Safety Coordination Officer, Road Safety Strategy 12. Service Desk Coordinator (End User Services), IT Operations	12

Case	Industry	No. of Employees (within Australia)	Enterprise 2.0 Platform Used	Job Position of Interview Participants	Total
Case D	Telecommunications One of the main telecommunications providers in Australia which provides telecommunication products and services for consumers and business, enterprise services, communications network and infrastructure construction, and wholesale products to licensed carriers and provides.	32,293	Yammer	1. Senior Domain Architect, Enterprise Systems 2. Practice Lead, Architecture 3. BI Architect, Architecture 4. Senior Architect, Architecture 5. Network Analyst, Network and IT Operations 6. Graduate, Network Commercial Engineering 7. Yammer Coordinator 8. Communications Officer	8
Case E	Software Solution One of the biggest enterprise resource planning solution providers, foreign owned Australian proprietary organisation which also supplies wide range of technology and e-business solutions to more than 4,000 Australian organisations of all sizes and industries.	1,940	Oracle Social Network	1. Enterprise Architect 2. Enterprise Architect, Middleware 3. Industry Solutions Director, Communications and Media 4. Product Support Manager 1 5. Product Support Manager 2 6. Global Client Advisor 1, Key Accounts 7. Global Client Advisor 2, Key Accounts 8. Global Client Advisor 3, Key Accounts	8
Case F	Tertiary Education Two well-known universities in Australia, which provides higher education in various disciplines, research, and vocational education programs. University A and University B are both public universities. The two universities are combined due to 1. the similar nature of business, 2. similar Enterprise 2.0 platform used and 3. access to interview participants. The researcher was also interested to determine if there will be additional insights within the same nature of business.	University A: 8,539 University B: 5,830	Yammer	1. IT Manager, IT Strategy and Planning 2. Director, IT Strategy and Planning 3. Manager, Academic and Learning Systems Support 4. Associate Professor 1 5. Associate Professor 2 6. Senior Coordinator, eLearning 7. Analyst, Academic and Learning Systems Support 8. Tutor	8

Table 3.1 Overview of Case Organisations, Number of Employees, Industry, Enterprise 2.0 Platform Used, Job Position of the Interview Positions

3.2.2 Selection of Interview Participants

Purposeful sampling was used for the recruitment of interview participants. The composition of the interview participants included individuals with experience in using Enterprise 2.0, and who used it on a regular basis (at least three times a week). It is also important that the research maintains consistency in recruiting individual who uses Enterprise 2.0 on a regular basis to identify important common patterns in social capital dimensions. Individuals who do not use or rarely use Enterprise 2.0 are not considered for this study as the sample will not be relevant for the purpose of this study which is to delineate the impact on social capital through the use of Enterprise 2.0.

The experience of using Enterprise 2.0 used to select participants was based on Steinfield et al.'s (2009) research. Their six-week benchmark was used to recruit individuals who had joined the organisation at least six weeks prior to the study and would have had an opportunity to use and benefit from the use of Enterprise 2.0 and receive the potential benefits of Enterprise 2.0. This was to ensure consistency, adequacy and relevancy of information gathered to examine the impact from the use of Enterprise 2.0 on social capital. For an all-encompassing view, out of the list of employees provided by each of the case organisations, individuals from different roles ranging from Graduate (Junior-level employees) to Partner (General Manager) were selected to participate in the study. To avoid bias in the interview data, the researcher consciously recruited participants from different roles and levels in each case organisation. Interview participants were also recruited across 6 different organisations (5 of different industry) to avoid bias of findings from the same organisation.

The interview requirements were discussed with the case organisation in the initial meeting with a focal person from the case organisation who then provided a list of individuals to be contacted for the interviews. The snowballing method was applied as few interview participants recommended other individuals who were interested in and willing to participate in the research interview. The method helped to carefully to identify individuals with particular knowledge, skills or characteristics that met the research requirements.

3.3 Data Collection

The research used three types of data collection methods: 1. Interviews, 2. Direct Observations, and 3. Documents Analysis. Prior to commencing data collection activities, the research sought ethics approval. This research was carried out according to the National Statement on Ethical Conduct in Human Research (2007) produced by the National Health and Medical Research Council of Australia. For this, an application for ethics approval was submitted to the Human Research Ethics Committee of The University of Melbourne prior to soliciting interest on the research interviews. The ethics application consisted of a plain language statement, consent form, and interview questions (see appendix), which the ethics committee reviewed and approved. Prior to conducting each interview, participants had to complete the consent form which both the interviewee and the researcher signed. The plain language statement was enclosed to inform interviewees of the purpose of the research, the research procedures, and all other related information.

At the start of every interview, each interviewee was provided with a brief introduction of the project and reminded that they can withdraw from the interview at any point of time and that their participation will not affect their position and performance in the organisation. Confidentiality and anonymity of interview participants were ensured. In addition, each interview participant was asked whether they would be willing to be observed during or after the interview to demonstrate how they used Enterprise 2.0. Interviewees who declined the observation request were only interviewed. Interviewees who agreed to participate in observations could choose to demonstrate their use of Enterprise 2.0 during or after the interview.

The different data collection methods employed in this study are summarised in Table 3.2 and explained in the next sub-sections.

Case Organisation	Interview Participants	Other Methods	Duration
A	Partner, Digital Transformation, Innovation, Social Capital	Direct Observation	1:26
A	Partner, Technology	Direct Observation	1:30
A	Director, Strategy and Operations		1:02
A	Director, Corporate Affairs and Communications	Direct Observation, Documents Analysis	1:00
A	Knowledge Manager, Knowledge Solutions		0:47
A	Client Manager, Tax		0:48
A	Senior Consultant, Market Intelligence		0:42
A	Senior Consultant, Technology		0:51
A	Analyst, Technology Assurance, Risk Advisory	Direct Observation	1:02
A	Information Management Office Director		1:05
A	Director, Knowledge Solutions		0:49
B	CEO, HICAPS		0:43
B	Senior Business Analyst, Regulatory Change Implementation	Direct Observation	1:14
B	Senior Business Analyst, Enterprise Business Analysis, Enterprise Services and Transformation	Direct Observation	1:04
B	Business Analyst		0:46
B	Graduate, Frontline and Internal Channels		1:00
B	Strategic Marketing Consultant		0:54
B	Communications Manager, Property Services	Direct Observation	0:37
B	Graduate, Change Analyst		0:44
B	Graduate, Anti-Crime Solutions		0:35
B	Senior Relationship Manager		0:35
B	Senior Consultant, Change Management	Direct Observation	0:52
B	Business Analyst	Direct Observation	1:10
C	Manager Spatial Services, Information Management and Technology	Documents Analysis	0:46
C	Infrastructure Analyst, IT Operations, Corporate Services	Direct Observation	1:15
C	Service Desk Coordinator, End User Services - IT Operations		0:52
C	Team Leader Project Delivery, Major Projects		0:35
C	Senior Road Safety Coordination Officer, Road Safety Strategy		1:01
C	Senior Policy Officer, Policy and Programs		0:37
C	Team Leader, Planning and Relocation		0:49
C	Team Leader, Engineering Information Management		0:51
C	Executive General Manager, People Services		0:35
C	Acting Business Operations Specialist		0:57
C	Communication Advisor, Corporate Communications	Direct Observation	0:50
C	Senior Technical Support Specialist		0:44
D	Senior Domain Architect - Enterprise Systems		0:40
D	Practice Lead, Architecture		0:34
D	Business Intelligence Architect		0:49
D	Senior Architect		0:41
D	Network and IT Operations	Direct Observation	0:45
D	Network Commercial Engineering Graduate		1:10
D	Yammer Coordinator		0:55
D	Communications Officer		0:44
E	Global Client Advisor (1), Key Accounts	Direct Observation	0:47

Case Organisation	Interview Participants	Other Methods	Duration
E	Global Client Advisor (2), Key Accounts	Direct Observation Documents Analysis	0:57
E	Global Client Advisor (3), Key Accounts	Direct Observation	0:45
E	Enterprise Architect	Direct Observation	0:52
E	Enterprise Architect, Middleware	Direct Observation	0:37
E	Industry Solutions Director, Communications and Media Industry Solutions	Direct Observation	0:56
E	Product Support Manager	Direct Observation	0:55
E	Product Support Manager		0:42
F	Faculty IT Manager	Direct Observation	0:59
F	Director, IT Strategy and Planning	Direct Observation	0:54
F	Academic and Learning Systems Support Manager	Direct Observation	1:24
F	Associate Professor		0:40
F	Associate Professor		0:56
F	Tutor	Direct Observation	0:55
F	Senior Coordinator, eLearning	Direct Observation	0:56
F	Academic and Learning Support	Direct Observation	0:59

Table 3.2 Interview Details: Participants, Data Collection Methods and Interview Duration Times

3.3.1 Interviews

Creswell (1994) suggests that qualitative interview data that was collected could be searched for emerging themes that helped explain the use of Enterprise 2.0 and its impact of social capital. The author was interested in specific theme that represented behaviours, occurrences, and instances of the phenomenon under investigation. The face-to-face semi-structured interview sessions were conducted to enrich the understanding of the relationships between variables with contextual descriptions. Interviews are especially appropriate for addressing sensitive topics that participants might be reluctant to discuss in a group (Milena et al., 2008). Interviews provided an avenue to closely examine respondents' use of Enterprise 2.0 and the impact of its use on the various dimensions of social capital. This was also helpful to ensure an unbiased and all-encompassing view of Enterprise 2.0, considering the possibilities of the impact from different features of Enterprise 2.0 integrated in the platform. The face-to-face interview sessions allowed the researcher to observe any non-verbal cues and to seek further clarifications when necessary.

The interviews were arranged by telephone or email at a time and place most convenient to both the participant and researcher. The individual interviews lasted between 45-60 minutes each. The participants were led to restrict his or her discussion to the specific questions posed

by the interviewer. Audio recordings and additional notes and were taken with permission from each interviewee. Each interview was subsequently transcribed for analytic purposes and shared with each interviewee as requested. Participants were to ascertain the participants gave an accurate account of the interview transcripts. There were approximately 10 interview questions requiring participants to express their individual feelings and perceptions of using Enterprise 2.0, as presented in Table 3.3, to make a good comparison across individual interview responses.

Questions 1 to 3 focused on individual use of Enterprise 2.0, based on each individual's understanding of how the technology is used on a day-to-day basis and the likely or actual conditions and consequences associated with its use. The technological frames of reference (Orlikowski and Gash 1994) explains that the understanding of individuals' interpretation of technology is critical to understanding their interaction with it. For that, it is necessary for respondents to provide their own understanding of how Enterprise 2.0 could be used at work and the understanding of the features and attributes of the technology. This provided a good foundation to study how Enterprise 2.0 was understood and acted on by different group of individuals, considering the possibilities of the influence from the extensiveness of features, the understanding of the technology's role in facilitating interviewees work leading to the motivation of using the technology. The questions explored and identified actual ways of using Enterprise 2.0 from different group of individuals and aimed to uncover the positive and negative experience when using Enterprise 2.0.

A. Individual Use of Enterprise 2.0

1. What is your understanding of Enterprise 2.0?
2. How do you use Enterprise 2.0?
3. Do you use most of the tools available in Enterprise 2.0? Can you please explain how you would use some of these tools?

B. Social Network Dynamics

4. What network of groups and/or individuals do you connect with in Enterprise 2.0? Can you explain why you connect to these groups and/or individuals?
5. Do you connect with any groups or individuals outside of your team? Why or why not?
6. How often do you communicate with your network? Are there certain groups or individuals that you communicate with more than others? Please explain why.

C. Social Cognition

7. Which groups or individuals do you connect with that share the same common interest as you? Please describe the common interest that you share.
8. How often do you keep in touch with these groups or individuals?

D. Social Relationship

9. How would you describe your relationships with the groups or individuals in your network?
10. How close are you to these groups or individuals? For example, do their opinions or expectations matter to you? Do you trust them? Do you feel obligated to them? Do you feel a sense of belonging to them? Please explain the type(s) of relationship(s).

Table 3.3 Case Study Interview Questions and Themes

Questions 4-6 were formulated to understand the social dynamics of individuals looking for and accepting the connecting edges with other individuals who may or may not be within their networks of relationships. The responses provided insights of how social networks were configured within the group of individuals and if these responses differed between organisations or was solely dependent on individuals' social preferences. A deeper discussion revealed the density and extensiveness of the networks, purpose and motivation to connect with specific individuals. In terms of maintenance of relationships, the responses were led to describing the frequency of interaction, and the ways of keeping in touch with different individuals.

Questions 7 and 8 explore the impact from the use of Enterprise 2.0 on establishing the cognitive ability to connect with each other in order to make sense of the knowledge context and communicate the meaning to others. The question examined the existence of common understanding and shared language that helped interpretation and synchronization of thoughts among closely knitted communities. The idea of 'common interest' reflected the common understanding and shared language between certain groups or individuals in the network. Since communication is the key to interaction, the different ways of communicating impact the understanding of one another. Shared language is essential to sharing ideas or practical experiences between individuals of similar backgrounds (Chiu et al. 2006). The shared language used for engaging in interactions emerged from the processes, assumptions, and generalisations when sharing knowledge. Consequently, this involves building of a common vocabulary within its knowledge domains (Aslam et al. 2013; Chiu et al. 2006). As common understanding is achieved by means of developing this shared language and accompanying interpretations. It is an on-going process which requires intention, time, and respect (Thomas and McDonagh 2013). The responses highlighted the frequency of interaction, the focused threads of discussions, and the flow of knowledge captured in the context.

Finally, Questions 9 and 10 were designed to better understand the existence of relationships established through the social networks. (McFadyen and Cannella 2004) explained that relationship is developed through social interactions, which requires time, energy, and attention to establish and maintain. The questions explored the motivation and effort of individuals in establishing and maintaining the relationships. The responses gathered unfolded elements of trusts, obligations, sense of belonging, and expectations. Further sub-questions related to Questions 9 and 10 probed positive and negative feelings derived from individual's past experiences of interacting with the individuals connected within the participants' social network. These sets of questions were noticeably more difficult as interview participants were cautious of not being too critical or negative on the use and implications of Enterprise 2.0. Last but not least, Fishbein and Ajzen's (1975) theory of reasoned action proposed that the individuals' intention to engage in specific behaviour is determined by the attitude of each individual towards the behaviour and the perception of norms. The responses presented scenarios where individual's behaviour was instigated by the perception whether the behaviour is accepted, encouraged, and implemented by each individual's circle of influence.

Qualitative researchers typically study a relatively small number of individuals or situations and preserve the individuality of each of these in their analyses, rather than collecting data from large samples and aggregating the data across individuals or situations. Hence, the concept of saturation applies, and the researcher stopped at the Nth number of participants when there was no more new evidence or theme emerged after interviewing the last participant (Saunders et al., 2017). This means the data collected have reached a point of saturation. According to Burmeister and Aitken (2012), the depth of the data is more important than the numbers as with all aspects of qualitative research.

3.3.2 Direct Observations

Observation is one of the basic data collection techniques used in most qualitative research (Benbasat et al. 1987). According to McCracken (1988) even if other methods or techniques are used, the researcher remains the most essential sensor or instrument and hence observation is always significant. Direct observations were used in this study to better understand and interpret individuals' behaviour and expression when using Enterprise 2.0. The direct observation method is based within the interpretive constructivist paradigm that acknowledges the importance of context and the construction of knowledge between the researcher and the participants' use of Enterprise 2.0.

For each of the case organisations, there were at least two interviewees who volunteered to talk through and demonstrate their use while also demonstrating their use of Enterprise 2.0. Whilst direct observation commonly preserves the interrelationships of the individuals and the research phenomena without interference, however, this was not applicable when studying the use of Enterprise 2.0 as the researcher found that by asking the interview questions and allowing interviewees to demonstrate how they use the Enterprise 2.0 in certain circumstances, it became clearer what the interviewees meant when they explained how they were supported by Enterprise 2.0 while using the platform. Examples of previous postings and interactions with other individuals were shown to the researcher or could be observed and discussed. On the other hand, the deliberate use of Enterprise 2.0 would appear unnatural and may not have been the right indication of how the individual would use the platform on a regular basis. Similarly, the direct observation approach and accompanying conversations were audio recorded and notes were taken to illustrate the examples/scenarios provided.

3.3.3 Document Analyses

Part of this study's qualitative data collection involved the analyses of multiple documents related to the use of Enterprise 2.0. Examples of the primary documents collected for analysis are such as policy manuals, guidelines, handbooks, posters, and handbooks. Some of these documents were requested directly from the case organisations, while others were sourced from the Internet. These documents were analysed in tandem with other data collected and internal documentation, and content was subsequently also coded into the respective interview themes.

3.4 Data Analysis

Qualitative research provides the researcher with the opportunities to explore the individual use of Enterprise 2.0 and to decipher what the experience of such use meant to those involved, and determine if the experience created a theoretical frame or conceptual understanding associated with the use of Enterprise 2.0 (Williams and Moser 2019). An explanatory approach to qualitative data analysis entails careful examination of the transcribed data, identifying key words, patterns, themes, or ideas in the data that help to outline the analysis. Clustering of data may identify key concepts that are further analysed to ascertain relationships between one another. Thematic analysis is one of the most commonly used methods in qualitative data analysis. Bernard and Ryan (2010) provide a useful typology for understanding the range of qualitative data. In their classification, the authors explain that the transcription of interviews and focus group session can be analysed as a proxy of experience in which case the research is interested in individuals' perceptions, feelings, knowledge, and behaviour. Based on Bernard and Ryan's research (2010), codes were developed based on the data collected to represent the identified themes and applied to the data collected for analysis. The data analysis involved identifying codes, co-occurrence, and displaying the relationships between codes within the data set in a tabular form. The process led to the identification of themes through careful reading and re-reading of the data (Rice and Ezzy 1999).

To further explain the data analysis, the researcher referred to Williams and Moser (2019), Braun and Clarke (2006) and Miles and Huberman (1994) guide to thematic data analysis. The first step to thematic analysis is the conversion of audio recording into text. The information gathered from the interviews was transcribed using audio recordings and cross-checked with the written notes. Line numbers were assigned as identifiers for cross referencing. It is crucial

that the transcription is done fully and truthfully to reflect the credibility of the findings. This necessitated repeated listening to the interview audio recordings. When the transcription was done, the NVivo12 software was used to assist with the coding and organising of the data into thematic categories. The coding process being data-driven, commenced with ‘open coding’ that was applied to all transcript first and consisted of detailed information of ‘what’, ‘who’, ‘how’ and ‘why’ codes that were combined and how these codes were related. Each code definition had a brief description, full definition, ‘when to use’, ‘when not to use’, and an ‘example’ section that guided the coding process. According to Lincoln and Guba (1985), this allow data to be arranged in a systematic order and to be “segregated, grouped, regrouped and relinked in order to consolidate meaning and explanation.”

The axial coding is the second level of coding focused on refining, aligning, and categorising the themes (Williams and Moser 2019). In this process, the researcher engaged in continuous analysis, cross referencing, and refining theme categorisation with reflection and consideration of multivariate field of possible influencers relative to findings. This step involved analysing the text whilst of all the other interviews discovering themes and subthemes. In open coding, the themes are being developed; however, interrelatedness of themes are not identified. With axial coding process, the relationships among themes are explicitly stated, examined, and categorised (Williams and Moser 2019).

Finally, each theme represents some level of patterned response or meaning from the coding. The researcher also adopted a hybrid method of analysis whereby the themes came from both the transcribed data which refers to an inductive (‘bottom up’) approach and from prior theoretical understanding of the phenomena of study, which is referred to as a deductive (‘top-down’) approach. The approach complemented the research questions by allowing tenets of social capital to be integral to the process of deductive thematic analysis while allowing for other potential themes to emerge direct from the data using inductive approach. The analyses of themes were further substantiated with evidence collected from analysing the documents collected as mentioned in the earlier section.

Once the themes were identified, the researcher reassessed how the themes supported the data and the overarching theoretical perspective. This involved the process of understanding the themes and understanding how they fitted together around the phenomena of the study. The themes needed to be well-supported by the data. The name, definition, and supporting data are

re-examined for the final construction of each theme. This stage emphasised on detailing the underlying meaning of each theme. The findings are reported thereafter when the themes have been coded and represented in the research model. In the coding process, the researcher took extra caution to ensure that the coding procedures are defined, rigorous, and consistently applied in order to conform with validity and reliability standards.

Lastly, the research also follows the hermeneutic circle approach to interpret, understand, and explain the research findings (Cole and Avison 2007; Klein and Myers 1999). Hermeneutics describe a specific mode of analysis which provides the philosophical grounding for interpretivism (Bleicher 2017). To limits bias of preconceptions and prejudices is the process of interpreting the findings, the hermeneutics circle approach aims to transcend existing notion about the phenomena by movement of back and forth between the transcripts data in the process of understanding the meaning of the textual data. The aim of the hermeneutic analysis is to make sense of the whole, and the relationship between the individuals (user types), the organisation, the social capital dimensions, and the individual use of Enterprise 2.0. The subsequent section discusses the actions taken to address validity and reliability aspects.

3.5 Research Validity and Reliability

Research validity and reliability are salient in the qualitative research process. Reliability refers to the consistency (Campbell 1996) and stability (Golafshani 2003) of the research. Coherent to Yin (2013) research, reliability is ensuring the other researches should be able to apply the same procedures used in this research and arrive at the same results. As Guilford and Fruchter (1978 p. 407) describe, *“the same 'yard-stick' applied to the same individual or object in the same way should yield the same value from moment to moment, provided that the thing measured has itself not changed in the meantime.”*. Validity, on the other hand, is important to ensure the findings are plausible, credible, trustworthy, and can be defended when challenged (Venkatesh et al. 2013; Patton 2002). Shadish et al. (2002) adds that validity aims to confirm that the inferences are true based on the data collected to support the claims. Various researchers (Davies and Dodd 2002; Lincoln and Guba 1985) refers validity to be of quality, rigour, and trustworthiness. Furthermore, Yin (2013) also explains that qualitative researchers should ensure the results attained in the research process are valid and the research design is robust and reliable. Therefore, in other words, reliability is necessary for valid measure of the results.

Originating from an interpretivist research paradigm which is more inductive and predominantly focuses on understanding the phenomenon, the research adopts Maxwell's (1992) framework to evaluate validity and reliability of the research. Although various authors (Yin 2013; Schwandt 1997, Maxwell 1992; Lincoln and Guba 1985) have also constructed diverse typologies to evaluate validity, Maxwell's (1992) is more suited for this research as the approach provides a more comprehensive criteria based on the following five categories to ensure validity and reliability: a) *Descriptive Validity*: the accuracy of the data and what is reported by the researcher, b) *Interpretive Validity*: the accuracy of interpreting participants' feelings, intentions, and experiences and accurately as understood by the researchers, c) *Theoretical Validity*: the extent to which the theoretical explanation fits the data., d) *Generalisability*: the ability to apply the theory resulting from the study universally, and e) *Evaluate Validity*: the assessment of the evaluation drawn by the researcher.

Based on Maxwell's (1992) framework, the researcher applied the guidelines and processes as summarised in Table 3.4 to ensure and maximise the validity and reliability of the research. In addition, it is also worth mentioning that the notion of generalisability is often a challenging aspect in qualitative research as the claims may be less explicit comparing to quantitative research (Yin 2013; Maxwell 1992). The generalisability of each central argument of this research is considered by drawing on the principles of Seddon and Scheepers (2006) which explains the significance of a) *Surface Similarity*: reasonable explanation that the claims can be applied to any other similar organisations, b) *Ruling Out Irrelevance*: identifying attributes that are irrelevant, c) *Making Discriminations*: identifying attributes that limit generalisation, d) *Interpolation and Extrapolation*: modest speculations on the likely applicability of findings to other situations, and e) *Causal Explanation*: develop and testing explanatory theories about the claims. These principles are reflected in the guidelines and actions for assessing generalisability in Table 3.4.

Controls	Recommended Guideline	Action(s) Taken
Descriptive Validity Data to accurately reflect what the participants has said or done, and that the transcription is an accurate account of the audio recordings.	Keep data organised and retrievable.	Data stored, backup, and analysed using data analysis software NVivo 12.
	Clear audio recording and transcriptions accuracy.	- Good audio recorder used and ensuring interview was conducted in a quiet environment. - Consistent format and template used for transcriptions. - Audit trail for transcription to ensure accuracy. Revision done as necessary.
	Review transcripts content and structure	Sample transcripts were analysed for content and structure by the supervisors.
Interpretive Validity Accurate inference of participants' words and actions and not based on researcher's perspective.	Keep pattern matching 'blueprint' for replication.	- Several iterations of reading and re-reading of interview transcriptions and cross check emerging themes and sub-themes (also with supervisors). - Review the extent to which the actual findings fit the predicted pattern. - Look for clues in the transcript to elicit meanings and participants' feelings.
	Peer debriefing and consultation.	Discuss data with professional colleagues and supervisors to ensure accuracy of interpretation and to avoid and bias and prejudice.
	Ensure data triangulation and constant comparison.	Exploring data convergence, complementarity, and dissonance across the data sources (i.e. interviews, notes, documents).
Theoretical Validity Validity of researcher's concepts and theorised relationships among the concepts.	Keep research question and sub-research questions at the foreground.	- Analysing data and revisiting research question and sub-research questions. - Checking for theoretical consistency and conceptual definitions.
	Coherence of patterns, concepts, and dimensions to create the construct.	Observe patterns that emerge that highlight data that supports the social capital theory and dimensions.
	Follow hermeneutic circle approach to iterate between interpretation, understanding, and explanation.	Iterates between the interdependent meaning of all parts, i.e. use modes, social capital dimensions, and determine the full meaning of subject as a whole.
Generalisability Ability to apply the theory resulting from the study universally.	Define and follow case study and data collection protocol.	- Case study research questions were clearly written and reviewed by the research supervisors and ethics committee. - Interview conducted systematically and consistently across participants from different case organisations.
	Consider broad and abstract level of findings	Ensure "transferability" of findings by providing as much contextual information possible to aid future research.
	Open discussion on generalisability of findings.	Discuss the findings and potential for transferability and replicability of the research. with professional colleagues and supervisors.
Evaluate Validity Assess the evaluation drawn by from the researcher own understanding not on the data gathered.	Raise question and create doubt in findings to understand how the researcher arrived at the interpretation.	Read and re-read findings and claims that are made if they are based on researcher's feelings and understanding of the situation. If it does, the claims fail to meet the evaluative validity.

Table 3.4 Summary of Actions taken to address Validity and Reliability Aspects

3.6 Chapter Summary

This chapter outlined the research process followed for this investigation. The chapter starts with general introduction of the major research paradigms and distinguished qualitative and quantitative research. It also describes the epistemologies used in the Information Systems domain indicating that the interpretivist approach was well-suited for the purpose of this research. The chapter justifies the appropriateness of the case study research method for this study, and describes data collections method employed including: interviews, observations, and documents analyses. This chapter also provides a summary of the case organisations, industry, and the employees (job positions) participated in the research. Lastly, this research has adopted a detailed approach to ensure research quality and rigour. In the following chapter, overview of the six participating case organisations, the Enterprise 2.0 strategy and current state are presented. The findings are presented in Chapters 5 and 6 followed by a detailed discussion of the findings in Chapter 7.

Chapter 4: Overview of the Case Organisations

Chapter 3 explains the selected research method, data collection techniques and data analysis. It also elaborates on how research rigour is maintained throughout the entire research process. Chapter 4 provides an overview of the organisations selected for the case studies. As described in the previous chapter, the six participating case organisations were selected based on the size of the organisation and with considerations of the existing implementation of Enterprise 2.0. In addition, organisations from different industry sectors were selected to observe if there were any patterns, characteristic, and trends to the individual usage of Enterprise 2.0. This chapter also provides necessary background of two Enterprise 2.0 platforms that were commonly adopted in the selected case organisations – Yammer and Oracle Social Network. This provide some contextual background that enables a better understanding of the findings discussed in Chapters 5 and 6.

The subsequent Sections 4.1 to 4.7 describe each of the six case organisations using the following four category descriptions: details about the industry, the initial adoption of Enterprise 2.0 in the case organisation, the organisation's Enterprise 2.0 strategy, and current state of Enterprise 2.0 in the organisation. In the subsequent sections cases A to F are presented describing for each its industry type, details around the organisation's initial adoption of Enterprise 2.0, description of the organisation's Enterprise 2.0 adoption strategy as a background for its Enterprise 2.0 use, and the organisation's current state of Enterprise 2.0 usage,

4.1 Case A: Professional Services Organisation

Industry Type: Case A is one of the largest leading professional service organisations in the world, providing audit, tax, consulting, risk management and financial advisory services with over 5400 employees just within Australia. To further illustrate, the nature of a professional service organisation can be best understood as a knowledge intensive and client-focused business (Maister 1993). Baumard (2002) argues that for professional service organisation the “main capital is of intellectual matter, and most of their processes are turned towards the exploration, discovery, accumulation, exploitation, and re-selling of societal and individual expertise.” The emphasis on a typical professional organisation is its ability to attract, mobilise,

develop and transform the knowledge of individuals within the organisation to create value for their clients (Løwendahl et al. 2001)

Initial Adoption of Enterprise 2.0: Case A adopted Yammer as its enterprise social networking platform back in September 2008. It is very early on when Yammer was introduced back in 2007, and the organisation became one of the earliest and most prolific adopters of Yammer. The motivation for adoption was based on some of the studies the organisation conducted around connectivity of the way in which knowledge occurred in the organisations. As explained by the partners and directors of the firm, Yammer plays a leading role facilitating a much more fluid and innovative way of working, which is in line with the organisation's top management view. The emerging concepts and the fact that Yammer was concentrated on the social context in terms of establishing network relationships, the sharing of knowledge and crowdsourcing was appealing to the management team. Hence, the organisation started using the free version of Yammer in 2007 and has since moved to the licensed version in 2008.

Enterprise 2.0 Strategy: At that point of time in 2008, the adoption was not a big bang approach mandating every employee to join Yammer. The Yammer adoption began from the grass roots, the innovators and early adopters – the perceived 'geeky types', with their strong technology orientation, whereby the first use of Yammer was driven based on perceived needs of employees. Nonetheless, the CEO of the organisation was very supportive of innovative ways to improve business and productivity. By April 2009, there were already a few hundreds of employees who have joined Yammer within the organisation.

Current State of Enterprise 2.0 Use: Yammer participation increased exponentially during a logo campaign. The management wanted a way to engage employees to submit key words which signified the organisation's strategy in terms of adopting Enterprise 2.0. Yammer became the solution to reach out to the broader audience. The so-called 'logo campaign group' was set up in Yammer, and an email was circulated inviting employees to join Yammer and participate in the logo campaign by submitting a tag line suitable for the organisation's logo and brand. Within minutes, the management witnessed a drastic increase in employees joining Yammer. This was when Yammer gained real momentum within the organisation. Data captured in April 2011 shows that 5124 users joined the network with well over 4000 active members who also created 694 different groups.

4.2 Case B: Banking and Financial Services Organisation

Industry Type: Case B is one of the largest banking organisations in Australia with other financial service business located in New Zealand, Asia, United Kingdom, and the United States of America (“Top Banks in the World 2015” 2015). In 2018 the case organisation had 33,283 employees in Australia including employees from all subsidiaries (“Case B Premium Company Report Australia” 2018). The organisation offers banking and financial services ranging from private wealth, investment advisory, to business and institutional banking. With the magnitude of business environment, the bank strives to be agile and adaptive to the changing business, building deep and authentic relationships and add more value through innovation.

Initial Adoption of Enterprise 2.0: Recognising the organisation’s direction, Yammer was introduced as an exploratory tool – a social experiment, by the case organisation’s Technology Innovation Team in 2007. In the same year, the Technology Innovation Team began to experiment with Yammer and was trialling what could be done. A few individuals within the team explored the use of Yammer; however, the technology didn’t take off as it did not receive enough traction from the wider community within the bank. It wasn’t until approximately 6 months later that the Technology Innovation Team took a deep dive looking at opportunities for the bank to use Yammer and invited approximately 100 individuals from other areas within the bank to start using Yammer. The Chief Executive Officer of the Health Industry Claims and Payments Service (HICAPS) division was among one of the case study participants. He further explained in the interview that this initial group was later on introduced as the Yammer Advocates, vested to encourage, educate and promote the use of Yammer across the bank.

Enterprise 2.0 Strategy: The aim to implement Yammer in the organisation was to enable new flows of conversations circling various platforms in one single location. The intent was to allow individuals within the bank to pursue a variety of interests and passions, foster natural connections in or across groups, and encourage discussions through listening and questioning activities, fostering champions to lead, facilitate and manage their social network, and backing great ideas and success stories that were shared. When Yammer was identified as a key technology within the bank, the Security Team conducted a full review, and subsequently converted the free basic version of Yammer to an enterprise licence for added security, administration, and integration.

Over the years, Yammer grew organically with no launching or marketing event, just through individuals evangelising the use of Yammer to other individuals and eventually getting them on-board to use Yammer. As remarked by the Chief Executive Officer of Case C in 2018, promoting the use of Yammer through campaigns always drops as the initiative is not designed to build social capital. Individuals would participate in the campaigns organised in Yammer, and once the campaign is over, the use of Yammer usually drops. Instead, within this organisation, few leaders got together making conversation within the various teams, inviting them to join the Yammer bandwagon.

Current State of Enterprise 2.0 Use: A report in 2012 shows that there were 22,000 individuals registered on Yammer (Riemer and Richter 2012). Since its inception in 2008, the use of Yammer within the organisation has grown significantly. Its usage stretches from senior management to the bank's operations and technology teams. The Yammer Community is also noted as instrumental in actively demonstrating the benefits of Yammer via the hash tag #YammerWin, to gather senior management buy-in. Nonetheless, there were some feedback that the initial conversations in Yammer appeared superficial with sharing of success stories and recognition which translated to being a 'pat on the back' for other individuals. The activities did not seem genuine or personal to individuals. However, over time, there were real conversations going on. Individuals started using Yammer to socially connect with each other, and that became a motivation for other individuals to join.

4.3 Case C: Public Sector Organisation

Industry Type: Case C is a statutory authority for roads and transport in Australia. The government authority employs approximately 2,889 employees ("Case C Premium Company Report Australia" 2018) with over 50 offices across the state. The organisation manages over 52,000 kilometres of road lanes, hundreds of road projects and processes more than 24 million transactions each year for licensed drivers and registered vehicles. In 2008, the organisation was developing various information campaigns around introducing a new rule for road licenses. Initially, a traditional mass media campaign was proposed, focused on television, radio, and print. However, the organisation moved towards considering the use of social media to reach out to its wider audience. The campaign kicked off and marked the start of the organisation's social technology journey.

Enterprise 2.0 Strategy: The Chief Information Officer was looking at ways of ensuring growth whilst improving the communication internally. Consequently, Yammer was implemented, in 2008, as part of the wider Communications Strategy and Action Plan. From the outset, Yammer has been driven to provide opportunities for all employees to communicate with one another easily to raise queries, share experiences and showcase effective local programs. Campaigns were organised by the Communications team to encourage individuals across the organisation to join and use Yammer. The Chief Information Officer was active on Yammer, posting questions openly on Yammer engaging in discussions with individuals on Yammer.

In the same year, the Communications team had T-shirts made with the Yammer logo on it, and the officers would wear them around in the office to create an awareness of Yammer. The campaign went on for 1-2 months. Albeit the adoption strategy was a big bang approach, individuals across the organisation received the message well and the organisation started witnessing an increase in the number of individuals that adopted Yammer. As with many post-campaigns effect, there was a spike in the use of Yammer during the campaigns, but the effect petered out gradually. Since then, the organisation made changes in which all individuals in the organisation will by default have Yammer account created using their work email address. From where it began as completely voluntary to sign up to Yammer, for all new employees joining the organisation a Yammer account is created automatically. The outcome of this subsequently increased the use of Yammer with the effect that individuals started to explore Yammer, since their account has already been created.

Current State of Enterprise 2.0 Use: The organisation has a fair distribution of customer-facing clerical officers working over the counter, and technical/ field road workers. The clerical officers working over the counter and the technical/ field road workers rarely have time or have limited access to the Yammer network as their time is predominantly spent doing registration, licensing or road works. According to one of the Team Leads in Case C who manages major work constructions projects, these individuals are very time and activity based where their work is more transactional and administrative in nature. It was also noted that it was important that Yammer is made accessible via smart phones to cater for the technical/ field road workers. The Executive Director of Case C also mentioned that more than 20% of their 3,000 employees were engaging in providing valuable shared knowledge on various business topics. It was also

reported that Yammer has been especially helpful in organisational problem-solving and in the ‘seeding’ ideas. Lastly, it was noted that Case C has enabled employees to communicate more frequently which in turn led to a positive change in the organisation culture.

4.4 Case D: Telecommunications Organisation

Industry Type: Case D is a leading provider of network-centric communication and managed services to large enterprise and government organisations in Australia and around the globe. The organisation provides fixed line, mobile and broadband Internet services and operates through four main business units: Wholesale, Consumer and Small Business, Enterprise, and Operations. Case D has 32,293 employees in Australia (“Case D Premium Company Report Australia” 2018).

Enterprise 2.0 Strategy: As with many organisations that have a critical mass, Case D recognises its reliant on silos and hierarchy and the need to break this down and find a different way of connecting individuals across the organisation. The organisation adopted Yammer in 2008, with the aim to improve problem-solving and operating metrics relating to customer service. Similarly, the telecommunication organisation is one of the early adopters of Yammer, and within 8 months of implementation, the organisation had more than 20,000 employees signed up using Yammer. Up and until today, there are about 40,000 individuals subscribed to Yammer in the organisation, with the subscription extending beyond the employee base to contractors, partners, and international operations.

According to the Chief Executive Officer (Taylor, 2013), the organisation described that Yammer has transformed the organisation and solicited degree of honesty and openness, breaking down hierarchical barriers to communication. As the CEO emphasised, this is the century of the customer and the organisation should move towards creating a culture of service whilst being responsive and enriching customers’ experience. This culture transformation was also referred to as value service culture. Yammer, therefore, is predominantly used to crowd source solutions for customers’ issues. By connecting customers with other knowledgeable individuals within the organisation, the organisation reduces the time and cost involved in resolving customer issues internally.

Current State of Enterprise 2.0 Use: Case D's Yammer network extends beyond the employee base to contractors and partners as well as international operations. Over the years, individuals using Yammer have shared more than 700,000 messages across 3,000 topics and business-specific groups and built an innovation hub around the Yammer community. It has been reported that the increased usage of Yammer is attributed to the active senior leadership support and their participation.

4.5 Case E: Software Solutions Organisation

Industry Type: Case E is a foreign owned Australian proprietary organisation that generates revenue from technology consulting, network computing infrastructure, database technology and applications, and business software. The organisation employs approximately 1,940 people throughout Australia ("Case E Profile Company Report Australia" 2018). Case E serves more than 430,000 customers globally across 175 countries.

Enterprise 2.0 Strategy: Case E uses Oracle Social Network (OSN), an Enterprise 2.0 platform, to encourage interaction and persistent communication among individuals within the organisation. The Enterprise 2.0 platform is integrated with the business processes and technology applications to enable contextual communications within the social networks and to encourage collaboration. For example, individuals who are connected within the same client engagement can collaborate and network within OSN, including external partners and suppliers.

Individuals automatically get set up an account in the OSN via their email address upon joining the organisation. Discussion groups are assigned to the individuals depending on their role in the organisation. The use of the OSN is voluntarily. Very often, the leaders of the organisation or the client advisor will encourage the teams to use the OSN in the organisation.

Current State of Enterprise 2.0 Use: Similar to other case organisations, the platform adopted by Case E allows individuals to set up their own virtual wall (social profile). This allows other individuals to follow or contribute to another individual's wall. In addition, the individuals can also create interest groups. One of the interview participants who is also the Enterprise Architect remarked that the motivation to implement OSN was to enable better collaboration as part of the knowledge management strategy. The Enterprise 2.0 platform provides tools that

individuals can use to share documents, solicit feedback, comment, conduct presentations, reuse information and many more things. As explained by the Enterprise Architect, *“I often write a document, finish the document, and submit it on OSN.”*

4.6 Case F: Tertiary Education

Industry Type: Two well-known universities in Australia also participated in this study. To ensure anonymity, the distinct universities are referred as University A and University B respectively. In 2017, University A has 8,539 staff members (“University A Premium Company Report Australia” 2017) while University B has 5,830 staff members (“University B Profile Company Report Australia” 2017). Both universities offer broad range of disciplines and offering diplomas, undergraduate and postgraduate degrees to students. For the purpose of this study, the universities will be viewed as a single entity due to similarity in the nature of Enterprise 2.0 adoption, strategy, and usage in both universities (“Industry Research Reports” 2014).

Enterprise 2.0 Strategy: University A and B both adopted the free version of Yammer circa 2009. The uptake of Yammer in both institutions grew organically. Students, academic and non-academic staffs can sign up to use Yammer using their respective university’s email credentials. There was no clear Enterprise 2.0 strategy or social media guide at the onset of Yammer adoption. At the same time, there are many other social media platforms which are in used concurrently with Yammer, for example, Twitter. It was also noted in the interviews that were conducted that due to the lack of adoption plan, users suffered from communication channels fatigue (for example Yammer, Outlook, Team, and etc) and information overload.

Current State of Enterprise 2.0 Use: Yammer is used within both universities as a channel to interact broadly on universities’ events and updates. Public and private community groups were created to align with faculties, businesses, and interest topics. Some groups were set up to enable the universities’ staff to collaborate not just internally but also externally with industry practitioners or with other universities to accelerate campaign or collateral execution.

Some instructors interviewed for this study also remarked that Yammer is not meant to replace the Learning Management Systems, for example Blackboard. Depending on individual preferences and specific use cases, some instructors opted to use Yammer as a supplement to

the existing Learning Management Systems in use. The non-academic users interviewed cited common usage of Enterprise 2.0 to gain visibility and for teams/departments to gain insights into how the other departments on the campuses operate.

4.7 Enterprise 2.0 Platforms Used by the Case Organisations

This section explains the Enterprise 2.0 platforms predominantly used across the case organisations. As presented in Table 3.1 Chapter 3, all the case organisations except for Case E use Yammer. Case E uses Oracle Social Network. The construct of the Yammer and Oracle Social Network is similar to other social networking services which consist of integrated social media tools such as comments, crowdsourcing, collaboration, blogs, instant messaging, media and file sharing, content management, community of interest group, and tagging. The nature of this research is not dependant of the choice of platform used within the organisation, but the convergence of the Enterprise 2.0 platform and how individuals within the organisation use the platform from a social capital perspective. Nonetheless, the explanation in the following sections provide a better understanding of the two Enterprise 2.0 platforms: Yammer and Oracle Social Network, before going into an in-depth discussion about the findings from the respective case studies.

4.7.1 Yammer

Yammer is an Enterprise 2.0 platform used by more than 200,000 organisations worldwide including 85% of the Fortune 500 to foster team collaboration, empower employees, drive business agility, and promote organisational connectedness (“Yammer” n.d.). Yammer is a secure, private, internal social networking site for organisations. It shares the same convergence as Facebook – personal social networking site and includes all integrated social media tools like posting/sharing content, commenting, searching, following, groups, ‘Like’ recognition, and more. However, unlike the personal social networking site, individuals will have to sign up on Yammer using their organisation’s email address, therefore limiting the visibility of the content within the organisation’s boundary.

Founded in 2008 by David Sacks and Adam Pisoni, Yammer was later bought by Microsoft (the worldwide leader in software, services and solutions), in 2012 for USD\$1.2 billion, with the plan to accelerate Yammer’s adoption alongside Microsoft SharePoint, Office 365, and

Microsoft Dynamic and Skype (Wash 2012). Yammer comes in two versions – Yammer Basic (free) and Yammer Enterprise (paid). Yammer Basic is a free standalone version which consists of basic enterprise social networking features such as chat, user profile, news feeds, and more. The free version also includes collaboration features enabling activities such as group interactions, sharing files, co-editing content, and so on. Yammer Enterprise comes in a few options, as standalone or packaged with SharePoint Online or Office 365. The standalone is priced USD\$3 per user whereas, if organisations have an existing Microsoft Enterprise with qualifying license purchases such as Office 365, then they are eligible to activate Yammer Enterprise for free. Yammer Enterprise shares the same features as Yammer Basic, but with added security, administration and integrations. A summary of the comparison is in Table 4.1 below:

Benefits and Capabilities	Yammer Basic	Yammer Enterprise
Share knowledge and gain insights with conversations, user profiles, inbox, chat, feeds, and more.	Y	Y
Collaborate with anyone, anywhere by working in Groups, sharing files, co-editing documents in real-time, and more.	Y	Y
Stay connected on-the-go with Yammer mobile apps for iOS, Android, and Windows Phone.	Y	Y
Find tips on using and deploying and learn best practices from the Yammer community.	Y	Y
Secure the network with administrative tools like network configuration, advanced user management, network compliance, and more.		Y
Simplify IT management with advanced integrations like Single Sign-On and Active Directory Sync.		Y
Learn how to engage employees with data analytics, keyword monitoring and custom network branding		Y
Access Microsoft Support for administrator, account, and technical issues.		Y

Table 4.1 Comparison of Yammer Basic and *Yammer* Enterprise (Source: Why Yammer Enterprise n.d.)

Yammer is more than often set up in a way that organises information based on two distinct categories: the *All Company Newsfeed* and *Groups*. The All Company Newsfeed (Figure 4.1) is where information or any content posted there will be visible to all individuals within the organisation who has access to Yammer. Yammer Groups (Figure 4.2), on the other hand, is an essential part of the Yammer experience. Yammer Groups provide a great setting for teamwork, a more focused discussion whereby individuals participate in the respective Yammer groups share a common interest/ topic.

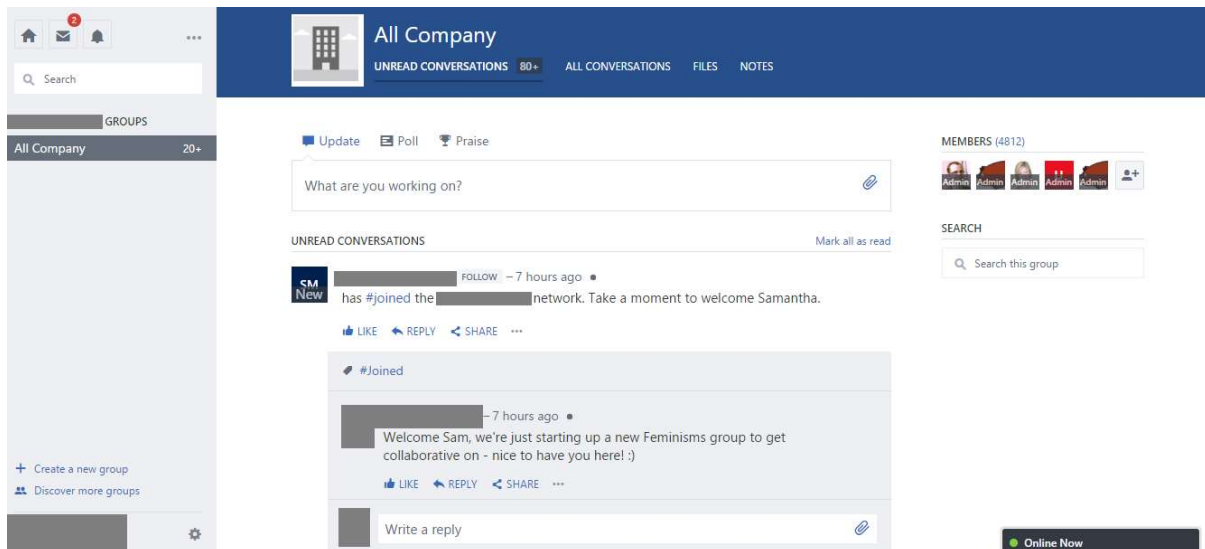


Figure 4.1 Example of the *All Company Newsfeed* in Yammer (Mock Interface Adapted from Yammer Website)

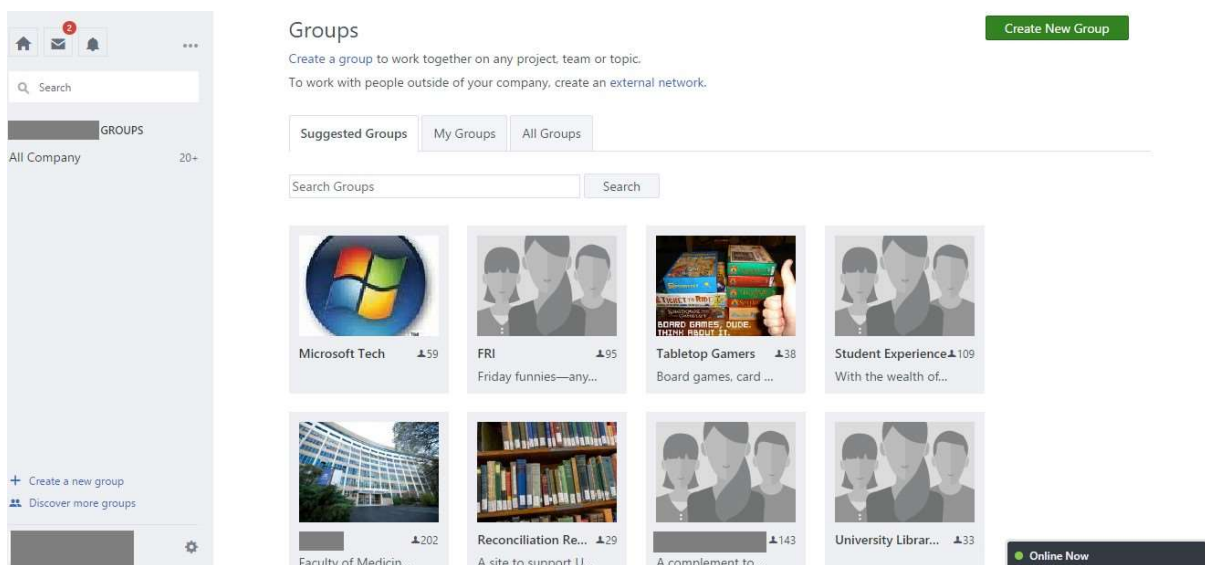


Figure 4.2 Example of *Groups* in Yammer (Mock Interface Adapted from Yammer Website)

Individuals can create one or more groups specific to their interest and limit the visibility of the group exclusivity for the group using the ‘Public’ or ‘Private’ setting option. The Public setting opens up the group to the entire organisation whereas the Private setting limits access to only specific members within the Yammer community. Within Groups, Yammer also enables organisation to extend the network externally to individuals outside the organisation.

This feature, however, is limited to opening a specific group for external networking, limiting the visibility of content from all the company newsfeed and other groups.

On the administrative side, Yammer enables the community manager or administrator to manage users, data, and network access. Essentially, an Enterprise 2.0 platform does not have to be administered by an IT professional to keep the Yammer network running smoothly. Nonetheless, the role of the Yammer admin is important to shape the culture of what's acceptable on the social network and adhere to the organisation's social media policies and usage. While the intention of the administrative feature is not to police the use of Yammer within the organisation, the administrative feature facilitates in Yammer facilitates education, adoption, and cultivates the Yammer community, whilst driving success of the Yammer implementation as well. The straightforward, easy to use administrative feature such as Yammer Data and User Activity enables Yammer admin or equivalent role to have visibility and increased control within the social network.



Figure 4.3 Yammer Analytics Dashboard (Source: King, 2012)

Part of the Yammer administrative feature (Figure 4.3) also includes an analytics dashboard which facilitates organisations to better evaluate individuals' engagement and determine return

on investment. These metrics present information on the Yammer community health, growth, breakdown, adoption and engagement, content analysis, contributor performance, and more.

The set-up of Yammer is user intuitive. Individuals are encouraged to personalise their Yammer profile by uploading a picture of themselves and completing their Yammer profile by adding optional details such as position, expertise, and interests. The profile picture is extremely useful in identifying the user and other individuals in the network community. Once this step is completed, individuals may choose to read through the default 'All Company Newsfeed' or browse through the Yammer Groups they are signed up to. There is also an option whereby individuals may choose to follow other individuals of the organisation to get their updates, i.e. view postings. In addition, there are also numerous ways in which individuals could interact with others or with the community, for example, sharing updates, artefacts, question, link, poll and more. Lastly, the 'Search' feature allows individuals to locate topics, and/or individual or past conversations for quick and easy retrieval of information.

4.7.2 The Oracle Social Network

Oracle Social Network (OSN) was released in 2011 (Oracle Press Release, 2011) as an enterprise collaboration and social networking tool for business. OSN enables business to find and collaborate with the right individuals within the organisation and externally with suppliers, partners, and customers. OSN enables individuals to collaborate with each other using a broad range of collaboration tools, including personal profiles, groups, activity feeds, status updates, discussion forums, document sharing, co-browsing and editing, instant messaging, email, and web conferencing.

Unlike Yammer platform, the design of OSN is centred on social conversations in the discussion forums, woven into Oracle business applications (see Figure 4.4). The central collaboration social object for this platform is conversations enabled discussions on any subject real-time and keeping a full history of the conversations.



Figure 4.4 Example of OSN: The Oracle Social Network and Group Discussion (Source: Oracle Social Network Data Sheet, 2013)

Conversations can include sharing of documents, annotations, and application collaboration (i.e. web conferencing) as the interaction requires. Participants can be added to the conversations when needed, and choose to receive notifications, updates, and digests of Conversations to catch up later. The layout and design of OSN is made to deliver a social network which is simple and lean without huge level of noise which disrupts day-to-day work.

The OSN is also fused to the organisation's business processes via Oracle's proprietary software Oracle Fusion Applications to allow individuals to receive real-time information feeds from the varied systems and to collaborate and resolve business issues quickly and effectively, including updating applications and business processes from the OSN. The strength of OSN is such that the platform facilitates contextual activity streams and conversational collaboration, tied directly into critical business processes and applications. For example, OSN enables the link to CRM record to reflect the status of the transaction and the details of a sales meeting, e-mail exchanges, notes, and other related users may not be reflected in the CRM system. The OSN provides the capabilities to share sales information and documents via mobile, tablet, or desktop devices. By extending social elements into enterprise applications and business processes, OSN aims to help individuals make smarter decisions and solving complex business problems more effectively using contextual data from across the systems. Other usage of OSN (Oracle Press Release, 2011) includes the following:

- To identify potential prospects, build effective teams, prepare convincing sales presentations, resolve issues with customer service and contracts, collaborate with partners on joint opportunities, and build lasting relationships with customers.
- To help marketing teams to design creative marketing campaigns, target the right customers, and collaborate with sales teams to generate the highest quality leads.
- To help human resources professionals and managers to collaborate on workforce planning and staffing, build effective compensation and benefits programs, set goals and objectives, and drive more effective talent management processes.

In essence, the interaction of OSN is built upon four key components: people, social objects, conversations, and content. OSN drive higher adoption and participation through integration with enterprise applications and business processes.

4.8 Chapter Summary

Chapter 4 describes the six case organisations and the two Enterprise 2.0 platforms used by these organisations. Organisations from different industry sectors were selected to observe if there were any patterns, characteristic, and trends related to individual use of Enterprise 2.0. The subsequent three chapters present empirical evidence of themes related to individual use of Enterprise 2.0 (Chapter 5) and the impact on social capital dimensions (Chapter 6). The structure of the next three chapters - Chapter 5, 6, and 7, is illustrated in Figure 4.5 below:

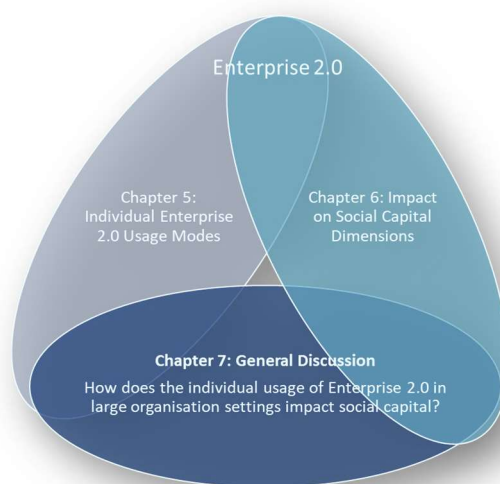


Figure 4.5 Thesis Structure for Chapters 5, 6, and 7

Chapter 5: Findings related to Individual Use of Enterprise 2.0

Based on literature review from Chapter 2 Section 2.3.1 Classification of Individual Users of Enterprise 2.0, individual use of Enterprise 2.0 also referred to as Use Mode is described as: *“The distinct use of the Enterprise 2.0 based on individual’s attitudes and beliefs, social influence and self-efficacy.”* In Chapter 2 Section 2.3 Understanding the Individual Use of Enterprise 2.0, a critical review of the literature highlights the lack of empirical evidence to indicate how individual would use Enterprise 2.0 within large organisation settings. Previous studies (Mäntymäki and Riemer 2016; Richter and Riemer 2009; Riemer and Richter 2012) attempted to categorise the use of Enterprise 2.0, however, a literature review in Chapter 2 reveals that whilst the categorisation fits the purpose of the authors’ work, it is not granular enough to explain distinct individual use of Enterprise 2.0. In addition, Riemer and Hafermalz (2018) also describe that the use of Enterprise 2.0 is malleable. Different form of individual use may lead to different or similar outcome from the use of Enterprise 2.0. However, up until now, this is not evidently clear. As numerous scholarly articles (Chui et al. 2012; Ellison et al. 2014; Giermindl, Franz Strich, et al. 2018; Yingjie et al. 2019) suggest, there are numerous benefits of using Enterprise 2.0 within large organisation settings. Therefore, it is important to establish a clear and unbiased foundational understanding of the use of Enterprise 2.0 to draw inference of the impact and/or benefits from such use.

Chapter 3 explains the case study the research method and the selection of case organisations and interview participants. The background of the organisation and their respective strategy, adoption, and current state of Enterprise 2.0 are discussed in Chapter 4. The next two chapters present that major themes that emerged from the study as a result the of empirical evidence, i.e. themes related to the individual use of Enterprise 2.0 (this chapter) and themes related to the impact of individual use on individual and collective social capital (Chapter 6).

The overall research aim is to study how individuals use Enterprise 2.0 and its impact on social capital. It is essential to uncover at a lower (elementary) level first how an individual uses Enterprise 2.0 to identify use modes as outlined in this chapter. This represents the first hermeneutic circle described by Klein and Myers (1999) that was followed to analyse the data to identify different use modes. In a second hermeneutic circle, the use modes were used to

identify the impact of distinct individual Enterprise 2.0 use on both individual and collective social capital dimensions. Chapter 5 is therefore structured as follows:

- Use Mode U1: Finding Quick Answers or to Get Help
- Use Mode U2: Gathering Insights or Knowledge
- Use Mode U3: Observing and Learning about other Individuals' Activities and Behaviour
- Use Mode U4: Keeping Informed of Organisation Updates and Events
- Use Mode U5: Sharing Insights, Knowledge or Artefacts
- Use Mode U6: Sharing Status or Work Updates
- Use Mode U7: Acknowledging or Encouraging Others

5.1 Summary of Themes resulting from Individual Use of Enterprise 2.0

Based on the data collected, the findings from the first hermeneutic cycle identified 7 key themes to illustrate how individual use Enterprise 2.0. Table 5.1 below presents these (U1 to U7, each a representative use/use mode), the total responses associated with each use mode, and an accompanying description of the key indicators for each theme. In this context, the key indicators are frequently occurring open coding data elements that were consistently and systematically identified during the data analysis, and ultimately clustered into higher order use modes (Templier and Paré 2015). The subsequent sections present in-depth findings for each of the use mode themes. Each of the major themes are revisited in the sections that follow.

USE OF ENTERPRISE 2.0		TOTAL RESPONSES (<i>N</i> =60)	DESCRIPTION (KEY INDICATORS)
U1	Finding Quick Answers or to Get Help	28	• Individuals post request for help or guidance to source of information. • Individuals anticipate serendipitous response to help request. • Individuals locate subject matter experts or contact point.
U2	Gathering Insights or Knowledge	49	• Individuals post questions to promote discussion from wider audience. • Individuals solicit feedback and responses. • Individuals engaged in existing discussion threads to gain better understanding of the knowledge. • Individuals curate content via search, follow, and hashtag.

U3	Observing and Learning about other Individuals' Activities and Behaviour	44	• Individuals follow and/or observe other individuals who they perceive to have greater knowledge of a specific field of interest, someone who has interesting things to share. • Individuals learn more about other individuals.
U4	Keeping Informed of Organisation Updates and Events	47	• Individuals browse through the content. • Individuals enjoy feeling 'in-the-know'. • Individuals discover serendipitous opportunities. • Individuals receive timely updates from internal communications.
U5	Sharing Insights, Knowledge or Artefacts	48	• Individuals voice out feedback and opinions. • Individuals share their passion and interests. • Individuals share their knowledge and expertise to benefit others. • Individuals share useful artefacts or links. • Individuals back channelling information from trainings, conferences, or town halls.
U6	Sharing Status or Work Updates	34	• Individuals adopt working-out-loud approach. • Individuals embrace opinions and feedbacks from others. • Individuals encourage employee engagement and support. • Individuals notify others of events and tasks.
U7	Acknowledging or Encouraging Others	20	• Individuals motivate others via 'Like', follow, or comments. • Individuals direct the attention to recognise others' achievements via sharing success stories or tagging the individual's name.

Table 5.1 Summary of Findings on the Individual Use of Enterprise 2.0

5.2 Finding Quick Answers or to Get Help (U1)

The U1 use mode refers to how an individual uses Enterprise 2.0 to find quick answers or to get help from others. Almost half (28 out of 60) participants mentioned they would turn to Enterprise 2.0 for quick answers to their questions and problem-solving. In other words, individuals would typically post a request on Enterprise 2.0 for help or guidance to knowledge source from the wider audience within the social network. Often questions are posted in the all company newsfeed or a specific work group (if known) and broadcasted for all in the hope for serendipitous responses or answers from others.

Enterprise 2.0 is proved to be a good avenue to ask questions especially where individuals do not know who and where to address the questions to. Through the asking of questions in a broadcasted environment, individuals often anticipate serendipitous responses from other individuals who they may not necessarily know, but who may be residing in other parts of the organisation. A manager from Case C expressed that when he doesn't know who to reach out

to for help, he often posts the question or request for help on Enterprise 2.0 and finds that the network is usually very responsive.

The senior consultant from Case B expressed a similar view:

It's a great place to ask questions and you get quick answers. Quite often, you get more than one answer. People are generally good that if they can't help you, they'll point you to someone who can help you. They'll say, "I know that such and such is good", so that you connect with them (Senior Consultant, Change Management - Case B).

Enterprise 2.0 enables social interaction allowing more than one individual to respond to a post that is visible in the social network. Due to this reason, the Client Manager from Case A explained that he trusts the answers he receives from others in Enterprise 2.0. When there is incorrect or misleading information provided, others would comment on the response to correct the information:

Other people would see that response and comment appropriately. It is like a crowd check on [Enterprise 2.0] (Client Manager, Tax - Case A).

It was also observed that some individuals found Enterprise 2.0 useful to locate subject matter experts or a focal person for a particular topic. In the following interviewee's response, the example provided was that an individual who was going to meet a potential client from Korea. He just assumed they would have a translator with them, but he found out later there was no translator arranged. So, he posted a request for help in Enterprise 2.0, and within an hour, he was lined up with a list of people to do the translation.

Someone posted, "I need a Korean speaker to attend a meeting with the client from 11:00 to 12:00pm tomorrow." Same day, half an hour later, someone replied, "Alright, talk to these people", with the name tagged on to the post, and they do not know each other (Partner, Technology - Case A).

The empirical evidence also indicated that some individuals uses Enterprise 2.0 to seek answers from subject matter experts across the broader social networks to solve a complex problem or task. Partner from Case A described how he used Enterprise 2.0 on occasions during client

engagements to provide quick answers to clients. He also explained that his ability to respond promptly to a client was crucial for the professional services organisation:

Sometimes during a client meeting, if there is a particular issue that comes up, I will post that on [Enterprise 2.0] and very often during the session they [the social network] will be able to provide the answer. It is really about reducing the time [to get answers to questions] (Partner of Digital Transformation, Innovation, Social Capital - Case A).

On the other hand, the Graduate from Case B explained that questions posted in Enterprise 2.0 do not always have to be complex or sophisticated work issues or problems. It could also be simple question such as:

I needed someone to help me with Excel and I put a post in it saying, “Hey, can anyone help me with my Excel problem?” ... That facilitated someone who said, “Yes I can help” and then I set up a meeting with him and he helped me to do it (Graduate, Change Analyst – Case B)

A few other Graduates from Case B expressed similar views on the usage of Enterprise 2.0. They agree that Enterprise 2.0 was helpful for them when they needed help even using common office software, for example, SharePoint or Excel. One of the graduates further described that she finds Enterprise 2.0 to be the first starting point to post questions about using Excel or Word. The responses to her posts are often very useful to help her with the work activity. Nonetheless, based on the empirical evidence, it was observed that this type of usage seeking help to use Excel or Word, was more frequently used among junior level of employees. Observations revealed that most individuals would use Enterprise 2.0 when they were stuck and needed help, as explained by Infrastructure Analyst from Case C:

I would ask for help on [Enterprise 2.0] when I don’t know where to start and none of my peers know where to start (Infrastructure Analyst – Case C).

It was found that the individual use of Enterprise 2.0 in use mode U1 may not always necessarily be directly related to the work activity. The Communication Advisor from Case C explained that she posted other types of question on Enterprise 2.0:

The water tap was not working the other day, and I put up a post on [Enterprise 2.0], saying “Hey, are the water taps not working?” The property people came back to me via [Enterprise 2.0], and I got a response (Communication Advisor - Case C)

The individual use of Enterprise 2.0 to find quick answers or to get help was visible across all of the case organisations. However, it is also observed that the use mode U1 to find quick answers or to get help on Enterprise 2.0, was more widely used across individuals from Case A and B. Although not explicitly mentioned in the other cases, there was empirical evidence from Case A and B which demonstrates the ways of using Enterprise 2.0 in this manner. The Knowledge Manager from Case A described their actions to ensure that employees use Enterprise 2.0 to seek help stating:

We encourage people, when they are stuck, and they have looked through things they know about, to jump on [Enterprise 2.0] and ask and get others to help (Knowledge Manager, Knowledge Solutions - Case A).

Similarly, the same encouragement was observed in Case B, as explained by the Communications Manager:

We informed the people that if there is anything they want to find out, they should go to [Enterprise 2.0]. That will be the first spot, and if you ask a question we’ll get back to you straightaway (Communications Manager, Property Services – Case B).

5.3 Gathering Insights or Knowledge (U2)

The U2 use mode refers to how individuals use Enterprise 2.0 to look for *new information or knowledge* from the wisdom of the crowd (the social network). The empirical evidence indicated 49 out of the 60 interview participants would use Enterprise 2.0 in this manner (this was also the highest use mode). The U2 use mode is distinct from the U1 use mode which refers to individual usage of Enterprise 2.0 to find quick answers or to get help. The U2 use mode is different whereby an individual posts examples of his/her thoughts, ideas, articles, or links to a knowledge piece to gather feedback and responses from other individuals on Enterprise 2.0. Individuals who use Enterprise 2.0 to gather insights in this way, seek to promote discussion on Enterprise 2.0. Besides starting a new post on Enterprise 2.0, sometimes,

an individual participates in existing discussion threads on Enterprise 2.0 by commenting to responses or original posts to probe for more responses to build their own knowledge. The focus on the U1 use mode is not on the interaction with other individuals but the ability of individuals to perform their tasks by getting help from the wider social network. Typically, the U2 use mode entails more interaction with others on Enterprise 2.0 as presented in the following paragraphs.

The Team Leader from Case C explained how he used Enterprise 2.0 to gather feedback from individuals from the broader all company network to understand the sensation of workplace of the future:

The posts I did was very simple. It was along the lines of "What can you see or what can you envision for your new workplace in the future? "What things do you need or what do you want in your new workplace of the future?" It all mean different things for different people. For some people it can be as simple as "I need a car park space!" (Team Leader, Planning and Relocation - Case C).

The question he posted on Enterprise 2.0 received a lot of feedback from the crowd. As Case C was planning to re-locate to a new location, the Team Leader from Case C remarked the insights gathered was valuable to help him plan the workspace arrangements for the new office.

The subsequent empirical evidence demonstrates individual use of Enterprise 2.0 to gather insights and knowledge by way of soliciting feedback and responses on campaigns or initiatives. The Executive General Manager of People Services from Case C described how she used Enterprise 2.0 to gain insights on the mentoring program the team has conducted. A community group on Enterprise 2.0 was set up for the women who participated in the mentoring program. The participants were encouraged to share and voice their thoughts, opinions, or suggestions on Enterprise 2.0 as follows:

We ran a mentor program for women. The participants started a discussion on [Enterprise 2.0] about the program being too intense, "I need more space between the modules you know this is too much with my work load I can't fit it in. It is making me feel stressed."

The Executive General Manager saw the comments in the discussion and gathered that the participants were feeling overwhelmed by the hectic schedule lined up for the mentoring program. She immediately responded by working with the team to revise the program plan as follows:

I went back to the people who are running the program and said "Oh, look, why don't we look at changing the program? It doesn't matter if we spread it out so that they meet every two weeks or three weeks." So, we extended the program and responded on [Enterprise 2.0] and said, "We've listen to what you've said and we don't want you to feel stressed about the timing of the program. We've extended it over a longer period" There was a lot of positive response to that (Executive General Manager, People Services - Case C).

The Executive General Manager further remarked that Enterprise 2.0 provides the avenue to listen to the crowd. She also explained that due to the hierarchy and structure of the organisation, without Enterprise 2.0, this type of information may not be visible to her.

Until now, the empirical evidence presents how an individual uses Enterprise 2.0 in use mode U2 to gather insights from others to help him/her with their work and to gather feedback about program initiative. The Direction of Knowledge Solutions from Case A presented another view on how the Chief Information Officer uses Enterprise 2.0 to gather insights and to address complains from others in relation to the slow network experienced within the organisation. There were lots of individual's postings and comments on the Enterprise 2.0 regarding the organisation's network infrastructure. The Chief Information Officer took the opportunity to listen and engage with the individuals on Enterprise 2.0. He asked for clarification and provided facts to further the discussion on Enterprise 2.0. The outcome was that he gained a better understanding of the problem than before:

People started complaining on [Enterprise 2.0] about the network. Our CIO got in to the discussion. Quite a few people I think jumped on [to comment on Enterprise 2.0] ... I think it was a very successful use of [Enterprise 2.0] because I think everyone understand the issues better now (Director, Knowledge Solutions - Case A).

Observations indicated that individuals in more senior management roles use Enterprise 2.0 to gather employees' sentiments. Nonetheless, evidence shows that use mode U2 was also widely

used by individuals to build knowledge on specific interest areas. Evidently, the Senior Business Analyst from Case B explained that she uses Enterprise 2.0 to hear a different perspective from individuals of different knowledge backgrounds. She further elaborated that although she was working in a banking and financial organisation, she rarely interacted with individuals from the business as her work was more project-based:

So, when bankers use [Enterprise 2.0], they talk about very different things to other people in projects or in the head office role would talk about. Likewise, people located in regional areas outside of major city locations, they have a completely different perspective and raise different questions and have different opinions of things (Senior Business Analyst, Regulatory Change Implementation - Case B).

On a slightly different note, a Senior Consultant from Case A explained how he used Enterprise 2.0 to post topics he was interested in to promote discussion with others on the social network that helped to build his knowledge about a topic:

I am passionate about posting newspaper items or interesting topics [on Enterprise 2.0]. It is like starting a conversation and seeing who else is there that are interested. People are usually pretty open to talk about the things that they are interested in (Senior Consultant - Case A)

Up until now, it can be observed that individual used Enterprise 2.0 to gather valuable insights and knowledge through soliciting feedback and responses of a particular topic of interest/current issues and to tap into the knowledge of individuals with different expertise and work background. In addition to the aforementioned means of gathering insights and knowledge, empirical evidence also demonstrated that individuals used Enterprise 2.0 to browse through and aggregate content. The use of Enterprise 2.0 to gather insights in this manner was also referred to as content curation which is facilitated via the 'Search', 'Follow', and 'Hashtag' features enabled in most Enterprise 2.0 platforms. A Strategic Marketing Consultant from Case B explained the usage as follows:

Enterprise 2.0 is a good way to get access to information that I like. I'll use RSS feed or Search to aggregate a whole bunch of content that I want to read ... People are sharing

content that I like. That is my reading list in the morning (Strategic Marketing Consultant - Case B).

The evidence above indicates that use mode U2 also includes individual searching, organising, and annotating content to keep track of information sources or those who possessed useful knowledge on Enterprise 2.0.

5.4 Observing and Learning about other Individuals' Activities and Behaviour (U3)

More than half (44 out of 60) participants used Enterprise 2.0 to observe and learn about other individuals' activities and behaviour on Enterprise 2.0. The U3 use mode refers to individual use of Enterprise 2.0 based on following and/or observing other individuals who were perceived as having greater knowledge of a specific field of interest, or someone who has interesting things to share. In the process, the individual learns more about other individuals based on their interactions on Enterprise 2.0. Observations indicate that individuals who observe other individual's activities on Enterprise 2.0 consumes the information created by others.

When following other individuals, activities on the social network such as posting or commenting of the person being followed, will become visible (or appear as notifications) in the newsfeed or the individual doing the 'following'. A Director from Case A expressed he followed specific individuals on Enterprise 2.0 to see what they were discussing or working on. He described that the 'Follow' feature on Enterprise 2.0 aggregates and personalises the newsfeed showing activities of the individuals or groups who he followed.

I am in the start-up community group [on Enterprise 2.0] as I have an interest in start-ups outside of work. I follow most of the guys that are in that group based on the kind of things that they post [on Enterprise 2.0] which are of similar interest to mine. (Director, Strategy and Operations - Case A)

Similarly, a Graduate from Case B explained how he would use Enterprise 2.0 to follow individuals who post quality content. He remarked by observing and following other

individuals, it has helped him tremendously in his on-boarding process and helping him to gain better understanding of the organisation and the people.

I've been following people [on Enterprise 2.0], people who I've met and people who post quality content on things that I'm interested in like information security groups (Graduate, Frontline and Internal Channels - Case B).

Sometimes by observing over a period of time, some interviewees explained that they developed a sense of familiarity with some individuals who were active on Enterprise 2.0. Another Senior Consultant from Case A explained that Case A was a large organisation with offices across Australia and globally, and due to the nature of consulting work in Case A, some of the individuals he follows are people whom he does not know or have not seen before in the organisation. He mentioned that he learned more about other individuals within the social network when observing their postings and comments and allowing him to develop a better sense of who they are, and what they are interested in.

I think after monitoring it [network interactions on Enterprise 2.0] for a long time, you can get to know people based on what they post and what they know (Senior Consultant, Technology - Case A).

By the same token, the Senior Relationship Manager from Case B expressed how she could learn more about the person whom she had a meeting with and have not met before:

Several times, I've gone into a meeting and I've just been introduced to someone and I know them because they're on [Enterprise 2.0]. It is sort of like an ice-breaker, and you'd say "Well, I know you through [Enterprise 2.0]" (Senior Relationship Manager - Case B)

The Partner from Case A also explained how he followed the senior management team whom is perceived as thought leaders in the organisation. He described that this was a great way to get to know the leaders who is not always visible to teams in the organisation. He described one of the leaders as follows:

He got involved and started to share anything from a day in the life of a CEO or talked about things via [Enterprise 2.0] (Partner of Digital Transformation, Innovation, Social Capital - Case A).

Congruently, Knowledge Manager from Case A expressed that she often follows senior leaders of the organisation to observe their comments and/or postings on Enterprise 2.0. She further explained that she views some of the leaders as role model and by observing their activities on Enterprise 2.0, she was able to pick up exemplary leadership characteristics useful for her own career growth:

I look at other people's activity [on Enterprise 2.0] and I actually like to observe other people and try to model that behaviour (Knowledge Manager, Knowledge Solutions - Case A).

On the opposite side, the Service Desk Coordinator explained that he has many followers due to the frequent work-related updates he would post on the social network:

Because I am part of IT, and being one of the coordinators within the services, people will follow me, and they'll be alerted when I do or share something [on Enterprise 2.0] (Service Desk Coordinator - Case C).

In this observation, the Service Desk Coordinator from Case C was being followed and/or observed by other individuals because of his role which requires working closely with lots of different groups within the organisation. More importantly, these individual shared frequent updates of information relevant to many. By following him, individuals got alerts from the information shared.

5.5 Keeping Informed of Organisational Updates and Events (U4)

Use mode (U4) explains how an individual uses Enterprise 2.0 to stay informed of organisational updates and events. This mode of individual usage is considered a passive type of usage with limited to no interactions with others on the social network. The empirical evidence shows 47 out of 60 interview participants used Enterprise 2.0 in this manner, which was the third highest use mode. The most observed individual use mode was the use of

Enterprise 2.0 to crowd source and gather insights or knowledge (U2). This is discussed earlier in Section 5.3. The second highest individual use mode was to use Enterprise 2.0 to share insights or knowledge (U5), which will be discussed in later Section 5.6.

It is important to note that whilst this type of individual use presents limited interactions with others, and that there are high number of responses, it does not mean that individuals are predominantly using Enterprise 2.0 to browse content on the newsfeed. Empirical evidence indicates that individuals typically use at a minimal a combination of two different use modes which entails some form of interaction with others.

Overall, the study findings indicate that individuals use Enterprise 2.0 as a vehicle to stay abreast of organisation-wide updates and events. Most interviewees expressed that they enjoyed feeling ‘in-the-know’ and often browsed through the content on Enterprise 2.0 to have a richer understanding of the organisation (i.e. work groups) or in hope for serendipitous discovery of useful information. The following examples of two interview excerpts support this evidence.

The reason I check [Enterprise 2.0] daily is just to see what’s going on, because everyone posts updates there [Enterprise 2.0] (Senior Consultant, Technology - Case A).

But then by just hearing those conversation, which I can consume my time rather than to be online all the time, I get to know the voice of the particular part of the business. I understand more about the culture of the Melbourne office or Sydney office through [Enterprise 2.0] before I go and visit them. I will know whether it is Grand Finals in Melbourne, or rugby in Sydney based on the conversation (Partner of Digital Transformation, Innovation, Social Capital - Case A).

There are numerous responses from interviewees that explain the usage of Enterprise 2.0 to stay in the loop about what is happening in their organisations. Some interviewees also expressed the significance of Enterprise 2.0 in facilitating individuals to stay informed of organisational updates and events. There is a constant fear of not knowing what you do not know particularly in large organisations. Therefore, Enterprise 2.0 is used as a mechanism to get access to timely updates and the ability to filter through the myriads of updates and events according to the relevance of the individual’s background and interest. The following two

examples expressed how the interviewees felt about the significance of staying informed of organisation updates and events and the urge to be knowledgeable to stay ahead of the game.

The Knowledge Manager from Case A explained that she was afraid on missing out on important events, some that were not published widely in the organisation's intranet but discussed in [Enterprise 2.0]:

I look at the all company newsfeed [on Enterprise 2.0] every day. There is a lot happening in the newsfeed ... It is also the constant feeling of fear of missing out (Knowledge Manager - Case A).

She also explained that she used Enterprise 2.0 to seamlessly stay abreast of the pulse of the organisation without having to get explicit status updates. Similarly, the Manager of Spatial Services from Case C also described the use Enterprise 2.0 to stay informed and being kept up-to-date of organisational updates and events.

... if you're not in there [Enterprise 2.0], I think you miss out a on a bit (Manager Spatial Services - Case C).

However, based on observations, this scenario was only true if the social activities on Enterprise 2.0 within the organisation or specific interest group were active.

Observations indicate that through browsing the content on Enterprise 2.0, the serendipitous discovery of information in Enterprise 2.0 may sometimes translate to opportunities, as explained below by the Analyst from Case A.

Just to see what else people do so within the firm how they are interacting, what sort of work they are doing, or if there are some opportunities. I've got on some projects purely because I have been active on [Enterprise 2.0] and I put my hand up [for the opportunity] (Analyst, Technology Assurance - Case A).

A Graduate from Case B expressed similar view:

It's a good way to get an idea of what's going on around the organisation. It's a good way to get a feel if anything coming up, and it's a good way to kind of see if there is any interesting project that's coming that could be investigated (Graduate, Anti-Crime Solution - Case B).

The two interviews excerpts above described how interviewees got the opportunity to be engaged in different projects through observing the content posted on Enterprise 2.0. Observations indicated that individual usage in this manner and the opportunity to get involved in projects occurred more among junior-level employees, as indicated in the examples of both the Analyst from Case A and the Graduate from Case B.

Other than that, often campaigns and events got mentioned in the all company newsfeed within Enterprise 2.0. The Strategic Marketing Consultant from Case B described how she came across an event mentioned in another individual's post on Enterprise 2.0 and as a result, she managed to sign up and attended the event.

There's an event series that I stumbled upon as someone mentioned it on [Enterprise 2.0] and now I attend those events. Like there's no way that I would have found out about them outside of Yammer (Strategic Marketing Consultant - Case B).

Some interviewees with a corporate communication background also explained how Enterprise 2.0 was used as an internal communications tool to keep employees informed and enthused.

Lastly, as mentioned at the start of the section, use mode U4 which explains individuals' use of Enterprise 2.0 to stay informed of organisations updates and events, is a passive form of individual usage of Enterprise 2.0. However, empirical evidence indicates that individuals who use Enterprise 2.0 typically observed more than two different use modes. The Senior Policy Officer from Case C described how she would use Enterprise 2.0 to stay informed of updates and events in the interest group:

Sometimes I'll just scan and see if there is anything interesting happening in my interest group [on Enterprise 2.0]. If I notice something that might be of interest to others, I'll post

it back on [Enterprise 2.0] to the all company newsfeed to a wider audience (Senior Policy Officer - Case C).

The evidence above demonstrated how use mode U4 may lead to use mode U5 which is to share insights, knowledge, or artefacts on Enterprise 2.0, which is discussed in the next section.

5.6 Sharing Insights, Knowledge, or Artefacts (U5)

The U5 use mode refers to how an individual uses Enterprise 2.0 to share insights, knowledge, or artefacts with others in social networks. The empirical evidence indicates that 48 out of 60 interview participants would use Enterprise 2.0 in this manner. Use mode U5 is also the second highest use mode following use mode U2 which describes individual use of Enterprise 2.0 to gather insights or knowledge.

The study findings indicate that Enterprise 2.0 connects individuals with similar interests, allowing individuals to share their opinions, effectively increasing the incentive for one to speak out regarding their beliefs, views, and insights. In this context, both the Client Manger from Case A and Team Leader from Case C expressed similar views and often share a post on Enterprise 2.0 or commented on other postings which resonates with their interest or expertise as follows:

I'll comment on the information if I think I can add insights to. I'd do the normal [on Enterprise 2.0] just scan through to see if there is anything interesting that I want to like or comment on (Team Leader Project Delivery, Major Projects - Case C).

I post a lot on the interest groups... I am passionate about postings that just come out of newspaper or interesting topics that just come out or project we are working on. It is like starting a conversation and sees who else in there that are interested (Client Manger from Case A)

It was also observed that individuals used Enterprise 2.0 to share information, article or documentation which they find interesting or may be helpful to others. Although the usefulness is arguable and relative to the audience, nonetheless, individuals use Enterprise 2.0 for the sense of being able to provide help by sharing their knowledge. The Analyst from Case A

expressed that he would share articles or add a link to an article he found insightful on Enterprise 2.0.

That topic that I have posted on facial recognition most people wouldn't come across that article so as you share this information maybe someone somewhere else they might have use for that information (Analyst, Technology Assurance - Case A).

The Analyst from Case A explained that he was not too concerned if the information shared was useful or not to others. More importantly, by consistently posting articles or continuing conversations on a specific topic on Enterprise 2.0, it demonstrates his interest and knowledge about the topic or subject area. In another observation, the Senior Consultant from Case B expressed how she came across a request on Enterprise 2.0 for a specific article. As she had access to the research database, she looked up the article and shared it with the person on Enterprise 2.0 as follows:

Someone put a post on [Enterprise 2.0] looking for an article. I was doing my Master's degree at the time. I had access to all the hard and soft copy articles. I sent him a message and said I can get that article in PDF and he asked to share it on [Enterprise 2.0] (Senior Consultant, Change Management - Case B).

A Graduate from Case B explained in the evidence below that whenever she comes across someone asking for help in Enterprise 2.0, if she knows another individual who has the answer and would be able to help, she would use the 'tag' feature to link the person. By doing this, the individual who has been tagged would see the original post requesting for help.

If I feel like I have something valuable to contribute, then I contribute in comments. If I see something that I know a person who might be of help, then I'll comment their name (Graduate - Case B)

In the scenario above, the Graduate from Case B connected two individuals who do not know each other in the organisation via Enterprise 2.0. A Partner from Case A explained that scenario like this happens very often in Enterprise 2.0. He further explained that individuals linking both parties actively on Enterprise 2.0 are referred to as *Super Connectors*, and that this type of users was important in the network to bridge knowledge gaps within the organisation.

The observations also indicated individual use of Enterprise 2.0 for backchannelling information. A backchannel is a conversation that takes place alongside an activity or event, for example training, general meeting, or conference. The Communications Manager from Case B expressed that post an event, Enterprise 2.0 is often used as a platform to discuss individuals' sentiment, thoughts, and views about the event as follows:

People who attended that session made comments. They made comments on [Enterprise 2.0] and other people were asking [on Enterprise 2.0]. For example, "So what was that session like?", "Oh, well I learnt this" and someone else said, "Oh I learnt this and so on." (Communications Manager, Property Services - Case B).

She further explained that as individuals share their views about the event on Enterprise 2.0, the discussion on Enterprise 2.0 helped to broadcast the event further to a wider audience which was more effective than the traditional communication methods. In this instance, she also referred to traditional communications method as emails or announcements on the organisation's intranet.

It was a great way without us [Communications Team], pushing the message. It was using the people as advocates who pushes the message a lot further to the audience (Communications Manager, Property Services - Case B).

Lastly, empirical evidence also indicated that individuals used Enterprise 2.0 to share information that may not always necessary be work related. As evident in all case organisations, there are community groups which are created for interest groups. Some of the common community groups created across the case organisations were 'Photography', 'Cycling', 'Running', 'Buy-Swap-Sell', and more. Observations indicate that individual participating in these groups will at times share information that are not work related but specific to the interest group. In the following example, Acting Business Operations Specialist from Case C expressed her view:

I took a really good photo and I posted that on the photography page just for people to look at and comment on, and hopefully they will like it (Acting Business Operations Specialist - Case C).

5.7 Sharing Status or Work Updates (U6)

The empirical evidence shows that 34 out of 60 interview participants used Enterprise 2.0 to share status of work updates on Enterprise 2.0. As opposed to sharing insights, knowledge, ideas or artefacts, the U6 use mode refers to individual usage to post status or work updates with the intention to keep others informed of planned, current, and/or completed work or activities. U6 use mode entails a relatively one-way interaction compared to the previous U5 use mode, where the latter explains that individual who shares the status or work updates on Enterprise 2.0 may not anticipate responses from others viewing the posts. Individual use of Enterprise 2.0 in this manner increases visibility in the social network.

On a similar note, empirical evidence illustrates that individual uses of Enterprise 2.0 to post work updates or status is coherent to the notion of ‘working-out-loud’ where individuals practice a gregarious way of working, making visible their knowledge, experience, achievements, and perspectives to the wider audience within the social networks. Usage in this manner is observed from Senior Consultant from Case A and Global Client Advisor from Case D as follows:

I did a lecture I posted onto [Enterprise 2.0] page and informed everyone [on Enterprise 2.0] that I talked about it (Senior Consultant, Technology - Case A).

The post could be in the form of an announcement or a new message that says, “Hey, here’s what I’m doing... or here’s what’s happening (Global Client Advisor (1), Key Accounts - Case D).

The empirical evidence also indicates that individual who uses Enterprise 2.0 to share work status and to make it visible for everyone in the network revealed that ‘working-out-loud’ work style requires a change of mindset where individuals believe in the network, embracing opinions and feedbacks from other individuals, and having the confidence and sense of pride in the work they do.

While it can be observed that the ‘working-out-loud’ is not widely practiced across the case organisations, nonetheless, it is observed that individuals generally share status or work updates

to support strategies, projects, and work activities. The Partner from Case A below explained how he used Enterprise 2.0 for project management. He explained that a community group was set up on Enterprise 2.0 to manage a specific project. All team members have been added to the community group so that they can have visibility and be able to participate in the activities within the network. In one of the scenarios explained, the Partner from Case A remarked that flexibility was important for his team. He recognised that sometimes there are team members who are working parents who may need to drop off their kids, or there may be team members who work remotely in different time zone. These circumstances may prevent the team from doing daily project stand-up at a set time to provide updates on project activities. He expressed how Enterprise 2.0 was used to enable individuals to share their work status updates as follows:

Similar to other technical projects, we will have a morning stand up meeting [on Enterprise 2.0]. Everyone would post their updates on [Enterprise 2.0] by 9:30am on what they did yesterday, what they plan to do today, and any roadblocks (Partner of Digital Transformation, Innovation, Social Capital - Case A).

He further explained that when he read through individuals' postings on Enterprise 2.0 that related to their work updates, he gained a better perspective about the project's progress. Similarly, in a different team in Case A, the Knowledge Solutions participant explained how she used Enterprise 2.0 to provide work updates as follows:

It's worth keeping everyone on the team up to date with what's happening. I try to go on [Enterprise 2.0] every fortnight and just give an update on what we're working on (Director, Knowledge Solutions - Case A).

The Global Client Advisor from Case D expressed similar comments to the abovementioned usage comments but emphasized the usefulness of Enterprise 2.0 to get work updates. In this scenario, Global Client Advisor used Enterprise 2.0 in use mode U6 in combination with use mode U2 to gather insights, knowledge, or artefacts.

If someone couldn't attend the meeting or if they forget some things, they can always go into the [Enterprise 2.0] conversation and find the updates there (Global Client Advisor (2), Key Accounts - Case D)

In addition, the empirical evidence also presents that individuals used Enterprise 2.0 to share status updates in relation to incident or technical issues. The Service Desk Coordinator from Case C provided support and troubleshooting for all technology-related issues in the organisation. His team is the first point of contact for everyone in the organisation for when they experience, for example, technology connection issues or server down issues. He then explained how he used Enterprise 2.0 to share updates:

Two or three months ago, we upgraded our internet. In the process, the upgrade was impacting all end users. We've posted daily updates on [Enterprise 2.0] so people can see that and be informed of the progress (Service Desk Coordinator - Case C).

In the next scenario, the Chief Executive Officer from Case B was using Enterprise 2.0 to provide timely updates of a power outage incident which impacted employees and customers:

Because we had this technology issue, branch staffs were getting queries from [work group] customers about the power outage. I posted in the [Enterprise 2.0] network to say, "Look we got an outage and we're working on it" ... You know giving them updates (Chief Executive Officer - Case B)

There are also instances gathered from the empirical evidence where the status (post) shared was not specific to a project or work activities. In the following response, the Graduate from Case B posted a status of an event she attended on Enterprise 2.0. The interviewee explained that her team leader discovered the post serendipitously and extended the opportunity to the rest of the team members to go on the same tour.

I think [Enterprise 2.0] is mind enabler. Someone posted something [an update on Enterprise 2.0], "Oh, I went on a really cool tour the other day". My team lead saw and asked me if there is anyone else who wanted to go (Graduate, Change Analyst - Case B).

A similar experience was expressed by the Senior Relationship Manager from Case B:

This event is usually open to Shared Services in our business unit only but because we posted it on [Enterprise 2.0], I had people calling me from another business unit saying, "Can we please come because we're looking forward to participating in a community

event?” It was so amazing because you know they could participate in a beautiful festival and feel part of the community (Senior Relationship Manager - Case B).

Within the same context, the Director from Case A also described how Enterprise 2.0 is used as a broadcasting platform to share general updates and announcements or to create a buzz and excitement to encourage participation and involvement.

There is a Sydney ride festival last week, or if that is a team outing, I would post that up [on Enterprise 2.0] and get people interested and going along (Director, Strategy and Operations - Case A).

5.8 Acknowledging or Encouraging Others (U7)

Use mode (U7) explains the individual use of Enterprise 2.0 to acknowledge or to encourage others. Observations indicated that individual who uses Enterprise 2.0 in this manner would use the ‘Like’, ‘Follow’, ‘Tag’ or ‘Comment’ features to recognise others’ achievements or contributions to the network or the organisation at large. The empirical evidence shows 20 out of 60 interview participants used Enterprise 2.0 in this manner, which is the lowest use mode compared to the U1 to U6 use modes. Nonetheless, this use mode was important for this study as findings indicate that the individuals using Enterprise 2.0 to acknowledge or to encourage others promoted interaction with others within the social network which draws out positive feelings from the individual using Enterprise 2.0. As such, the U7 use mode was crucial to be examined if it had any impact on the social capital dimensions. Empirical evidence also demonstrated that individuals from Case A, B, and C use Enterprise 2.0 in this manner more commonly than Case D. This mode of usage was not observed in Case E and F.

To further explain, based on the empirical evidence, it can be observed that individuals use Enterprise 2.0 to recognise a contribution or an achievement. The use of Enterprise 2.0 to provide acknowledgement and encouragement can be achieved in many different ways. Individuals would comment, or sometimes, award a ‘Like’ (a feature of Yammer) to acknowledge the posting or comment made by other individuals who contribute ideas that add value to the discussion thread. The form of recognition or simply the act of a ‘pat-on-the-back’ can be explained as a psychological factor that contributes to one’s motivation and productivity. The U7 use mode is explained in the following scenarios from Case A, B, and C.

The Knowledge Manager from Case A explained how she used the ‘Tag’ feature on Enterprise 2.0 to call out the person’s name on the posting or to click on the ‘Like’ feature to acknowledge the good work performed by the person:

I like to kind of recognize people when they are helping each other (Knowledge Manager, Knowledge Solutions - Case A)

Observations indicated there are occurrences where individuals who would tag another individual on Enterprise 2.0 to highlight one’s experience and achievements, shining the spotlight on their other individuals who have done well.

On the other hand, the Strategic Marketing Consultant from Case B and the Infrastructure Analyst from Case C both expressed how they will comment on Enterprise 2.0 to encourage the person making the post to continue the discussion on a topic on Enterprise 2.0 as follows:

I’ll comment just for the sake if no one else has commented and I’d like to encourage some discussion (Strategic Marketing Consultant - Case B)

I respond just because it’s interesting or somebody has done a good job, or I want to see more of that (Infrastructure Analyst - Case C)

Some interviewees explained that they enjoyed receiving the instantaneous feedback via Enterprise 2.0 which boosted their work productivity and motivation. The interviewees expressed that they felt good receiving the public albeit virtual praise and recognition for the work they do and also knowing that they are on the right track. The impact is usually far greater when Enterprise 2.0 was used by senior management to provide acknowledgment or recognition, as explained by the Partner from Case A as follows:

For me the ‘Like’ tool is particularly powerful because I got 30 people report to me and they are all telling me what they are doing [on Enterprise 2.0] ... providing a ‘Like’ is a great way that I can let them know that I know what’s going on (Partner of Digital Transformation, Innovation, Social Capital - Case A).

The Executive General Manager from Case B also explained that she used the ‘Like’ feature on Enterprise 2.0 to demonstrate interest and encouragement to others.

5.9 Chapter Summary

Chapter 5 provides detailed empirical evidence based on the sixty interviews conducted across six large organisations. Sections 5.2 to 5.8 present findings on how individuals use Enterprise 2.0, which are categorised into seven distinct use modes. Differentiating use modes into seven distinct categories enables systematic analysis of the impact on social capital dimensions. The next chapter presents findings on the impact from the individual use of Enterprise 2.0 on the structural, cognitive, and relational social capital dimensions as discussed in Section 2.7.

Chapter 6: Findings related to Individual Use of Enterprise 2.0 and its Impact on Social Capital Dimensions

To recall, the main research question that guided this investigation is:

How does the individual use of Enterprise 2.0 in large organisation settings impact social capital?

In Chapter 5, empirical evidence was provided on individual use modes of Enterprise 2.0 within large organisation settings. Seven different use modes (U1 to U7) emerged as the major themes that represent how individual use Enterprise 2.0. A deeper understanding of the different use modes is important to better understand Enterprise 2.0 use at a granular level. This understanding sets that basis for presenting the empirical evidence on the usage of Enterprise 2.0 and its impact on social capital dimensions. This chapter builds on the literature and conceptual model discussed in Chapter 2 and consist of the following sections:

Sections 6.1 to 6.3 summarise and organise the key themes and sub-themes emerging from the findings in Table 6.1 below. Table 6.1 also provides the total responses for each themes and sub-themes and the description of the key indicators to ensure consistency in analysis and coding. Recall in Section 3.4 Data Analysis, the hermeneutic circle approach is followed to make sense of the whole subject area, and the relationship between the individuals (user types), the social capital dimensions, and the individual use of Enterprise 2.0. The first hermeneutic cycle in Chapter 5 identified 7 use modes to illustrate how individual use Enterprise 2.0. In the second hermeneutic circle, the use modes were used to identify the impact of distinct individual Enterprise 2.0 use on the social capital dimensions.

The key indicators presented in Table 6.1 refers to the common recurring patterns observed in the transcript data, and nodes were created in the process to house relevant excerpts or text from the transcripts. During the coding process, there is often more than one references for one participant for one node. For example, participant A has 3 references of the node 'Breaking Down Communications Barriers.' The NVivo12 software used to assist with the coding was configured to capture the count of each participant under specific node with no double-counting

of entries. As discussed in Section 3.5 Research Validity and Reliability the nodes are also revisited and cross-checked again with the key indicators to ensure validity. The subsequent Section 6.4 synthesise the findings from Chapter 5 and the earlier Sections 6.1 to 6.3 to demonstrate the impact on social capital dimensions as a result of distinct individual use modes.

SOCIAL CAPITAL THEMES AND SUB THEMES	TOTAL RESPONSES (N=60)	DESCRIPTION (KEY INDICATORS)
STRUCTURAL SOCIAL CAPITAL DIMENSION		
Breaking Down Communications Barriers	40	Impact on the ability to out to broader network bridging geographical, functional, hierarchical communications gap.
Establishing Serendipitous Connection	37	Impact on the ease of communications with social networks, i.e. groups or organisation-wide."
Increasing Social Presence	30	Impact on the ability to link social networks through individuals who are 'Connectors' or 'Navigators'.
COGNITIVE SOCIAL CAPITAL DIMENSION		
Developing Shared Understanding	43	Impact on the ability to align common grounds, and in understanding organisation and/or individual's goals, objectives, and direction.
Developing Awareness	47	Impact on the ability to identify knowledge source and to connect with experts and/or like-minded individuals.
Developing Shared Interpretation	39	Impact on the ability to integrate values, beliefs, and past experiences to form shared meaning with the social networks.
RELATIONAL SOCIAL CAPITAL DIMENSION		
Building Trust	41	Impact on the feeling of empowerment, to be able to engage in social exchange openly, i.e. share information/ knowledge, and express opinions.
Developing Feeling of Interpersonal Obligations	35	Impact on trust in the responses and credibility of the information. Information shared on the network is self-moderated and self-corrected.
Fostering Norms of Social Behaviour	29	Impact on the motivation by feelings and conscience based on individual's sense of responsibility to help - good deeds or act of volunteer to help.
Developing A Sense of Belonging	37	Impact on the individuals' trust and expectations to get reciprocal response.

Table 6.1 Summary of Findings on the Individual Use of Enterprise 2.0 and its impact on Social Capital Dimensions

6.1 Structural Social Capital Dimension

The structural social capital dimension as discussed in Section 2.7 Conceptual Model refers to the overall network configuration and network ties which explain the channel for information

transmission and the underlying mechanism that leads to the emergence of social network ties. The sub-themes emerged from the empirical evidence were as follows:

- Breaking Down Communications Barriers
- Establishing Serendipitous Connection
- Increasing Social Presence

The subsequent sections present the empirical evidence for each of the sub-themes identified.

6.1.1 Breaking Down Communication Barriers

Based on the empirical evidence, 40 out of 60 interview participants from all case organisations responded that the use of Enterprise 2.0 establishes connections with their broader social network including individuals from different locations (geographical) and backgrounds/positions (hierarchical/functional). Observations indicate that the use of Enterprise 2.0 enables individuals to reach out to individuals at all levels within the organisation, allowing them to interact and connect with others.

A Partner from Case A explained how he used Enterprise 2.0 to reach out to colleagues from different countries to discuss an actual topic, “*What is the next piece of technology you will be buying?*”. He organised a digital meetup on Enterprise 2.0 for real-time interactions where individuals could exchange ideas and learn from each other. The is illustrated as follows:

We got a large number of people who work with us in India. The Indian colleagues, they don't physically get together with us that often. One of the things I do with this group is to run what we call the XJam which is a scheduled jam, or a scheduled time, where we all go into [Enterprise 2.0] and have an on-going chat (Partner, Technology - Case A).

This Partner remarked that the outcome of the session was great and that this has become a recurring event. In another example from Case B, the Business Analyst explained that due to the office buildings being distributed across multiple locations within the city and interstate, individuals often have to travel from one office to another for meetings or catch up. He also found that due to geographical barriers, it was difficult to engage and interact with the team.

He remarked that Enterprise 2.0 enabled him to interact with colleagues from different offices more frequently and hence reduced the need to travel:

[Enterprise 2.0] was good to keep contact with the other guys [from the team] because otherwise we have to wait for [a period of time] for the next catch up or video conference call. We have Business Analysts here amongst the various buildings [in the city] and in [interstate]. It is just difficult to get everyone in a room at the same time (Senior Business Analyst - Case B).

The Senior Consultant from Case A described Enterprise 2.0 as a game changer in the organisation to improve productivity. More specifically, she mentioned how Enterprise 2.0 enables her to reach out to a broader audience for help. She mentioned how she would use Enterprise 2.0 to source information and she would get help from individuals in another office locations in different states whom otherwise she would never have met or have corridor chats with. On a similar note in relation to an alternative approach to communications, she also described how Enterprise 2.0 has increased the ease of communications by reaching out to a broader community bridging to and linking individuals from different office locations

I put out the question on [Enterprise 2.0] and I get very quick responses. I occasionally find out what I need to know within 24 hours. If I were to ask around I will have to then make a few phone calls and I also need to find out who to call (Senior Consultant, Change Management - Case A).

The empirical evidence also demonstrates that the use of Enterprise 2.0 drives the notion of flattening meritocracy. A Senior Consultant from Case A responded that the comments on the [Enterprise 2.0] postings would come from anyone including the Chief Executive Officer or anyone from the senior leadership team.

Because it has a fairly flat structure [Enterprise 2.0], you communicate with people across different levels and you communicate with people outside the core competency. (Senior Consultant - Case A)

The Senior Road Safety Coordination Officer from Case C also expressed that the use of Enterprise 2.0 breaks down silos and cuts through the organisational hierarchy enabling

individual (in Case C) to interact more easily. He further described that it is common for any individuals in Case C to have an Enterprise 2.0 online conversation with the Chief Executive Officer and be seen, shared and commented on by the entire network.

In addition, a Senior Consultant from Case B mentioned that using Enterprise 2.0 gives her a voice in the organisation and that everyone in the social network is treated equally.

I have much of voice as the Chief Executive Officer on [Enterprise 2.0] ... I may not get the number of people following me [on Enterprise 2.0], but at least I have the same platform and I have the same voice (Senior Consultant, Change Management - Case B).

Furthermore, as discussed by another Senior Consultant from Case A, prior to the adoption of Enterprise 2.0, employees did not interact frequently with their project teams as they were often geographically dispersed having locations at different client's offices. The social interaction was even more challenging for employees working in different departments and in different office locations. They almost never get the opportunity to know each other. With Enterprise 2.0 in place, he mentioned that the individuals were able to connect with the whole organisation more frequently and easier, whilst gaining access to faster and wider information and resources.

I think generally people are more connected through [Enterprise 2.0], because you tend to see this little face next to everyone's face [profile picture]. You actually meet people across the business. You often communicate with someone via [Enterprise 2.0] and you never actually see them face-to-face and when you actually do meet them you know more about them (Senior Consultant - Case A)

As the Graduate from Case B also responded, Enterprise 2.0 makes the communication easier among graduates of the same cohort as compared to email communication, thus, fostering greater bond among individuals.

[The Enterprise 2.0 group] Graduates 2015 being one of the most active groups is because it's an easy way to interact, to communicate about work things, and it's, like, I think email gets really messy and I think that you can't just reply to everybody about every little thing (Graduate - Case B)

The empirical evidence indicated that the use of Enterprise 2.0 not only bridges the social network across geographical and hierarchical groups, it also breaks down communication barriers to deepen existing relationship. As in the case of the graduate cohort, Enterprise 2.0 was used as a channel for sharing news and updates relevant to the graduates, organising social events, and also for the occasional social banter and laughs. In addition, it can also be observed that based on the responses gathered, the majority of individuals from middle to junior level position's comments were favourably on the use of Enterprise 2.0 specifically for breaking down communication barriers and bridging geographical/hierarchical barriers.

Last but not the least, although this was not mentioned directly, many of the interview participants inferred that the use of Enterprise 2.0 also served as an introduction preceded the face-to-face social interactions. As mentioned by Client Manager from Case A, he often observes the activity of specific individuals on Enterprise 2.0. Although, they have never interacted, he felt as if he already knew them individually, as he describes below:

Sometimes you see them outside, you have seen that face before [on Enterprise 2.0] and you forget the name. You don't know if you should say 'Hi'. We would have the 5-second brief moment that this guy looks familiar, and we say 'Hi' at the end" (Client Manager, Tax - Case A).

6.1.2 Establishing Serendipitous Connection

Based on the empirical evidence, 37 out of 60 interview participants from all case organisations responded that the use of Enterprise 2.0 enables serendipitous discovery of other individuals and connections within their broader social networks. Observations indicate that the use of Enterprise 2.0 not only enables individuals to reach out to the broader social network (presented in Section 6.1.1), it also provides the opportunity to get hold of potential individuals which may be able to direct individuals to the answers or the connections they were looking for. The below evidence illustrates this scenario:

There are people who have wide social networks. If you want to know more about something, it's best to reach out to them [on Enterprise 2.0] because they can direct you to get in touch with people in different places who could help you. It is just a good way to

know who the best person is to get in touch with (Analyst, Technology Assurance - Case A)

An Analyst from Case A explained how he was getting leads from another individual that allowed him to reach out to his extended social network. He described these individuals as ‘Super Connectors’ who are purveyors of information and were important to help him broaden his own social networks. On the same note, a Consultant from Case B remarked the usefulness of the tagging feature on Enterprise 2.0 which helped her to build new network relationships, as she explained:

People on [Enterprise 2.0] would say so-and-so might know and they tag that person in the conversation and then that person would be like “Oh, actually no, but I’ve dealt with a similar type of company and maybe this person may be able to help you.” I just got lots of different leads from other people and then I ended calling them by looking them up in the directory and saying, “Can you help me find more information about this company?” (Strategic Marketing Consultant - Case B).

In addition, observations indicated that the use of Enterprise 2.0 helps to reduce pain points by connecting networks of individuals who can solve problems or help to navigate towards solutions in real time. On this notion, a Senior Consultant from Case A explained he did not know who in the organisation to reach out to for a specific question related to a client industry he was working on. He posted the question on [Enterprise 2.0] in anticipation that it will reach the broader social network and that someone whom he may not have come across would respond to provide more insights about the industry, as illustrated by the question he asked below:

I have a client that has a particular problem, does anyone know something about this industry? (Senior Consultant - Case A).

Case A’s Senior Consultant further explained that in the past, individuals used to email to other individuals whom they knew had answer or shared the same experience. With Enterprise 2.0, it is described that within minutes, someone would respond to a post, and very quickly there will be others giving ideas. In addition, all these questions and comments are searchable within Enterprise 2.0. Consistently, the Graduate from Case B expressed similar views when he was

reaching out to the broader social network for help. He was new to Case B and didn't know who to reach out to for help with work related to an Excel formula.

If you want help with Excel or you can't get this formula working, you can post a sample of it and there is people out on [Enterprise 2.0] who are experts and they will fix it and send it back to you (Graduate - Case B).

Empirical evidence indicated that not only does Enterprise 2.0 enables individuals the opportunity to reach out to potential leads, it also presents serendipitous information discovered through conversations. The Consultant from Case B explained she wanted to find out if there was a bespoke newsletter template she could use to send to her client.

I developed a series of events for not-for-profit organisations and wanted to find the best way to distribute that to the right audience. I wanted to know if there were any kind of small bespoke newsletters that other parts of the business used to send to not-for-profit customers which I didn't know about (Strategic Marketing Consultant - Case B).

At the onset, she did not know who to reach out to or where to obtain the information. Hence, she decided to post the question on Enterprise 2.0:

I posted the request on [Enterprise 2.0] and I received a couple of hits back from someone who I do not actually know in person. There's no way I'd even known that newsletter existed because there is no central repository of that information (Strategic Marketing Consultant - Case B).

6.1.3 Increasing Social Presence

Based on the empirical evidence, 30 out of 60 interview participants from all case organisations responded that the use of Enterprise 2.0 increases one's social presence. Social presence explains how an individual is perceived by others in terms of being present in social networks and is an important factor for building and maintaining social relationships with others on Enterprise 2.0.

The Information Management Office Director from Case A described how he came across a Graduate from the same organisation who uses Enterprise 2.0 to demonstrate his competencies. At the onset of using Enterprise 2.0, the Graduate created a user profile which was a virtual representation of himself on Enterprise 2.0. The user profile provided an opportunity for the Graduate to present his personality and achievements. The Graduate's high level of activity in the social network landed him a job opportunity in another country in the same organisation:

You can also say this is personal branding as well as creating visibility. One graduate came in and was very active on [Enterprise 2.0] and used it to showcase himself and his work. He ended up getting a job in our San Francisco office (Information Management Office Director - Case A).

Based on these types of social interaction and activities via Enterprise 2.0, individual establishes their network visibility that showcases their knowledge, interests, and skills, as described by the following interview participants:

[Enterprise 2.0] presents an opportunity to show that you have a personal brand in the area of expertise that you work in, and then you are a leader or a thought leader within this context, particularly consulting, probably in the broader organisation as well (Director, Strategy and Operations - Case A).

In addition, some interview participants expressed that they were often acknowledged or recognised (personal branding) through tagging of specific interests and expertise that was expressed based on frequent postings and/or comments. As an example, the Senior Business Analyst from Case B works in Regulatory Change Implementation team. However, she has a keen interest in organisational change. She expressed how she was mistaken for a Change Manager because of her avid interest and frequent postings in Enterprise 2.0 on an organisational change-related topic.

Because I have an interest in organisational change, that's the kind of topic I would talk about [on Enterprise 2.0]. So, quite often, people would think I am a Change Manager (Senior Business Analyst, Regulatory Change Implementation - Case B).

Rather than using Enterprise 2.0 to exhibit one's strengths or expertise in a specific field, some interview participants described that by mere posting, asking questions, or having a conversation in the discussion thread on Enterprise 2.0, they were able to create visibility on the social networks associated with their interests whilst connecting individuals who shared similar interests.

Most interview participants noted that they recalled individuals whom they did not know personally on Enterprise 2.0, but remembered these individuals based on their individual's postings and comments on Enterprise 2.0. For example, one interview participant described that he knew individual A as the person to go to for technology-related issue within the company because individual A often talked about technology roll-out and implementation-related topics on Enterprise 2.0. The Service Desk Coordinator from Case C expressed a similar view that others whom he did not know in person often contacted him on Enterprise 2.0 and he attributed this to the visibility he gets from using Enterprise 2.0, as illustrated below:

Personally, because my profile is there [Enterprise 2.0] tells them what I am specialized in. So, if somebody was to know about license and registration policy or procedures, they would definitely contact me (Service Desk Coordinator - Case C).

Inadvertently, observations indicate that individuals were generating buzz for themselves as they used Enterprise 2.0 more regularly. The Chief Executive Office from Case B explained that the more engaging the individual is on Enterprise 2.0 for example using the platform for publishing, commenting, or even tagging, the more the platform generates one's social presence:

Because I was very active in many ways on [Enterprise 2.0], I was very prominent in the social network. People would walk up to me in the building to finish a conversation we started interacting on [Enterprise 2.0] and I didn't know who they were (Chief Executive Office - Case B).

Observations also indicate that the use of Enterprise 2.0 to increase one's presence is subjective to one's personality. The Infrastructure Analyst from Case C remarked that using Enterprise 2.0 to showcase achievements or knowledge as 'flashy' and would not use Enterprise 2.0 to promote his achievement:

It is really flashy thing. I do not like promoting myself like this because our department has had a series of...I don't know managers in [Case C] ...who are all about marketing and not about actually delivering stuff. They'll go into great lengths to promote things on the day they go live and then of course the thing fails publicly (Infrastructure Analyst - Case C).

6.2 Cognitive Social Capital Dimensions

The cognitive social capital dimension as discussed in Section 2.7 Conceptual Model refers to an individual's mental model and the ability to connect with others within the social network and collectively make sense of the context based on thoughts, experience, beliefs, concept, and ideas. The sub-themes that emerged from the empirical evidence were as follows:

- Developing Shared Understanding
- Developing Awareness
- Developing Shared Interpretation

The subsequent sections present the empirical evidence for each of the sub-themes identified.

6.2.1 Developing Shared Understanding

Based on the empirical evidence, 43 out of 60 interview participants from all the case organisations responded that the use of Enterprise 2.0 enabled developing of shared understanding. Shared understanding explains individuals' ability to integrate knowledge stemming from different concepts and social interactions to achieve understanding.

The findings demonstrate that the discussions/conversations on Enterprise 2.0 formed a large part of social interactions within the social networks. It was observed that there were various topics discussed on Enterprise 2.0. The Manager Spatial Services from Case C described how he would post links on Enterprise 2.0 to different articles 3-4 times a week on Enterprise 2.0 to start conversations with others in the social network:

My objective of posting [on Enterprise 2.0] is to try get conversations started... I'll post stuff out there [on Enterprise 2.0] although I'm just posting links to interesting articles or things that I want to try and focus some discussions on or contributing comments to other people discussions (Manager Spatial Services - Case C).

He further explained that he does not always participate in the discussion. Sometimes he prefers to observe others' discussion to read through their flow of thoughts and ideas.

I'm almost a bit of an instigator trying to get conversations started, but once I've got a conversation started I might sometimes stay back in the conversation and not contribute much more. It helps me to understand better (Manager Spatial Services - Case C).

In a non-work related example, there was well-known discussion on Enterprise 2.0 in Case A. All the interview participants from Case A were participating in this debate on the platform whether jam or cream should go first on a scone. The discussion started when Person A who posted on Enterprise 2.0 on a Friday afternoon in the lead up to Christmas, whether it should be jam on top of cream or the other way around when eating scones.

There were many individuals who responded to that trail of discussion on Enterprise 2.0 with different perspectives and arguments. The result of the discussion was that there were 41 individuals from the social network who responded that it should be cream on top of the scone first, and 15 others responded that it should be first jam on top of scone. The discussion thread ran for 10 days with 117 posts and 68 participants. The scenario explains in a simple way how individuals collectively discuss topics to seek understanding.

In another example, empirical evidence presents that individual uses Enterprise 2.0 to discuss issues at the workplace. The Senior Consultant from Case A explained that the organisation has blocked usage of Spotify which is an online music streaming platform. He also mentioned that the situation has caused frustration among many employees and this triggered a discussion on Enterprise 2.0 related to the problem.

Employees who encountered similar problem in the past were able to interpret the situation and could participate in the discussion thread which helped to navigate to a solution.

We had the Chief Information Officer participated in the discussion on [Enterprise 2.0]. The Head of IT also commented on the [discussion] thread saying, “Thanks for all your feedback we didn’t realize that it was such an issue and we are looking into it in the next two days to check if there is a solution”. That is an awesome turnaround to have someone that senior from IT listening and responding (Senior Consultant, Technology - Case A).

A Partner from Case A also explained how he used Enterprise 2.0 to manage projects. He described how the project team members would share project documentation and discuss project related issues on Enterprise 2.0. According to the Partner from Case A, the conversations and interactions on Enterprise 2.0 specifically within the project group that was set up on Enterprise 2.0, helped him gain deeper understanding of the project. He further described how he gain understanding when he reads through the discussion trail:

When we run a project via [Enterprise 2.0], what we have is the whole team can see everything that is going on about it. Not just the deliverables, there is the PowerPoint document, and the conversation about what is going on. One example of this, someone said, “I just come out of the meeting with client, and they have got a concern about this area and they would like us to change it”, and people started discussing it [on the platform]. So, if I read through the history, I can get a much better perspective about what was going in the project (Partner of Digital Transformation, Innovation, Social Capital - Case A).

One of the interview participants used Enterprise 2.0 to crowdsource insights to de-risk the project. The Director from Case A described she needed to put together a report for a banking client to envisage what banking of the future would look like if the centre of banking shifted from London and New York to Shanghai or Beijing. She then posted a powerful question on the broader network in the *all company newsfeed* on Enterprise 2.0 to reach out to the larger social network to gather insights:

What would happen if the whole centre of gravity for banking shifts from the West to the East? What would change? (Director - Case A).

She remarked that she received a substantial number of responses on Enterprise 2.0 from other individuals within the broader social network who shared similar experience and interest. As a

result, she was able to pull together the responses, formulated a view based on the thoughts and ideas gathered from Enterprise 2.0, and presented a report to the client. The findings also demonstrate that the use of Enterprise 2.0 enables individuals to connect with networks of other employees who shares similar experience.

6.2.2 Developing Awareness

The notion of awareness explains the ‘state-of-mind’ of how an individual is conscious of the activities of others in the organisation. The empirical evidence comments favourably, with 47 out of 60 interview participants, indicating that the use of Enterprise 2.0 develops one’s awareness.

Empirical evidence indicated that Enterprise 2.0 was commonly used as part of change management and communications plan to achieve reachability (in the broader social network). As opposed to relying on mass email communication, the Communication Advisor from Case C explained how she created a post on Enterprise 2.0 to draw attention from the crowd (social network) on a diversity event:

We put up a post on [Enterprise 2.0] about diversity, as a soft launch, just to get a bit of an awareness or to generate buzz, before they [Case C] launched the diversity strategy (Communication Advisor, Corporate Communications - Case C).

Interview participants from Case A and B also mentioned that they used Enterprise 2.0 in a similar way to increase awareness of event happening in the organisation. The Partner and Director from Case A both described how Enterprise 2.0 was used in one of the organisation’s branding campaign. One of the leaders in the organisation posted on Enterprise 2.0 to engage individuals to participate in the logo change campaign. During the campaign, people started putting their designs for the campaign forward on Enterprise 2.0. The Partner further commented:

“You can see that people started talking about the campaign and got onboard with the change” (Partner, Technology - Case A).

Reportedly, the number of users on Enterprise 2.0 in Case A spiked significantly after the branding campaign.

Interview participants also mentioned that the use of [Enterprise 2.0] enabled them to keep abreast of the most up-to-date news and events within the organisation, as illustrated in the Senior Consultant from Case A's response below:

We have got a team in Adelaide, Melbourne, and Sydney. We can all see what is going on in [Enterprise 2.0] (Senior Consultant - Case A).

Based on the findings, it was observed that awareness may not necessary entail full-fledged campaign or announcements on Enterprise 2.0. The Team Leader from Case C described how he used Enterprise 2.0 to increase awareness on the work his team does, as illustrated below:

I also use it a little bit for promotion of our area, so somebody will put a question in there and where I could answer them sort of directly offline by email, I post something on [Enterprise 2.0] so that everybody [in the social network] can see it and know that we did that sort of work (Team Leader - Case C)

Within the same context, the use of Enterprise 2.0 also increased individual's awareness and understanding of the work group, organisation, and business, leading to serendipitous opportunities. This is explained in the two subsequent examples as follows. The first scenario explains how the Analyst from Case A used Enterprise 2.0 frequently to share his insights and knowledge in the area of technology risk. He landed an opportunity to work on a project related to technology risk due to others' awareness of his level of knowledge and interest, as illustrated below:

I share a lot of articles on [Enterprise 2.0], for starting a conversation and it shows that you're interested in a particular subject ... I have got on the project because I have been active on [Enterprise 2.0] (Analyst - Case A).

This Analyst from Case A further explained that the use of Enterprise 2.0 allowed categorisation and identification of common interest groups which created and increased employees' awareness of where knowledge resides:

You know people when you're active on [Enterprise 2.0] and you know who's doing what. For example, I know [Person A] is interested in something about that or [Person B] knows something about that. If I need help in those area, I know who to reach out to (Analyst - Case A).

The second scenario explained by the Senior Relationship Manager from Case B illustrates how her post on Enterprise 2.0 lead to opportunities for others to participate in a closed event organised by her team:

Usually, this event is only open to Shared Services in our business unit but because we posted it on [Enterprise 2.0], I had people calling me from [other business unit] saying, "Can we please attend?" (Senior Relationship Manager - Case B)

6.2.3 Developing Shared Interpretation

Shared interpretation refers to an individual's ability to construct meaning in a collective environment through the sharing of stories, assumptions, past experiences, values, and beliefs. Based on the empirical evidence, 39 out of 60 interview participants from all the case organisations responded that the use of Enterprise 2.0 developed shared interpretation.

Based on the findings, it was broadly observed that the usage of Enterprise 2.0 leads to an interpretation of how an individual perceives one or more subjects, i.e. other individuals, the organisation, or the context of discussion. This was consistent across all cases. The examples below highlight key responses from Cases B and D.

When I first joined [Enterprise 2.0], I did get a certain impression about what the company was. But with time I realized that the [Enterprise 2.0] is not a representative of the whole company because not the whole company is active on [Enterprise 2.0] (Strategic Marketing Consultant - Case B).

It is very worthwhile because you get a flavour of what people are saying about [Case D], while you also get an understanding of what issues there are out there because you can easily group them together (Practice Lead, Architecture - Case D).

The empirical evidence above illustrates how the different individuals formed perceptions of the organisation by merely observing the social interactions taking place on Enterprise 2.0. When probed further, the Strategic Marketing Consultant from Case B explained when she was a new employee at Case B, she went on Enterprise 2.0 and observed the interactions in the social network. She gathered that the people in the organisation were very active and engaged at work. She also she noticed how people were generally helpful and willing to share their knowledge. Some of the examples provided was that she observed numerous posts on Enterprise 2.0 asking for help or requesting artefacts to assist with people's work activities. These posts got answered by others within a short time frame. She quickly formed a view that the organisation had a very positive work culture. Nonetheless, after some time working in Case B, she realised that the environment in Enterprise 2.0 may not be an accurate reflection of the reality as she remarked that not everyone in the organisation was on Enterprise 2.0.

In addition, the Senior Business Analyst from Case B also explained her experience using Enterprise 2.0 and how she formed her view around diversity and inclusion initiative in Case B.

There was quite a big discussion on [Enterprise 2.0] around Pride, our Diversity and Inclusion initiative. We have a staff survey every year on Pride. One year, the survey had a question which asked if you identify yourself as gay, bisexual, or transsexual. It was the first time that [Case B] asked staff around their sexual orientation. So, somebody posted a question on [Enterprise 2.0] saying, "That is interesting we haven't seen that before. What difference does it make or why is that being collected?"

She shared her views on how the conversations on Enterprise 2.0 influenced her thought and beliefs on Case B's diversity and inclusion approach, as illustrated below:

You can observe from the responses that it was kind of divided. Some people were like, "This is not relevant to work why are we asking this?" And other people were okay with it... I just don't believe it's okay to ask about one's sexual orientation if the intent is to be inclusive regardless of all (Senior Business Analyst, Regulatory Change Implementation - Case B).

6.3 Relational Social Capital Dimensions

The relational social capital dimension as discussed in Section 2.7 Conceptual Model describes the social dynamics of linking and bonding individuals and/or groups. The dimension connotes socially approved social traits that are important for building and maintaining relationships in networks. The sub-themes that emerged from the empirical evidence were as follows:

- Building Trust
- Developing Feeling of Interpersonal Obligations
- Fostering Norms of Social Behaviour
- Developing Sense of Belonging

The subsequent sections present the empirical evidence for each of the sub-themes identified.

6.3.1 Building Trust

Based on the empirical evidence, 41 out of 60 interview participants from all case organisations responded that the use of Enterprise 2.0 builds trust. Trust explains the willingness of individuals to engage in social exchanges, i.e. sharing information/ knowledge and trusting the credibility of the information received.

Individuals reported they generally felt safe using Enterprise 2.0 as the organisation provided an open and transparent environment. As described by some Community Manager from Case A, it is safe to assume that most employees would know the appropriate content to discuss openly on Enterprise 2.0. She further elaborated that other individuals within the social network will comment if someone posted something inappropriate for workplace:

Because [Enterprise 2.0] is empowering trust, other people will just say 'Hey, that is ridiculous thing to say in [Enterprise 2.0].' We have a pretty open culture (Community Manager - Case A).

The Executive General Manager from Case C expressed similar views, except that she highlighted a few incidents where the organisation had to take down a couple of the posts on Enterprise 2.0 down as they were seen as inappropriate content. This was illustrated as follows:

[Enterprise 2.0] is a very safe environment. I think we've taken down one or two posts because they seem to be a bit nasty or a bit bullying. One post was related to somebody writing a very nasty comment [on Enterprise 2.0] about somebody else's parking in the car parking area and there was another one post where someone seemed to be making numerous posts about a political figure and his imprisonment.

She further explained that she had conversations with the individuals who posted those content that was removed on Enterprise 2.0. She described how individuals can use alternative ways to express frustration in the first example, and in the second example, she expressed her concerns around numerous posts about the political figure and the message behind it. She further emphasised that these were rare occurrences on Enterprise 2.0.

A Graduate from Case B also mentioned that she did not think twice about posting articles or thoughts on Enterprise 2.0 and that others will not laugh at her for her lack of knowledge in the field.

I think it is a safe environment and I definitely, I don't really mind sharing anything [on Enterprise 2.0] even if it conflicts what other people think. I know I'm not going to be laughed at if I posted something inaccurate or appears novice (Graduate - Case B).

She also mentioned that the broader social network on Enterprise 2.0 was a very 'forgiving' environment where if she posted information which was inaccurate, others within the social network will correct the information. She emphasised this was a very common scenario in Case B.

Observation indicates that trust emerged from social interactions between individuals within the social networks. In the above example, Graduate B felt confident in the social network because of how others would respond to her. In addition, the Client Manager from Case A also expressed that when he engaged a discussion thread on Enterprise 2.0, the community will be watching the comment and responses, providing feedback as and when required:

Other people [on Enterprise 2.0] would see that response and comment appropriately ... It is like a crowd check on [Enterprise 2.0] (Client Manager, Tax - Case A).

The empirical evidence showed that individuals trusted the content shared in Enterprise 2.0. As explained by a Director from Case A, when she used Enterprise 2.0 to solicit insights, she generally trusted the content shared on Enterprise 2.0. She further emphasised if the content presented online was not accurate, the community will correct it. She provided an example how a comment in relation to organisation's revenue stream contained misinformation which was corrected when she posted it on Enterprise 2.0:

I put on [Enterprise 2.0] that [Case A] has an expectation that 30% of its revenue is going to come from new and different services and products each year. Somebody replied to the comment saying that can't be true. Before I had a chance to reply, our Chief Executive Officer jumped on the discussion and confirmed that (Director – Case A).

This above scenario was apparent in findings from the other cases as well. The individuals who mentioned they crowdsource references of previous project work done, or any other information were subsequently asked if they trusted the information provided i.e. whether it was reliable and accurate. The responses gathered unanimously agreed that they would trust the information provided, and that the information provided will be crowd-checked and self-corrected if it was not accurate.

Lastly, empirical evidence also indicated that individuals established trust based on the credibility of the person making the comment or post on Enterprise 2.0. In circumstances where the individual was uncertain of the information, observation indicated that individuals would use other method to assess the validity or accuracy of information such as looking up the individual's past postings and comments, the business unit they are in, and/or their areas of interest. The Manager Spatial Services from Case C explained that he trusted the post on Enterprise 2.0 especially if it came from the individual who is recognised to be knowledgeable in that area.

6.3.2 Developing Feelings of Interpersonal Obligations

Based on the empirical evidence, 35 out of 60 interview participants from all the case organisations responded that the use of Enterprise 2.0 developed feelings of interpersonal

obligations. The feeling of interpersonal obligations describes one's intrinsic motivation to help or return one or more favours when interacting with others on Enterprise 2.0

The interview findings presented a mix of responses in terms of obligation to respond to the social networking on Enterprise 2.0. Observation indicated that individuals generally felt obligated to respond to the groups which they felt a great sense of belonging or when they were tagged in a post. There were also some individuals who do not feel obligated to respond to the discussions or postings.

A Senior Relationship Manager from Case C described her feeling that individuals on Enterprise 2.0 were generous and always willing to help, saying:

If I wanted to know who to speak to for a certain topic, I would always get a name back. Someone would respond and give me a name of the right person to speak to (Senior Relationship Manager - Case B).

In return, she also explained how she would do the same when others requested help on Enterprise 2.0:

I try to help people when they try to find something on [Enterprise 2.0]. If I do not know the answer, I will tag someone who knows or post to the right community to try to get help there (Senior Relationship Manager - Case B).

The Global Client Advisor from Case E explained the motivation to obligations. In his response below, he explained he felt obligated to share knowledge with others to increase his personal branding and while he was also guided by personal conscience and value.

I feel obligated from a personal perspective just to build my own profile and brand. I also feel obligated because people are sharing, and you do need to give something back. You just can't be a passive person (Global Client Advisor (1), Key Accounts - Case E).

The study also interviewed another Global Client Advisor from Case E who expressed a similar view. He explained if he had the knowledge and noticed someone was asking for help on Enterprise 2.0, he would feel obligated to share his knowledge with the person.

If someone in the group has posted a question [on Enterprise 2.0] that I feel I have something to say about or an answer that is valuable, then yes, to some extent I do feel obligated that I should share and reply to that (Global Client Advisor (2), Key Accounts - Case E).

In addition, observation indicated that the feeling of interpersonal obligation also came in the form of voluntary social engagement. A Partner from Case A described that individuals in his team were intrinsically driven and excited to participate voluntarily, taking time outside of work responsibilities to contribute to the organisation. This was evident when his team set up a reverse mentoring program for individuals who weren't used to using social media to learn and adopt Enterprise 2.0. He then described format of the posting on Enterprise 2.0:

All you Digital Natives in Melbourne, we need your help out there. There is a movement in Jurassic Park. There are 50 Digital Dinosaurs has signed up to receive your expert tuition to become Digital Immigrants. Let me know if you want to participate (Partner, Technology - Case A)

In this example, the Partner referred to individuals who wanted to learn about Enterprise 2.0 as 'Digital Dinosaur' broadly referring to the older generation of employees who were not familiar with the use of Enterprise 2.0. The 'Digital Dinosaur', as he suggested he could be adopted by a 'Digital Native' (an experienced Enterprise 2.0 user) who will turn them into a 'Digital Immigrant' (an Enterprise 2.0 user). Some of the interview participants responded they were also part of the initiative. According to the Partner from Case A, the initiative can be viewed both ways, as the Digital Natives wanted to innovate how things work in the organisation, or the older generation employees who were driven and wanted to encourage the younger employees to get more involved. Both sets of users volunteered to keep the momentum and critical mass going in Enterprise 2.0.

As a final point, interpersonal obligation plays a part in ensuring continuous social interaction between individuals. The findings explained that often when an individual user stopped giving back or contribute to the discussion, other individuals in the network would feel less obligated to reply. The Analyst from Case A responded that interpersonal obligation was like social currency:

If you share interesting knowledge or good knowledge, people are more inclined to reciprocate (Analyst – Case A).

6.3.3 Fostering Norms of Social Behaviour

Based on the empirical evidence, 29 out of 60 interview participants from all case organisations responded that the use of Enterprise 2.0 fostered norms of social behaviour. The norms of social behaviour, also referred to as social norms, describe the influence on behaviour based on the social interactions on Enterprise 2.0.

Observation indicates that individuals largely were conscious of what they should or should not post or comment on Enterprise 2.0. As the Analyst from Case A explained:

Similar to email or offline conversations, you would not send out or comment on anything that is generally not acceptable within an organisation (Analyst - Case A).

As noted in the findings, the norms of social behaviour at the core was guided by the norms of the organisation. The evidence was clear in Case A where the interview participants from Case A consistently described the tone of voice in the postings and comments on Enterprise 2.0 as *conversational* and with occasional humour injected in the social interactions. Both Partners from Case A confirmed the norms that exist in Case A.

As highlighted by the Platform Administrator in Case A, there was an individual who mistakenly entered the letter ‘A’ to the all company news feed on [Enterprise 2.0]. The post was published in the *all company newsfeed* and everyone in the broader social network could see the post. Some other person in the organisation thought it was funny and continued with the letter ‘B’ as a comment to the related post. The thread went on and many others participated in the discussion thread with the remaining alphabets, as illustrated below:

So, we have gone through the alphabets [on Enterprise 2.0 – referring to the initial post ‘A’]. It is very creative. It is the community having fun. We have a mixture of a whole lot of different personalities in the company with different background and culture. It is really nice that people come together having a little bit of fun in [Enterprise 2.0] (Platform Administrator - Case A).

In relation to the example above, the Knowledge Manager from Case A expressed how the senior leaders from the organisation influenced the social norms on Enterprise 2.0:

You know the CEO would respond to something quite funny like that. What he is doing is that he is modelling the behaviour making it okay for everyone to have a little bit of fun on [Enterprise 2.0] (Knowledge Manager - Case A).

In another example, the Practice Lead from Case D illustrated the norms of behaviour on Enterprise 2.0 in the organisation as follows:

There are younger people, or they just joined the company. They would say “Who’s going out Friday night?” They are making use [Enterprise 2.0] as a social hub. There will be people policing it, and they would say “Thank you for that but this isn’t about your social life, or funny jokes.” It is really is about [Case D] (Practice Lead, Architecture - Case D).

Accordingly, it can be observed that the norms of behaviour on Enterprise 2.0 was different in comparison to Case A.

Empirical evidence presents that there were instances where the use of Enterprise 2.0 fostered norms of behaviour through the influences of other individuals within the social network. A Partner from Case A provided an example of a discussion thread regarding change in the expense claim policy of the organisation. The change in the policy has caused some employees to express the dismay of their new claim process. He described there were a series of comments from others on Enterprise 2.0, and the discussion thread caught the attention from the Financial Controller who implemented the change.

This situation was not seen as a taboo in the use of Enterprise 2.0 within Case A. On the contrary, the Chief Executive Officer commented that this was a good and healthy discussion. Enterprise 2.0 provided the opportunity to resolve the expense claim issue.

As a result, the senior management looked through the discussion and worked with the employee who initiated the post. The Partner mentioned that the issue finally got resolved and the expense claim system was revised to the original method. He further remarked that the use

of Enterprise 2.0 fostered norms of behaviour where opinions were valued on Enterprise 2.0 and seen as an opportunity to learn and improve.

Lastly, the empirical evidence also presented that some individuals adopted the social norms of others who they perceived as role models, as illustrated below:

I started following [observing] the Chief Technology Officer. I think he's interesting and very knowledgeable person. I've read some of his articles on intranet and on [Enterprise 2.0]. He's very vocal and shares a lot of interesting views (Team Lead, Network and IT Operations - Case B).

6.3.4 Developing a Sense of Belonging

Based on the empirical evidence, 37 out of 60 interview participants from all case organisations responded that the use of Enterprise 2.0 developed a sense of belonging. A sense of belonging explains the individual's feeling of membership and involvement with the organisation or a community.

The findings indicated that there were some individuals who felt more connected to the organisation from using Enterprise 2.0. The Business Intelligence Architect from Case D explained how he felt when using Enterprise 2.0 stating:

[Enterprise 2.0] has the effect of giving you a small company feel in a big company, but I wouldn't say that it gives me more relationship with another person that I wouldn't have you know if [Enterprise 2.0] wasn't there (Business Intelligence Architect – Case D).

The Knowledge Manager from Case A also remarked that she felt a great sense of belonging with a specific community group in Enterprise 2.0 due to her interest in the particular knowledge area and the connections she had with individual in the group:

I feel a deep connection with some of the group on [Enterprise 2.0] ... For example, [Team A], it is not my team, but I am interested with what they are doing. So, I will jump in there [community group on Enterprise 2.0] and have a look of the interesting things. It also

helps that the people in the group [Team A] are very friendly and welcoming (Knowledge Manager – Case A).

Similarly, the Senior Business Analyst from Case B expressed that she felt a strong connection with the online community group she joined. She described she shared similar interest with the individuals in this community group. In addition, she also mentioned how she made the effort to meet up face-to-face with the individuals to have lunch or coffee when possible which deepened her relationship with the community.

I have a very strong connection to the [Enterprise 2.0] community and I feel like I have a deeper sense of belonging. I suppose in a way it helps you to find likeminded people who are out there, that you might not even know (Senior Business Analyst - Case B).

She explained how she contemplated leaving the organisation and one of the factors that made her stay was the social connections she had with the community group on Enterprise 2.0. In a similar vein, the Senior Consultant from Case A remarked that the ‘offline connections’ were important to create a sense of membership with the group.

I don't think I would feel particularly enthusiastic about the group if there wasn't an offline aspect to it (Senior Consultant, Market Intelligence - Case A).

The Graduate from Case B expressed that she felt the sense of belonging in some of the community groups she joined in Enterprise 2.0. However, she mentioned that not all community groups she joined gave her a sense of belonging. She remarked the social interactions in the community group made a difference in this context, as illustrated below:

People need to make the effort to make it feel like a community. Some of the groups are just heavy on posting topics related to the interest area [on Enterprise 2.0] and that is not enough to make you feel part of that group. You need to deliberately speak and engage with the community. So, it's not just I'm going to post up a question. It needs to be "I'm going to engage and address this group like a community" (Graduate, Anti-Crime Solutions - Case B).

6.4 Individual Use Modes and their impact on Social Capital Dimensions

The synthesis of findings from Sections 6.1 to 6.3 demonstrate that individual use of Enterprise 2.0 impacts the social capital dimensions in varied ways. Using NVivo, the software enables discovery of relationships between nodes that are coded in Table 5.1 Summary of Findings on the Individual Use of Enterprise 2.0 and Table 6.1 Summary of Findings on the Individual Use of Enterprise 2.0 and its impact on Social Capital Dimensions and presents findings on how the individual use modes (Table 5.1 Summary of Findings on the Individual Use of Enterprise 2.0) impacts the social capital dimensions (Table 6.1 Summary of Findings on the Individual Use of Enterprise 2.0 and its impact on Social Capital Dimensions). Based on the findings, the research confirms that there was also an impact on social capital when individuals used Enterprise 2.0 in one of the following ways from use modes U1 to U7 (identified in Chapter 5) as follows:

- U1: Finding Quick Answers or to Get Help
- U2: Gathering Insights or Knowledge
- U3: Observing and Learning about other Individuals' Activities and Behaviour
- U4: Keeping Informed of Organisation Updates and Happenings
- U5: Sharing Insights, Knowledge, Ideas or Artefacts
- U6: Sharing Status or Work Updates
- U7: Acknowledging or Encouraging Others

The subsequent sections synthesise the findings discussed in Chapter 5 and earlier Section 6.1 to 6.3 and demonstrates the impact on social capital dimensions as a result of distinct individual use modes.

6.4.1 Finding Quick Answers or to Get Help (U1)

Narrowing down to specific use, an individual would use Enterprise 2.0 to find quick answers or to get help (U1) by posting a request for help or guidance to identify resources or knowledge from the wider audience within the social network. Use mode U1 and its impact on social capital dimensions is summarised in Figure 6.1.

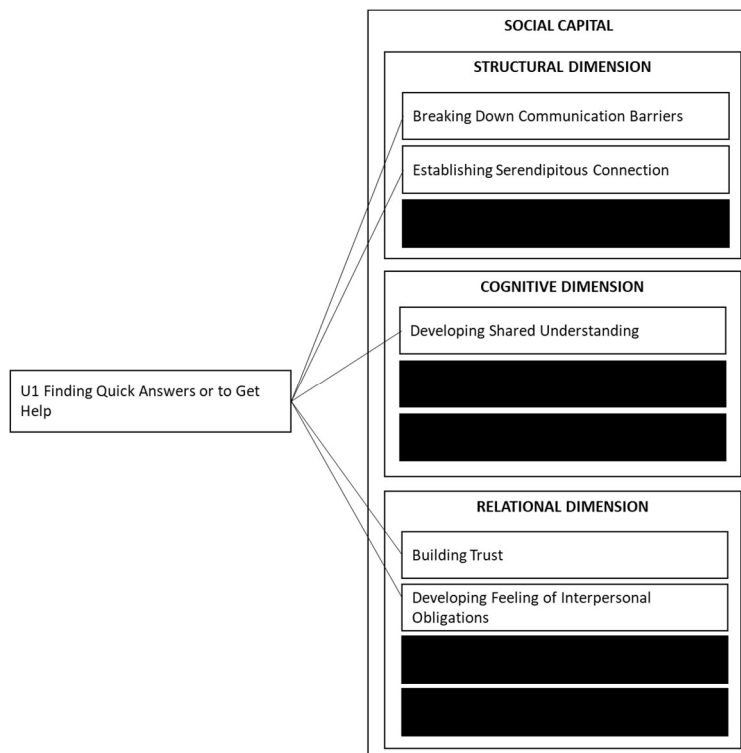


Figure 6.1 Use Mode U1 and its Impact to Social Capital Dimensions

Empirical evidence indicated that questions were often posted in the organisation-wide company newsfeed or a specific work group (if known) and broadcasted in the hope for serendipitous responses or answers. This type of interaction triggers a number of points within the social capital dimensions. To illustrate this, when individuals posted a request in Enterprise 2.0, they were essentially using Enterprise 2.0 to reach out to broader audience away from their functional areas and/or immediate team members. Use mode U1 was common across all case organisations. The response below presents evidence from Case C where the individual reached out to Enterprise 2.0 for help:

I will put up my question [request for help] on [Enterprise 2.0], particularly if I didn't know who might have the answer or if I thought that the issue was affecting more people. For example, if we had an IT fault or something then I might put it up on [Enterprise 2.0] asking the IT [work group] if they are looking into this (Senior Road Safety Coordination Officer - Case C).

Use mode U1 not only enabled individuals to reach out to the broader social network, it also provided the opportunity to get hold of other individuals which were able to direct the

individuals to the answer or the connection they were looking for. Nonetheless, within structural social capital, use mode U1 did not increase one's presence online. The following evidence shows:

I just started a new project and I asked for help [on Enterprise 2.0]. I got 14 responses from people and they tag other people saying you should talk to this person, talk to this person (Senior Consultant - Case A).

In addition to that, empirical evidence also showed that when an individual received help from others, it naturally aligned the understanding between individuals of the context (problem) and others who observed the discussion trail on Enterprise 2.0 developed a shared understanding to the problem and possibly the solution too (cognitive dimension of social capital). Empirical evidence also showed that when an individual used Enterprise 2.0 in use mode U1, the type of usage builds a rapport among individuals in the process of asking for help which inherently promotes trusts and, in some situation, develops feeling of interpersonal obligations.

When an individual used Enterprise 2.0 to seek help, there is impact on trust where the individual has an expectation of the social networks to provide help, and the individual trusted the help provided to them. It was noted in the interview that there was some degree of uncertainty in the answers provided on Enterprise 2.0. However, as the Client Manager from Case A explained:

Other people [on Enterprise 2.0] would see that response and comment appropriately ... It is like a crowd check on [Enterprise 2.0] (Client Manager, Tax - Case A).

In addition, the expectation of the social network cultivated feeling of interpersonal obligations from others who saw the posts on Enterprise 2.0 requesting for help. As explained by the Manager Spatial Services from Case C, when he noticed someone requested help in his area of expertise, he felt obligated to provide an answer.

If the post is directly related to my area, then I feel obligated to jump on there and provide an answer (Manager Spatial Services - Case C).

The Partner from Case A also explained that there was a ripple effect to asking and receiving help by posting in Enterprise 2.0. Individuals were influenced by the generosity of others who helped them and were motivated to help others in return, which explains the impact to interpersonal obligations.

6.4.2 Gathering Insights or Knowledge (U2)

Use mode U2 as mentioned in Chapter 5 is also the most dominant use mode in comparison to use mode U1 and U3 to U7. Coherently, use mode U2 is the only use mode which delivered impact on the social capital dimensions. There was similar impact to social capital dimensions as use mode U1, when individuals use Enterprise 2.0 to gather insights or knowledge (U2). However, the only difference between use mode U1 and use mode U2 is that the latter also impacted shared interpretations thus creating a bigger impact on the cognitive dimension of social capital. Figure 6.2 below illustrates the impact on social capital dimensions when individuals use Enterprise 2.0 in use mode U2.

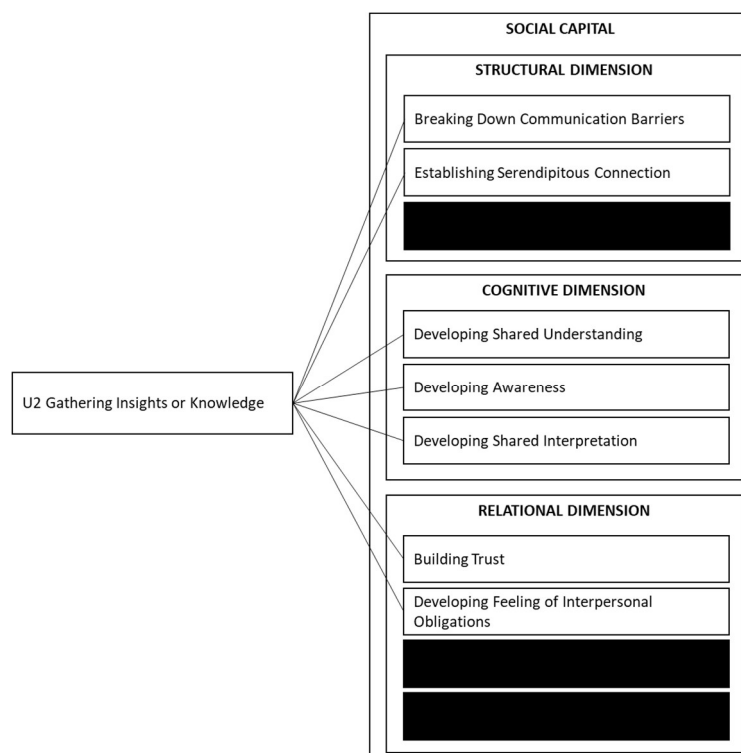


Figure 6.2 Use Mode U2 and its Impact to Social Capital Dimensions

Similar to use mode U1, use mode U2 impacted the structural social capital dimension whereby it broke down communication barriers and provided the avenue to establish serendipitous

connections. Similar to use mode U1, use mode U2 impacted the structural social capital dimension whereby it broke down communication barrier and provided the avenue to establish serendipitous connection. To illustrate this, Partner of Technology Division from Case A explained that he was preparing for a tender proposal for one of the automotive industry clients and he wanted to find out if there was anyone in the organisation who has done similar work that he could leverage on. He then posted on Enterprise 2.0 to gather insights as follows:

There was a conversation last week that was talking about the automotive industry. Our team has to prepare for a client bid. So, I posted on [Enterprise 2.0], “has anybody ever done anything on this or have we got a proposal like that before?” (Partner, Technology - Case A).

The evidence above demonstrates how the Partner from Case A established a weak-tie relationship with individuals who did not have much in common and may not have crossed path with him in the organisation and discover new knowledge.

Use mode U2 also impacted all aspects of cognitive social capital dimensions. Observation indicates that as individual reached out to their social networks to gather insights, knowledge, or artefacts, the usage triggered the mental models of others allowing individuals to develop a shared understanding, awareness, and shared interpretations. Based on the findings, when an individual used Enterprise 2.0 in use mode U2, if there was ambiguity or disagreement with the information received, the individual would reach out to their broader social networks to ask and seek clarification of the information received. Similarly, others would respond to provide their view. The iterative process influenced common understanding, as illustrated below:

We had the Chief Information Officer participated in the discussion on [Enterprise 2.0]. The Head of IT also commented on the [discussion] thread saying, “Thanks for all your feedback we didn’t realize that it was such an issue and we are looking into it in the next two days to check if there is a solution”. That is an awesome turnaround to have someone that senior from IT listening and responding (Senior Consultant, Technology - Case A).

In addition, insights contributed by others may stem from past experience and stories. As a result, the combination of insights and perspectives from various individuals, in the form of comments and resources shared in the discussion trail, coupled with individual’s values and

beliefs led to shared interpretation. The Practice Lead from Case D expressed her view that when she browsed through the content on Enterprise 2.0, coupled with her experience and assumptions, she formed a view of the current state of the organisation and the issues.

It is very worth it because you get a flavour of what people are saying about the organisation, or you also get a view of what issues there are out there because you can easily group them together (Practice Lead - Case D).

When an individual used Enterprise 2.0 in use mode U2, he/she also gained more awareness. The following example illustrate how the Partner from Case A wanted to find out more about a particular client problem. He posted a question on Enterprise 2.0 and not only did he received insights on the client, he also became aware of the work that was being done in other parts of the organisation and the subject matter experts to reach out to next time when he needed to do so.

I have a client that has a particular problem, and I posted [on Enterprise 2.0], “Does anyone know something about whether this industry or something?” We used to do this through email but [Enterprise 2.0] has shown more efficiency... Within minutes, I’ve got the information needed and others too responded [in the same post] and said, “[Person A] knows something about that or [Person B] knows something about that” (Partner of Digital Transformation, Innovation, Social Capital - Case A).

Similarly, use mode U2 elicited feelings of trust and interpersonal obligations as use mode U1. There was presence of trust when an individual reached out to the social network on Enterprise 2.0, whether to browse for content or to crowdsource ideas/opinions. Cogently, individual felt obligated to give back to the community as a result of the information they received. This was expressed by the Partner from Case A as follows (and summarised in Figure 6.2):

When you use the network [Enterprise 2.0], you take something that is of value and you can get some success. Once you start that behaviour, you then give back to the network. Once you have done it a few times, you will kind of just get hooked on to that method (Partner of Digital Transformation, Innovation, Social Capital - Case A).

6.4.3 Observing and Learning about other Individuals' Activities and Behaviour (U3)

When an individual uses Enterprise 2.0 to observe other individuals' online interaction (U3), their use mode impacts the cognitive and relational social capital dimensions whereby it developed a shared understanding, shared interpretation and fostered norms of social behaviour. Use mode U3 and its impact on cognitive and relational social capital dimensions is illustrated in Figure 6.3.

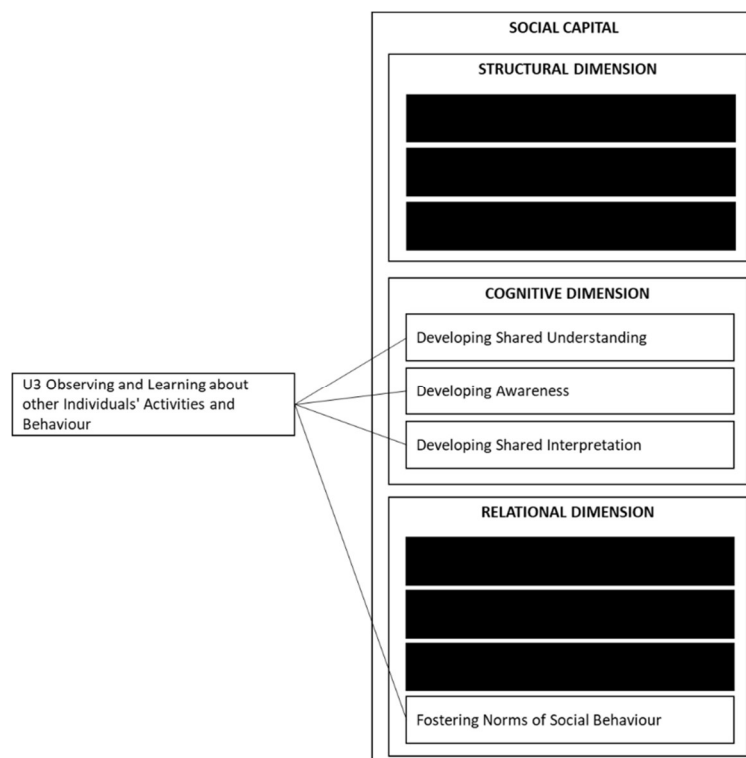


Figure 6.3 Use Mode U3 and its Impact to Social Capital Dimensions

It was clear from the empirical evidence that across all case organisations, individual uses Enterprise 2.0 as a platform to observe and learn from other individuals' behaviour and activities on the social network. Evidence from Case D below illustrates how the use mode U3 developed shared understanding of the organisation's directions and goals by following and observing the leaders in the organisation. The Team Lead from Case D observed the interaction and communication of some of the leaders through their postings, comments, and discussions, that gave clues in terms of the direction of the organisation:

I think it's a great tool to follow and be informed by the leaders [on Enterprise 2.0] the leaders are telling us about their goals and where the company is progressing to, what our

goals and our objectives are and how we're tracking (Team Lead, Network and IT Operations - Case D).

The Team Lead from Case D although not having participated in the discussion, also developed a shared understanding by observing the feedback and responses from the leaders' interaction on Enterprise 2.0.

In addition, when an individual observed other individuals' activities on Enterprise 2.0, he/she formed a perception, in other words, an interpretation of the scenario or of the person being observed. This is explained in the following empirical evidence. The Senior Business Analyst from Case B described that when she used Enterprise 2.0 to observe others' interactions in Enterprise 2.0, she was able to explain broadly the context of the scenario. In the process of doing so, there were assumptions, personal experiences, and beliefs, that came into play to share the interpretation.

I was observing others for a long time [on Enterprise 2.0]. You get the feel what is important just looking at the conversation (Senior Business Analyst - Case B).

On the opposite end, she also explained that she was also being observed by others on Enterprise 2.0. As a result, there were times that other individuals form a perception of her role in the organisation. This is illustrated below:

Because I have an interest in organisational change, I would talk about the topic on [Enterprise 2.0]. Often, people would think that I'm a Change Manager, which I'm not (Senior Business Analyst - Case B).

In terms of the impact on awareness, observations indicated that this shared similarity to use mode U2, as discussed in Section 6.4.2. The only difference is that instead of the individual reaching out to gather insights, in this context, the individual observes others' discussion trails and gains awareness through their shared insights. In the related example provided in Section 6.4.2, the individual observing the thread of discussion although not having participated in the discussion, will gain awareness of the subject matter experts in the organisation.

Use mode U3 also impacts the relational social capital where it fosters norms of social behaviour. The findings indicated that an individual typically follows and observes others who are leaders or someone they rated highly. Based on cognitive balance theory, there were inclinations for individuals to emulate the social behaviour of the person they followed, as evident below:

I am following a specific person because he or she is an expert in a specific field. When I see that the person is connected to a community I am not a member in, I am then interested to be a member of this group (Senior Domain Architect - Case D).

6.4.4 Keeping Informed of Organisation Updates and Happenings (U4)

Use mode U4 explains that individual use of Enterprise 2.0 allows individuals to stay abreast of the organisation's updates and events. Use mode U4 and its impact on social capital dimensions is illustrated in Figure 6.4.

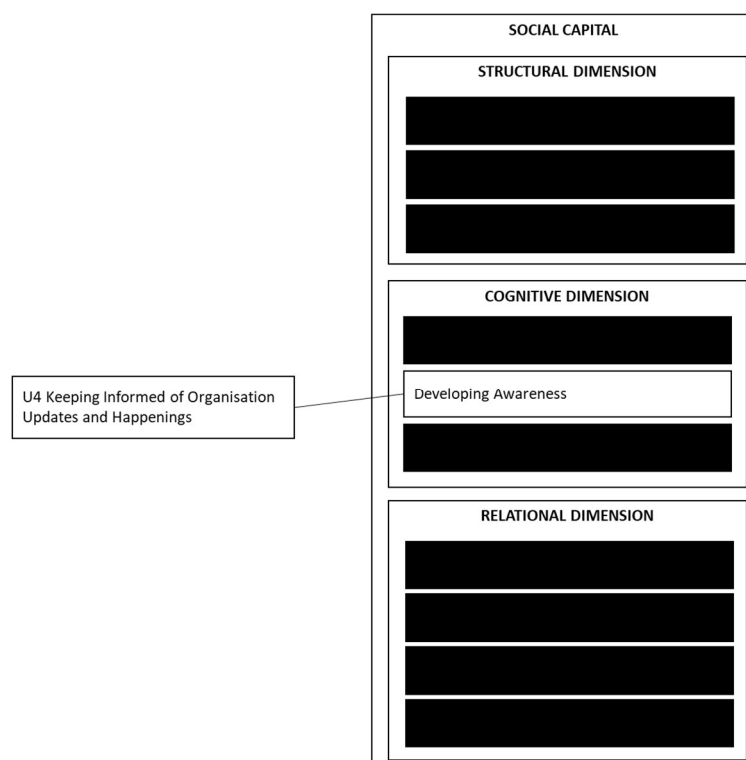


Figure 6.4 Use Mode U4 and its Impact to Social Capital Dimensions

Comparing to all other use modes (U1, U2, U3, U5, U6, and U7), use mode U4 involves passive individual use of Enterprise 2.0 akin to reading posts on a community or notice board.

Nonetheless, there was still an impact on the cognitive social capital dimension whereby the individual's interaction of browsing through content, helps to create conscious awareness.

Empirical evidence indicated that individuals would extract information from events apparent on the social network, creating the feeling of being 'in-the-know'. In the findings below, as the Director from Case A used Enterprise 2.0 to read through headline postings, she gained a deeper awareness of the environment i.e. the teams and the organisation:

As consultants, we often work at different clients' site. [Enterprise 2.0] is a way we can virtually connect to see what's happening in the office, or if there's a catch up later who's going, or this is what happened in the project team. People can feel more connected in that way (Director, Strategy and Operations - Case A).

Nonetheless, the awareness experienced by the Director from Case A was subjective to her own experience, thoughts, or state of mind. In addition, it was also important to note that when individual uses Enterprise 2.0 in use mode U4, the individual does not need to pay attention incessantly to all the updates and events in Enterprise 2.0 but will still experience increased awareness on information significant to his/her conscious mind.

6.4.5 Sharing Insights, Knowledge, Ideas or Artefacts (U5)

The empirical evidence in Chapter 5 presents that individual use of Enterprise 2.0 predominantly involved the sharing of insights, knowledge/ideas, and/or artefacts (U5). Use mode U5 explains an individual's use of Enterprise 2.0 to voice feedback and opinions on one or more particular topics, the sharing of knowledge based on expertise or interest areas, or the sharing of knowledge and artefacts that were beneficial to others. Empirical evidence below illustrates this instance:

That topic that I have posted on facial recognition most people wouldn't have come across that article. I share this information so that maybe someone somewhere else might have use for that information (Analyst - Case A).

Use mode U5 and its impact on the social capital dimensions are illustrated in Figure 6.5.

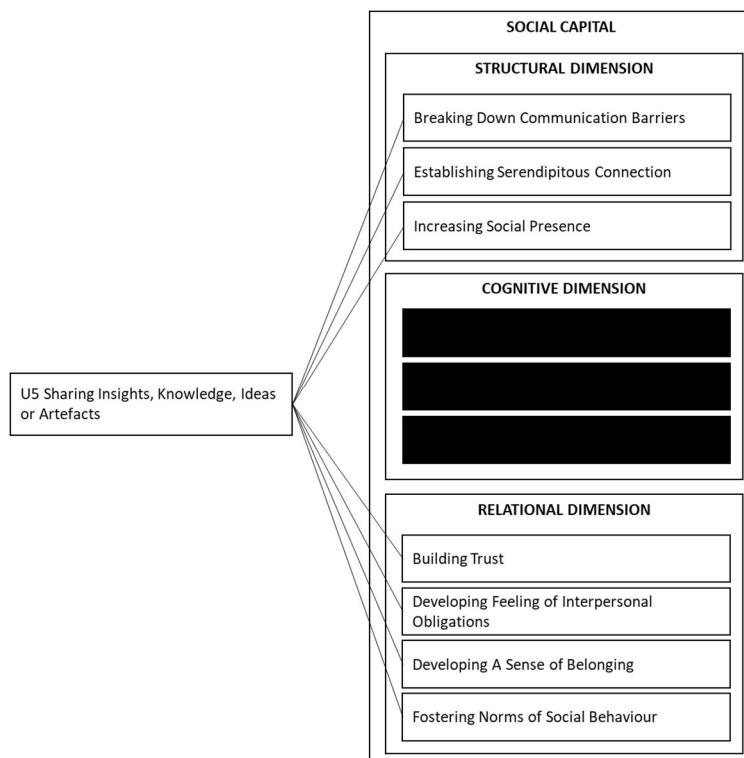


Figure 6.5 Use Mode U5 and its Impact to Social Capital Dimensions

Based on empirical evidence, use mode U5 demonstrates its impact on all aspects of the structural and relational social capital dimensions. This was inherently true to all case organisations. As an individual uses Enterprise 2.0 to share his/her insights or knowledge, they were growing their social networks by breaking down communication barrier in large organisational settings and reaching out to their broader social networks. If the individual persisted over an extended period of time using Enterprise 2.0 in this manner, the individual's social presence would increase organically, as shown in the example below:

Because I was very active in many ways on [Enterprise 2.0], I was very prominent in the way I would share my knowledge in the social network for the benefit of the community. Outside of [Enterprise 2.0], people would walk up to me and to finish the conversation that we'd started online [Enterprise 2.0] and I didn't know who they were (Chief Executive Officer - Case B).

Empirical evidence demonstrated that use mode U5 interaction on Enterprise 2.0 also entailed trust, the willingness to share (interpersonal obligation), social norms, and self-identification (sense of belonging) that can be seen in knowledge sharing.

To further illustrate relational social capital, as explained in use mode U1 and U2, trust was established when there was interdependence between individuals who trusted and the party who was trusted. When individual uses Enterprise 2.0 in use mode U5, interdependence exists where the individual sharing insights, information or artefacts trust the social network and feels comfortable to share while others within the social network trust the insights, information or artefacts shared by him/her.

The empirical evidence demonstrates that there were individuals who were perceived as being thought leaders judging from the quality and quantity of insights and knowledge they shared on Enterprise 2.0. There was an innate expectation from others on these individuals, also known as thought leaders, to share insights and knowledge. In return, this translated to the impact an individual's feeling of interpersonal obligation to share knowledge. A Director from Case A explained how he felt obligated to share his knowledge on Enterprise 2.0 as one of the leaders in the organisation:

As a leader in [Case A], if you are not seen to be involved in the conversation that occurs on [Enterprise 2.0], you are missing out on an opportunity to share your knowledge and to show that you have a personal brand in the area of expertise that you work in (Director, Strategy and Operations - Case A).

In addition, when an individual used Enterprise 2.0 in use mode U5 to share insights, knowledge, or artefacts, he/she was building the culture of knowledge sharing over time by setting a precedence. This was especially true for individual who assumed leadership roles in organisation, as illustrated in the evidence below:

If you look across the network, there are a number of who we called the Connectors. They are people [leaders] who are in the organisation sort of know who knows what, they just automatically assume the role. It is just part of the culture that I give, I help, and I share (Partner, Technology – Case A).

Lastly, as individual shared insights, knowledge, or artefacts on Enterprise 2.0 (U5), the on-going interaction with the social network developed a sense of belonging. These factors were observed in the empirical evidence below:

I have a very strong connection to the [Enterprise 2.0] community and I feel like I have a deeper sense of belonging. I suppose in a way it helps you to find likeminded people who are out there, that you might not even know. We may have the same opinion on things and will be like sharing our opinion on [Enterprise 2.0] (Senior Business Analyst - Case B).

6.4.6 Sharing Status or Work Updates (U6)

When an individual used Enterprise 2.0 to share status and work updates (U6), the individual use mode impacted the structural and relational social capital dimensions in similar way as use mode U5, except that it did not foster feelings of trust, a sense of belonging nor interpersonal obligations. The individual use mode U6 to share status and/or work updates was perceived differently from use mode U5 which was to share insights and knowledge due to the nature of the one-way interaction with the network. Figure 6.6 illustrates this impact when an individual uses Enterprise 2.0 in use mode U6.

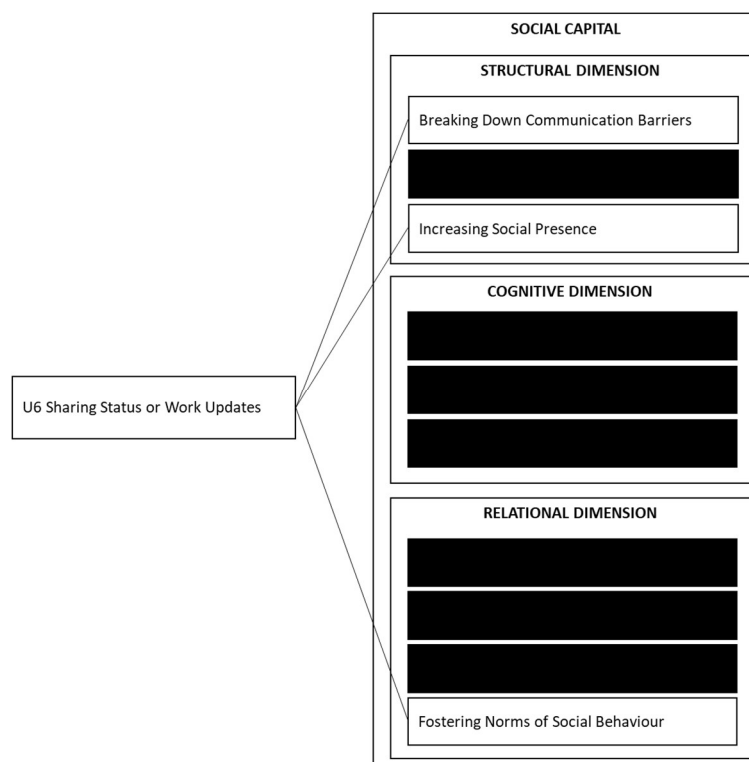


Figure 6.6 Use Mode U6 and its Impact to Social Capital Dimensions

As presented in Chapter 5, the empirical evidence indicated that individuals shared status and/or work updates when their project team was using Enterprise 2.0 as a collaboration platform, i.e. quick updates for stand-up meetings, as follows:

Similar to other technical projects, we will have a morning stand up meeting [on Enterprise 2.0]. Everyone would post their updates on [Enterprise 2.0] by 9:30am on what they did yesterday, what they plan to do today, and any roadblocks (Partner of Digital Transformation, Innovation, Social Capital - Case A).

Individuals also shared status and/or work updates to keep the community informed of progression of activities, i.e. technical incident support, as follows:

Two or three months ago, we upgraded our internet. In the process, the upgrade was impacting all end users. We've posted daily updates on [Enterprise 2.0] so people can see that and be informed of the progress (Service Desk Coordinator - Case C).

In both examples, it was observed that the communication was unidirectional and did not require feedback or responses from others in the social network. Earlier sections 6.4.1, 6.4.2, and 6.4.5 discussed that trust existed where there was interdependence between individuals who trusted each other and the party who was being trusted. There were observations in some cases whereby individuals mentioned the existence of trust in the updates that were shared on Enterprise 2.0. However, this has not been observed from the individuals who used Enterprise 2.0 to post and share status and/or work updates. Consequently, use mode U6 did not promote trust.

When an individual used Enterprise 2.0 in use mode U6, he/she was essentially promulgating the post to a specific community/work group or in the organisation-wide newsfeed. This led to an impact on the structural social capital dimension consistent with use mode U5. Consistently, use mode U6 fostered norms of social behaviour similar to use mode U5. Instead of building a culture of knowledge sharing (U5), use mode U6 sets a tone within the social network of a different working behaviour. The following evidence demonstrates the impact of use mode U6 on increasing one's social presence.

I have learned to work-out-loud more, by sharing my work and be more transparent with others [on Enterprise 2.0] ... the better known you are and the better your interests and passions are known (Chief Executive Office – Case B).

6.4.7 Acknowledging or Encouraging Others (U7)

Finally, Enterprise 2.0 provides a ‘Like’ feature to acknowledge or show individual support to the posts and comments of others, as shown in the mock up Enterprise 2.0 interface in Figure 6.7 below.

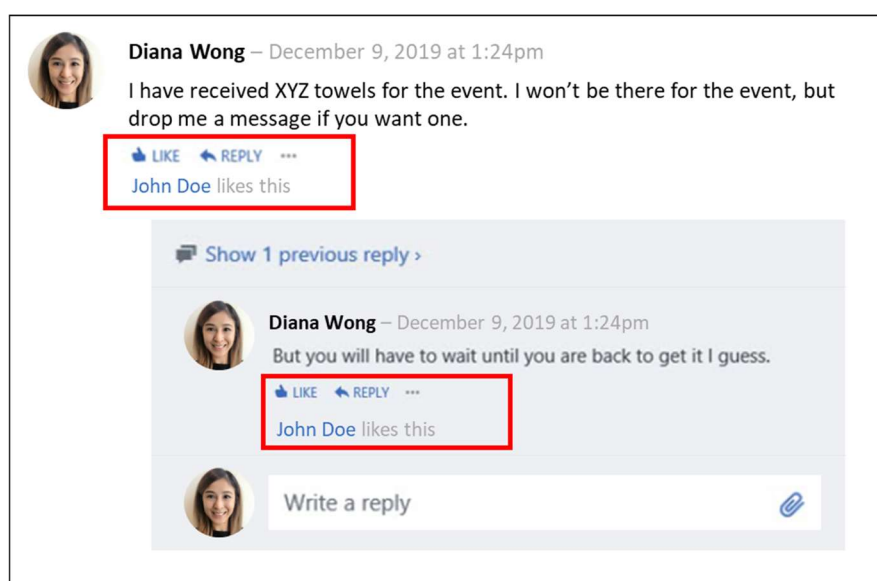


Figure 6.7 Example of Acknowledging or Encouraging Others on Enterprise 2.0 (Mock Interface Adapted from Yammer Website)

A fraction of individuals especially in Case A, B, and C expressed their use of this Enterprise 2.0 feature as a means to acknowledge or encourage others (U7). The differences between case organisations D, E, and F in terms of this feature, relates to the maturity of Enterprise 2.0's adoption and the organisational culture. Examples of such usage from Case A is as follows:

I will use the 'Like' feature on [Enterprise 2.0] as positive encouragement because people put their time into sharing information on [Enterprise 2.0]. It [the 'Like' feature] is also part of celebrating success when people have done a great job or if you know they are excited or something exciting things (Director, Knowledge Solutions - Case A)

The observations indicated that when an individual received a ‘Like’ or had others following him/her on Enterprise 2.0, he/she felt that he/she must be doing something right. This also implied that trust existed where others have confidence and expectation to see more of it, as illustrated in the evidence below:

If someone put up a good post [on Enterprise 2.0], I will ‘like’ or comment on it because I want to see more (Senior Domain Architect - Case C).

In addition, the findings also confirmed the impact on developing sense of belonging. Individuals saw themselves as members of a specific community and developed feelings of excitement being part of the online community within Enterprise 2.0. The Director from Case A expressed how she developed a sense of belong when she received constant acknowledgement from the community group even though she did not belong to the practice area:

The group [on Enterprise 2.0] is very active... you often a get ‘like’ or someone will tag you to shout out your achievement on [Enterprise 2.0]. It makes you feel very sticky to the company (Director - Case A).

Figure 6.8 illustrates U7’s impact on the relational social capital dimension. The impact of U7 on social capital may not be as significant as other Enterprise 2.0 use modes. However, if U7 is applied correctly and more commonly, it has great potential to strengthen network ties and influence the community to demonstrate positive reinforcement (norms of social behaviour). Nonetheless, this has not been observed across the case organisations.

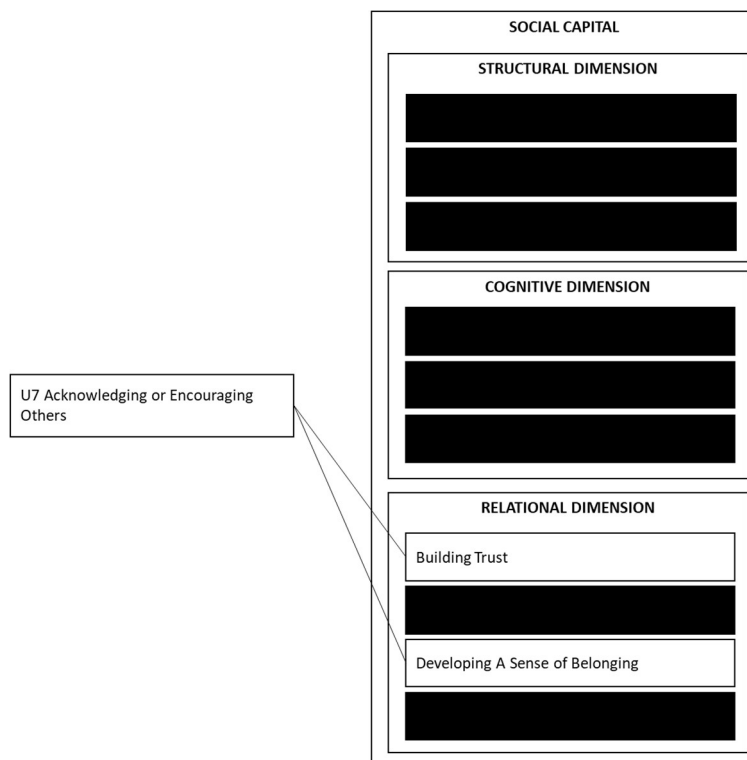


Figure 6.8 Use Mode U7 and its Impact to Social Capital Dimensions

Finally, Table 6.2 presents a summary of different use modes (U1 to U7) on Enterprise 2.0 and their impact on all the social capital dimension. For example, use mode U5 which refers to individual use of Enterprise 2.0 to share insights, knowledge, or artefacts has a total of 7 ‘Y’ which means that individual gains the most social capital if they use Enterprise 2.0 in this manner, notwithstanding that the frequency of use will impact the quality of social capital. However, based on the findings, although use mode U5 has the most ‘Y’, the impact is limited to structural and relational social capital dimensions only. On the other hand, use mode U4 which refers to individual use of Enterprise 2.0 to keep informed of organisation updates and events has a total of 1 ‘Y’ which means this usage has the least impact on social capital limiting to impact on cognitive social capital dimension only.

SOCIAL CAPITAL DIMENSIONS	U1	U2	U3	U4	U5	U6	U7
STRUCTURAL							
Breaks Down Communication Barriers	Y	Y			Y	Y	
Establishes Serendipitous Connection	Y	Y			Y		
Increases Social Presence					Y	Y	
COGNITIVE							
Develops Shared Understanding	Y	Y	Y				
Develops Awareness		Y	Y	Y			
Develops Shared Interpretation		Y	Y				
RELATIONAL							
Builds Trust	Y	Y			Y		Y
Develops Feeling of Interpersonal Obligations	Y	Y			Y		
Fosters Norms of Social Behaviour			Y		Y	Y	
Develops Sense of Belonging					Y		Y
TOTAL	5	7	4	1	7	3	2

Table 6.2 Summary of Individual Use Modes (U1-U7) of Enterprise 2.0 and their Impact on Social Capital Dimension

6.5 Different User Types and their associated Use Modes

In addition to the use modes identified in this study, using the framework adapted from Brandtzæg (2010) and Rogers (2003) in Section 2.3.1, a deeper analysis of the findings reveal how different types of users benefit from various social capital dimensions. The categorisation of varying levels of usage presented substantial differences in the pattern of Enterprise 2.0 use. The subsequent section presents the empirical evidence to substantiate each of the user types. A comparison between two case organisations are presented for each user type to illustrate the sub themes (Observer, Lurker, Broadcaster, Debater, and Advanced User) that emerged from each user type.

Active Users: Empirical evidence indicates that individuals who falls in the category of active users use Enterprise 2.0 on daily basis (including couple times a day) during and outside of office (work) hours. The individual use of Enterprise 2.0 can be viewed as habitual use where accessing and using Enterprise 2.0 are embedded as part of their daily routine. Based on the findings and framework discussed in Section 2.3.1, all active users used Enterprise 2.0 in a range of High to Medium variety of usages which explains this could be all or a combination of various U1 to U7 use modes. For illustration purposes, the quotes presented in Table 6.3 are usage evidence based on two active users from Cases A and C:

Partner, Digital Transformation, Innovation, Social Capital (Case A)	Manager Spatial Services, Information Management and Technology (Case C)
U1: Finding Quick Answers or Getting Help	
<i>"If I am in a rush, or if I don't know, I would post in the all company feed because there is a greater chance of somebody being able to get back to me more quickly or direct me to the right place to go."</i>	<i>"When you ask a question on [Enterprise 2.0], you might get two or three different answers. So, if there are conflicting answers to your question, somebody will step in confirm which is the right answer."</i>
U2: Gathering Insights or Knowledge	
<i>"I will post a question to [Enterprise 2.0] group when I want to get some insight or opinion as oppose to going to Google and searching for it. It depends on what I am trying to find, for example, "what is the current price of product X?" I will probably just Google that. If I need a bit more of an actual insight or opinion about the technology or how it might be used, then getting that from people [on Enterprise 2.0] is more valuable than just getting the data."</i>	<i>"I'm almost a bit of an instigator trying to get conversations started, but once I've got a conversation started I might sort of stay back in the conversation and not contribute much more than. It gets them sharing."</i>
U3: Observing and Learning from other Individuals' Activities and Behaviour	
<i>"The network gives an in-built trust mechanism because of the transparency. We actually do learn about the people, their behaviour, who they connect with, who they respond to, just in the same way you could by observing the people for a long time before you engage in conversation."</i>	<i>"Every now and then I'll find someone on the whole company feed who just keeps posting interesting stuff who I've never met, or I never heard of before. I'll follow them."</i>
U4: Keeping Informed of Organisation Updates and Events	
<i>"I don't have a lot of tax information I can contribute. But being part of the tax group, I can hear the general things that are going on and I can know more about what is happening in the industry or the emerging legislation. I might suddenly have a point of view about something that and I can contribute."</i>	<i>"I use it for learning; I use it for learning what other parts of the organisation are doing, who are the right people to talk to about certain things."</i>
U5: Sharing Insights, Knowledge, Ideas or Artefacts	
<i>"I post a lot on the interest groups. I am passionate about postings that just come out of newspaper or interesting topics that just come out or project we are working on. It is like starting a conversation and sees who else in there that are interested."</i>	<i>"I posted a link saying well Strava is about to open up their data and sell it to organisations like [Case Organisation C] because it's really useful information for us to know where cyclists are, where we should prioritize funding for cycling routes and cycling infrastructure. I posted that on [Enterprise 2.0] and that generated a lot of discussion. It ended up that [Case Organisation C] got hold of the Strava data set, testing it, and we're now using it. It started from an interesting article and turned into a really powerful source of information that we're now using operationally."</i>
U6: Sharing Status or Work Updates	
<i>"We run a project via [Enterprise 2.0]. The whole team can see everything that is going on, not just the deliverables, there is the PowerPoint document, conversations, meeting updates, and concerns. If I read through the history, I can get a much better perspective about what was going in the project."</i>	<i>"We've done a few projects that we've managed through [Enterprise 2.0]. I created a Yammer Group so that we can get updates and have conversations with the whole project."</i>
U7: Acknowledging or Encouraging Others	

<i>"The 'Like' tool is particularly powerful because I got 30 people who report to me and they are all telling me what they are doing, or if they need something. If they are doing okay and on-track, then liking is the great way that I can let them know on [Enterprise 2.0] that I know what's going on."</i>	<i>"I would tag the person if I want to drag them into the conversation. I would try and drag in the people who aren't necessarily the active users. So, I posted an article the other day to a guy who I know hates Yammer and doesn't use it. I tag him on it because I knew that will get his attention because he should get an email saying somebody has tagged you on [Enterprise 2.0]. I will try and call out individuals who have something to contribute to the conversation to encourage them."</i>
--	--

Table 6.3 Evidence of Active Users on Enterprise 2.0

It is observed from the findings that active users are typically thought leaders who actively posts and shares knowledge on topics of interest or areas of expertise. These individuals are also interested in what's happening within the organisation which is observed through their regular check-in activities to Enterprise 2.0. As listed in the Table 6.3 above, active users can also be an Advanced User or a Debater. An Advanced User is an individual who engages in all kinds of activities in Enterprise 2.0, for example, participating in discussion, sharing articles, or gathering insights frequently. A Debater, more commonly, would use Enterprise 2.0 in addition to all other activities, takes high interest in interacting with other individuals in a discussion thread sharing their views and opinions. In the example provided above, individuals from Case A is an Advanced User and individual from Case C is a Debater. The subsequent table overlays the findings related to active users and their associated use modes to the findings presented in Table 6.2.

SOCIAL CAPITAL DIMENSIONS	ACTIVE USERS						
	U1	U2	U3	U4	U5	U6	U7
STRUCTURAL							
Breaking Down Communication Barriers	Y	Y			Y	Y	
Establishing Serendipitous Connection	Y	Y			Y		
Increasing Social Presence					Y	Y	
COGNITIVE							
Developing Shared Understanding	Y	Y	Y				
Developing Awareness		Y	Y	Y			
Developing Shared Interpretation		Y	Y				
RELATIONAL							
Building Trust	Y	Y			Y		Y
Developing Feeling of Interpersonal Obligations	Y	Y			Y		
Fostering Norms of Social Behaviour			Y		Y	Y	
Developing A Sense of Belonging					Y		Y
TOTAL	5	7	4	1	7	3	2

Table 6.4 Findings related to Active Users' Impact on Social Capital Dimensions

Based on the synthesis of findings as summarised in Table 6.4 , the evidence demonstrates that active users benefit from all aspects of social capital dimensions, using all or a combination of various U1 to U7 use modes.

Average Users: Average users are individuals who access Enterprise 2.0 on average 3-5 times a week. These users could be individuals who use Enterprise 2.0 out of curiosity, for some ‘healthy’ distraction away from work, or to spend some time in between the next appointment or activity. Some averages users are mandated to use Enterprise 2.0 as a work collaboration platform with the team members, and are as such, required to use Enterprise 2.0. Based on the findings presented in the Table 6.5 below, average users use Enterprise 2.0 in the following ways. An example of two average users from Cases B and C are presented below to illustrate the different use modes of average user type:

Senior Consultant, Change Management (Case B)	Service Desk Coordinator, End User Services - IT Operations (Case C)
U2: Gathering Insights or Knowledge	
<i>"We have desk which can be elevated where you can do work standing up. I posted on [Enterprise 2.0] if anyone has got any other ideas on what they do or how you can do this better. People wrote back, and we accumulated a good discussion on [Enterprise 2.0]."</i>	<i>"I would post [on Enterprise 2.0] general enquiry to find out if anyone knows who looks after this or heard if something is happening."</i>
U3: Observing and Learning from other Individuals' Activities and Behaviour	
<i>"10% of our learning comes from a formal classroom environment face-to-face, 20% comes from coaching each other and exposure, and 70% comes from observation in the workplace. I've been following people who I've met and people who post quality content to places like things that I'm interested in. Sometimes I'll go to a meeting and I'll meet someone and feel like I already know the person because I've seen their post on [Enterprise 2.0]."</i>	<i>"I follow a few of the directors and the general managers because if they've put in an article in [Enterprise 2.0], I might be interested."</i>
U4: Keeping Informed of Organisation Updates and Events	
<i>"You learn about events that are going on around the building. You know there might be like a 'lunch and learning session' or 'share and learn session' that someone would have posted on [Enterprise 2.0]."</i>	<i>Not observed.</i>
U5: Sharing Insights, Knowledge, Ideas or Artefacts	
<i>"I was doing my Masters degree a couple years before and I had access to articles. I saw a guy posted on [Enterprise 2.0] looking for an article and I responded. I got the article and shared that with him on [Enterprise 2.0]."</i>	<i>"If there is going to be something [e.g. technical maintenance] happening on the weekend, I will put hints and tips and things on [Enterprise 2.0]."</i>

Table 6.5 Evidence of Average Users on Enterprise 2.0

Average users are typically individuals who genuinely enjoy helping others by contributing their knowledge and expertise. These individuals may not be the regulars on the network, however, when they are there, they would generally seek to help where possible. As listed in the Table 6.5, individual from case organisation B and C can be categorised as a ‘Lurker’ and ‘Broadcaster’ respectively.

A ‘Lurker’, more commonly, has lower variety of usages and uses Enterprise 2.0 largely to observe the individuals on various social networks and to keeping themselves informed of updates and events in the organisation. This can be observed from individual from case organisation B. Users in this category makes the most of serendipitous connections and/or discovery of interesting and meaningful information. A ‘Broadcaster’ type of average users are individuals who uses Enterprise 2.0 frequently to make organisational announcements or back channelling information. This can be observed from individuals from case organisation C. In the empirical evidence provided above, individual from case organisation C, does not use Enterprise 2.0 to keep informed of organisational updates and events, as most average user type would do. However, the individual explained that due to the nature of his role as service desk coordinator, he uses Enterprise 2.0 frequently to share work status and updates, as illustrated in the evidence below:

We are the first point of contact for IT incidents and support. It is important to put all the IT updates on [Enterprise 2.0] in our community group. So, if there are any outages, we can alert everybody (Service Desk Coordinator - Case C).

Subsequently, Table 6.6 overlays the findings related to average users and their associated use modes (U2, U3, U4, and U5) to the findings in Table 6.2. Similarly, the evidence summarised in Table 6.6 demonstrates that average users benefit from all aspects of social capital dimensions through use modes U2, U3, U4, and U5.

SOCIAL CAPITAL DIMENSIONS	AVERAGE USERS						
	U1	U2	U3	U4	U5	U6	U7
STRUCTURAL							
Breaking Down Communication Barriers		Y			Y		
Establishing Serendipitous Connection		Y			Y		
Increasing Social Presence					Y		
COGNITIVE							
Developing Shared Understanding		Y	Y				
Developing Awareness		Y	Y	Y			
Developing Shared Interpretation		Y	Y				
RELATIONAL							
Building Trust		Y			Y		
Developing Feeling of Interpersonal Obligations		Y			Y		
Fostering Norms of Social Behaviour			Y		Y		
Developing A Sense of Belonging					Y		
TOTAL		7	4	1	7		

Table 6.6 Findings related to Average Users' Impact on Social Capital Dimensions

Inactive Users: Inactive users each access Enterprise 2.0 on average 1-3 times per week. The key distinction between average and inactive users is the motivation to access Enterprise 2.0. Average users intrinsically feel motivated to check on Enterprise 2.0 – not as often as active users – but to participate and engage with the community within the social network. Inactive users are often driven by an external motivation such as announcements, competitions, or any specific events - just for 'killing time'. The vast majority of the inactive users do not create content on Enterprise 2.0. Based on the findings presented in the Table 6.7 below, inactive users use Enterprise 2.0 in the following ways. An example of two inactive users from Cases D and E are presented below to illustrate the different use modes of inactive user type:

Practice Lead, Architecture (Case D)	Enterprise Architect (Case E)
U2: Gathering Insights or Knowledge	
<i>"I use [Enterprise 2.0] to get instant information and be able to fix up instant issues and problems."</i>	<i>"I follow the thread of discussion on [Enterprise 2.0] and I got some documentation from it."</i>
U4: Keeping Informed of Organisation Updates and Events	
<i>"Every morning, I would spend an hour looking at the newsfeed on [Enterprise 2.0], and there are a couple of groups I would jump in to see because it affects my job."</i>	<i>"I get daily newsfeed with summary of what's happening on [Enterprise 2.0]. The daily digest has interesting stuff and announcements. I'll often click on it and get the information from [Enterprise 2.0]."</i>

Table 6.7 Evidence of Inactive Users on Enterprise 2.0

As listed in the Table 6.7, inactive users can be categorised as ‘Requestor’ or ‘Observers’. An ‘Observer’ user type refers to individuals who are often on Enterprise 2.0 but only limited to browsing and scanning through postings and comments from other individuals. ‘Requestors’ are individuals who are on Enterprise 2.0 only when they require assistance on something. These requests are usually looking for a focal person, a knowledge area expert, or information to a key activity or event. In the empirical evidence provided above, this difference is evident from an individual from Case D classified as an ‘Observer’ and from Case E a ‘Requestor’.

The individual from Case D does not contribute much to the social network; however, would scroll through the organisational newsfeed to browse if there are any events or updates from the organisation or the community. There is slight difference between a ‘Lurker’ and ‘Observer’ where a ‘Lurker’ observes not just the organisation overall newsfeed but also actively follows specific individuals from different social networks with the intent to learn from others or to serendipitously discover new meaningful information. In other words, ‘Lurker’ types of users spend more time on the social network compared to ‘Observer’ type of users. There are overlaps in the way these individuals use Enterprise 2.0 even though they may be different types of users. Generally, at the very minimum, all the different types of user types observe the content in Enterprise 2.0. Finally, although not explicitly stated in the empirical evidence above, individuals from case organisation E was categorised as a ‘Requestor’. Due to the set-up of Enterprise 2.0 in Case E, the platform is used as a channel for individuals to contribute articles or latest updates on technology solutions. Individuals from Case D used Enterprise 2.0 to get the latest updates and to download information sheet where available.

Table 6.8 overlays the findings related to inactive users and their associated use modes (U2 and U4) to the findings in Table 6.2. The evidence summarised in Table 6.8 indicates that whilst inactive users benefits from structural, cognitive, and relational social capital dimensions, there are limitations wherein these individuals do not receive full benefits of structural and relational social capital dimensions. Due to the limited use modes (U2 and U4), inactive users would not see positive impact to his/her social presence on the social networks nor the ability to observe the social norms and develop a sense of belongingness.

SOCIAL CAPITAL DIMENSIONS	INACTIVE USER						
	U1	U2	U3	U4	U5	U6	U7
STRUCTURAL							
Breaking Down Communication Barriers		Y					
Establishing Serendipitous Connection		Y					
Increasing Social Presence							
COGNITIVE							
Developing Shared Understanding		Y					
Developing Awareness		Y		Y			
Developing Shared Interpretation		Y					
RELATIONAL							
Building Trust		Y					
Developing Feeling of Interpersonal Obligations		Y					
Fostering Norms of Social Behaviour							
Developing Sense of Belonging							
TOTAL		7		1			

Table 6.8 Findings related to Inactive Users' Impact on Social Capital Dimensions

6.6 Chapter Summary

This chapter presented the findings on the usage of Enterprise 2.0 and its impact on structural, cognitive, and relational social capital dimensions. The findings indicate that there is an impact to all aspects of the social capital dimensions. Specifically, the empirical evidence presented suggests that individual use of Enterprise 2.0 will have biggest impact on cognitive social capital and equal impact on structural and relational social capital. In addition, the last section also presented additional findings related to the different active, average, and inactive user types and how the respective user types use Enterprise 2.0 in the identified distinct use modes. As indicated in Chapter 3, these findings are based on data collected using interviews, observations, and documents analyses across six large organisations in Australia. The subsequent chapter provides a detailed discussion on how the individual use of Enterprise 2.0 impacts the social capital dimensions.

Chapter 7: Discussion

In Chapter 5, empirical evidence was used to demonstrate different use modes of Enterprise 2.0 at the individual level within large organisation settings. Chapter 6 then presents empirical evidence on how each use modes (U1 to U7) impacts the structural, cognitive, and relational social capital dimensions. Further evidence is also provided to detail how different types of users (active, average, and inactive users) use Enterprise 2.0 and the associated impact on social capital dimensions. The empirical evidence of the multiple cases was based on a series of interviews with individuals, observations made of their use of Enterprise 2.0, and the analysis of key documents as indicated in Chapter 3. Based on Chapters 5 and 6, an interpretation of the collective evidence indicates that individual use of Enterprise 2.0 impacts the all of the three dimensions (structural, cognitive and relational aspects) of social capital.

This chapter revisits the main research question and sub-research questions of this study and seeks to answer these questions based on the empirical evidence presented in Chapter 5 and 6. To recall, the main research question that guided this investigation is:

MRQ: How does the individual use of Enterprise 2.0 in large organisational settings impact social capital?

The sub-research questions are:

SRQ1: How does the individual usage of Enterprise 2.0 impact the social network configuration and ties that need to be in place for the structural social capital dimension?

SRQ2: How does the individual usage of Enterprise 2.0 support shared understanding, interpretation or awareness that need to be in place for the cognitive social capital dimension?

SRQ3: How does the individual usage of Enterprise 2.0 influence new and existing relationships that are essential for the relational social capital dimension?

Based on empirical evidence and past literature, the subsequent Sections 7.1 to 7.4 discuss each of the social capital dimensions - structural, cognitive, and relational. Section 7.5 then solidifies the understanding of co-relationships between social capital dimensions. Section 7.6 addresses

different users benefits from social capital dimensions as a result of individual usage of Enterprise 2.0. Finally, Section 7.7 Refining the Conceptual Model revisits the conceptual model in Figure 2.4 Conceptual Model and further refined the conceptual model based on empirical evidence presented in this study.

7.1 Individual Use of Enterprise 2.0

Recall that in Section 2.1 Emergence of Social Networking Technology and Enterprise 2.0, based on scholarly work (Boyd and Ellison 2007; Chui et al. 2012; McAfee 2009), this study describes Enterprise 2.0 as a:

“Private or internal social networking platform which enables individuals within an organisation to connect to each other and utilise the integrated social media features in an activity stream to create, enhance, and exchange content.”

In Section 2.2, the chapter also distinguishes between Enterprise 2.0 features and capabilities and outlines the purpose of using Enterprise 2.0. However, Richter and Riemer (2013) explain that Enterprise 2.0 is a malleable technology, and as such, its set of features do not precipitate its forms of usage. By merely comparing the features of Enterprise 2.0 one may not get an adequate and thorough understanding of the individual use of Enterprise 2.0. Richter and Hafermalz (2018) echoed the same response and further described that this is due to the nature of Enterprise 2.0 as part of malleable technologies and require a bottom up approach to understand its usage.

Past researchers (Mäntymäki and Riemer 2016; Richter and Koch 2008; Richter and Riemer 2009, 2013) have attempted to categorise the use of Enterprise 2.0. Nonetheless, evidence proves that attempts to categorise Enterprise 2.0 usage lacks clarity in terms of discernment between individual or collective use, overlapping usages, or a clear separation between implications of use vs. actual usage. Up until now, existing literature does not provide the granularity of individual use of Enterprise 2.0 which is crucial to form foundational understanding and draw inference of the impact of individual use of Enterprise 2.0. Therefore, through detailed study and investigation, this research unpacks individual usage of Enterprise 2.0 at a granular level and the findings presented in Chapters 5 and 6 indicate that individual uses Enterprise 2.0 in the following ways:

- U1: Finding Quick Answers or to Get Help
- U2: Gathering Insights or Knowledge
- U3: Observing and Learning about other Individuals' Activities and Behaviour
- U4: Keeping Informed of Organisation Updates and Happenings
- U5: Sharing Insights, Knowledge, Ideas or Artefacts
- U6: Sharing Status or Work Updates, and
- U7: Acknowledging or Encouraging Others

The above categorisation of individual usage of Enterprise 2.0 removes any bias towards the features and/or capabilities or its presumed benefits. Each of these use modes are discussed in detail in the subsequent sections.

7.1.1 Finding Quick Answers or to Get Help (U1)

The findings demonstrate that individuals use Enterprise 2.0 typically to post requests (close-ended question) on the platform in an attempt to look for quick answers or to seek guidance to knowledge sources from the wider audience within the platform multiple social networks. Often requests are posted in the *all company newfeed* or a *specific work group* (if known) and broadcasted for all in the hope of getting serendipitous responses or answers from others. Drawing on prior research (Mäntymäki and Riemer 2014; Riemer and Scifleet 2012), the authors categorised use mode U1 as problem solving which is enabled via multi-user conversations. The seminal work presumes that others within the social networks will provide responses to requests online to solve a problem. Whilst past studies provide insights and confirm the study's findings, the notion of using Enterprise 2.0 for problem solving contains overlapping use associated with use modes U1 and U6.

On the other hand, use mode U1 is consistent with Richter and Riemer (2013) description of Enterprise 2.0 use whereby the authors explain that individuals often use Enterprise 2.0 to look for and find people who are able to help with a specific problem or to be staffed to a project. Therefore, the research attributes that individuals use Enterprise 2.0 in use mode U1 to navigate through unknown environments within large organisational settings to seek knowledge or

knowledge bearers in a certain field to find quick answers or to get help. Furthermore, based on this study's empirical evidence, use mode U1 also promotes access to knowledge and the ability to get work done faster which is especially relevant in today's workforce as organisations adopt a new and fast paced digitalised work environment, e.g. globally dispersed, multi-location, and activity-based workplaces.

7.1.2 Gathering Insights or Knowledge (U2)

Empirical evidence in Chapter 5 also demonstrates that individuals use Enterprise 2.0 to look for new information or knowledge from the wisdom of the crowd (individual and collective social networks). This use mode (U2) entails individuals posting more open-ended questions on Enterprise 2.0 to gather feedback or insights from multiple social networks. Use mode U2 differs from use mode U1 where individuals would predominantly post example of thoughts, ideas, article, or link to a knowledge piece to gather feedback and responses from other individuals on Enterprise 2.0. Referring back to Richter and Riemer's (2013) usage categorisation, the authors described one of the Enterprise 2.0 usages as the fostering of existing relationships. The authors further explain that heightened interactions online are eminent in order to maintain and keep in touch with one's personal network. Even though their seminal work provides additional insights into the significance of interaction to foster existing relationship, it lacks clarity on the actual usage of Enterprise 2.0 to achieve social networking relationships outcomes. Cogently, individuals who uses Enterprise 2.0 in use mode U2 seeks to promote discussions thus increases interaction on Enterprise 2.0 which is crucial for building and maintaining relationships. Within the context of fostering relationships, it is also worth mentioning that use mode U2 alone would be inadequate to achieve that. Thus, a combination of different usages modes U1 to U7 is necessary.

In addition, besides starting a new post on Enterprise 2.0 in use mode U2, sometimes, individual participates in existing Enterprise 2.0 discussion threads by commenting to responses or original posts to probe for more responses to gather more insights and build their own knowledge. In line with Mäntymäki and Riemer's (2014) research, use mode U2 contributes to the idea/input generation activity and discussions around these where individuals solicit inputs and ideas from others that results in message exchanges or brainstorm discussion. However, as mentioned before, Mäntymäki and Riemer's (2014) categorisation of use consist overlapping use modes. As in the example above, idea/input generation and discussions entail

a combination of use mode U2, U5, and/or U6. As the evidence suggests, U2 is an important use mode as is most frequently used by individuals when accessing Enterprise 2.0.

7.1.3 Observing and Learning about other Individuals' Activities and Behaviour (U3)

Ellison et al. (2007) conducted research with more than 1400 college students related to their intentions to use Facebook. The major finding was that individuals were more interested to learn about another individual through social browsing. Janiszewski (1998) explains the motivation for social browsing is based on the intention to compile more information or just exploration with no specific goal. Consistent with the prior researches, the empirical evidence shows that one of the major individual usages of Enterprise 2.0 is to follow and/or observe other individuals in the various social networks particularly those who are perceived to have greater knowledge of a specific field of interest, or someone who has interesting things to share.

Empirical evidence also indicates that a large number of individuals socially browse through the Enterprise 2.0 to find others with similar interests, as personal information (i.e. interests, and information about an individual's activity) become visible online. As Berger et al. (2014) describe, key contributors on Enterprise 2.0 are seen *as value-adding users*. The authors further explain that these individuals are often liked or bookmarked by others. Coherent to use mode U3, individuals tend to identify key contributors and consequently follow and observe their activities on Enterprise 2.0. In the process, individuals obtain meta-knowledge on "who-knows-who" and "who is known by whom" by reading the conversations of individuals that are visible in Enterprise 2.0 (Leonardi et al. 2015; Wehner 2018). Drawing back to Richter and Riemer's (2009) research, the authors remarked that one of the usage of Enterprise 2.0 is to the building of a personal context. This is achieved through using Enterprise 2.0 in U2 use mode where individuals could get a perspective of others being observed and can help providing the personal context needed as a complement to communication.

7.1.4 Keeping Informed of Organisation Updates and Happenings (U4)

Based on the findings, individuals also use Enterprise 2.0 in use mode U4 which allows them to stay informed of organisational updates and events. This mode of individual usage is considered a *passive type of use* with limited to no interactions with others in the social network. In Chapter 2, the research highlighted some of the common features of Enterprise 2.0.

Specifically, for use mode U4, individuals rely on the use of Really Simple Syndication (RSS) features to syndicate news information in the form of short-updates.

Information is growing at exponential rate (Attaran et al. 2019). Use mode U4 is also driven from the fact that individuals experience information overload and are struggling to find, filter, and to keep themselves up-to-date with the organisation's current news/events. The RSS feed gathers and distributes already published knowledge in various social networks and make the content visible to individuals to keep them updated (Klamma et al. 2007). Empirical evidence indicates that individuals would extract information from news/events apparent on the social network and creating the feeling of being 'in-the-know'. Individuals can also set RSS filters to 'Latest' and/or 'Popular' and scan through the headlines in Enterprise 2.0 for interesting news. In addition, use mode U4 may also lead to use mode U5 whereby an individual observes interesting news and share it back with others or the network community within Enterprise 2.0.

7.1.5 Sharing Insights, Knowledge, Ideas or Artefacts (U5)

Based on the empirical evidence, individual uses Enterprise 2.0 to share insights, knowledge, or artefacts with others in the various social networks. Use mode U5 is also the second highest use mode after use mode U2 which describes individual use of Enterprise 2.0 to gather insights or knowledge. This is also consistent with Treem and Leonardi (2012) where the authors claim that Enterprise 2.0 is increasingly being used for knowledge sharing as organisations shift towards more virtual teams and distributed work arrangements. In addition, Ridings et al. (2006) describe individuals who regularly uses Enterprise 2.0 in use mode U5 to post and contribute online content as content producers.

There are numerous studies why individuals share knowledge with respect to Enterprise 2.0 (Fulk and Yuan 2013; Paroutis and Saleh 2009; Razmerita et al. 2016). As Paroutis and Saleh (2009) explain, individuals share knowledge via social networks because of outcome expectations which is consistent with the value-expectancy theory. This theory states that "*an individual's behaviour is a function of the perceived likelihood, or expectancy, that his or her behaviour will result in a valued outcome*" (Cabrera and Cabrera, 2002). In line with Razmerita et al. (2016), this study's empirical evidence also demonstrates that there are individuals who show altruism where individual finds subjects fascinating and want to share

with and/or engage in discussions with others in Enterprise 2.0. Use mode U5 also entails back-channelling information which describes postings and sharing of supporting resources i.e. video, links, and photo that take place alongside an activity or event. Using Enterprise 2.0 in this manner provides an opportunity to engage others not attending the event but have the ability to share their views or ask questions.

7.1.6 Sharing Status or Work Updates (U6)

As the empirical evidence suggest, an individual would use Enterprise 2.0 to post status or work updates with the intention to keep others informed of planned, current, and/or completed work or activities. U6 use mode entails a relatively one-way interaction compares to the previous U5 use mode, where the latter explains that individual who shares the status or work updates on Enterprise 2.0 may not anticipate responses from others when viewing the posts. Once again, in line with Richter and Riemer's (2013) research, individuals use Enterprise 2.0 in use mode U6 to notify others of work status or events and meetings they participated. Individual use of Enterprise 2.0 in this manner therefore increases visibility of their expertise, thus, enhances individual's reputations and profiles in the organisations (Chin, Evans, Choo, et al. 2015).

Furthermore, use mode U6 also sets a tone within the social network as being a different working behaviour. Pearce (2014) describes working behaviours associated with use mode U6 as "Working Out Loud" by doing work in a way that make oneself and the work visible to others. According to the Richter and Riemer (2013), use mode U5 may also lead to *call-to-action* resulting in others follow up by doing the subsequent work and posting related work updates. This has been observed in the findings where individuals would use Enterprise 2.0 to provide updates for daily project stand-ups.

7.1.7 Acknowledging or Encouraging Others (U7)

Use mode U7 explains individuals' use of Enterprise 2.0 to acknowledge or encourage others. Observation indicates that individuals who uses Enterprise 2.0 in this manner would use the 'Like', 'Follow', 'Tag' or 'Comment' features to recognise others' achievements or contributions to the network or organisation at large. Encouragement demonstrates understanding and support for one another (Jose and Bellamy, 2012) and is intended to serve

as a stimulus to strengthen or develop positive motivations or behaviours (Azoulay, 1992). The observations indicated that when an individual receives a 'Like' or has others following him/her on Enterprise 2.0, he/she feels that he/she must be doing something right. This also implies that trust exists where others have the confidence and expectations to see more of it.

Mäntymäki and Riemer's (2014) research highlighted in one of the use cases that individuals use Enterprise 2.0 to share success stories or acknowledge the achievements of others within different social networks. This exemplified the use of Enterprise 2.0 to provide social praise. Use mode U7 shares convergence with the authors' categorisation of use and provides further delineation on the actual usage to acknowledge the achievements or encourage others.

Finally, the above discussion amalgamates understanding from various literature and based on empirical evidence, yield more insights into individual's actual usage of Enterprise 2.0 within large organisation settings. As discussed in Chapter 2, there is no existing literature which provides clear and unambiguous categorisation of individual use of Enterprise 2.0. The research excludes biases and implications of Enterprise 2.0 usage to provide clear categorisation of individual use to enable future researches to emulate and enhance the study of Enterprise 2.0. In addition, the research also recognises that individual use of Enterprise 2.0 is guided by one's belief and attitude to the technology and one's ways of integrating into one's work activities (Majumdar et al. 2013; Orlikowski and Baroudi 1991). In a nutshell, the understanding the individual usage of Enterprise 2.0 is essential to further unfold the associated impact on social capital and vice versa. The subsequent Sections 7.2 to 7.4 discuss the impact to social capital dimensions through these individual use modes.

7.2 Individual Use Modes and their impact on Structural Social Capital Dimensions

The structural social capital dimension refers to the overall network configuration and network ties which explains the channel for information transmission and the underlying mechanism that leads to the emergence of social network ties (Nahapiet and Ghoshal 1998). Evidence from the cases confirmed that when an individual uses Enterprise 2.0 in four of the use modes U1, U2, U5, or U6, it will break down communication barriers consequently leading to wider diffusion of social networks, establishes serendipitous connection, and increases one's social

presence (U5 and U6 only), which are fundamental to social network configuration and ties. This is shown in Table 7.1 below.

STRUCTURAL DIMENSION	U1	U2	U3	U4	U5	U6	U7
Breaking Down Communication Barriers	Y	Y			Y	Y	
Establishing Serendipitous Connection	Y	Y			Y		
Increasing Social Presence					Y	Y	

Table 7.1 Summary of Individual Use Mode and their impact on Structural Social Capital

The relevant use modes are listed as follows and the associated impact on structural social capital dimension are discussed in detail in the following Sections 7.2.1, 7.2.2, and 7.2.3.

- U1: Finding Quick Answers or to Get Help
- U2: Gathering Insights or Knowledge
- U5: Sharing Insights, Knowledge, Ideas or Artefacts
- U6: Sharing Status or Work Updates

7.2.1. Individual use of Enterprise 2.0 opens a pathway to conversations and connections within social networks

The empirical evidence confirms that an individual break down communication barriers by reaching out to the broader social networks when he/she uses Enterprise 2.0 in a single or combination of the following use modes: U1, U2, U5, and/or U6. Compared to traditional top-down or one-directional communications methods, Enterprise 2.0 is the conduit for fast and easy communications to a broad network making it visible and accessible for all who subscribe to the social circle. The platform enables one-on-one, one-to-many, and many-to-many online interactions to provide the opportunity for individuals to reach out to the broader network. As discussed in earlier sections, when an individual uses Enterprise 2.0 one of more of the use modes U1, U2, U5, and/or U6, the impact on social capital is that the use of Enterprise 2.0 breaks down communication barriers enabling individuals to connect with others in different geographic locations, positions, and expertise serendipitously.

To illustrate this, Putnam (2000) distinguishes two different kinds of social capital – bridging and bonding. Bridging refers to relationships between different groups that consist of diverse individuals. This is also described as strong or weak social ties (Burt, 2000; Granovetter, 1973). Bonding refers to characteristics important to strengthen the relationships between individuals connected in the network, which is discussed later in Section 7.4. To further illustrate, Granovetter (1973) describes individuals in strong-tie relationship tend to interact more frequently than the weak ties. Those in a strong social network ties are likely to be in close proximity to each other in terms of physical location or psychological closeness. As such, applied in the context of use mode U2 (Gathering Insights or Knowledge), the insights gathered from the strong network ties may be redundant due to similar interest, expertise, or geographic locations.

The weak-tie relationship describes individuals who do not have much in common and may not cross path in the organisation. According to Granovetter (1973), the weak social network ties increase the efficiency of information diffusion and are more likely to be the source of knowledge novelty. The structural holes theory (Burt, 1993) explained in use mode U1 (Finding Quick Answers or to Get Help) extends Granovetter's (1973) theory of weak ties. The author explained that the nodes filling the structural hole between the heterogeneous groups that exist in strong network ties, provide access to novel information. In the context of Enterprise 2.0, the individual bridging the social networks are known as 'Connectors' or 'Navigators'. Use mode U2 (Gathering Insights or Knowledge) relies on these individuals to gather new insights or knowledge. Thus, social capital is augmented whereby the individual use of Enterprise 2.0 reaches out to weak social network ties, allowing individuals to create and maintain larger networks of relationships from which they could potentially draw resources.

Burt (1992) also explains that structural holes exist in the social network is whereby there is an 'empty space' in the network between two sets of network nodes that do not otherwise interact closely as illustrated in Figure 7.1.

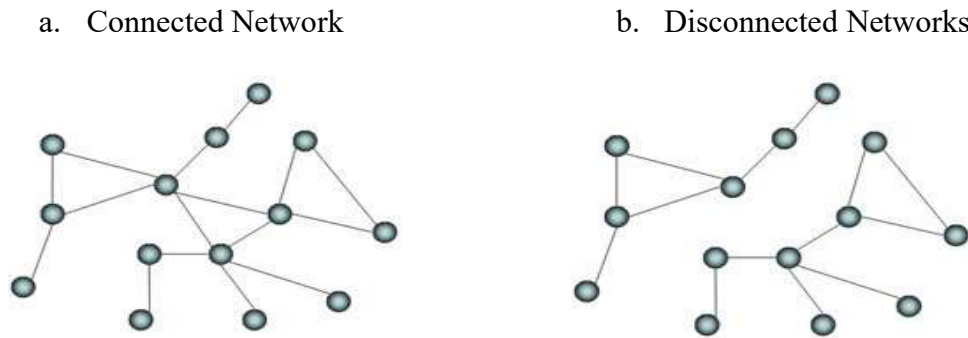


Figure 7.1 Examples (Nodes) of Connected and Disconnected Network

Use mode U1 (Finding Quick Answers or to Get Help), U2 (Gathering Insights or Knowledge), U5 (Sharing Insights, Knowledge, Ideas or Artefacts), and/or U6 (Sharing Status or Work Updates) not only enables individuals to reach out to the broader social network(s), it also provides the opportunity to get hold of other individuals which may be able to direct the individuals to the answer or the connections they were looking for. On the contrary, use modes U3 (Observing and Learning about other Individuals' Activities and Behaviour), U4 (Keeping Informed of Organisation Updates and Happenings), and U7 (Acknowledge or Encouraging Others) have not been observed to influence network structure. Although, use mode U3 explains how individual uses Enterprise 2.0 follow and observe others in the social networks which entails reaching out to the broader network, i.e. when an individual follows and observe senior leaders or someone from different functional areas, it has not been widely observed that this form of usage has contributed to building social network ties. Use modes U4 and U7 similarly show no evidence of building social network ties. This further reinforces the understanding and distinguished U1, U2, U5, and U6 from U3, U4, and U7 use modes. It can be observed that U1, U2, U5, and U6 involves interaction among two or more parties, thus, eminent for building social networks.

As supported in previous literature (Burt 2000; Granovetter 1973; Putnam 1993), the empirical evidence confirms that the individual use of Enterprise 2.0 in U1, U2, U5, and/or U6 facilitates the development of structural social capital by breaking down communication barriers whilst reaching out to the broader network(s). In addition, according to Nahapiet and Ghoshal (1998) and Adler and Kwon (2002), social capital requires time investments in the social relations. Social capital entails accumulated history of communications between individuals within the social network. Therefore, the implication from the individual use of Enterprise 2.0 (in use

modes U1, U2, U5, and/or U6) on breaking down communication barrier is that it enables continuity and stability of the social structure within the network through online interaction. These forms of Enterprise 2.0 use modes are pivotal step to influence the development of social capital, not just within structural dimension, but may also lead to the development in cognitive and relational social capital dimensions.

7.2.2 Individual use of Enterprise 2.0 leads to new connection(s) through exchanging of knowledge

The empirical evidence confirms that individuals establish serendipitous connection in the social networks when they use Enterprise 2.0 in a single or combination of the following use modes U1 (Finding Quick Answers or to Get Help), U2 (Gathering Insights or Knowledge), and/or U5 (Sharing Insights, Knowledge, Ideas or Artefacts). This trend observed was similar the impact on breaking down communication barriers, except that it does not entail using Enterprise 2.0 in use mode U6 (Sharing Status or Work Updates) which refers to individual use of Enterprise 2.0 to share status or work updates. In addition, these forms of individual use modes impact individual's connection to the loose social network ties as described in earlier section which otherwise one will not have access to. Shah et al. (2018) refer to the loose social network ties as 'second-hand' network where the authors explain that one's contact's network may create value for the individual him/herself.

Based on previous literature on network centrality (Aslam et al. 2013; Bolino et al. 2002; Burt 1992; Wasserman and Galaskiewicz 1994), the study of social network configuration incorporated value to some extent on the density, connectivity, and the structural holes of the social networks. These studies cast light on central aspects of social capital. Generally, the sparse social network i.e. different geographic regions or functional areas, with fewer redundant contacts provides benefits in gaining access to novel information. Prior research (Cross and Parker, 2004) also highlights that individuals who forge boundaries outside of their closed social network are often referred to as boundary spanners. These individuals are pivotal to connect the sparse network. With the provision of Enterprise 2.0, any individuals who access the Enterprise 2.0 platform and engages with the social networks, i.e. social exchange could be boundary spanners. Cogently, U1, U2, and/or U5 entails social exchange in the form of asking

and receiving help, sharing and receiving insights, knowledge or artefacts, leading to new connections formed.

In the case of boundary spanning social networks, scholarly articles (Brown and Duguid 2000; Shah et al. 2018) refer to the social exchange activities as knowledge brokerage. Knowledge brokers are individuals who participate in multiple communities (broader social network connections) and facilitate the knowledge sharing. Use modes U1, U2, and/or U5 triggers knowledge brokerage activities. Evidence from the cases confirms these activities are performed by the ‘Super Connectors’ or ‘Navigators’ who are also the knowledge brokers bridging loose social network ties within the network. With the widening of social networks within Enterprise 2.0, the gaps between smaller, more tightly-knit groups of individuals exist. According to Burt (2000) and Täube (2004), individuals require more effort and time to reach out and explore these weaker relations. Therefore, as reflected in the findings, the ‘Super Connectors’ or ‘Navigators’ is instrumental to help individuals to form the connection to these weaker relations. On the same premise, individuals who possess meagre social networks of contacts may obtain higher benefits from the bridging of social networks using Enterprise 2.0 in these use modes. The findings also reflect Wasko and Faraj's (2005) research wherein the brokerage activities involve sharing of tacit knowledge i.e. knowledge of another person or a topic of interest. Nonetheless, Shah et al. (2018) claim that the value of the serendipitous connection and the knowledge brokerage activity is dependent on the novelty of conveyed knowledge and the motivation to fully share the knowledge with the individual.

Based on the literature and empirical evidence, the study confirms that the individual use of Enterprise 2.0 in the U1, U2 and/or U5 use modes establishes serendipitous connections, allowing individuals to create and maintain larger diffusions of the social network connections from which they could potentially draw new connections or knowledge from.

7.2.3 Individual use of Enterprise 2.0 boosts visibility of one's online social presence drawing greater interaction with others

Establishing and sustaining social presence is important for the structural social capital dimension as it enhances the closeness of the social network ties. The finding is in line with Chang and Hsu (2016) and Ko and Kuo (2009) studies, providing additional evidence that individuals increase their social presence when they use Enterprise 2.0 in a single or

combination of use modes U5 (Sharing Insights, Knowledge, Ideas or Artefacts) and/or U6 (Sharing Status or Work Updates).

Social presence theory (Short et al., 1976) suggests that social presence is the degree to which a medium conveys the presence of communicating participants. Akyol and Garrison (2011) define social presence as the ability of an individual to project him or herself socially and emotionally as a ‘real person’ through the medium of communications used. As such, within the context of Enterprise 2.0, social presence refers to not just the degree to which individuals represent themselves but also the presence perceived by the social network based on an individual’s interaction on Enterprise 2.0. In other words, the specific individual comes to mind when he/she is often seen promulgating his/her work or knowledge on Enterprise 2.0.

Social presence also relates to media information richness which refers to the ability of individual using the Enterprise 2.0 platform to communicate effectively enabling others to understand the context (Daft and Lengel 1984). As reflected in the findings, use modes U5 and/or U6 constitutes sharing of one’s knowledge and/or experience in the social network, with the ability to gather real-time feedback and responses from others. Congruently, this shapes the receiver’s perception of the individual and credibility of the knowledge/information shared.

To further illustrate this, when an individual uses Enterprise 2.0 in use modes U5 and/or U6, he/she draws attention within the social network and attracts targeted audience. This then leads to new and/or existing instantaneous connection with others. On the other hand, use modes U5 and/or U6 can help other individuals to search and look out for others with common interest. Accordingly, Shen et al. (2010) suggest that awareness exist where others within the social network believe other individuals appear to exist (*online presence*) and are able to reach to the specific individual. Furthermore, evidence also indicates that consistent and prolonged individual use of Enterprise 2.0 in use modes U5 and/or U6 enables one to establish and enhance a perception (branding/reputation) for him/herself which is also an important element to form network connections for building structural social capital dimension.

Based on the literature and empirical evidence, the study confirms that the individual usage of Enterprise 2.0 in U5 and/or U6 increases one’s social presence. In addition, although not directly related to use modes U5 and U6, observations also indicate that when individual complete their profiles, i.e. profile picture, affiliations, interest and expertise, on Enterprise 2.0,

it increases their social presence in the network which in turn leads to the creation of an online reputation and visibility, thus, leading to formation of social network ties. This was evident from a participant in Case B who felt his profile showcased his past activities and tasks, role in the organisation and skills.

Drawing back to Nahapiet and Ghoshal's (1998) research, social capital is comprised of the structure of network and the potential resources that may be mobilised through the network. Within social capital, the structural social capital dimension relates to the properties of the social structure and is viewed as the source wherein the individuals are situated. The individual use of Enterprise 2.0 in this manner enables the access to other individuals expanding the social network structure and connections. Cogently, the impact on structural social capital is also shaped upon the positions (centrality) situated within the social networks which determines the structural diversity. In turn, from a knowledge management perspective, literature shows that the impact on structural social capital dimension denotes wider access to information and resources (Nahapiet and Ghoshal 1998) and reduces the cost of acquiring relevant information (Zhou et al. 2007). Finally, consistent with Adler and Kwon (2002) and Nahapiet and Ghoshal (1998) studies, the individual use of Enterprise 2.0 in use modes U1, U2, U5, and/or U6 also facilitates ongoing time and effort investments to maintain the social relationships on which it depends. Therefore, based on the individual use of Enterprise 2.0 to break down communication barriers, establish serendipitous connections, and increase an individual's social presence the research proposes that:

Insight 1. Individual use of Enterprise 2.0 builds social networks leading to an increase in structural social capital in organisations.

7.3 Individual Use Modes and their impact on Cognitive Social Capital Dimensions

The term mental model originated from Craik's (1943) seminal work suggests that the mind constructs "small-scale models" of reality to help anticipate events. Johnson-Laird (1983) later proposed a mental model as a basic structure for cognition. Mental model theory explains that any form of communication is grounded in how individuals mentally represent the situation or 'real world' (Dijk, 2008). A mental model contains a collection of thoughts, beliefs, concept

and ideas based on experiences (Kim, 2004). Kim (2004) further explains that the mental model is not a complete model of the situation but contains elements of the situation to which the individual need to pay attention to. Within the context of this study, Nahapiet and Ghosal (1998) describe cognitive social capital as resources shared within the social networks could lead to similar thoughts, judgements, and interpretations. Thus, the mental model constitutes and individual's capacity to attain three outcomes that are essential for cognitive social capital growth: shared understanding, shared interpretation and awareness.

Evidence from the cases confirmed that when an individual uses Enterprise 2.0 in use modes U1 (Finding Quick Answers or to Get Help), U2 (Gathering Insights or Knowledge), U3 (Observing and Learning about other Individuals' Activities and Behaviour), and/or U4 (Keeping Informed of Organisation Updates and Happenings), it develops shared understanding, awareness, and shared interpretation accordingly, as presented in Table 7.2.

COGNITIVE DIMENSION	U1	U2	U3	U4	U5	U6	U7
Developing Shared Understanding	Y	Y	Y				
Developing Awareness		Y	Y	Y			
Developing Shared Interpretation		Y	Y				

Table 7.2 Summary of Individual Use Mode and their impact on Cognitive Social Capital Dimensions

U1 to U4 use modes are listed as follows and the associated impact on cognitive social capital dimension are discussed in detail in the following Sections 7.3.1, 7.3.2, and 7.3.3.

- U1: Finding Quick Answers or to Get Help
- U2: Gathering Insights or Knowledge
- U3: Observing and Learning about other Individuals' Activities and Behaviour
- U4: Keeping Informed of Organisation Updates and Happenings

7.3.1 Individual use of Enterprise 2.0 aligns understanding in context

Bittner and Leimeister (2014) refers to shared understanding as the individuals' ability to integrate knowledge stemming from different concepts in a sensible manner. According to the authors, the pathways to integrating knowledge to achieve shared understanding involves listening, asking questions to seek clarification, reflection, negotiation, and consensus. The

emphasis on '*in context*' is on the basis that knowledge only has meaning when shared context is present (Bosua et al. 2004; Fahey and Prusak 1998). Congruently, the empirical evidence confirms that individual develops shared understanding when he/she uses Enterprise 2.0 in a single or combination of the following use modes U1 (Finding Quick Answers or to Get Help), U2 (Gathering Insights or Knowledge), and/or U3 (Observing and Learning about other Individuals' Activities and Behaviour).

Findings indicate that when individual posts on Enterprise 2.0 to ask or seek help (U1), they are seeking to gain a shared understanding of possible solutions, as discussed in Section 7.1. Individual also shares understanding when he/she gather insights (U2) or observes (U3) from others particularly from higher hierarchy who shares insights on a specific topic. When an individual receives help from others, it naturally aligns the understanding between individuals of the context (problem) and others who observe the discussion trail on Enterprise 2.0 to develop a shared understanding to the problem and possibly the solution too (cognitive dimension of social capital). As evident in the findings, the Senior Doman Architect from Case D started using Enterprise 2.0 in use mode U3 (Observing and Learning about other Individuals' Activities and Behaviour) where he observed the senior leader's interaction on Enterprise 2.0 about a topic he is interested in. He continued to observe the crowd discussing the topic and sought clarification through use mode U2 (Gathering Insights or Knowledge) by asking questions to gather more insights. As Deshpande et al. (2005) explain, a shared understanding is a state achieved through an iterative process by which common ground between individuals is constructed and maintained. The Senior Domain Architect from Case D confirmed there were numerous comments in that discussion trail on Enterprise 2.0 until individuals who participated in the discussion reached an agreement.

Thus, Enterprise 2.0 provides the platform for individuals to construct (posting) and co-construct (comments to the posting) to achieve mutual agreement necessary to achieve shared understanding. In line with Deshpande et al. (2005) research, use mode U1 (Finding Quick Answers or to Get Help) entails development of common ground, i.e. shared information, as both the individual asking for help (U1) and others who respond seek and provide evidence of shared understanding. In other words, as individual posts on Enterprise 2.0 to find the 'right answer', they are also seeking to gain a shared understanding of possible solutions.

On a related note, literature states that cognitive social capital impacts one's ability to identify and value, assimilate and exploit information (Cohen and Levinthal 1990; Upadhyayula 2004). According to the authors, the assimilation of new information is contingent upon the context and narratives and use modes U1 (Finding Quick Answers or to Get Help), U2 (Gathering Insights or Knowledge), and U3 (Observing and Learning about other Individuals' Activities and Behaviour) facilitates achieving shared understanding. These use modes posit that a part of knowledge is shared on Enterprise 2.0 and individuals using Enterprise 2.0 in this manner are able to follow the unique narratives (discussion threads on Enterprise 2.0) to understand the knowledge shared.

In addition, Brown and Duguid (2001) also states that knowledge is constructed as individuals share ideas through collaborative mechanism in the form of narration or joint work. The findings observed that frequent and close interactions within the social networks lead to a common viewpoint. The collaborative process of constructing meaning suggests that the structural social capital dimension leads to cognitive features.

Thus, based on the literature and empirical evidence, the study confirms that the individual usage of Enterprise 2.0 in U1, U2, and/or U3 develops shared understanding. As Bittner and Leimeister (2013) explain, shared understanding is important to solve complex problems that requires knowledge of various experts. Whilst the individual use of Enterprise 2.0 may not necessarily be geared towards solving complex problems, it is significant for individuals especially within large organisation to share a common understanding, i.e. organisation's direction, goals and objectives to achieve better work productivity and to improve quality of interactions (Clark and Brennan, 1991).

7.3.2 Individual use of Enterprise 2.0 triggers one's consciousness of both virtual and physical organisation's environments

Dourish and Bly (1992) describe awareness as "*an understanding of the activities of others, which provides a context for your own activity*". Awareness also infers one's consciousness. When one observes the social network, awareness exists whereby the individual develops a topic of thought (Wegner and Giuliano, 1982), from the activities of others on Enterprise 2.0. According to the authors, awareness is only a 'state-of-mind' and does not include all mental configurations, i.e. shared understanding, shared interpretations.

The empirical evidence comments favourably on the individual use of Enterprise 2.0 and the positive impact on developing one's awareness. When an individual uses Enterprise 2.0 in use modes U2 (Gathering Insights or Knowledge), U3 (Observing and Learning about other Individuals' Activities and Behaviour), and/or U4 (Keeping Informed of Organisation Updates and Happenings), ideally over a period of time, he/she will develop awareness of the social networks in use and the organisation as a whole. On a different note, Rettie (2008) found that connectedness does not imply awareness, where the author describes connectedness as the feeling of involvement ('sense of belonging'). The empirical evidence confirms the argument where observation indicates that when individual uses Enterprise 2.0 in use mode U2 and/or U4, he/she may not necessary be actively involved in any groups or interactions with others online.

To further illustrate, Enterprise 2.0 was often used as part of change management and the communications plan in achieving reachability for creating one's context awareness as evident in Case A, B, and C. In Case B and C, the individual use of Enterprise 2.0 for organisation communications was obvious. When individuals use Enterprise 2.0 in use mode U4, they observed the messaging on Enterprise 2.0 and developed awareness of the campaigns, event, or any organisational updates. Case A, on the other hand, cited more advanced use of Enterprise 2.0 to manage projects where the whole project team could see everything that is going on, not just the deliverables but also other project artefacts, the conversations of what was happening during the meetings with clients or if they had any concerns or issues. When individual uses Enterprise 2.0 in use mode U3 (Observing and Learning about other Individuals' Activities and Behaviour) to gather insights about a project, he/she gains awareness of the project progress, deliverables, and if there is any roadblocks or challenges.

In addition, the use of classification feature on Enterprise 2.0 such as hashtags (i.e. #Win, #Design, also helps develop awareness. The tagging capabilities in Enterprise 2.0 make content visible and searchable to individuals for the gathering of insights through use modes U2 (Gathering Insights or Knowledge). Observations also indicate the use of notifications and RSS feeds (newsfeed) which enables individuals to stay informed or being aware of organisational updates and events through use mode U4 (Keeping Informed of Organisation Updates and Happenings) which contributes to gaining awareness. It is also clear that individual use of Enterprise 2.0 presents evidence of increased awareness of other individuals, topics, and/or

about the organisation. The individual use of Enterprise 2.0 to share insights (via posts and comments) provides context for individuals to understand each other while following the trail of discussion to gather insights through use mode U2 (Gathering Insights or Knowledge).

Literature reveals that the levels of consciousness between individuals varied based on one's intellectual capacity and the ability to conceptualise the information (Pandey and Gupta 2008). This denotes that individuals may not always be aware of the information shared on Enterprise 2.0 and it considers other factors such as experience and relevancy. Taking the abovementioned examples, consciousness is therefore conceived as an experience based transcendent structure independent of the subject matter. All in all, the implication of use modes U2 (Gathering Insights or Knowledge), U3 (Observing and Learning about other Individuals' Activities and Behaviour), and/or U4 (Keeping Informed of Organisation Updates and Happenings) on cognitive social capital dimension is that it provides an individual with insight of the 'world' outside their own through Enterprise 2.0. From a knowledge viewpoint, information is no longer restricted by the arbitrary boundaries and is made available online through the social networks. Finally, previous research has also suggested that consciousness is the awareness of other individuals within the virtual network (Shen et al. 2010). Leonardi et al. (2015) also states that Enterprise 2.0 can improve the accuracy of people's metaknowledge, i.e. knowledge of "who knows what" and "who knows whom". Evidence from the cases confirmed that the individual use of Enterprise 2.0 in use modes U2, U3, and/or U4 leads to awareness of other individuals within the social networks. Based on the literature and empirical evidence, the study confirms that the individual usage of Enterprise 2.0 in use modes U2, U3, and/or U4 instigates and develops one's awareness.

7.3.3 Individual use of Enterprise 2.0 fosters common ways of thinking

In the earlier discussion, Bittner and Leimeister (2014) explain shared understanding as individuals' ability to integrate knowledge stemming from different concepts in a sensible manner. Congruently, the authors recognise that there are differences in meaning assigned to concepts. Thus, shared interpretation encompasses assumptions, past experiences, and beliefs to provide meaning associated with these concepts. The empirical evidence confirms that individual develops shared interpretation when they use Enterprise 2.0 in a single or

combination of use modes U2 (Gathering Insights or Knowledge) and/or U3 (Observing and Learning about other Individuals' Activities and Behaviour).

The symbolic convergence theory is also useful to help describe shared interpretation. The theory originated from Bormann's research (1982) that explains that individuals in a collective environment construct the reality by sharing stories that co-create meaning. The author posits human tendency to interpret signs and symbols and give them meaning. Shared interpretation therefore refers to the convergence of two or more symbols when they incline towards each other. Thus, for meaning to converge, there must be an event or task that bind individuals together. This can be observed from the findings for use modes U2 and U3. When an individual uses Enterprise 2.0 in these manner, he/she reads through the posts and comments from others (U2) and in the process of doing so, assigns meaning to the information.

The impact on cognitive social capital dimension from using Enterprise 2.0 in use modes U2 (Gathering Insights or Knowledge) and U3 (Observing and Learning about other Individuals' Activities and Behaviour) can also be viewed as fostering team cognitive commonality (Yu et al. 2010). As opposed to shared understanding discussed in earlier section, Yu et al. (2010) postulate that team shared cognition refers to the overlap or common ways of thinking between individuals. This argument is also supported based on the findings that individuals are naturally homophily-driven within the social networks. The result is that individuals are attracted to others that are similar to them leading to self-categorisation and formation of social network communities in Enterprise 2.0. Individuals in the same social network community are then exposed to peer-to-peer influence and share similar diffusion of values, beliefs, and other cognitive elements shaping common ways of thinking. From a knowledge management perspective, knowledge flows better in these aggregated homophily clusters due to the cognitive commonality. Based on the literature and empirical evidence, the study confirms that the individual use of Enterprise 2.0 in U2, and/or U3 develops shared interpretation.

Reflecting on Nahapiet and Ghoshal (1998) study, cognitive social capital constitutes exchange and combination of knowledge and experience between individuals. It requires collective elements such as shared narratives, values, beliefs, and self-conceptions. Based on the findings, the individual use of Enterprise 2.0 (in use modes U1, U2, U3, and/or U4) is a natural conduit for social/knowledge exchange which is essential for cognitive social capital development. Congruently, the impact on cognitive social capital also demonstrates the degree of

entanglement between individuals in the social networks. Therefore, based on the individual use of Enterprise 2.0 to develop a shared understanding, awareness, and shared interpretations, the research proposes that:

Insight 2. Individual use of Enterprise 2.0 develops mental models leading to an increase in cognitive social capital in organisation.

7.4 Individual Use Modes and their impact on Relational Social Capital Dimensions

The relational social capital dimension connotes socially approved otherwise sanctioned characteristics of relationships such as trust, norms, obligations/reciprocity, and identifications (Chow and Chan, 2008; Nahapiet and Ghoshal, 1998). These affective social traits, according to scholarly articles (Coleman, 1988; Gilsing et al., 2008), exist in social network ties through interactions with one another. Evidence from the cases confirmed that when an individual uses Enterprise 2.0 in all use modes except U4, he/she develops social characteristics important to build and maintain relationships, as shown in Table 7.3 below.

RELATIONAL DIMENSION	U1	U2	U3	U4	U5	U6	U7
Building Trust	Y	Y			Y		Y
Developing Feeling of Interpersonal Obligations	Y	Y			Y		
Fostering Norms of Social Behaviour			Y		Y	Y	
Developing A Sense of Belonging					Y		Y

Table 7.3 Summary of Individual Use Mode and their impact on Relational Social Capital Dimensions

The relevant use modes are listed as follows and the associated impact on relational social capital dimension are discussed in detail in the following Sections 7.4.1, 7.4.2, 7.4.3, and 7.4.4.

- U1: Finding Quick Answers or to Get Help
- U2: Gathering Insights or Knowledge
- U3: Observing and Learning about other Individuals' Activities and Behaviour
- U5: Sharing Insights, Knowledge, Ideas or Artefacts
- U6: Sharing Status or Work Updates
- U7: Acknowledging or Encouraging Others

The fundamentals of the relational dimension as explained in Nahapiet and Ghosal's (1998) social capital research, constitutes trust, sense of belonging, feeling of interpersonal obligations, and norms of social behaviour. These social traits are determinants of any new or existing relationships. Empirical evidence indicates that individual use of Enterprise 2.0 in use modes U1, U2, U3, U5, U6, or U7 impacts the determinants and psychosocial mechanisms through which online interactions influence and individual's thoughts, effects, and action in new and existing relationships. On the other hand, use mode U4 refers to individual use of Enterprise 2.0 to keep an individual informed of organisational updates and events. This form of individual use mode, as discussed in Section 7.1, is a passive form of usage with limited to no interaction with others in the social networks. As such, use mode U4 (Keeping Informed of Organisation Updates and Happenings) does not impact the relational social capital dimension.

7.4.1 Individual use of Enterprise 2.0 alters individual's willingness to be vulnerable and dependant on others

The empirical evidence comments favourably on the individual use of Enterprise 2.0 and the positive impact on building trust across all the organisations. However, not all use modes identified above builds trust. Specifically, trust is fostered when individual uses Enterprise 2.0 in one or more of the following use modes: U1 (Finding Quick Answers or to Get Help), U2 (Gathering Insights or Knowledge), U5 (Sharing Insights, Knowledge, Ideas or Artefacts), and U7 (Acknowledging or Encouraging Others). When individuals use Enterprise 2.0 in use mode U5, interdependence exists where the individual who shares insights, information or artefacts trust the social network and feels comfortable to share while others within the social network trust the insights, information or artefacts shared by him/her.

Rousseau et al. (1998) describe trust as an individual's intention to accept vulnerability based on positive expectations of others. Powell and Owen (2006) also explain that trust involves the placing of expectations with others and that there is no guarantee of reciprocity. The scholarly articles by a variety of authors (Powell and Owen 2006; Rousseau et al. 1998; Sheppard and Sherman 1998) remark that trust is a dependant variable influenced by another party. Trust therefore involves 'willingness to rely' on another and 'positive expectations' of others. Use modes U1, U2, U5, and U7 as discussed in earlier sections demonstrate these two factors.

Trust is also about the ability to form expectations about another individuals' behaviour (Powell and Owen 2006). The empirical evidence demonstrates that there are individuals who are perceived thought leaders by the quality and the quantity of insights and knowledge shared on Enterprise 2.0. There is an innate expectation from others on these individuals, also known as thought leaders, to share insights and knowledge. In return, this translates to the impact on an individual's feeling of interpersonal obligation to share knowledge.

In addition, Ganesan and Hess (1997) also mentioned that trust consists of credibility and benevolence. For use modes U1 (Finding Quick Answers or to Get Help) and U2 (Gathering Insights or Knowledge), these two factors can be translated to: i. trust that others will respond (benevolence), ii. trust that the information received is trustworthy (credibility). Based on the empirical evidence, when an individual reaches out to the social network on Enterprise 2.0 for help (U1), there is inadvertently expectations that the crowd will respond with an answer. Similarly, when an individual seeks feedback and opinion from the social network (U2), he/she believes the crowd will engage in the interaction to provide feedback. In addition, the empirical evidence also indicates that the social networks within Enterprise 2.0 provides evidence about who we can trust to accept the information without additional verification required.

Trust is also a significant factor for social exchange (Blau 1964). When an individual uses Enterprise 2.0 to share insights, knowledge, or artefacts (U5), he/she trust the social network environment, and inherently, the organisation. Consistently, Das and Teng (1998) remark that the sharing of information boost trust among individuals. In comparison to personal social networks, i.e. Facebook, the empirical evidence indicates that individuals perceived Enterprise 2.0 to be professional by nature and that the online community will respond and comment appropriately to correct the information shared.

Nonetheless, trust is also influenced by past experiences with trusted parties (Lewicki and Bunker 1995; Rousseau et al. 1998). As the individual engages with the various social networks in use modes U1, U2, U5, and/or U7 over extended periods of time, he/she will gain trust and credibility from others based on their positive contributions and interaction, i.e. posts and comments, to the social network. Based on the literature and empirical evidence, the study confirms that the individual usage of Enterprise 2.0 in use modes U1, U2, U5, and/or U7 builds trust which is essential for new and existing relationships.

Finally, trust is an important aspect of cognitive social capital dimension. Trust indicates openness to the conversations and the information shared within the social network (Nahapiet and Ghoshal 1998). Drawing reference to past literature (Shockley-Zalabak et al. 2000), trust heavily influence a range of organisation activities such as teamwork, leadership, and performance. Shockley-Zalabak et al. (2000) further emphasise that trust matters as organisations with high levels of trust will be more successful, adaptive, and innovative than organisations with lower levels of trust. According to the authors, trust impacts the individuals' ability to form network, alliances, and relationships with others and fosters cooperation. In addition, Hosmer (1995) also explain that trust is not so much the intention and motivation of individual but the behavioural orientations. Accordingly, the use of Enterprise 2.0 (in use modes U1, U2, U5, and/or U7) alters the individual's behaviour within the social network in their optimistic expectations of the behaviour of others, and how an individual would act under conditions of vulnerability and dependency of another party.

7.4.2 Individual use of Enterprise 2.0 creates perception of belongingness and social identification

McMillan and Chavis (1986) describe a sense of belonging as the feeling of membership, influence, integration and fulfilment, and emotional connections. In other words, an individual would develop a sense of belonging if he/she feels being a part of a group, feels heard in a group, his/her needs are met through resources received from the group, and shares common experiences, commitments, and/or beliefs. Findings demonstrate that these elements exist when individuals use Enterprise 2.0 to share insights, knowledge, or artefacts (U5) and/or to acknowledge or encourage others (U7), as discussed in Section 7.1. The findings show that other than the individual use of Enterprise 2.0 and the impact on trust, the second highest impact on relational social capital is the feeling of belongingness which can be fostered through individual use of Enterprise 2.0. A sense of belonging is an important element to developing and managing relationship with others (Hagerty et al., 1996), which is fundamental to relational social capital.

According to Lee and Robbins (1995), there are three factors crucial to cultivate a sense of belonging: i. companionship, ii. affiliation, and iii. connectedness. These factors are observed in the findings underpinned by proximity and similarity of individuals connected within the

social networks. To further illustrate this, the need for companionship is observed in the findings where individuals form close relationships and attachment with others within the social networks based on shared characteristics, using Enterprise 2.0 in use modes U5 (Sharing Insights, Knowledge, Ideas or Artefacts) and/or U7 (Acknowledging or Encouraging Others). Individuals have tendencies to develop closer relationship with individuals in a closer physical environment whom they share similarities such as interest, values, background, and cultural identity. For example, individuals are more likely to develop a sense of belonging with a functional team in the same location, than with individuals in other teams and/or location.

Subsequently, individuals pursue affiliation by using Enterprise 2.0 in the same manner seeking membership(s) in virtual social groups such as sports and hobbies. It is also important to note that the findings hold true where individuals are comfortable with group settings. The research acknowledges that some individuals are more comfortable with individual relationships and the concept of affiliation may not apply. Lastly, a sense of belonging is an important social trait for relational social capital. The findings reveal that individuals ultimately seek social connectedness by forming deeper connections with common interest group and likeminded individuals. Where individual use Enterprise 2.0 in use modes U5 and/or U7, it does not only deepen the sense of belonging in existing relationship, it also fosters sense of belonging in new relationships.

The evidence also demonstrates that social identification is an important antecedent to developing a sense of belonging. Social identity theory (Stets and Burke, 2000) explains that people tends to identify him/herself to a social category or group. Consistent with Lee and Robbins (1995) and Stets and Burke (2000) studies, the findings observed that social identification is related to one's opinion of self in relation to others. According to Lee and Robbins (1995), the self-categorisation occurs through a social comparison process where individuals identify him/herself with others similar to themselves. To illustrate this, for example, when an individual uses Enterprise 2.0 in use modes U5 (Sharing Insights, Knowledge, Ideas or Artefacts), they are casting a net to the broader social network to find likeminded others to respond or comment to their post in Enterprise 2.0. This then forms the basis of starting a conversation to build the relationship. Having a social identity within this context means that individuals attempt to see things from other individuals or the social group's perspective. Nevertheless, it is also important to note that social identification is crucial as it influences one's affective organisational commitment, satisfaction, loyalty, involvement

(Jones and Volpe ,2010), and facilitates better social interaction and relationships (Lee and Robbins 1995). From a knowledge management perspective, the perception of social identity provides individuals with motivations for knowledge sharing (Yu et al. 2010) and a cognitive framework that facilitate the sharing behaviour. Although not observed in the findings, previous research (Yu et al. 2010) also claims that social identification leads to trusting relationships with others in the social network. Based on the literature and empirical evidence, the study confirms that the individual usage of Enterprise 2.0 in U5 and/or U7 fosters and develops a sense of belonging that is essential for new and existing relationships.

7.4.3 Individual use of Enterprise 2.0 fosters reciprocal relationships driven by altruistic behaviour

Interpersonal obligation refers to individual's helping behaviour based on intrinsic motivation consistent with one's value system (Whatley et al. 1999). Other literature (Adler and Kwon 2002; Coleman 1988; Fukuyama 1995; Nahapiet and Ghoshal 1998; Uphoff 2000) characterise interpersonal obligation in a similar vein where the scholars describe reciprocal relationships as individuals' actions resulting from feelings and conscience towards others. The empirical evidence indicates that individuals develop feeling of interpersonal obligations when they use Enterprise 2.0 in either use modes: U1 (Finding Quick Answers or to Get Help), U2 (Gathering Insights or Knowledge), and/or U5 (Sharing Insights, Knowledge, Ideas or Artefacts). This trend observed is similar to the impact on trust discussed in earlier section, except that it does not entails using Enterprise 2.0 in use mode U7 (Acknowledging or Encouraging Others). The findings show that trust and reciprocity are inherently linked where trust is a matter of beliefs and expectations on others and internal obligations relates to the tendency of individuals to reciprocate in kind.

Social exchange theory explains that there is an economic relationship in social interactions between individuals where one party have the goods and the other parties have the value to offer (Blau 1964). When individual uses Enterprise 2.0 in use modes U1, U2, and/or U5, there is a general expectation from the social network of a future return (positive expectation), thus assuming a relationship to reciprocate. Empirical evidence indicates that whilst there is return of contribution in Enterprise 2.0, the individual's reciprocal relationship incited is intrinsically motivated and is derived from pleasure of sharing and support, benevolence, and altruism. Individuals are guided by values and beliefs to give back and contribute to the Enterprise 2.0

community. Other factors influencing the feeling of interpersonal obligations includes one's past experience, and if the individual has an existing relationship prior to the interaction online. In contrast to Qi (2013) and Blau's (1964) research, the form of reciprocal relationship presented in the findings is not to be confused with mutual obligations and benefits where the social network entails economic relationships. As Pelaprat and Brown (2012) describe, it is not possible to place a value on the objects of each reciprocal exchange as it represents a "*symbolic nature which has nothing to do with gain, equivalence, or loss*".

Furthermore, the existence of interpersonal obligations within the social networks also denotes the strength and dynamics of the relationships. As apparent in case evidence, when an individual consistently respond to others (use mode U5) who sought help (use mode U1 and/or U2) in Enterprise 2.0, the reciprocal behaviour instigated feelings of gratitude, solidarity, pride and camaraderie within the social network. Inevitably, consistent with Rook (1987) study, evidence indicates that there will be inequality in the degree of reciprocity. As presented in the findings, some individuals tend to give more (use mode U5) while others take more (use mode U1 and/or U2). As Rook (1987) states, the variation in reciprocity affects one's social satisfaction. As evident in the findings and also highlighted in Walster et al. (1978) research, the unbalanced exchanges may cause frustration to the giver and detract from satisfaction the social relationships. To this point, Rook (1987) offers valuable insights where the author remarks that loose network relations are more eager to address the imbalance due to lack of confidence that the relationship will endure into the future. On the contrary, strong network ties, tolerate temporary inequities with trust and empathy. This however has not been evidently observed in the findings but is crucial to solidify the understanding on the dynamics of reciprocal relationships when individuals use Enterprise 2.0.

In addition, Rook (1987) highlights that *kinship* influences the feelings of obligation. Numerous scholars (Rook 1987; Schino and Aureli 2010; Short 1996) draw reference to kinship in explaining the altruistic behaviour to reciprocate. Kinship typically refers to family relationships. Within the context of Enterprise 2.0, kinship in principle can also be applied to individuals who are organised into social groups. Rook (1987) observes that there is difference between relationships with keen and peer. When feeling of interpersonal obligations occurs within a social group on Enterprise 2.0, Rook (1987) posits that help (via use mode U5) is extended due to expectations from others in the social group and may be less personal. When

an individual extends share knowledge and insights to the broader social network and with loose network ties, this is usually voluntary and driven by feelings and conscience.

Lastly, as social capital theory (Hansen et al. 1999; Nahapiet and Ghoshal 1998; Wasko and Faraj 2005) and Enterprise 2.0 (Chui et al. 2012; Hinchcliffe 2012) have been frequently linked to enabling knowledge management, the findings unfold that trust, and reciprocity, and solidarity as the underlying conditions for knowledge transfer within the social networks.

Based on the literature and empirical evidence, the study confirms that the individual use of Enterprise 2.0 in U1 (Finding Quick Answers or to Get Help), U2 (Gathering Insights or Knowledge), and/or U5 (Sharing Insights, Knowledge, Ideas or Artefacts) fosters and develops feeling of interpersonal obligations. This, however, is influenced by one's belief and value, and the closeness of the relationship.

7.4.4. Individual use of Enterprise 2.0 influences social norms

Social norms describe the rules of behaviour that individuals display within a group (Ajzen and Fishbein 1977; Bicchieri 2005; Rimal and Real 2005; Stamper et al. 2000). The empirical evidence indicates when an individual uses Enterprise 2.0 in either use modes: U3 (Observing and Learning about other Individuals' Activities and Behaviour), U5 (Sharing Insights, Knowledge, Ideas or Artefacts), and/or U6 (Sharing Status or Work Updates), the use fosters norms of social behaviour. Although, evidence indicates that the impact on social norm is not as significant in comparison to other aspects of relational social capital. The findings connote that the individual use of Enterprise 2.0 influences the norms of social behaviour that depicts what constitutes appropriate behaviour within social networks. Dannals and Miller (2017) explain social norms can be descriptive or prescriptive. Descriptive norms, according to the authors are influenced by the information from the majority. Prescriptive norms, on the other hand is about what people believe should be done (Cialdini and Trost 1998).

Individuals who interact frequently develop a repertoire of ways of doing things. These are the descriptive norms where individuals conform to social norms based on what people do. When an individual uses Enterprise 2.0 in use mode U3 to observe other individual's activities and behaviour, there is an inclination that he/she will pick up behaviour that is perceived good or beneficial to their career or personal growth. In this context, cognitive balance theory (Heider

1958) explains how individuals resolve inconsistencies in their interpersonal interactions. To illustrate, if individual A likes another individual B, and individual likes object X, then individual A will tend to like object X. This concept explains the norms of social behaviour which occurs when individual uses Enterprise 2.0 to observe other individual's activities and behaviour. The findings indicate that individuals typically follow and observe others who are leaders or someone they rate highly. Based on cognitive balance theory, there is an inclination for individuals to emulate the social behaviour of the person they followed. This is especially evident in observations where individuals follow leaders (role models) in the organisation to learn from them.

When an individual uses Enterprise 2.0 in use mode U5 or U6, he/she is setting the culture of sharing by setting precedence. These active forms of usage are visible in the various social networks, and over an extended period of time, and where the majority of individuals use Enterprise 2.0 in use modes U5 and/or U6, others will draw inferences and do so as a rationale response on the way of doing things. The empirical evidence also indicates that consistent with how individuals would interact face-to-face in the organisation (or by the water cooler), social norms are influenced by the tone and/or value set by the organisation and the social media policy. For example, individuals would generally not widely share anything private in the open, and the same would apply on Enterprise 2.0. This explains prescriptive norms where people believe what should be done.

Based on the literature and empirical evidence, the study confirms that the individual use of Enterprise 2.0 in U3 (Observing and Learning about other Individuals' Activities and Behaviour), U5 (Sharing Insights, Knowledge, Ideas or Artefacts), and/or U6 (Sharing Status or Work Updates), fosters norms of social behaviour. Norms of social behaviour is different across every organisation or community. Thus, the more individual uses Enterprise 2.0, the better he/she understand norms of social behaviour which facilitates building and maintaining relationships.

Finally, as discussed in this section, the individual use of Enterprise 2.0 and the impact on relational social capital highlights the significance of relational social capital dimension. The findings found that the individual use of Enterprise 2.0 in use modes U1 (Finding Quick Answers or to Get Help), U2 (Gathering Insights or Knowledge), U3 (Observing and Learning about other Individuals' Activities and Behaviour), U5 (Sharing Insights, Knowledge, Ideas or

Artefacts), U6 (Sharing Status or Work Updates), U7 (Acknowledging or Encouraging Others). denotes the possibility of using Enterprise 2.0 to build good relationships between individuals within the organisation and cultivate strong social standards.

Therefore, based on individual use of Enterprise 2.0 to foster norms of social behaviour, develop feelings of interpersonal obligations, build trust and develop a sense of belonging, the research proposes that:

Insight 3. Individual use of Enterprise 2.0 influences social traits in new and existing relationships leading to an increase in relational social capital in organisations.

7.5 Linkages between Social Capital Dimensions: From an Individual Use of Enterprise 2.0 Perspective

According to Nahapiet and Ghoshal's (1998) social capital research, the dimensions of social capitals are highly interrelated. However, prior to this, there was no clear evidence how these linkages between the structural, cognitive, and relational social capital dimensions are formed. The co-relationships between social capital dimensions is illustrated in Figure 7.2. Evidently, the findings reveal that there is a relationship between R1 structural and cognitive social capital dimension, R2 structural and relational social capital dimensions, and R3 relational and cognitive dimensions. The subsequent sections discuss how these linkages are formed and suggest the social capital implications on individual Enterprise 2.0 users.

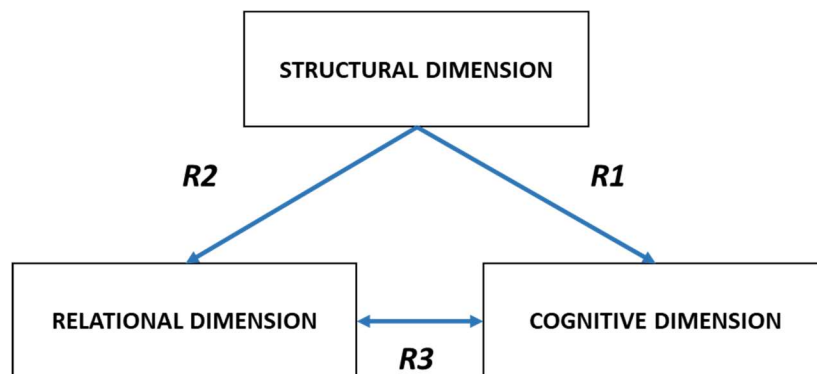


Figure 7.2 Co-Relationships between Social Capital Dimensions

7.5.1 Structural-Cognitive Social Capital Linkage (R1)

The empirical evidence indicates that there is a co-relationship between the structural and cognitive dimensions of social capital. Enterprise 2.0 facilitates building of social linkages by making connections between individuals that would otherwise have taken a lot of time and effort to build. When an individual uses Enterprise 2.0, the social network ties are formed gradually leading to the discovery of connectors, mavens, leaders, bridges, and clusters. Cognitive social capital is viewed in terms of the individual's experience in communicating and sharing of resources. It takes the form of shared interpretations, understanding, and awareness. Based on the empirical evidence, it can be observed that individual who uses Enterprise 2.0 in a combination of U1 (Finding Quick Answers or to Get Help), U2 (Gathering Insights or Knowledge), U3 (Observing and Learning about other Individuals' Activities and Behaviour), and U4 (Keeping Informed of Organisation Updates and Happenings) will likely achieve higher levels of cognitive social capital thus gaining the ability to understand the type of complementary competence they need and to identify relevant knowledge sources.

Based on this understanding, while the structural dimension refers to the ways in which individuals connect with each other, the cognitive dimension recognizes the exchange of resources within the social context that is both created and sustained through on-going interactions (Nahapiet and Ghoshal, 1998). The use of Enterprise 2.0 enabled the scenario whereby individuals are connected within the various social networks and the ease of communication promotes on-going interaction. As Boisot's (1995) research points out, meaningful conversation is achieved through on-going interactions with shared meanings. This signifies that as individuals are enabled to interact more frequently and easily via Enterprise 2.0, the on-going dialogue impacts the cognitive dimension whereby the individuals will gradually develop a shared understanding, interpretation and/or better awareness.

By drawing attention to cognitive social capital, the empirical evidence also demonstrates the significance of structural dimension to the cognitive underpinning of opportunity recognition and serendipitous connection to individuals who shares similar interest or expertise. Enterprise 2.0 paves the ground for social network connections and ties which in turn lead to an increase in individual's interactions within and between social network. The presence of weak and strong network ties present different types of cognitive impact from identification of new

knowledge to increasing the depth of knowledge (Granovetter, 1977). Both impacts increase the cognitive social capital by virtue of increased awareness, shared understanding and interpretation. In addition, the empirical evidence also highlighted scenarios that where broad social network exists, individuals from diverse background and norms, share conflicting views in their interactions associated with discussing a specific topic. This activates individual's cognition thus promotes shared understanding and/or interpretation. In other words, individual who possess higher structural social capital are able to recognise opportunities, new knowledge or to build existing knowledge that may not be visible to others.

7.5.2 Structural-Relational Social Capital Linkage (R2)

The relationship dimension of social capital explains trust, interpersonal obligations, sense of belonging, and norms of behaviours as factors impacting social capital. These factors however are influenced by the strength of the social network ties.

Figure 7.2 illustrates the strength of the formal and informal social network ties within the structural social capital dimension which impacts aspects of relational social capital. The argument suggests that the time spent with the social network connections and sharing of experiences and perspectives build individual's social capital such as networks, trust, reciprocity, shared language, and understanding. As a result, the relational social capital dimension grows.

Researches have shown that individuals tend to rely on strong rather than weak ties (Granovetter, 1983; Brenes, 1983; Watanabe, 1987; Triegaardt, 1992; and Longjohn, 2001). This is also consistent with the empirical evidence whereby it was observed that individuals tend to feel more comfortable reaching out for help or interacting with groups they identified with instead of the broader organisation, for example, post in the *all company newsfeed*. Consequently, the frequent interaction with the strong network ties enables the formation of attitudes, perceptions, and beliefs about the organisation. This is also consistent to Meyer and Rowan's (1977) research where the authors explain that strong network ties facilitate diffusion of norms across the network. Consistently, Cheng et al. (2008) also found that closer and more frequent communication have positive effects on establishing trust.

In contrast, individuals with more weak social network ties may not observe impact on relational social capital. Individuals with weak social network ties would generally use Enterprise 2.0 as a channel to stay informed of organisational updates and events (U4). Nonetheless, given the investment of time and on-going interaction within the various social networks, social relationships will grow thus shaping the relational social capital.

7.5.3 Cognitive-Relational Social Capital Linkage (R3)

The theory of Social Information Processing (Salancik and Pfeffer, 1978) suggests the individual use of Enterprise 2.0 requires on-going interaction and maintenance of relationships to be able to influence the cognitive dimension of social capital. In this argument, the research posits that the cognitive social capital dimension is a necessary antecedent to the relational dimension. Empirical evidence has also shown that the individual use of Enterprise 2.0 helps in the germination of ideas, understanding, and other cognitive impact through continued engagement contributions by individuals.

To achieve continued engagement to grow one's cognitive social capital, various aspects of the relational dimension such as trust and norms come into play. To illustrate this, weak and strong social network ties exist in any social network configuration within Enterprise 2.0. Weak network ties enable individuals to discover new knowledge thus increases awareness. On the other hand, strong network ties enable individuals to develop better shared understanding. As social cognitive theory suggests, close social interactions (which predominantly occurs in strong network ties) enable individuals to increase the depth and breadth of knowledge (Bandura, 1989). The relational dimension thus explains underlying structure that influence dynamics of close interactions among individuals which then leads to increased impact on cognitive dimension.

The research suggests that there is an interplay of cognitive and relational social capital dimensions when an individual uses Enterprise 2.0. Empirical evidence also indicates that the higher levels of cognitive social capital emphasize that the individual interaction with the social network is strong and that the organisation shares a similar culture (norms), as evident in case organisation A. Cogently, the social norms of social behaviour are also influenced by shared experience and understanding which forms part of the cognitive dimension.

The empirical evidence also demonstrates that the relational dimension of social capital based on trustworthy relationships improve cognitive dimension of social capital. Cognitive social capital is embedded within the networks of social relationships and researchers (Granovetter, 1985; Larson, 1992) have argued that efficiency within the coordinated action within the social network is only possible when individuals work together effectively. In this context, trust is seen as a determinant factor (Seabright et al., 1992) to enable cognitive social capital.

According to Lewis and Wiegert (1985), trust is based on cognitive and affective foundation. Trust in the cognitive sense as explained by these authors is that “we choose whom we will trust in which respect and under what circumstances, and we base the choice on what we take to be ‘good reasons’, constituting evidence of trust-worthiness.” When an individual uses Enterprise 2.0, the information that is being shared by other individuals forms the basis of trust which serves as the building blocks to relational social capital. Competence, responsibility, veracity, and dependability are also observed as part measures of trust in organisational settings (Butler, 1991; Cook and Wall, 1980; Johnson-George and Swap, 1982; and Rempel et al., 1985). As evident in the findings, individuals would ‘follow’ another individual or join a community group on Enterprise 2.0 based on the competence of other individuals in the social network. Trust is also developed when the individuals on Enterprise 2.0 consistently demonstrates reliability on the information shared or dependability on providing help or sharing insights to the community. For example, individuals would generally trust the insights shared by leaders of the organisation (or based on professional credentials) which influences their understanding and other cognitive behaviour. Other than that, Hansen (1999) also confirms that dense and intertwined social networks improve transfer of rich, non-codified information. The cohesion shaped by relational social capital increases individual’s extent and speed to information which is crucial for cognitive dimension.

The research confirms that interdependency exists between cognitive and relational social capital. Where cognitive social capital is high, the use of Enterprise 2.0 reinforces relational social capital through exchange of interest, experience, and expertise. Where there is higher relational social capital, the individual use of Enterprise 2.0 compensates for the lower level of cognitive social capital to promote interaction and shared understanding. While the structural dimension represents the network access to individuals and resources, the relational and cognitive dimensions reflect the capability for resource exchange (Andrews, 2010). The research shows that the number of social connections is not as significant to cognitive

dimension as compared to individual's closeness (influence) and betweenness (bridges between individuals).

Insight 4. Co-relationships exist between structural, cognitive, and relational social capital dimensions.

Insight 4a. More time spent with the online social network connections will increase relational social capital.

Insight 4b. Strong structural and relational social capital will lead to an increase in cognitive social capital.

Insight 4c. Cognitive social capital has a positive effect on relational social capital.

7.6 User Type Benefits associated with Enterprise 2.0 Usage

The findings unfold novel insights into the impact that differences in user types have on the structural, cognitive, and relational social capital dimensions. The different user types as discussed in Chapter 2.3.1, is categorised based on the framework adapted from Brandtzæg (2010) and Rogers (2003) as i. active, ii. average, and iii. inactive users. Table 7.4 below summarises the findings. Based on the findings in Table 7.4, the subsequent sections discuss the social capital implications (at individual level) across the different user groups.

SOCIAL CAPITAL DIMENSIONS	ACTIVE USER	AVERAGE USER	INACTIVE USER
U1: Finding Quick Answers or to Get Help	Y		
U2: Gathering Insights or Knowledge	Y	Y	Y
U3: Observing and Learning about other Individuals' Activities and Behaviour	Y	Y	
U4: Keeping Informed of Organisation Updates and Happenings	Y	Y	Y
U5: Sharing Insights, Knowledge, Ideas or Artefacts	Y	Y	
U6: Sharing Status or Work Updates	Y		
U7: Acknowledging or Encouraging Others	Y		

Table 7.4 Summary of Enterprise 2.0 User Types and associated Use Modes

7.6.1 Active Users

Recall findings in Table 6.4 illustrates that active users benefitted from all aspects of social capital dimensions due to the varied use modes and frequency of Enterprise 2.0 use. Evidence indicates that active users have higher interactions with their personal social networks using Enterprise 2.0. Based on earlier discussions in Section 7.2 to 7.4, active users have broader and stronger access to the social networks of others. This implies that more opportunity arises for active users to create solid relationships gaining social support. Inherently, according to social capital studies (Filieri et al. 2014; Inkpen and Tsang 2005; Nahapiet and Ghoshal 1998; Wasko and Faraj 2005), this also means that active users have access to wider and more diverse knowledge sources to increased capabilities to explore new ideas and create new knowledge. New knowledge may emerge as active users regularly discuss and combine pieces of existing information gathered from their diverse social networks triggering the different innovation process (Kogut and Zander 1992).

Evidence also shows that active users usually assumed the role of ‘Super Connectors’ or ‘Navigators’, also known as *knowledge brokers*. The role of a knowledge broker requires one to facilitate the creating of a bridge between individuals to share and use knowledge (Meyer 2010). What distinguishes active users from other types of users is their online presence and their ability to gather and critically appraise the content on Enterprise 2.0, followed by prompt creation of the connections between individuals across the social networks. Congruently, active users are also in an advantageous position having wide social networks that also run deep. As past literature (Inkpen and Tsang 2005; McFadyen and Cannella 2004) confirms, structural social capital enhances the outcome of knowledge transfer as it facilitates the flow of information. On the other hand, cognitive social capital facilitates the exchange and combination of knowledge (Nahapiet and Ghoshal 1998). These implications are evident among active users.

From another view, active users also have strong reciprocal bonds between close network ties due to frequent interactions with others (Coleman 1990). As mentioned above, active users voluntarily shared knowledge to help others in the social network. Active users also shared insights in the form of narratives or article regularly with others out of benevolence, while others could also learn through the knowledge sharing behaviour and activities. Evidence indicates that active users were perceived as thought leaders for their active involvement in

sharing their knowledge and the ability to influence the social network group by initiating and shaping discussions in Enterprise 2.0. They garnered trust and ‘followers’ in Enterprise 2.0 and played an important role in fostering a cohesive social network community. Consistently, scholars (Burt 2000; Meyer 2010) have also identified how acting as a ‘Super Connector’ can increase one’s influence.

Therefore, based on these implications, the research proposes that:

Insight 5: Active users benefit most from continuous Enterprise 2.0 usage from an innovation, knowledge sharing, and influencing perspective.

7.6.2 Average Users

The findings in Table 6.6 demonstrate that average users were without doubt more limited in the ways in which they were using Enterprise 2.0 (use modes U2, U3, U4, and U5). However, active users still benefitted from all aspects of social capital dimensions. Although not proven in this study, the research assumes that there will be lesser degrees of impact from the social capital dimensions for average users in comparison to the active user group.

Apart from the frequency of usage, there are some distinctions in the usage patterns observed between average and active users. The findings reveal that average users do not use Enterprise 2.0 as a platform to reach out to others for help (U1). It is observed that average users typically reported having a strong offline social group within the organisation to reach out to for help when required. On the contrary, average users predominantly used Enterprise 2.0 for browsing through the content posted by other individuals to gather insights (U2). Bawden (1986) identifies three types of online browsing activity: i. purposive, ii. exploratory or semi-purposive, and iii. capricious browsing. Use mode U2 refers to purposive and exploratory browsing as average users deliberately seek new information or inspiration from their social networks.

Evidence also indicates that average users used Enterprise 2.0 in use modes U3 and/or U4. In this context, a common pattern is observed where average users cited browsing through the *newsfeed* on Enterprise 2.0 wholly random, unstructured, and without a clearly defined purpose, which is also described as capricious browsing coined by Bawden (1986). Average

users in this example hoped to stumble upon serendipitous discovery or experiences. Furthermore, similar to active users, evidence indicates that average users contributed to the social network by means of sharing insights, knowledge, and/or artefacts (U5) which usually occurs within their respective social network groups, i.e. communities of practice. This denotes the flow of knowledge into their social networks fostering knowledge contribution from others (Brown and Duguid 2001). Although, average users engaged less frequently with the different social network groups, the impact of sharing insights, knowledge, and/or artefacts (U5) promotes trust and credibility from the social networks. On this note, individuals in a same social network group may not necessarily know each other and the knowledge sharing interactions may lead to the formation of new relationships. Consequently, average users gained social capital benefits such as varied resources or information (Nahapiet and Ghoshal 1998), access to unique knowledge and insights (Lin et al. 2001), and access to diverse social communities, experiences, and ideas (Burt 2000).

Therefore, the research proposes that:

Insight 6: Average user types benefit from Enterprise 2.0 usage from the perspective of knowledge exchange and building and maintaining new relationships.

7.6.3 Inactive Users

Finally, inactive user types were not active and used Enterprise 2.0 in a limited way (use modes U2 and U4). This group of users has the least social capital benefits. Referring to findings in Table 6.8, on a surface level, inactive users appeared to gain benefits from all structural, cognitive, and relational social capital dimensions. However, a deeper analysis reveals that inactive users gained limited benefits from each social capital dimension. The following discussion further explain the findings.

Evidence demonstrates that inactive users predominantly used Enterprise 2.0 to stay up-to-date with the latest information on events and updates (U4). Inactive users' ways of using Enterprise 2.0 can be observed as '*seeking serendipity*', which implies that the user has no priori intention to interact with the social networks and the information received was triggered by 'chance' (Toms 1998). The behaviour observed among inactive users also vary from average users in that inactive users use Enterprise 2.0 in U4 largely for '*killing time*.' Due to these reasons,

inactive users have limited impact using Enterprise 2.0 to stimulate curiosity and encourage exploration in the pursuit of knowledge.

Toms' (1998) describe that individuals tend to immerse themselves with topics that interest them when browsing content online while concurrently recognising useful information en route. Unlike use modes U3 as demonstrated by active and average users, where these groups of users would follow others intently in Enterprise 2.0 to observe their activities and behaviours online (i.e. discussions), inactive users do not receive the same cognitive impact to quickly recognise useful information in their social networks. This is because of the inactive users' way of using Enterprise 2.0 (in use mode U4) that poses less to no control over the content in Enterprise 2.0. Inactive users were unable to anticipate the 'unexpected' information due to lack of commonality with the other individuals in the social network(s), i.e. interest, values, or beliefs.

In addition, it was observed that inactive users preferred more traditional ways of working. Although findings indicate that inactive users use Enterprise 2.0 to gather insights (use mode U2), this impact has not been significant. In the pursuit of knowledge and insights, inactive users typically have constricted access to resources within Enterprise 2.0 due to the lower level of social network connections (Inkpen and Tsang 2005; Nahapiet and Ghoshal 1998). Furthermore, inactive users also engaged with the social network (in use mode U2 and U4) in a passive manner that do not support quality interactions with others, thus, have not benefited from the full benefits of relational social capital. In comparison to active and average users, inactive users lacked social support that promotes trust, reciprocity, and sense of belonging. Therefore, the research proposes that:

Insight 7: Inactive users have the least benefits from Enterprise 2.0 usage which is limited to serendipitous discovery of new information.

7.7 Refining the Conceptual Model

To frame the study, the research integrates insights from both social capital theory and existing literature on Enterprise 2.0 to develop a conceptual model as presented in Figure 2.4. The conceptual model includes the main constructs and sub-components within each social capital dimension and subsequently posits the impact on these social capital dimensions from the

individual use of Enterprise 2.0. Specifically, the conceptual model illuminates the structural, cognitive, and relational social capital dimensions and the subcomponents within each of the dimension.

Recall in Section 2.3 Understanding the Individual Use of Enterprise 2.0, the summary of literature demonstrates how Enterprise 2.0 is being used in organisations. However, evidence has proven that attempts to categorise Enterprise 2.0 usage lacks clarity in terms of discernment between individual or collective use, overlapping usages, or a clear separation between implications of use vs. actual usage. It was therefore unclear at the commencement of this study how individual would use Enterprise 2.0 in large organisation settings. Based on findings presented in Chapter 5, the research unfolds new knowledge on how individual uses Enterprise 2.0 and at a granular level. The research successfully demonstrates 7 use modes to illustrate this:

- U1: Finding Quick Answers or to Get Help
- U2: Gathering Insights or Knowledge
- U3: Observing and Learning about other Individuals' Activities and Behaviour
- U4: Keeping Informed of Organisation Updates and Events
- U5: Sharing Insights, Knowledge or Artefacts
- U6: Sharing Status or Work Updates
- U7: Acknowledging or Encouraging Others

The conceptual model is then further refined based on findings presented in Chapter 6, to delineate how the distinct use modes impact the structural, cognitive, and relational social capital dimensions. This is presented at an abstract level in Figure 7.3.

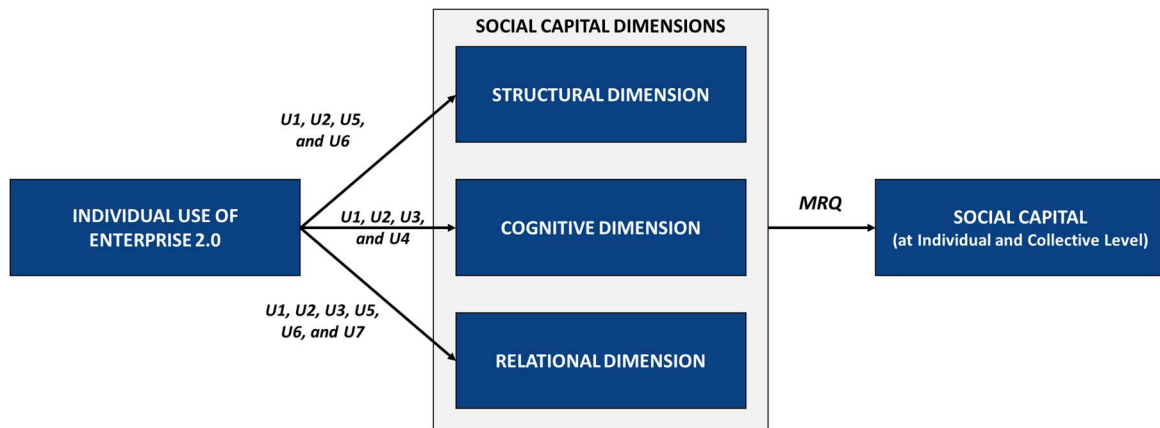


Figure 7.3 Refined Conceptual Model (Abstract Layer) and MRQ

MRQ: How does the individual use of Enterprise 2.0 in large organisational settings impact social capital?

To break it down further, Figure 7.4, Figure 7.5, and Figure 7.6, illustrate at a more granular level the distinct use modes and its associated impact on each subcomponent within the structural, cognitive, and relational social capital dimensions. Finally, the refined conceptual model presented in Figure 7.7 creates a theoretical scaffold for future research.

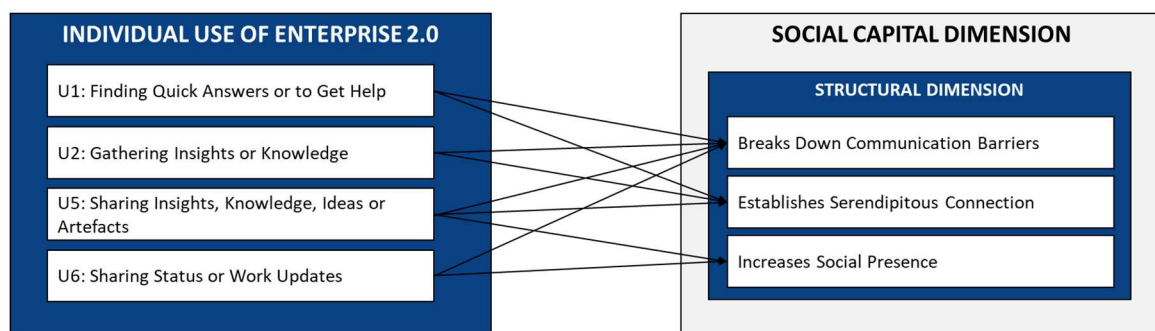


Figure 7.4 Refined Conceptual Model and SRQ1

SRQ1: How does the individual usage of Enterprise 2.0 impact the social network configuration and ties that need to be in place for the structural social capital dimension?

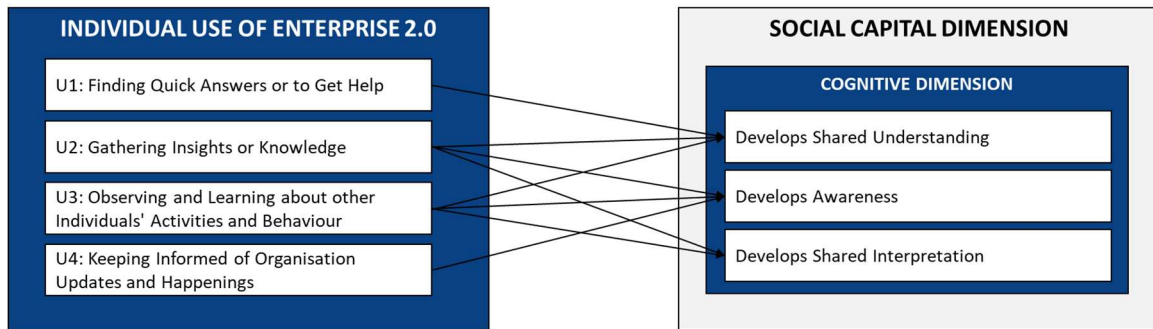


Figure 7.5 Refined Conceptual Model and SRQ2

SRQ2: How does the individual usage of Enterprise 2.0 support shared understanding, interpretation or awareness that need to be in place for the cognitive social capital dimension?

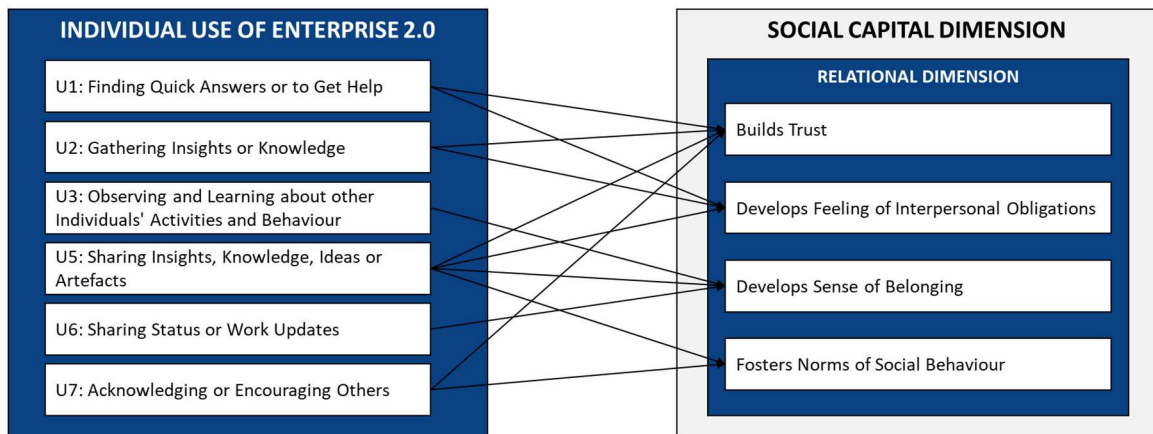


Figure 7.6 Refined Conceptual Model and SRQ3

SRQ3: How does the individual usage of Enterprise 2.0 influence new and existing relationships that are essential for the relational social capital dimension?

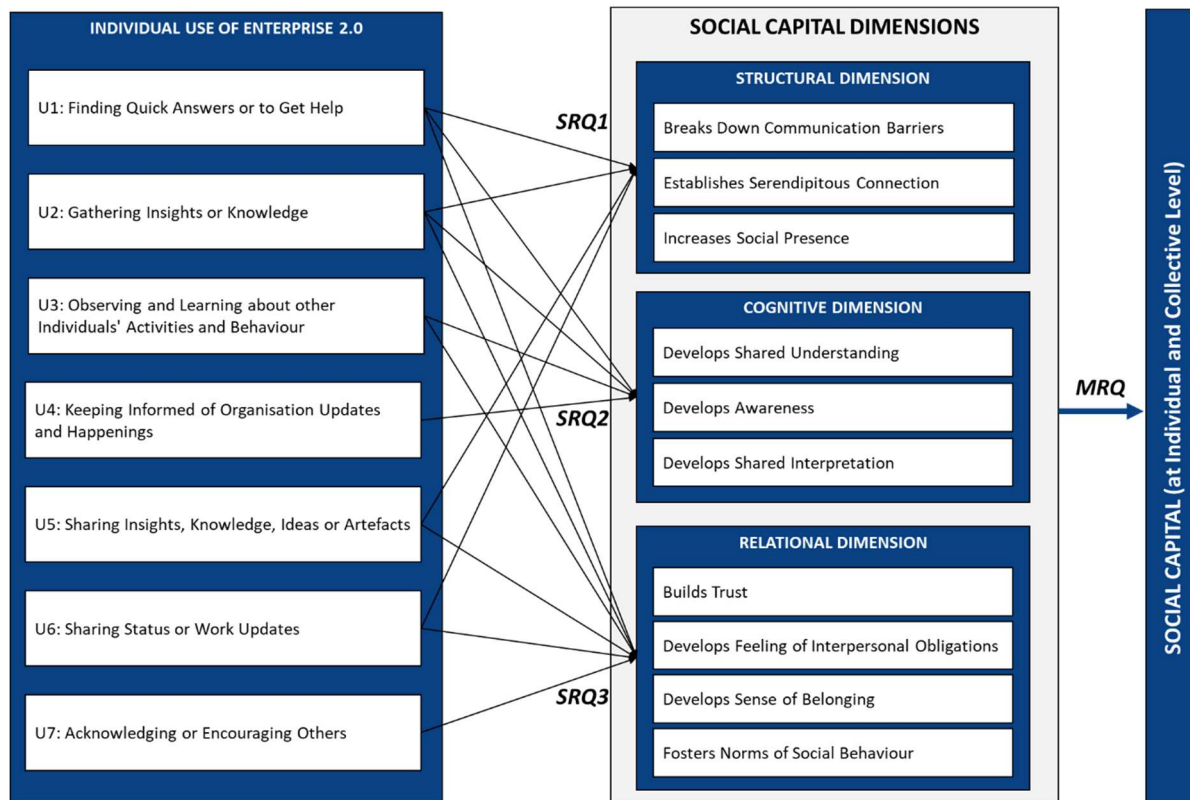


Figure 7.7 Refined Conceptual Model

7.8 Chapter Summary

Based on literature review in Chapter 2, and the findings presented in Chapter 5 and 6, Chapter 7 discussed the individual usage of Enterprise 2.0 and how it impacts various aspects of the three social capital dimensions. Recognising individual use of Enterprise 2.0 in varied ways ranging from U1 to U7, this chapter confirms each specific use modes and its corresponding impact on the structural, cognitive, relational social capital dimensions. The impact on social capital is evident regardless if the users are active, average, or inactive type of users. However, use modes U2 and U5 will provide the greatest impact on the social capital dimensions. Additionally, in this chapter, the linkages between the social capital dimensions have also been clarified based on empirical evidence and the literature, while user type benefits associated with Enterprise 2.0 use were also described. The next chapter concludes with a discussion on the significance of the study model for research and practice, limitations of study, and opportunities for further research.

Chapter 8: Conclusion

8.1 Research Summary

At the onset of the research, there was limited research empirical evidence of how Enterprise 2.0 is aptly supporting the business objectives. There was also lack of scholarly articles which explore individual use of Enterprise 2.0 from theoretical and applied lens. Considering the dearth of research, the research advances the understanding of this field by investigating how individual uses Enterprise 2.0 (at a granular level) in large organisation settings and subsequently examining the impacts to social capital dimensions. At the same time, the research found that social capital is highly relevant to study the use of Enterprise 2.0. As Lin (1999) explained, social capital refers to “*resources embedded in a social structure which are accessed and/or mobilised in purposive actions.*” Enterprise 2.0 enables individual to be embedded in a social structure, gain access to the other individuals within the social network, and use or mobilise the social resources by individuals in purposive action. Thus, the notion of social capital has been applied in this research to examine the individual use of Enterprise 2.0 within large organisation settings.

The research is therefore guided by the overarching social capital theory that explains “*the sum of actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit*” (Nahapiet and Ghoshal 1998). According to the authors, social capital enhances individual and organisation success and competitive advantage through resources derived from the network of relationships. Hence, social capital like any form of capital is generally seen as better more than less (Leana and van Buren III 1999) and is valuable and rare to individuals and organisations.

Against this backdrop, the research conducted qualitative study and interviewed 60 participants across six large organisations in Australia. The research unfolds novel insights into the individual use of Enterprise 2.0 and shedding light on how each of the identified individual use modes impacts the social capital dimensions. Specifically, the research delineates the impact of individual use of Enterprise based on structural, cognitive, and relational social capital dimensions, as proposed in Nahapiet and Ghoshal’s (1998) research.

The research found that whilst there are many features and capabilities embedded in Enterprise 2.0 platform, individual would use Enterprise 2.0 in seven distinct use modes: U1 Find Quick Answers or to Get Help, U2 Gather Insights or Knowledge, U3 Observe and Learn about other Individuals' Activities and Behaviour, U4 Keep Informed of Organisation Updates and Events, U5 Share Insights, Knowledge or Artefacts, U6 Share Status or Work Updates, and U7 Acknowledge or to Encourage Others. The use modes were identified based on emerging themes identified from the empirical evidence, and using a bottom up approach, the use modes were carefully examined to remove any biases and implications of use.

Consequently, the research found that the individual use of Enterprise 2.0 facilitates the formation and varying strength of the social network ties creates opportunities, provide accessibility, and novelty of knowledge across the network of individuals, positively impacting the social capital within the organisation. This is evident from the findings that the use of Enterprise 2.0 impacts the social capital such that it broadens the social network, establishes serendipitous connection between individuals - bridging and linking and breaks down the barriers of communication. Meanwhile, the impact on cognitive dimension depends on factors, which include the degree to which the individuals know each other, the topic of interaction, their familiarity with the topic of interaction or the extent to which they can anticipate the communication partner's current context of interaction. This is reflected in the findings where the individual use of Enterprise 2.0 impacts shared understanding, awareness and shared interpretation within the cognitive social capital dimension. Lastly, the individual use of Enterprise 2.0 also impacts the relational dimension whereby it fosters and deepens relationships through social interactions within Enterprise 2.0. As evident, the individual use of Enterprise 2.0 shapes the norms of behaviour through observing other individual's and the continuous social interaction that occurred over the network. The findings also confirm the impact on trust whereby individuals share their opinions and thoughts, ideas, problems with the social network without fear of being reprimanded or used against them. The interview findings present mixed of responses in terms of the impact to obligation to respond to the network or groups. Individuals generally feel obligated to respond to the groups which they feel a great sense of belonging or when they are tagged in a post. Similarly, the strength of the network ties and reciprocity plays a part in influencing obligations. This leads to the relationship between structural and relational dimensions.

The research demonstrates that the structural dimension impacts on the relational dimension whereby the strength of the formal and informal relationships between individuals within the network impacts the social inclusion, which translates to relational dimension. The individual use of Enterprise 2.0 and its impacts on the structural and relational dimensions explains the formation of attitudes, perceptions, and beliefs about the organisational environment. In addition, the cognitive dimension is also shaped by the joint influence of structural and relational dimensions.

Finally, the research provides insights into how different types use modes leads to varying impact to social capital dimensions. Whilst there can be many different combinations of use modes, the best way to use Enterprise 2.0 is by combining use modes U2, U4, and U5. The combination of these three use modes provides coverage on all aspects of social capital dimensions thus gaining more social capital than other possible combinations. Consistently, these use modes are also apparent among active and average users. In other words, the most effective ways to use Enterprise 2.0 which will lead to increased social capital is by using Enterprise 2.0 to gather and share insights or knowledge and to actively follow and observe others' interaction online. There is also general perception that inactive users will not receive benefits from Enterprise 2.0. The research further demonstrates that while inactive users may not interact actively with others in the social network, they still benefit from '*lurking*' or observing the newsfeed/activities in Enterprise 2.0. From a social capital perspective, the research shows that when inactive users use Enterprise 2.0 in use modes U2 and U4, they are exposed to information they would otherwise not know about which triggers impact to cognitive social capital dimensions. Alternately, inactive users may also gain limited relational social capital benefits from developing feeling of trust and obligation to reciprocate. There is also a possibility that once inactive users become more familiar with the social networks and slowly experienced the value of using Enterprise 2.0, they may begin to use Enterprise 2.0 in other use modes leading to increased social capital.

8.2 Outcomes of this Thesis

In summary, this thesis contributes the following seven insights that can influence how social media managers set up, manage, and promote individual use of Enterprise 2.0 in large organisations to develop the different dimensions of social capital:

Insight 1. Individual use of Enterprise 2.0 builds social networks leading to an increase in structural social capital in organisations.

Insight 2. Individual use of Enterprise 2.0 develops mental models leading to an increase in cognitive social capital in organisation.

Insight 3. Individual use of Enterprise 2.0 influences social traits in new and existing relationships leading to an increase in relational social capital in organisations.

Insight 4. Co-relationships exist between structural, cognitive, and relational social capital dimensions.

Insight 4a. More time spent with the online social network connections will increase relational social capital.

Insight 4b. Strong structural and relational social capital will lead to an increase in cognitive social capital.

Insight 4c. Cognitive social capital has a positive effect on relational social capital.

Insight 5: Active users benefit most from continuous Enterprise 2.0 usage from an innovation, knowledge sharing, and influencing perspective.

Insight 6: Average user types benefit from Enterprise 2.0 usage from the perspective of knowledge exchange and building and maintaining new relationships.

Insight 7: Inactive users have the least benefits from Enterprise 2.0 usage which is limited to serendipitous discovery of new information.

8.3 Contributions to Theory

The study has examined the relevant literature and reviewed and applied established theories to investigate the individual use of Enterprise 2.0 and its impact on social capital. The contributions to theory are as follows:

Categorisation of Individual Use of Enterprise 2.0

The research expands the understanding of individual use of Enterprise 2.0 and contributes to categorisation of individual use at a granular level. The research found that previous scholarly articles (Mäntymäki and Riemer 2016; Richter and Riemer 2013; Riemer and Richter 2012) attempting to categorise the use Enterprise 2.0 appears as inconsistent and ambiguous, i.e. contains overlapping usages, and is linked to implications of use. These forms of categorisation whilst providing understanding to the capabilities of Enterprise 2.0, they do not provide clear visibility of actual day-to-day individual use. This research findings yield insights into individual's actual use of Enterprise 2.0 within large organisational settings and subsequently categorised the individual use of Enterprise 2.0 into seven distinct use modes. More importantly, the research excludes biases and implications of Enterprise 2.0 usage to provide clear categorisation of individual use which enable future researches to emulate and enhance the study of Enterprise 2.0, for example, in the fields of user behaviour, motivation, and organisational benefits.

Use of Enterprise 2.0 from A Social Capital Perspective

The research's main contribution reveals that the individual use of Enterprise 2.0 does indeed impact the social capital dimensions. By using the theoretical lens of social capital theory (coupled with reviews of other theories), and analysing the different individual use modes, the research advances the understanding of structural, cognitive, and relational social capital dimensions in the context of Enterprise 2.0. Furthermore, based on literature and empirical evidence, the research also provides visibility of the building blocks within each social capital dimensions.

From a social capital perspective, the impact on the structural dimension indicates the individual's opportunity to access to resources (i.e. individual and artefacts) within the social networks through using Enterprise 2.0. This research contributes to the understanding of strong and weak social network ties (Burt 2000; Granovetter 1973) within Enterprise 2.0. The

individual use of Enterprise 2.0 enables individuals to not only reach out to closed networks but the potential to establish serendipitous connection with extended social networks. The study provides deeper insights how individual use of Enterprise 2.0 bridges gaps in structural holes leading to diversity of resources and discovery of new knowledge. In addition, the research also contributes to the understanding of social network theory specific to the social connections and interactions between individuals on Enterprise 2.0.

From a social capital perspective, the impact of use on the cognitive dimension indicates individual's ability to interpret and make sense of the information shared in the social networks which forms the foundation of communications. The research provides insights how cognitive social capital can be obtained by using Enterprise 2.0. This research also advances the understanding of key components within the cognitive dimension that are essential for learning and building and maintaining relationships. In addition, through the lens of social cognitive theory, the research also demonstrates that individuals learn by observing and imitating others on Enterprise 2.0. The research contributes to the understanding of socio-cognitive behaviour diffusion by analysing the diffusion and influence of mental models through the social networks.

Finally, from a social capital perspective, the impact on the relational dimension indicates the influence and quality of relationships that individuals established from using Enterprise 2.0. The research provides rich insights on the important antecedents of relationships and how the use of Enterprise 2.0 may alter the social dynamics in network. Drawing reference to structuration theory (Jones and Karsten 2008), this study enlightens the environment and opportunities that exist within Enterprise 2.0. When an individual uses Enterprise 2.0, their social actions is constrained by the rules, structures, and resources that enables these social actions. The research contributes to the understanding that norms of social interactions and behaviour is mediated through the communities within the social networks.

Pathways to Understand Use of Enterprise 2.0 and Organisational Benefits

Wehner et al. (2017) conducted research on 37 Enterprise 2.0 related case studies and identified numerous benefits of using Enterprise 2.0. The authors categorised the organisational benefits as knowledge management, informational, geographical, tracking, and disintermediation. Nonetheless, most of the cited benefits are anecdotal and lacks empirical evidence to substantiate the claimed benefits. The concept of social capital has also been studied in many

disciplines and is proven valuable for knowledge management (Huysman and Wulf 2005; Nahapiet and Ghoshal 1998; Wasko and Faraj 2005), organisation learning (Chang et al. 2006; Field 2005; McGrath and Sparks 2006), innovation (Dakhli and Clercq 2003; Laužikas and Dailydaitė 2013), job performance (Basu et al. 2017; Vincenzo and Mascia 2012), organisational performance (Leana and van Buren III 1999), happiness and wellbeing (Rose 2000). This research contributes to the understanding of how Enterprise 2.0 drive benefits to the organisation and cogently provides an in-depth view of achieving these benefits through the lens of social capital theory. By unfolding the individual use of Enterprise 2.0, the research presents the associated impact on social capital dimensions which will result in organisational benefits.

Relationships between Social Capital Dimensions

This research also expands the understanding of social capital theory beyond the concepts of bridging and bonding social capital. Drawing from Nahapiet and Ghoshal (1998) research, the findings reveal the detailed components for each structural, cognitive and relational social capital dimensions and the corresponding relationships between each dimension. By illustrating the relationships between each social capital dimensions, the research helps solidify the understanding of social capital theory and the determinants to influence each social capital dimension.

8.4 Contributions to Practice

This study has significant implications to organisations. The results of this study suggest that organisations should consider the following:

Achieving Critical Mass in Enterprise 2.0 Use: Showcase Best Practice in using Enterprise 2.0

Enterprise 2.0 is reliant on the critical mass of individuals who consume, read, and contribute content to the social networks (Ridings et al. 2006). Achieving critical mass of Enterprise 2.0 use is important to the organisation to enable self-sustaining social networks to deliver value. According to Giermendl et al. (2018), despite the rampant adoption of Enterprise 2.0, many organisations still struggle to motivate employees to use Enterprise 2.0, which is crucial to achieving critical mass related to its use. Cogently, this research provides managerial contributions where the detailed findings provide insights on how individuals would use Enterprise 2.0 and subsequently how organisations may leverage the findings to gain critical

mass. For example, use mode U3 describes how individual would use Enterprise 2.0 to observe and learn about other individuals' activities and behaviour. As part of a social media strategies, an organisation may consider using connectors or thought leaders (catalyst) on Enterprise 2.0 for sharing stories of how they work or any other useful information to encourage others to get on-board with Enterprise 2.0.

Alternately, based on use mode U1, individual uses Enterprise 2.0 to find quick answers or seek help. Organisation could attract more users on Enterprise 2.0 by providing help or guidelines to individuals on how to ask the 'right' or better questions and invite responses. An example is focusing on one's experience without making an objective demand for an answer. In addition, any training program related to the use of Enterprise 2.0 should also consider coverage on the relevant use modes.

Leveraging Enterprise 2.0 to achieve Organisational Benefits

As mentioned previously, various scholars (Chang et al. 2006; Giermindl, Franz Strich, et al. 2018; Huysman and Wulf 2005; Leana and van Buren III 1999; Nahapiet and Ghoshal 1998) have widely acknowledged that social capital is valuable for organisation. Social capital creates value and dynamic capability unique to the organisation. Organisation should consider implementation of Enterprise 2.0 as an investment in social capital. Organisation may also consider leveraging the findings on the Enterprise 2.0 individual use modes and assimilate the use modes into daily work practices to gain additional social capital. The subsequent points exemplify some of the Enterprise 2.0 uptake considerations to achieve more organisational benefits:

For loyalty and commitment: The research contributes to the understanding that most individual use modes impact the relational social capital dimension in various ways, except when an individual uses Enterprise 2.0 merely to stay informed of organisational updates and events. Specifically, the research demonstrates that within relational social capital, there are elements of trust, sense of belonging, interpersonal obligations, and norms that are essential to instil an individual's sense of loyalty towards the organisation, motivation, and acceptance of organisational value. In addition, most organisations endeavoured to motivate and build relationship through organising team building event. Enterprise 2.0 provides the ability to transform the one-shot bonding activities to sustaining the creation of social capital by enabling the on-going social interactions between individuals online.

For learning: The insights from this study may promote organisations to consider embedding Enterprise 2.0 as part of their organisational learning agendas. Based on the findings, Enterprise 2.0 facilitates access to information and vital sources enabling the opportunity for individuals to learn. The research also shed lights on the fact that mental stimulation occurs (i.e. interpretation and awareness) when individual interact with each other in one of the following use modes: U1: Find Quick Answers or to Get Help, U2: Gather Insights or Knowledge, U3: Observe and Learn about other Individuals' Activities and Behaviour, U4: Keep Informed of Organisation Updates and Happenings. Therefore, considering the impact on social capital, organisations may consider leveraging Enterprise 2.0 through the identified use modes to cultivate organisational learning.

For managing behavioural change: The dyadic interactions between individuals on Enterprise 2.0 has potential to influence change. Recognising that social networks play an important role in influencing individuals' feelings and beliefs, the insights generated may help organisations to understand mechanisms for managing behavioural change and on how to best leverage Enterprise 2.0 to influence change, i.e. experimenting with and practicing new behaviours (Smith 2006).

Converting Inactive and Average Users to Active Users

As more and more organisations are moving into a global work environment, virtual teams are more distributed than before cutting across time, geographic regions, and culture (Dávidková and Greguš 2016; Zhu and Lee 2017). This entails an increasing need for individuals to network, communicate, and collaborate effectively. This research contributes to the understanding that Enterprise 2.0 is a suitable platform to support the future on new ways of work from a social capital perspective. As presented in the findings, there are obvious differences between how active, average, and inactive users use Enterprise 2.0 and the associated social capital benefits. The insights from this study therefore provide compelling reasons for organisations to consider new strategies to convert inactive and average Enterprise 2.0 users into active users to harness the full benefits of social capital.

Specifically, the research demonstrates that active users benefits from innovation, knowledge sharing, and influencing perspectives through their wide and strong social network connections they have developed using Enterprise 2.0 over time. Active users also have a high level of

social support due to their regular interactions and engagement with others in the social network leading to higher employee retention (Lee 2004) and job satisfaction (Karatepe 2013). On the other hand, average and inactive users receive less social capital benefits due to their varying Enterprise 2.0 use modes and level of interactions within the social network. Reflecting on the basics of social capital theory (Adler and Kwon 2002; Coleman 1988; Nahapiet and Ghoshal 1998) and the case evidence, building or strengthening social capital requires one to re-think the social structure, attitude, interactions and behaviours with others. Organisation should consider devising a strategy tailored according to the average and inactive users' use modes to encourage participation and involvement with the social networks to gain more social capital.

Measurement of Success for Enterprise 2.0 Implementation

Enterprise 2.0 is a socio-technical system and should not be assessed using traditional information systems measurement models (Herzog et al. 2015; Steinhüser et al. 2011). In addition, unlike others technology systems and infrastructure, Enterprise 2.0 is a social software that does not have predefined goals and can be used for various purposes and in various ways (Richter and Riemer 2013). To address the dearth of metrics and to measure the success of Enterprise 2.0 implementation, the research provides rich insights to measuring success through individual use of Enterprise 2.0 and implications on social capital. Organisations may consider using the empirical support in this study to develop appropriate metrics to assess social capital gain from the individual use of Enterprise 2.0. To illustrate, Wehner (2018) suggest to measure Enterprise 2.0 based on some of the components within the social capital dimensions, i.e. sense of belonging, trust, strength of social connections, network density, and more. Furthermore, when evaluating the success of Enterprise 2.0, organisations should consider not only active users but also the average to inactive users as these groups. The research suggests that different types of use modes and level of interactions will generate varying degree of impact social capital.

Guidelines for Improvement in Enterprise 2.0 Platform

Reportedly, some Enterprise 2.0 platforms do not afford users easy accessibility to content and navigation, thus, impacting user adoption (Giermindl et al. 2017). The individual Enterprise 2.0 use modes presented in this study may be used as a diagnostic guide and for improvements on Enterprise 2.0 features and capabilities. In addition, technology providers may also consider provisioning of data analytics capabilities to measure impact on social capital when individual

uses Enterprise 2.0. It is envisaged that such capabilities would be greatly beneficial for large organisations.

Through this research, it is hoped that the empirical evidence discussed will provide a stronger business case for organisations to implement and encourage the use of Enterprise 2.0 towards achieving competitiveness.

8.5 Limitations and Future Research

Several limitations apply to this study. The research applied a qualitative research method and subsequently conducted interviews with six large organisations all within the same period of time. The research approach focuses on an in-depth study of individual use of Enterprise 2.0 to unfold insights on impact to social capital dimensions. Considering the qualitative research method applied, future studies should consider longitudinal analysis to clarify the different combination of use modes and user types and to observe the evolution of and impact of these on social capital dimensions over time.

Second, the study indicates that different industry types, organisational cultures, and Enterprise 2.0 platforms influence the individual use modes thus leading to varying impacts on social capital. However, this aspect has not been explored in this study. Future research should consider advancing understanding in this field by investigating and comparing the use modes and impact across these areas. Future research may also consider replicating the study in other settings or subject areas, i.e. taking into account demographics, such as age, educational levels, knowledge and expertise, and ascertain the nuanced differentiations of use modes and the impact of these elements on social capital theory. Future research may unfold new knowledge in the prominence of specific social capital dimensions in some industry.

Due to the exploratory nature of the study, the intensity of the impact to each social capital dimensions have not been identified. Future research may also focus on leveraging metrics identified for measuring social capital to determine the strength and impact of individual use of Enterprise 2.0 to determine the significance to each dimension. To provide an all-encompassing view, future research should consider measuring the use of Enterprise 2.0 and impact to social capital at individual, organisational, and team level.

Concluding Remarks

Referring back to the challenges identified at the onset of the research, despite the numerous claimed benefits of Enterprise 2.0 (Ellison et al. 2014; Mäntymäki and Riemer 2016), organisations still struggle to leverage and materialise the usage benefits (Giermindl, Franz Strich, et al. 2018). There is no clear evidence on how the use of Enterprise 2.0 will result in organisational benefits. This research demonstrates the value of using Enterprise 2.0 from a social capital perspective and presents granular understanding of how an individual would use Enterprise 2.0 and the corresponding social capital benefits. The research also identifies the different user types of Enterprise 2.0 users and unfolds new insights into the different use modes within each of these user groups and their corresponding impact on structural, cognitive, and relational social capital dimension. Finally, this research enhances the understanding on social capital theory and its relevance to Enterprise 2.0.

References

- Adler, P. S., and Kwon, S.-W. 2002. "Social Capital: Prospects for a New Concept," *Academy of Management Review* (27:1), pp. 17–40.
- Ajzen, I., and Fishbein, M. 1977. "Attitude-Behavior Relations: A Theoretical Analysis and Review of Empirical Research," *Psychological Bulletin* (84:5), pp. 888–918.
- Akyol, Z., and Garrison, D. R. 2011. "Understanding Cognitive Presence in an Online and Blended Community of Inquiry: Assessing Outcomes and Processes for Deep Approaches to Learning," *British Journal of Educational Technology*, pp. 233–250.
- Alarifi, A., Sedera, D., and Recker, J. 2015. "Posters versus Lurkers: Improving Participation in Enterprise Social Networks through Promotional Messages," in *Proceedings of the 36th International Conference on Information Systems*, Fort Worth, TX.
- Arghode, V. (2012). Qualitative and Quantitative Research: Paradigmatic Differences. *Global Education Journal* (4), pp. 155–163.
- Aslam, M. M. H., Shahzad, K., Syed, A. R., and Asher Ramish. 2013. "Social Capital and Knowledge Sharing as Determinants of Academic Performance," *Institute of Behavioral and Applied Management*, pp. 25–41.
- Attaran, M., Attaran, S., and Kirkland, D. 2019. "The Need for Digital Workplace: Increasing Workforce Productivity in the Information Age," *International Journal of Enterprise Information Systems* (15:1).
(https://www.researchgate.net/profile/Mohsen_Attaran/publication/329844969_The_Need_for_Digital_Workplace_Increasing_Workforce_Productivity_in_the_Information_Age/links/5c48f4f892851c22a38c1581/The-Need-for-Digital-Workplace-Increasing-Workforce-Productivity-in-the-Information-Age.pdf).
- Bandura, A. 2002. "Social Cognitive Theory in Cultural Context," *Applied Psychology* (51:2), pp. 269–290.
- Basu, E., Pradhan, R. K., and Tewari, H. R. 2017. "Impact of Organizational Citizenship Behavior on Job Performance in Indian Healthcare Industries: The Mediating Role of Social Capital," *International Journal of Productivity and Performance Management* (66:6), pp. 780–796.
- Baumard, P. 2002. "Tacit Knowledge in Professional Firms: The Teachings of Firms in Very Puzzling Situations," *Journal of Knowledge Management* (6:2), pp. 135–151.
- Bawden, D. 1986. "Information Systems and the Stimulation of Creativity," *Journal of Information Science* (12), pp. 203–216.
- Baxter, P., and Jack, S. 2008. "Qualitative Case Study Methodology: Study Design and Implementation for Novice Researcher," *The Qualitative Report* (13:4), pp. 544–559.
- Benbasat, I., Goldstein, D. K., and Mead, M. 1987. "The Case Research Strategy in Studies of Information Systems," *MIS Quarterly*, pp. 369–386.

- Berger, K., Klier, J., Klier, M., and Richter, A. 2014. "Who Is Key. . .?" Characterizing Value Adding Users in Enterprise Social Networks," in *Proceedings of the 22nd European Conference on Information Systems*, Tel Aviv.
- Bernard, H. R., and Ryan, G. W. 2010. *Analyzing Qualitative Data: Systematic Approaches*, Sage.
- Bhatt, G. D., and Grover, V. 2005. "Types of Information Technology Capabilities and Their Role in Competitive Advantage: An Empirical Study," *Journal of Management Information Systems* (22:2), pp. 253–277. (<https://doi.org/10.1080/07421222.2005.11045844>).
- Bicchieri, C. 2005. *The Grammar of Society: The Nature and Dynamics of Social Norms*, Cambridge: Cambridge University Press.
- Bittner, E. A. C., and Leimeister, J. M. 2014. "Creating Shared Understanding in Heterogeneous Work Groups: Why It Matters and How to Achieve It," *Journal of Management Information Systems* (31:1), pp. 111–144. (<https://doi.org/10.2753/MIS0742-1222310106>).
- Blau, P. M. 1964. *Exchange and Power in Social Life*, New York: Wiley.
- Bleicher, J. 2017. Contemporary Hermeneutics: Hermeneutics as Method, Philosophy and Critique (First edition.). Routledge Library Editions: Continental Philosophy: Volume 2. Taylor and Francis
- Bolino, M. C., Turnley, W. H., and Bloodgood, J. M. 2002. "Citizenship Behavior and the Creation of Social Capital in Organizations," *Academy of Management Review* (27:4), pp. 505–522.
- Borgatti, S. P., and Cross, R. 2003. "A Relational View of Information Seeking and Learning in Social Networks," *Management Science* (49:4), pp. 432–445.
- Bormann, E. G., Cragan, J. F., and Shields, D. C. 2001. "Three Decades of Developing, Grounding, and Using Symbolic Convergence Theory (SCT)," *Annals of the International Communication Association* (25:1), pp. 271–313. (<https://doi.org/10.1080/23808985.2001.11679006>).
- Bortlik, C. 2015. "Working like a Network – How My Team Uses Yammer," *Chris Bortlik's Blog*, , February. (<https://blogs.technet.microsoft.com/cbortlik/>).
- Bosua, R., Scheepers, R., and Lakomski, G. 2004. "Distributed Cognition and IT Support for Knowledge Work in Breakdowns: Match or Mismatch?," in *ACIS 2004 Proceedings* (Vol. 44).
- Bourdieu, P. 1986. *The Forms of Capital*, (J. G. Richardson.), Handbook of Theory and Research for the Sociology of Education, New York: Greenwood Press.
- Boyd, D., and Hargittai, E. 2010. "Facebook Privacy Settings: Who Cares?," *First Monday* (15:8). (<https://firstmonday.org/ojs/index.php/fm/article/view/3086/2589&sa=U&ved=0CDI>

QFjAGOB5qFQoTCIrz-
sKwosgCFeXgpgodAq8O6w&usg=AFQjCNG8paiU7Kyu8qo_t6BvEwZu9CCltg).

- Boyd, D. M., and Ellison, N. B. 2007. "Social Network Sites: Definition, History, and Scholarship," *Journal of Computer-Mediated Communication* (13:1), pp. 210–230. (<https://doi.org/10.1111/j.1083-6101.2007.00393.x>).
- Brandtzæg, P. B. 2010. "Towards a Unified Media-User Typology (MUT): A Meta-Analysis and Review of the Research Literature on Media-User Typologies," *Computers in Human Behavior* (26:5), pp. 940–956.
- Brandtzæg, P. B. 2012. "Social Networking Sites: Their Users and Social Implications - A Longitudinal Study," *Journal of Computer-Mediated Communication* (17:4), pp. 467–488.
- Braun, V., and Clarke, V. 2006. "Using Thematic Analysis in Psychology," *Qualitative Research in Psychology* (3:2), pp. 77–101.
- Brown, J. S., and Duguid, P. 2000. *The Social Life of Information*, (1st ed.), Boston, MA: Harvard Business Press.
- Brown, J. S., and Duguid, P. 2001. "Knowledge and Organization: A Social-Practice Perspective," *Organization Science* (12:2), pp. 198–213.
- Bughin, J., and Chui, M. 2011. "The Rise of the Networked Enterprise: Web 2.0 Finds Its Payday," *McKinsey Quarterly* (22:Spring), McKinsey on Business Technology.
- Burt, R. S. 1992. "The Social Structure of Competition," in *Networks and Organizations: Structure, Form and Action*, pp. 57–91.
- Burt, R. S. 2000. "The Network Structure of Social Capital," *Research in Organizational Behaviour* (22), pp. 345–423.
- Cabrera, E. F., and Cabrera, A. 2005. "Fostering Knowledge Sharing through People Management Practices," *The International Journal of Human Resource Management* (16:5), pp. 720–735.
- Campbell, T. 1996. "Technology, Multimedia, and Qualitative Research in Education," *Journal of Research on Computing in Education* (30:9), pp. 122–133.
- "Case B Premium Company Report Australia." 2018. *IBISWorld*.
- "Case C Premium Company Report Australia." 2018. *IBISWorld*.
- "Case D Premium Company Report Australia." 2018. *IBISWorld*.
- "Case E Profile Company Report Australia." 2018. *IBISWorld*.
- Chang, C.-M., and Hsu, M.-H. 2016. *Understanding the Determinants of Users' Subjective Well-Being in Social Networking Sites: An Integration of Social Capital Theory and Social Presence Theory*, presented at the Behaviour & information technology, Great Britain: Taylor & Francis, p. 720.

(<https://ezp.lib.unimelb.edu.au/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edsbl&AN=vdc.100034326477.0x000001&site=eds-live&scope=site>).

- Chang, S.-C., Chiang, C.-Y., Chu, C.-Y., and Wang, Y.-B. 2006. "The Study of Social Capital, Organizational Learning, Innovativeness, Intellectual Capital, and Performance," *The Journal of Human Resource and Adult Learning*.
- Chin, C. P.-Y., Evans, N., Liu, C.Z. and Choo, K.-K.R. 2019. "Understanding Factors Influencing Employees' Consumptive and Contributive Use of Enterprise Social Networks", *Information Systems Frontiers*, pp. 1-20.
- Chin, C. P.-Y., Evans, N., and Choo, K.-K. R. 2015. "Exploring Factors Influencing the Use of Enterprise Social Networks in Multinational Professional Service Firms," *Journal of Organizational Computing and Electronic Commerce* (25:3), pp. 289–315. (<https://doi.org/10.1080/10919392.2015.1058118>).
- Chin, C. P.-Y., Evans, N., Choo, R. K.-K., and Tan, F. B. 2015. *What Influences Employees to Use Enterprise Social Networks? A Socio-Technical Perspective* presented at the Pacific Asia Conference on Information Systems. (https://www.researchgate.net/profile/Christie_Pei_Yee_Chin/publication/283475551_What_Influences_Employees_to_Use_Enterprise_Social_Networks_A_Socio-Technical_Perspectives/links/56399bbb08aed5314d2224a4/What-Influences-Employees-to-Use-Enterprise-Social-Networks-A-Socio-Technical-Perspectives.pdf).
- Chiu, C.-M., Hsu, M.-H., and Wang, E. T. G. 2006. "Understanding Knowledge Sharing in Virtual Communities - An Integration of Social Capital and Social Cognitive Theories," *Decision Support Systems* (42:3), pp. 1872–1888. (<https://doi.org/10.1016/j.dss.2006.04.001>).
- Chow, W. S., and Chan, L. S. 2008. "Social Network, Social Trust and Shared Goals in Organizational Knowledge Sharing," *Information and Management* (45:7), pp. 458–465.
- Chui, M., Manyika, J., Bughin, J., Roxburgh, C., Sarrazin, H., Sands, G., and Westergren, M. 2012. "The Social Economy: Unlocking Value and Productivity through Social Technologies," No. 4, Mckinsey Global Institute, pp. 35–58.
- Cialdini, R. B., and Trost, M. R. 1998. "Social Influence: Social Norms, Conformity, and Compliance," in *The Handbook of Social Psychology*, New York: McGraw-Hill.
- Claridge, T. 2018. "What Is Bonding Social Capital?," *Social Capital Research*. (<https://www.socialcapitalresearch.com/what-is-bonding-social-capital/>).
- Cohen, W. M., and Levinthal, D. A. 1990. "Absorptive Capacity: A New Perspective on Learning and Innovation," *Administrative Science Quarterly* (35:1), pp. 128–152.
- Cole, M., and Avison, D. 2007. The potential of hermeneutics in information systems research. *European Journal of Information Systems*, (16:6), pp. 820
- Coleman, D. 2009. "Enterprise Social Collaboration Research Study," ELearning!, B2B Media Company LLC, Collaborative Technologies, Fin Node, June.

- Coleman, J. S. 1988. "Social Capital in the Creation of Human Capital," *The American Journal of Sociology* (94: Supplement), pp. 95–120.
- Coleman, J. S. 1990. *Foundations of Social Theory*, Cambridge, Mass: Belknap Press of Harvard University Press.
- Cook, N. 2008. "The Birth of Social Software," in *Enterprise 2.0: How Social Software Will Change the Future of Work*, Ashgate, pp. 17–31.
- Craik, K. 1943. *The Nature of Explanation*, Cambridge: Cambridge University Press.
- Daft, R. L., and Weick, K. E. 1984. "Toward a Model of Organizations as Interpretation Systems," *Academy of Management Review*, (9:2). (<https://journals.aom.org/doi/abs/10.5465/amr.1984.4277657>).
- Daft, R., and Lengel, R. 1984. "Information Richness: A New Approach to Managerial Behavior and Organization Design," *Research in Organizational Behavior* (6), pp. 191–233.
- Dakhli, M., and Clercq, D. D. 2003. "Human Capital, Social Capital and Innovation: A Multi-Country Study," *Entrepreneurship and Regional Development* (16:2), pp. 107–128.
- Dannals, J., and Miller, D. 2017. "Social Norm Perception in Groups with Outliers," *Journal of Experimental Psychology: General* (146). (<https://doi.org/10.1037/xge0000336>).
- Das, T. K., and Teng, B.-S. 1998. "Between Trust and Control: Developing Confidence in Partner Cooperation in Alliances," *Academy of Management Review* (23:3), pp. 491–512.
- Davenport, T. H. 1996. "Some Principles of Knowledge Management," *Strategy & Business* (1:2), pp. 34–40.
- Dávideková M, Greguš M. 2016. The Impact of Globalization on Team Composition: Virtual and Local Team. 16th International Scientific Conference Globalization and Its Socio-Economic Consequences (1), pp.354-361.
- Davies, D., and Dodd, J. 2002. "Qualitative Research and the Question of Rigor," *Qualitative Health Research* (12:2), pp. 279–289.
- Davis, F. D. 1989. "Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology," *MIS Quarterly*, pp. 319–340.
- Denning, P. J., and Yaholkovsky, P. 2008. "Getting to We," *Communications of the ACM* (51:4), pp. 19–24.
- Denyer, D., Parry, E., and Flowers, P. 2011. "'Social', 'Open' and 'Participative'? Exploring Personal Experiences and Organisational Effects of Enterprise2.0 Use," *Long Range Planning* (44:5–6), pp. 375–396.
- Deshpande, N., Vries, B. de, and Leeuwen, J. P. van. 2005. "Building and Supporting Shared Understanding in Collaborative Problem-Solving," in *Ninth International Conference*

- on *Information Visualisation (IV'05)*, July 6, pp. 737–742.
(<https://doi.org/10.1109/IV.2005.29>).
- Dijk, T. A. van. 2008. *Discourse and Context: A Sociocognitive Approach*, Cambridge: Cambridge University Press.
- DiMicco, J. M., Millen, D. R., Geyer, W., Dugan, C., Brownholtz, B., and Muller, M. 2008. “Motivations for Social Networking at Work,” in *Proceedings of the 2008 ACM Conference on Computer Supported Cooperative Work*, ACM, November, pp. 711–720.
- Dixon, N. 2012. “The Three Eras of Knowledge Management,” *Conversation Matters*, , August. (<http://www.nancydixonblog.com/2012/08/the-three-eras-of-knowledge-management.html>).
- Dourish, P., and Bly, S. 1992. “Portholes: Supporting Awareness in a Distributed Work Group,” in *CHI '92 Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, Monterey, California, USA, May, pp. 541–547.
(<https://dl.acm.org/citation.cfm?id=142982>).
- Drakos, N., Mann, J., and Gotta, M. 2014. “Magic Quadrant for Social Software in the Workplace,” No. G00262774, Gartner, Inc., September 3.
(<https://www.gartner.com/doc/2836617/magic-quadrant-social-software-workplace>).
- Drucker, P. F. 1988. “The Coming of the New Organization,” *Harvard Business Review*.
- Edmonds, W. A., and Kennedy, T. D. 2012. *An Applied Reference Guide to Research Designs: Quantitative, Qualitative, and Mixed Methods*, Thousand Oaks, CA: Sage Publications, Inc.
- Ellison, N. B., Gibbs, J. L., and Weber, M. S. 2014. “The Use of Enterprise Social Network Sites for Knowledge Sharing in Distributed Organizations: The Role of Organizational Affordances,” *American Behavioral Scientist*.
- Ellison, N. B., Steinfield, C., and Lampe, C. 2007. “The Benefits of Facebook ‘Friends’: Social Capital and College Students’ Use of Online Social Network Sites,” *Journal of Computer-Mediated Communication* (12:4), pp. 1143–1168.
- “Employee Engagement Soars as Shell Energizes Internal Communication with Office 365,” Customer Stories. 2018. Microsoft. (https://customers.microsoft.com/en-us/story/royal-dutch-shell-mining-oil-gas-office365?_lrsc=d2ad3686-aa94-45bf-b4ef-464cc00c4b40).
- “Enterprise Social Platforms Driving Productivity and Collaboration.” (n.d.). PWC.
(<http://www.digitalinnovation.pwc.com.au/social-is-driving-productivity/>).
- Fahey, L., and Prusak, L. 1998. “The Eleven Deadliest Sins of Knowledge Management,” *California Management Review* (40:3), pp. 265–276.
- Field, J. 2005. *Social Capital and Lifelong Learning*, (1st ed.), Bristol University Press, Policy Press.

- Filieri, R., McNally, R. C., O'Dwyer, M., and O'Malley, L. 2014. "Structural Social Capital Evolution and Knowledge Transfer: Evidence from an Irish Pharmaceutical Network," *Industrial Marketing Management*.
- Firestone, W. A. (1987). Meaning in Method: The Rhetoric of Quantitative and Qualitative Research. *Educational Researcher* (16:7), pp. 16-21.
- Fishbein, M., and Ajzen, I. 1975. *Belief, Attitude, Intention and Behavior: An Introduction to Theory and Research*.
- Fishbein, M., and Ajzen, I. 2005. "Theory-Based Behavior Change Interventions: Comment on Hobbis and Sutton," *Journal of Health Psychology* (10:1), pp. 27–31.
- Fukuyama, F. 1995. "Social Capital and the Global Economy," *Foreign Affairs*, pp. 89–103.
- Fulk, J., and Yuan, Y. C. 2013. "Location, Motivation, and Social Capitalization via Enterprise Social Networking," *Journal of Computer-Mediated Communication* (19:1), pp. 20–37.
- Gardner, B. 2013. "Making Sense of Enterprise 2.0," *The Journal of Information and Knowledge Management Systems* (43:2), pp. 149–160.
- Giermindl, L., Franz Strich, and Marina Fiedler. 2018. *Do Enterprise Social Networks Enhance Our Performance? Exploring the Relationship between Usage Practices and Individual Task Performance*, presented at the Thirty Ninth International Conference on Information Systems, San Francisco, USA.
- Giermindl, L., Strich, F., and Fiedler, M. 2017. "Why Do You Not Use the Enterprise Social Network? Analyzing Non-Users' Reasons through the Lens of Affordances," in *Proceedings of the 38th International Conference on Information Systems*, Seoul, South Korea.
- Giermindl, L., Strich, F., and Fiedler, M. 2018. "How Do They Differ? Analyzing the Motivations of Posters and Lurkers for Participation in Enterprise Social Networks," *Journal of Information Technology Theory and Application* (19:2), pp. 89–120.
- Gilsing, V., Nooteboom, B., Vanhaverbeke, W., Duysters, G., and Oord, A. van den. 2008. "Network Embeddedness and the Exploration of Novel Technologies: Technological Distance, Betweenness Centrality and Density," *Research Policy* (37), pp. 1717–1731.
- Goh, S. C. 2002. "Managing Effective Knowledge Transfer: An Integrative Framework and Some Practice Implications," *Journal of Knowledge Management* (6:1), p. 23.
- Golafshani, N. 2003. "Understanding Reliability and Validity in Qualitative Research," *The Qualitative Report* (8:4), pp. 597–607.
- Goldwasser, C., and Edwards, M. L. 2014. "Change 3.0: Using Social Media to Engage Your Workforce," *Performance* (6:1).
- Gordeyeva, I. 2010. *Enterprise 2.0: Theoretical Foundations of Social Media Tools Influence on Knowledge Sharing Practices in Organizations*, University of Twente, July.

- Granovetter, M. S. 1973. "The Strength of Weak Ties," *American Journal of Sociology* (78:6), pp. 1360–1380.
- Gray, P. H. 2001. "A Problem-Solving Perspective on Knowledge Management Practices," *Decision Support Systems* (31), pp. 87–102.
- Guilford, J. P., and Fruchter, B. 1978. *Fundamental statistics in Psychology and Education*, New York: McGraw-Hill.
- Hansen, M. T., Nohria, N., and Tierney, T. 1999. "What's Your Strategy for Managing Knowledge," *Harvard Business Review* (March-April).
- Hargittai, E. 2002. "Second-Level Digital Divide: Differences in People's Online Skills," *First Monday* (7:4).
- Hargittai, E., and Walejko, G. 2008. "The Participation Divide: Content Creation and Sharing in the Digital Age," *Information, Communication and Society* (11:2), pp. 239–256.
- Heider, F. 1958. *The Psychology of Interpersonal Relations*, New York: Wiley.
- Herzog, C., Richter, A., and Steinhüser, M. 2015. "Towards a Framework for the Evaluation Design of Enterprise Social Software," in *Thirty Sixth International Conference on Information Systems*, Fort Worth.
- Hinchcliffe, D. 2007. "The State of Enterprise 2.0," *ZDNet*, October 22. (<http://www.zdnet.com/blog/hinchcliffe/the-state-of-enterprise-2-0/143>).
- Hinchcliffe, D. 2012. "Baselining Social Business Maturity: Why and How," Dachis Group Company Website,, February 16. (<http://www.dachisgroup.com/2012/02/baselining-social-business-maturity-why-and-how/>).
- Hirschheim, R. 1992. "Information Systems Epistemology: An Historical Perspective," in *Information Systems Research: Issues, Methods and Practical Guidelines*, R. Galliers (ed.), Blackwell Scientific Publications, Oxford, pp. 28-60.
- Hosmer, L. T. 1995. "Trust: The Connecting Link between Organizational Theory and Philosophical Ethics," *Academy of Management Review* (20).
- Howarth, B. 2012. "Yammer Proves a Real Conversations Starter with Westfield Staff," *The Weekend Australian*. (<http://www.theaustralian.com.au/business/technology/yammer-proves-a-real-conversations-starter-with-westfield-staff/news-story/f7d184880776122cf35ca2c8e729f8af>).
- Huysman, M., and Wulf, V. 2005. "IT to Support Knowledge Sharing in Communities towards a Social Capital Analysis," *Journal of Information Technology* (21:1), pp. 40–51.
- IBM Smarter Planet. 2014. "Three Ways Social Networking Leads to Better Business," *Forbes: Leadership*. (<http://www.forbes.com/sites/ibm/2014/01/27/three-ways-social-networking-leads-to-better-business/>).

- Ikujiro Nonaka, Georg von Krogh, and Sven Voelpel. 2006. "Organizational Knowledge Creation Theory: Evolutionary Paths and Future Advances," *Organization Studies* (27:8), pp. 1179–1208.
- "Industry Research Reports." 2014. *IBIS World*. (<http://www.ibisworld.com.au/industry/home.aspx>).
- Inkpen, A. C., and Tsang, E. W. K. 2005. "Social Capital, Networks, and Knowledge Transfer," *Academy of Management Review* (30:1), pp. 146–165.
- Israel, S. 2012. *It's Official: Microsoft Buys Yammer for \$1.2 Billion Cash*. (<https://www.forbes.com/sites/shelIsrael/2012/06/25/its-official-microsoft-buys-yammer-for-1-2-billion-cash/#20d737ef4d91>).
- Janiszewski, C. 1998. "The Influence of Display Characteristics on Visual Exploratory Searching Behavior," *Journal of Consumer Research* (25), pp. 290–312.
- Jarrahi, M. H. 2018. "Social Media, Social Capital, and Knowledge Sharing in Enterprise," *IT Professional* (20:4), pp. 37–45. (<https://doi.org/10.1109/MITP.2017.265105759>).
- Johnson-Laird, P. N. 1983. *Mental Models: Towards a Cognitive Science of Language, Inference, and Consciousness*, Cambridge, MA: Harvard University Press.
- Jones, C., and Volpe, E. H. 2010. "Organizational Identification: Extending Our Understanding of Social Identities through Social Networks," *Journal of Organizational Behavior*.
- Jones, M. R., and Karsten, H. 2008. "Giddens's Structuration Theory and Information Systems Research," *MIS Quarterly* (32:1), pp. 127–157.
- Joyce, E., and Kraut, R. E. 2017. "Predicting Continued Participation in Newsgroups," *Journal of Computer-Mediated Communication* (11:3), pp. 723–747. (<https://doi.org/10.1111/j.1083-6101.2006.00033.x>).
- Kanaracus, C. 2009. "'Enterprise Facebook' Enjoys Major Adoption," *PC World*.
- Kane, G. C., Alavi, M., Labianca, G. (Joe), and Borgatti, S. P. 2012. "What's Different about Social Media Networks? A Framework and Research Agenda," *MIS Quarterly* (Forthcoming).
- Kaplan, B., and Maxwell, J. A. 2005. "Qualitative Research Methods for Evaluating Computer Information Systems," in *Evaluating Health Care Information Systems: Methods and Applications*, Sage, pp. 45–68.
- Karatepe, O. M. 2013. "High-Performance Work Practices, Work Social Support and Their Effects on Job Embeddedness and Turnover Intentions," *INTERNATIONAL JOURNAL OF CONTEMPORARY HOSPITALITY MANAGEMENT* (6), p. 903.
- Kim, D. 2004. "The Link between Individual and Organizational Learning," in *How Organizations Learn* (2nd ed.), London: Thomson Learning, pp. 29–50.

- Klamma, R., Chatti, M. A., Duval, E., Hummel, H., Hvannberg, E. T., Milos Kravcik, Effie Law, Ambjörn Naeve, and Peter Scott. 2007. "Social Software for Life-Long Learning," *Journal of Educational Technology & Society* (10:3), pp. 72–83.
- Klein, H., and Myers, M. 1999. "A Set of Principles for Conducting and Evaluating Interpretive Field Studies in Information Systems," *MIS Quarterly* (23:1), pp. 67–93.
- Ko, H. C., and Kuo, F. Y. 2009. "Can Blogging Enhance Subjective Well-Being through Self-Disclosure?," *Cyberpsychology and Behavior* (12:1), pp. 75–79.
- Koch, H., Gonzalez, E., and Leidner, D. 2012. "Bridging the Work/Social Divide: The Emotional Response to Organizational Social Networking Sites," *European Journal of Information Systems* (21:6), pp. 699–717. (<https://doi.org/10.1057/ejis.2012.18>).
- Kogut, B., and Zander, U. 1992. "Knowledge of the Firm, Combinative Capabilities, and the Replication of Technology," *Organization Science* (3:3), pp. 383–397.
- Laužikas, M., and Dailydaitė, S. 2013. "Benefits of Social Capital for Sustainable Innovation Capabilities," *Journal of Security and Sustainability Issues* (2:3), pp. 85–97.
- Leana, C. R., and van Buren III, H. J. 1999. "Organizational Social Capital and Employment Practices," *The Academy of Management Review* (24:3), pp. 538–555.
- Lee, A. S., and Hubona, G. S. 2009. "A Scientific Basis for Rigor in Information Systems Research," *MIS* (33:2).
- Lee, P. C. B. 2004. "Social Support and Leaving Intention among Computer Professionals," *Information and Management* (41), pp. 323–334.
- Lee, R. M., and Robbins, S. B. 1995. "Measuring Belongingness: The Social Connectedness and the Social Assurance Scales," *Journal of Counseling Psychology* (42:2), pp. 232–241.
- Leidner, D., Koch, H., and Gonzalez, E. 2010. "Assimilating Generation Y IT New Hires into USAA's Workforce: The Role of an Enterprise 2.0 System," *MIS Quarterly Executive* (9:4), pp. 229–242.
- Leonardi, P. M., Huysman, M., and Steinfield, C. 2013. "Enterprise Social Media: Definition, History, and Prospects for the Study of Social Technologies in Organizations," *Journal of Computer-Mediated Communication* (19), pp. 1–19.
- Leonardi, P. M., Huysman, M., and Steinfield, C. 2015. "Ambient Awareness and Knowledge Acquisition: Using Social Media to Learn 'Who Knows What' and 'who Knows Whom,'" *MIS Quarterly* (39:4), pp. 747–762.
- Levy, M. 2009. "WEB 2.0 Implications on Knowledge Management," *Journal of Knowledge Management* (13:1), pp. 120–134. (<https://doi.org/10.1108/13673270910931215>).
- Lewicki, R. J., and Bunker, B. B. 1995. "Developing and Maintaining Trust in Work Relationships.," in *Trust in Organizations: Frontiers of Theory and Research*, Thousand Oaks, CA: Sage, pp. 114–139.

- Li, C., Webber, A., and Cifuentes, J. 2012. "Making the Business Case for Enterprise Social Networks," Altimeter Group, February 22.
- Li, H., He, X., Huang, L., and Xu, Y. 2019. "Driving the Use of Enterprise Social Media at Work: A Framework for Employees' Adoption," in *Proceedings of the 52nd Hawaii International Conference on System Sciences*, pp. 187–196. (<https://scholarspace.manoa.hawaii.edu/handle/10125/59459>).
- Liang, T.-P., Liu, C.-C., and Wu, C.-H. 2008. "Can Social Exchange Theory Explain Individual Knowledge Sharing Behavior? A Meta-Analysis," in *International Conference on Information Systems*, Paris: AIS Electronic Library.
- Lin, N. 1999. "Building a Network Theory of Social Capital," *Connections* (22:1), pp. 28–51.
- Lin, N., Fu, Y., and Hsung, R.-M. 2001. "Measurement Techniques for Investigations of Social Capital," in *Social Capital: Theory and Research*, Transaction Publishers.
- Lincoln, Y. S., and Guba, E. G. 1985. *Naturalistic Inquiry*, Newbury Park: Sage Publications, Inc.
- Løwendahl, B. R., Revang, Ø., and Fosstenløkken, S. M. 2001. "Knowledge and Value Creation in Professional Service Firms: A Framework for Analysis," *Human Relations* (54:7), pp. 911–931.
- Maister, D. 1993. *Managing the Professional Firm*, New York: Free.
- Majchrzak, A., Faraj, S., Kane, G. C., and Azad, B. 2013. "The Contradictory Influence of Social Media Affordances on Online Communal Knowledge Sharing," *Journal of Computer-Mediated Communication* (19:1), pp. 38–55.
- Majumdar, A., Krishna, S., and Bjorn, P. 2013. "Managers' Perceptions of Social Software Use in the Workplace: Identifying the Benefits of Social Software and Emerging Patterns of Its Use," in *Proceedings of the Nineteenth Americas Conference on Information Systems*, Chicago, Illinois, August. (<https://pdfs.semanticscholar.org/25f3/2d592cc4b973a54abff90742f9f3e395cd65.pdf>)
- Makkonen, H., and Virtanen, K. 2015. "Social Capital Approach on Enterprise 2.0: A Multiple Case Study," *Technology Analysis & Strategic Management* (27:10), pp. 1212–1225. (<https://doi.org/10.1080/09537325.2015.1061120>).
- Mäntymäki, M., and Riemer, K. 2014. "Information, Ideas and Input: The Value of Enterprise Social Networks," in *Proceedings of the 25th Australasian Conference on Information Systems*, Auckland, New Zealand.
- Mäntymäki, M., and Riemer, K. 2016. "Enterprise Social Networking: A Knowledge Management Perspective," *International Journal of Information Management* (36:6), pp. 1042–1052.
- Markus, M. L., and Robey, D. 1998. "Business Process Reengineering and the Role of the Information Systems Professional," in *Business Process Change: Concepts, Methods, and Technologies*, USA: Idea Group, pp. 591–611.

- Martin, A., and Bavel, R. van. 2013. "Assessing the Benefits of Social Networks for Organizations," Technical Report, Technical Report, Spain: Joint Research Centre of the European Commission.
- Maxwell, J. A. 1992. "Understanding and Validity in Qualitative Research," *Harvard Educational Review* (62:3), pp. 279–300.
- McAfee, A. P. 2009. *Enterprise 2.0: New Collaborative Tools for Your Organization's Toughest Challenges*, Harvard Business School Press.
- McAfee, A. P. 2009. "Shattering the Myths About Enterprise 2.0," *Harvard Business Review* (87:11), pp. 1–6.
- McCracken, G. 1988. *The Long Interview*, Qualitative Research Method, Sage Publications, Inc.
- McFadyen, M. A., and Cannella, A. A. 2004. "Social Capital and Knowledge Creation: Diminishing Returns of the Number and Strength of Exchange Relationships," *Academy of Management Journal* (47:2), pp. 735–746.
- McGrath, R., and Sparks, W. 2006. "Knowledge, Social Capital, and Organizational Learning," *The International Journal of the Management* (5:9). (<http://drwillsparks.com/wp-content/uploads/2011/03/Social-Capital-and-Innovation-McGrath-Sparks.pdf>).
- McMillan, D. W., and Chavis, D. M. 1986. "Sense of Community: A Definition and Theory," *Journal of Community Psychology* (14:1), pp. 6–23.
- Meyer, M. 2010. "The Rise of the Knowledge Broker," *Science Communication* (32:1), pp. 118–127.
- Miles, D. 2009. "Collaboration and Enterprise 2.0," Maryland, USA: AIIM.
- Miles, M. B., and Huberman, A. M. 1994. "Within-Case Displays: Exploring and Describing," in *Qualitative Data Analysis*, Sage.
- "Millenials: Confident, Connected, Open to Change." 2010. Pew Research Center, February.
- Moore, K., and Neely, P. 2011. "From Social Networks to Collaboration Networks: The next Evolution of Social Media for Business," *Forbes: Leadership*.
- Moore, M., and Tall, K. 2014. "Enterprise Social Networks: Case Studies," *Thomson Reuters* (28:262), OLC.
- Moqbel, M., Bartelt, V. L., Topuz, K., and Gehrt, K. L. 2020. Enterprise Social Media: Combating Turnover in Businesses. *Internet Research*, (30:2), pp. 591–610
- Murphy, G. D., and Salomone, S. 2010. "Using Enterprise 2.0 Tools to Facilitate Knowledge Transfer in Complex Engineering Environments," No. 38344.
- Myers, M. D. 1997. "Qualitative Research in Information Systems," *MIS Quarterly* (21:2), pp. 241–242.

- Nahapiet, J., and Ghoshal, S. 1998. "Social Capital, Intellectual Capital and the Organizational Advantage," *Academy of Management Review* (23:2), pp. 242–266.
- Nazir, A., Raza, S., and Chuah, C.-N. 2008. "Unveiling Facebook: A Measurement Study of Social Network Based Applications," in *Proceedings of the 8th ACM SIGCOMM Conference on Internet Measurement*, ACM, pp. 43–56.
- Nonaka, I. 1994. "A Dynamic Theory of Organizational Knowledge Creation," *Organization Science* (5:1), pp. 14–37.
- Oracle Social Network Data Sheet. 2013. Oracle.
- Orlikowski, W. J., and Baroudi, J. J. 1991. "Studying Information Technology in Organizations: Research Approaches and Assumptions," *Information Systems Research* (2:1).
- Orlikowski, W. J., and Gash, D. C. 1994. "Technological Frames: Making Sense of Information Technology in Organizations," *ACM Transactions on Information Systems* (2:2), pp. 174–207.
- Pandey, A., and Gupta, R. K. 2008. "A Perspective of Collective Consciousness of Business Organizations," *Journal of Business Ethics* (80), pp. 889–898.
- Parise, S., Guñan, P. J., Crosina, E., and Smith, W. 2012. "Booz Allen Hamilton: Social and Beyond," *Journal of Information Technology Case & Application Research* (14:1), pp. 55–76.
- Paroutis, S., and Saleh, A. A. 2009. "Determinants of Knowledge Sharing Using Web 2.0 Technologies," *Journal of Knowledge Management* (13:4), pp. 52–63.
- Patton, M. Q. 2002. *Qualitative Evaluation and Research Method*, (3rd ed.), Thousand Oaks, CA: Sage Publications, Inc.
- Pelaprat, E., and Brown, B. 2012. "Reciprocity: Understanding Online Social Relations," *First Monday* (17:10).
- Portes, A. 1998. "Social Capital: Its Origins and Applications in Modern Sociology," *Annual Reviews Sociol* (24), pp. 1–24.
- Powell, J., and Owen, T. 2006. "'Trust', Professional Power and Social Theory: Lessons from a Post-Foucauldian Framework," *International Journal of Sociology and Social Policy* (26:3/4), pp. 1110–120.
- Preece, J., and Shneiderman, B. 2009. "The Reader-to-Leader Framework: Motivating Technology-Mediated Social Participation," *AIS Transactions on Human-Computer Interaction* (1:1), pp. 13–32.
- Putnam, R. D. 1993. "The Prosperous Community," *The American Prospect* (4:13).
- Qi, C., and Chau, P. Y. K. 2016. "An Emprical Study of the Effect of Enterprise Social Media Usage on Organizational Learning," in *PACIS 2016 Proceedings*.

- Qi, X. 2013. "Guanxi, Social Capital Theory and beyond: Toward a Globalized Social Science," *British Journal of Sociology* (64:2), pp. 707–723.
- Razmerita, L., Kirchner, K., and Nielsen, P. 2016. "What Factors Influence Knowledge Sharing in Organizations? A Social Dilemma Perspective of Social Media Communication," *Journal of Knowledge Management* (20:6), pp. 1225–1246.
- Rettie, R. 2008. *Connectedness, Awareness and Social Presence*.
- Rice, P. L., and Ezzy, D. 1999. *Qualitative Research Methods: A Health Focus*, Melbourne: Oxford University Press.
- Richter, A., and Hafermalz, E. 2018. *Supporting Adoption Facilitators Backstage with an Inter-Organizational Enterprise Social Network*, presented at the International Conference on Information Systems 2018, ICIS 2018, United States: Association for Information Systems, December.
- Richter, A., and Koch, M. 2008. "Functions of Social Networking Services," in *International Conference on the Design of Cooperative Systems*, Carry-le-Rouet, France: Springer.
- Richter, A., and Riemer, K. 2009. *Corporate Social Networking Sites - Modes of Use and Appropriation through Co-Evolution*, presented at the 20th Australasian Conference on Information Systems, Melbourne, December 2.
- Richter, A., and Riemer, K. 2013. "The Contextual Nature of Enterprise Social Networking: A Multi Case Study Comparison," in *Proceedings of the 21st European Conference on Information Systems*, Association for Information Systems, p. 94.
- Ridings, C., Gefen, D., and Arinze, B. 2006. "Psychological Barriers: Lurker and Poster Motivation and Behavior in Online Communities," *Communications of the Association for Information Systems* (18), pp. 329–354.
- Riemer, K., Overfeld, P., Scifleet, P., and Richter, A. 2012. "Oh, SNEP! The Dynamics of Social Network Emergence - the Case of Capgemini Yammer," No. WP2012, The University of Sydney. (<https://ses.library.usyd.edu.au/handle/2123/8049>).
- Riemer, K., and Richter, A. 2012. *SOCIAL-Emergent Enterprise Social Networking Use Cases: A Multi Case Study Comparison*, Working Paper, University of Sydney. (<http://ses.library.usyd.edu.au/bitstream/2123/8845/4/BIS%20WP2012%20-%2003%20-%20RIEMER-FINAL.pdf>).
- Riemer, K., and Scifleet, P. 2012. *Enterprise Social Networking in Knowledge-Intensive Work Practices: A Case Study in a Professional Service Firm*, presented at the 23rd Australasian Conference on Information Systems, Geelong, Australia.
- Rimal, R. N., and Real, K. 2005. "How Behaviors Are Influenced by Perceived Norms: A Test of the Theory of Normative Social Behavior," *Communication Research* (32:3), pp. 389–414. (<https://doi.org/10.1177/0093650205275385>).
- Rogers, E. 2003. *Diffusion of Innovations*, (5th ed.), New York: Free Press.

- Rook, K. S. 1987. "Reciprocity of Social Exchange and Social Satisfaction among Older Women," *Journal of Personality & Social Psychology* (52:1), pp. 145–154.
- Rose, R. 2000. "How Much Does Social Capital Add to Individual Health? A Survey Study of Russians," *Social Science and Medicine* (51:9), pp. 1421–1435.
- Rousseau, D. M., Sitkin, S. B., Burt, R. S., and Camerer, C. 1998. "Not so Different after All: A Cross-Discipline View of Trust," *Academy of Management Review* (23:3), pp. 393–404.
- Salancik, G. R., and Pfeffer, J. 1978. "A Social Information Processing Approach to Job Attitudes and Task Design," *Administrative Science Quarterly* (23:2), pp. 224–253.
- "Salesforce.Com Growing Fast, Spending Faster." 2011. *Information Age*. (<http://www.information-age.com/technology/cloud-and-virtualisation/1649248/salesforcecom-growing-fast-spending-faster>).
- Sambamurthy, V., and Zmud, R. W. 2000. "Research Commentary: The Organizing Logic for an Enterprise's IT Activities in the Digital Era - A Prognosis of Practice and a Call for Research," *Information Systems Research* (11:2), pp. 105–114.
- Schino, G., and Aureli, F. 2010. "Relative Roles of Kinship and Reciprocity in Explaining Primate Altruism," *Ecology Letters* (13:1), pp. 45–50. (<https://doi.org/10.1111/j.1461-0248.2009.01396.x>).
- Schonfeld, E. 2012. "Yammer Time: In 2011 'Pretty Much Everything Tripled,'" *TechCrunch*. (<https://techcrunch.com/2012/02/02/yammer-time-2011everything-tripled>).
- Schwandt, T.A. 1997. *Qualitative Inquiry: A Dictionary of Terms*. Sage Publications
- Seddon, P.B. and Scheepers, R. 2006, Other-settings generalization in IS research, in IT for Under-Served Communities; *ICIS 27th International Conference on Information Systems, Association for Information Systems, Milwaukee, Wis.*, pp. 1141-1158.
- Senge, P. 2000. *The Art and Practice of the Learning Organization*, New York: Doubleday.
- Senge, P. M. 1997. "The Fifth Discipline," *Measuring Business Excellence* (1:3), pp. 46–51.
- Shadish, W. H., Cook, T. D., and Campbell, D. T. 2002. *Experimental and Quasi-Experimental Designs for Generalized Causal Inference*, Boston: Houghton-Mifflin.
- Shah, N. P., Levin, D. Z., and Cross, R. 2018. "Secondhand Social Capital: Boundary Spanning, Secondhand Closure, and Individual Performance," *Social Networks*, (52), pp. 18-27.
- Shen, K. N., Yu, A. Y., and Khalifa, K. 2010. "Knowledge Contribution in Virtual Communities: Accounting for Multiple Dimensions of Social Presence through Social Identity," *Behaviour and Information Technology* (29:4), pp. 337–348.
- Sheppard, B. H., and Sherman, D. M. 1998. "The Grammars of Trust: A Model and General Implications," *Academy of Management Review* (23:3).

- Shiel, A., Violanti, M. T., and Slusarski, K. 2011. "Explaining Attitudes toward and Experiences with Social Media among Public Information Officers through Adaptive Structuration Theory," *Communications of the IIMA* (11:4).
- Shockley-Zalabak, P., Ellis, K., and Winograd, G. 2000. "Organizational Trust: What It Means, Why It Matters," *Organization Development Journal* (18:4), pp. 35–48.
- Short, J., Williams, E., and Christie, B. 1976. *The Social Psychology of Telecommunications*, John Wiley and Sons, Inc.
- Short, P. 1996. "Kinship, Reciprocity, and Vulnerability: Social Relations in the Informal Economy," *Australian Journal of Social Issues (Australian Council of Social Service)* (31:2), pp. 127–145.
- Skeels, M. M., and Grudin, J. 2009. "When Social Networks Cross Boundaries: A Case Study of Workplace Use of Facebook and LinkedIn," in *Proceedings of the ACM 2009 International Conference on Supporting Group Work*, ACM, pp. 95–104.
- Smith, M. L. 2006. "Social Capital and Intentional Change," *Journal of Management Development* (25:7), (R. Boyatzis, ed.), pp. 718–731. (<https://doi.org/10.1108/02621710610678517>).
- Soriano, J., Lizcano, D., Reyes, M., Alonso, F., and Lopez, G. 2008. *Enterprise 2.0: Collaboration and Knowledge Emergence as a Business Web Strategy Enabler*, pp. 1661–1695.
- Stamford, C. 2013. "Gartner Says 80% of Social Business Efforts Will Not Achieve Intended Benefits through 2015," *Gartner, Inc.* (www.gartner.com/newsroom/id/2319215).
- Stamper, R., Liu, K., Hafkamp, M., and Ades, Y. 2000. "Understanding the Roles of Signs and Norms in Organisations," *Journal of Behaviour and Information Technology* (19:1), pp. 15–27.
- Steinfeld, C., DiMicco, J. M., Ellison, N. B., and Lampe, C. 2009. "Bowling Online: Social Networking and Social Capital within the Organization," in *Proceedings of the Fourth International Conference on Communities and Technologies*, ACM, June, pp. 245–254.
- Steinhüser, M., Smolnik, S., and Hoppe, U. 2011. "Towards a Measurement Model of Corporate Social Software Success - Evidences from an Exploratory Multiple Case Study," in *System Sciences (HICSS)*, pp. 1–10.
- Stets, J. E., and Burke, P. J. 2000. "Identity Theory and Social Identity Theory," *Social Psychology Quarterly* (63:3), pp. 224–237.
- Sturdevant, C. 2011. "Socialing in the Enterprise," *EWeek, Tech In-Depth*, pp. 22–24.
- Subramani, M. R., and Rajagopalan, B. 2003. "Knowledge Sharing and Influence in Online Social Networks via Viral Marketing," *Communications of the ACM* (46:12), pp. 300–307. (<https://doi.org/10.1145/953460.953514>).

- Sun, Y., Zhou, X., Jeyaraj, A., Shang, R.A. and Hu, F. 2019. "The Impact of Enterprise Social Media Platforms on Knowledge Sharing," *Journal of Enterprise Information Management* (32:2), pp. 233–50
- Tang, J., and Liu, H. 2015. "Trust in Social Media," *Synthesis Lectures on Information Security, Privacy, and Trust*.
- Täube, V. 2004. "Measuring the Social Capital of Brokerage Roles," *Connections* (26), pp. 29–52.
- Templier, M., and Paré, G. 2015. "A Framework for Guiding and Evaluating Literature Reviews," *Communications of the Association for Information Systems* (37:6), pp. 112–137.
- "The Super Power of Communities at Work." 2019. Yammer Team Microsoft. (<https://techcommunity.microsoft.com/t5/Yammer-Blog/The-super-power-of-communities-at-work/ba-p/330313>).
- Thomas, J., and McDonagh, D. 2013. "Shared Language: Towards More Effective Communication," *Australasian Medical Journal* (6:1), pp. 46–54.
- Thompson, D. V., Hamilton, R. W., and Rust, R. T. 2005. "Feature Fatigue: When Product Capabilities Become Too Much of a Good Thing," *Journal of Marketing Research* (42:4), pp. 431–442.
- Toms, E. G. 1998. *Information Exploration of the Third Kind: The Concept of Chance Encounters*, presented at the CHI 98 Workshop on Innovation and Evaluation in Information Exploration Interfaces.
- "Top Banks in the World 2015." 2015. *Banks around the World*. (<http://www.relbanks.com/worlds-top-banks/assets>).
- Treem, J. W., and Leonardi, P. M. 2012. "Social Media Use in Organizations: Exploring the Affordances of Visibility, Editability, Persistence, and Association," *Communication Yearbook* (36), pp. 143–189.
- Tsai, W., and Ghosal, S. 1998. "Social Capital and Value Creation: The Role of Intrafirm Networks," *Academy of Management Journal* (41:4), pp. 464–476. (<https://doi.org/10.2307/257085>).
- Turban, E., Bolloju, N., and Liang, T.-P. 2011. "Enterprise Social Networking: Opportunities, Adoption, and Risk Mitigation," *Journal of Organizational Computing and Electronic Commerce* (21), pp. 202–220.
- Turner, J. W., Grube, J. A., and Meyers, J. 2006. "Developing an Optimal Match within Online Communities: An Exploration of CMC Support Communities and Traditional Support," *Journal of Communication* (51:2), pp. 231–251. (<https://doi.org/10.1111/j.1460-2466.2001.tb02879.x>).
- "Understanding the ROI of Enterprise Social Networks." 2011. blueKiwi Research. (<https://www.managementbase.com/mb/atos/UnderstandingTheROIofSocialNetworks.pdf>).

- “University A Premium Company Report Australia.” 2017. *IBISWorld*.
- “University B Profile Company Report Australia.” 2017. *IBISWorld*.
- Upadhyayula, R. S. 2004. *Social Capital as Antecedent of Absorptive Capacity of Firms*, presented at the DRUID Summer Conference, Elsinore, Denmark, June 14.
- Uphoff, N. 2000. “Social Capital: A Multifaceted Perspective,” in *Understanding Social Capital: Learning the Analysis and Experience of Participation*, Cornell University: World Bank Publications, pp. 215–249.
- “Using Enterprise Social for Better Teamwork and Operations,” Success Story Retail. (n.d.). Microsoft. (<https://yammerassets.blob.core.windows.net/assets/Yammer-Case-Study-Westfield.pdf>).
- “Using Smart Analytics to Drive Greater Value from Enterprise Social.” 2013. Engage Group Limited, February.
- Valenzuela, S., Park, N., and Kee, K. F. 2009. “Is There Social Capital in a Social Network Site?: Facebook Use and College Students’ Life Satisfaction, Trust, and Participation,” *Journal of Computer-Mediated Communication* (14:4), pp. 875–901.
- Van der Gaag, M., and Snijders, T. 2003. “An Approach to the Measurement of Individual Social Capital,” in *H. Flap & B. Vo`lker (eds.), Creation and returns of social capital*. London: Routledge.
- Vandaie, R. 2007. “Developing a Framework to Describe the Interaction of Social and Intellectual Capital in Organizations,” *Journal of Knowledge Management Practice* (8:1).
- Venkatesh, V., Brown, S. A., and Bala, H. 2013. “Bridging the Qualitative-Quantitative Divide: Guidelines for Conducting Mixed Methods Research in Information Systems,” *MIS Quarterly* (37:1), pp. 21–54.
- Venkatesh, V., Morris, M. G., Davis, G. B., and Davis, F. D. 2003. “User Acceptance of Information Technology: Toward a Unified View,” *MIS Quarterly* (27:3), pp. 425–478. (<https://doi.org/10.2307/30036540>).
- Vincenzo, F. D., and Mascia, D. 2012. “Social Capital in Project-Based Organizations: Its Role, Structure, and Impact on Project Performance,” *International Journal of Project Management* (30), pp. 5–14.
- Walsham, G. 1993. *Interpreting Information Systems in Organizations*, Wiley, Chichester.
- Walster, E., Walster, G. W., and Berscheid, E. 1978. *Equity: Theory and Research*, Boston: Allyn & Bacon.
- Wang, Y., Zhang, D., and Huang, L. 2018. “The Analyzing on the Connotation, Properties and Research Trend of Enterprise Social Media,” in *WHICEB 2018 Proceedings*, pp. 432–439. (<https://aisel.aisnet.org/cgi/viewcontent.cgi?article=1050&context=whiceb2018>).

- Wash, R. 2012. "Microsoft to Acquire Yammer," *Microsoft to Acquire Yammer*, , June 25. (<http://news.microsoft.com/2012/06/25/microsoft-to-acquire-yammer/>).
- Wasko, M. M., and Faraj, S. 2005. "Why Should I Share? Examining Social Capital and Knowledge Contribution in Electronic Networks of Practice," *MIS Quarterly* (29:1), pp. 35–57.
- Wasserman, S., and Galaskiewicz, J. 1994. *Advances in Social Network Analysis: Research in the Social and Behavioral Sciences*, Sage.
- Weber, L. 2011. *Everywhere: Comprehensive Digital Business Strategy for the Social Media Era*, John Wiley and Sons, Inc.
- Weber, R. 2004. Editor's Comments: The Rhetoric of Positivism versus Interpretivism: A Personal View. *MIS Quarterly*, 28(1)
- Wegner, D. M. 1987. "Transactive Memory: A Contemporary Analysis of the Group Mind," in *Theories of Group Behavior*, New York: Springer, pp. 185–208.
- Wegner, D. M., and Giuliano, T. 1982. "The Forms of Social Awareness," in *Personality, Roles, and Social Behavior*, Springer Series in Social Psychology, New York, NY: Springer.
- Wehner, B. 2018. *Success Measurement of Social Capital in Enterprise Social Networks*, presented at the Twenty-Sixth European Conference on Information Systems (ECIS2018), Portsmouth, UK. (<http://ecis2018.eu/wp-content/uploads/2018/09/1343-doc.pdf>).
- Wellman, B., Salaff, J., Garton, L., Gulia, M., and Haythornthwaite, C. 1996. "Computer Networks as Social Networks: Collaborative Work, Telework, and Virtual Community," *Annual Review of Sociology* (22), pp. 213–238.
- Wenger, E., McDermott, R. A., and Snyder, W. M. 2002. *Cultivating Communities of Practice: A Guide to Managing Knowledge*, Harvard Business Press.
- Whatley, M. A., Webster, J. M., Smith, R. H., and Rhodes, A. 1999. "The Effect of a Favor on Public and Private Compliance: How Internalized Is the Norm of Reciprocity?," *Basic and Applied Social Psychology* (21:3), pp. 251–259.
- Williams, M., and Moser, T. 2019. "The Art of Coding and Thematic Exploration in Qualitative Research," *International Management Review* (15:1), pp. 45–55.
- Wong, D. M. L. 2010. "Knowledge Management Catalyst for Sustainable Development," in *International Symposium on Information Technology* (Vol. 3), Kuala Lumpur, Malaysia: IEEE, pp. 1444–1449.
- Woolcock, M., and Narayan, D. 2000. "Social Capital: Implications for Development Theory, Research, and Policy," *The World Bank Research Observer* (15:2), pp. 225–249.
- "Yammer." (n.d.). *Yammer Lookbook* (<https://onedrive.live.com/?authkey=%21AD72KVp3j7m1Dcw&cid=8D13E85F1CF91770&id=8D13E85F1CF91770%21273&parId=root&o=OneUp>).

- Yang, S., Lee, H., and Kurnia, S. 2009. "Social Capital in Information and Communications Technology Research: Past, Present, and Future," *Communications of the Association for Information Systems* (25:1), pp. 183–220.
- Yin, R. K. 2013. *Case Study Research: Design and Methods (Applied Social Research Methods)*, (5th ed.), Sage Publications, Inc.
- Yin, R.K. 2013. Validity and generalization in future case study evaluations. *EVALUATION -LONDON-*, 3, p. 321.
- Yingjie, L., Deng, S., and Pan, T. 2019. "Does Usage of Enterprise Social Media Affect Employee Turnover? Empirical Evidence from Chinese Companies," *Internet Research*. (<https://doi.org/10.1108/INTR-03-2018-0140>).
- Yu, A. Y., Hao, J.-X., Dong, X.-Y., and Khalifa, M. 2010. *Revisiting the Effect of Social Capital on Knowledge Sharing in Work Teams: A Multilevel Approach*, presented at the Thirty First International Conference on Information Systems, St. Louis: AIS Electronic Library.
- Zhou, L., Wu, W., and Luo, X. 2007. "Internationalization and the Performance of Born-Global SMEs: The Mediating Role of Social Networks," *Journal of International Business Studies* (38).
- Zhu, X., and Lee, K. S. 2017. "Global Virtual Team Performance, Shared Leadership, and Trust: Proposing a Conceptual Framework," *The Business and Management Review* (8:4), pp. 31–38.
- Zyl, A. S. van. 2009. "The Impact of Social Networking 2.0 on Organisations," *The Electronic Library* (27:6), pp. 906–918.

Appendix A: Plain Language Statement

PLAIN LANGUAGE STATEMENT Face-to-Face Interview Session

PROJECT TITLE: Exploring the Use and Impact of Enterprise 2.0 on Social Capital within the Organisation
RESEARCHER: Diana Wong
SUPERVISORS: Dr. Rachelle Bosua (Principal), Dr. Shanton Chang, and Dr. Sherah Kurnia
INSTITUTION: Computing and Information Systems, The University of Melbourne

You are invited to participate in this PhD research project, which is being conducted by the above researcher. The Human Research Ethics Committee (HREC: 1442146.1) at the University of Melbourne has approved the research project. The purpose of this research is to study individual use of Enterprise 2.0 and the impact it has on the relationships between individuals in an organisation. The researcher seeks individuals with experience using Enterprise 2.0 and who uses it regularly (2-3 times a week). Your organisation has agreed to participate in this research and provided a list of employees to be contacted for this research.

Participation in this research project is voluntary. You do not have to take part in this project if you do not want to. You can change your mind and withdraw from the study at any time without giving a reason. All information collected will also be deleted upon withdrawal from participation. Your decision will not affect your position in your organisation, and your job will not be altered by choosing not to participate.

Participation in this research will involve an individual face-to-face interview session. During the individual face-to-face interview session, the researcher will ask questions to explore your experience, feelings and perceptions associated with using Enterprise 2.0. The interview session is estimated to last approximately 45 minutes. You will be interviewed at a location that suits you the best. Responses will be audio/video recorded with your permission, to ascertain an accurate account of the interview.

By participating in this research, you will have the option to request a full report of the research, gaining access to the implications of the use of Enterprise 2.0. It is hoped that through this study, organisations that are hesitant to the adoption of Enterprise 2.0 will be able to see the strategic use of Enterprise 2.0 to enhance business competency. Similarly, the participating organisations may request a copy of the report on the findings.

We intend to protect your anonymity and the confidentiality of your responses to the fullest extent possible within the limits of law. We will not be referring to your name or your organisation's name in any reports or publications that we write about this research project. Pseudonyms will be used if we need to refer to you or your organisation.

The researcher and supervisors listed above will have access to any data that we have collected. Data will be kept securely in the Department of Computing and Information Systems as long as they are of continuing value to the researcher. Thereafter, the data will be destroyed.

If you would like any further information concerning this research project or if you have any problems which may be related to your involvement in the research project, you can contact the research supervisor Dr. Rachelle Bosua at +613 8344 1398 or email: rachelle.bosua@unimelb.edu.au

If you have any concerns about the conduct of this research project and wish to speak to someone independent of the investigators, you can contact the Executive Officer, Human Research Ethics, The University of Melbourne, by phone: 8344 2073 or fax: 9347 6739. You will need to tell the Executive Officer the name of one of the researchers given in the introductory information section above.

Department of Computing and Information Systems
The University of Melbourne, Victoria 3010 Australia
T: +61 3 8344 1500 F: +61 3 9349 4596
W: <http://www.cis.unimelb.edu.au/>



Appendix B: Interview Consent Form

CONSENT FORM Face-to-Face Interview Session

PROJECT TITLE: Exploring the Use and Impact of Enterprise 2.0 on Social Capital within the Organisation
RESEARCHER: Diana Wong
SUPERVISORS: Dr. Rachelle Bosua (Principal), Dr. Shanton Chang, and Dr. Sherah Kurnia
INSTITUTION: Computing and Information Systems, The University of Melbourne

You are invited to participate in this PhD research project, which is being conducted by the above researcher. The purpose of this research project is to study individual use of Enterprise 2.0 and the impact it has on the relationships between individuals in an organisation. Please read the information below, and ask questions about anything you do not understand, before deciding whether or not to participate.

1. I hereby understand that I am being asked to participate in a face-to-face interview session for the purpose of the research project stated above.
2. I understand that my participation in this research project is completely voluntary and that I am free to decline to participate without consequence, at any time prior to or at any point during the face-to-face interview session. All information collected will be deleted upon withdrawal from participation.
3. I have been given information about this project and the types of questions I am expected to answer. I understand that the interview will take approximately 45 minutes.
4. I understand that if I feel uncomfortable in any way during the face-to-face interview session, I have the right to decline to answer any question or to end the face-to-face interview session.
5. I understand that with my permission, the face-to-face interview session may be audio and/or video recorded and that any information I have provided will be kept confidential. All face-to-face interview session notes, tapes, or electronic records will be kept in a secured environment as long as they are of continuing value to the researcher. Thereafter, the data will be destroyed.
6. I understand that the information gathered from the face-to-face interview session will be kept completely anonymous, and that the results of this research project may be published in an academic journal or book.
7. I understand that I will be provided with a full report of the research project, including details of how, when and to whom the research project will be published, prior to publication. Where I reasonably believe that the publication contains any confidential information I may request that the publication be amended to remove such confidential information and the researcher will comply with this request.
8. I have been informed that the research project has received clearance by the HREC (HREC#: 1442146.1).
9. I understand that if I have any concerns about the conduct of this research project, I can contact the principal research supervisor at phone: +613 8344 1398, or the Executive Officer, Human Research Ethics, The University of Melbourne, by phone: 8344 2073 or fax: 9347 6739.

I have read and understand the information above. By signing below and returning this form, I am consenting to participate in this project via face-to-face interview session, as designed by the researcher above.

Participant's Name: _____

Signature: _____

Date: _____

(You will be given a copy of this consent form to keep for your own record.)

I have explained the project and the implications of being interviewed to the participant and I believe that the consent is informed and that he/she understands the implications of participation.

Interviewer's Name (Researcher): _____

Signature: _____

Date: _____

Department of Computing and Information Systems
The University of Melbourne, Victoria 3010 Australia
T: +61 3 8344 1500 F: +61 3 9349 4596
W: <http://www.cis.unimelb.edu.au/>



Appendix C: Example of Interview Transcript

Organisation: Case A

Interviewee: Partner

Duration: 1.5 hours

Diana: This is an approximately 45 minutes interview and basically I would like to understand your personal use of Yammer within Case A and how do you feel in terms of how it strengthens your network ties with your colleagues, or in your case with business partners as well, and how does it make you feel in terms of having shared knowledge and shared understanding, does it increase your awareness of knowledge, or does it increase your understanding with the people within your network and what happens to sparse network if you still understand what's going on within those network, and also the relational dimension, if you trust the individuals, or you feel that you feel obliged to participate and respond, or if you feel like you are part of the group sharing the same culture. This research is based on the social capital theory and hopefully will be able to make inferences for knowledge sharing. So, do you have any questions regarding my research area?

Partner: No, I think that is good, and just as I understood what you are doing. As far as the questions, will you be running through them one at a time?

Diana: Yes, basically my interview questions will be in 4 parts – The first part will be on what is Enterprise 2.0 for Case A? How it comes about and how you use it generally? The second part will be based on the structural, the second part will be based on the cognitive aspect, follow by the relational.

Diana: What is the enterprise social networking platform in Case A, and how and when was it implemented?

Partner: The enterprise social networking platform used in Case A is Yammer and it is implemented sometime around 2007/2008. It is very early on when Yammer was around. It is already based on some of the studies we were doing around connectivity or the way in which knowledge occurs in the organisations and are there certain people that have such greater knowledge or greater awareness of the different part of the business. These are people we refer to as super connectors. So, before Yammer, I had this particular client problem or opportunity, how do I know who to ask within the firm. So, that was when we thought Yammer could play a role, and it is also that sort of move to what you refer to as Enterprise 2.0 - the notion of a much more fluid way of working, something that we would like to explore. As well we had a Digital Practice from 1992 within our business, we always had exposure to the early days of where

The emerging concepts and the fact that it was moving around the social context in terms of relationships as well as shared knowledge and crowd sourcing, those were things we were looking at to start with.

Diana: So that was the main drivers of the implementation?

Partner: It really started because of the Innovation Program. There was no actual organisation mandate, it wasn't a "we should use this". This was more like there is a problem and Yammer looks cool, and let's sign up some people on it, easy. As we saw some of the benefits within the innovation committee within Case A, it very quickly moves to something our CEO gain favours, very focus on relationship, the way that people build their career proposition and social allows us to do that.

So, it was very early on he got involved and he started to share anything from a day in the life of a CEO or to talk things via Yammer. We were very lucky. There is a fairly large tipping point, so there are 5500 people in Case A members and well over 4000 active members.

Diana: Very impressive over 7 years or less.

Partner: It's taken a while, but there have been a lot of activities, and our CEO will be on Yammer at least every day, either from our understanding. We going to talk about knowledge management as a number of areas we can explore there. Basically, just to get a feel of what is going on in the organisation, for making the organisation knows what he's doing. The fact that it pretty flattens the organisation, so anyone can associate and socially respond equally well, if a Partner posts a question, or a graduate post a question.

Diana: That's very good. You get good responses from different level of management, top to administrative.

Partner: Anyone from new starter, or new graduates who just join the firm, within the context of Yammer, everyone's conversational voices are equal. You tend to have conversation where you might not be aware of someone's title. Having said that, of course we would know who our CEO is, we recognize him. But it also creates a really open dialogue around the issue. So, we have change organisation policy based on concerns our people had expressed in Yammer. We really support an open dialogue. We don't shut it down. We must always be respectful. It is an open discussion. It is internal it is but I'll come to our use with clients, but our company use it internal within the organisation. You are free to say anything you would normally say you wouldn't say anything you wouldn't say in front of a larger group. Whatever work in real life, offline as it is in online.

Diana: Basically, the culture plays a really important role. Looking at the situation explained, Case A has a good culture in place, very encouraging.

Partner: I think we had that culture all along, and Yammer is the expression of that. But as we success and people engage with it that picks up the usage of enterprise network.

Diana: How does Yammer fit in? Does it extend externally to business partners or vendors?

Partner: There is no mandate; no one has to use Yammer. With Yammer, there is a feature called external network. By the external network, we can have discrete instances of Yammer that we can collaborate with the client. Company X, they have this stuff on the network and we have our stuff, we can share and collaborate. That can be for many reasons. We can be for sharing project information, for social reason just to build an understanding of the team, or client been asked to contribute what's going on in the industry, or topics of interest. So, we can do all these things there. If we run a project, say one of a technology project, we may have other alliances members, or part of the consortium, we might have vendors that are working with us, we will share all that communication there because it gives us a knowledge management tool, or a way de-risking a lot of our project, that is a very effective way of doing there.

Diana: Who owns Yammer within Case A? Is there someone who governs this or monitor what's being shared particularly when it involves business partners and vendors?

Partner: The actual product, software product, belongs to our knowledge management team, whether it's SharePoint or wikis or any of those things are in the knowledge management team that looks after and promote knowledge sharing and setting up anything that needs to be set up. Although, other than setting up external group which involves clients, we need to make sure that the nature the work we are doing are allowed to be shared in that context. Some of our clients won't allow us to offshore information. They require the work to be in Australia, so we can't use Yammer because of the data is stored in the USA. As long as the client is comfortable then we can do that. Other than that, everything else is fairly open. So, anyone in the firm can create group – public group or private group, within the company, free to create those.

We have found that to be more successful, than to try to say these are the groups, these topics go here. It's again, it is a very fluid thing based more on the notion of folksonomy, the audience dictates as oppose to categories. All I really care about is in increasing the adoption and use of the tool because it makes us more effective when we share knowledge. Maybe in the future, we think of rationalization to make some scenes, but we haven't reached that point. From the IT perspective, we are doing any of the technical trouble shooting and the actual use of the solution or any of the broad governance or directions sits in the Social Capital steering committee group. We have a group across Case A, around 18 of us in the group, we meet monthly and we go through all of our social media properties, LinkedIn, Facebook, and Yammer. We talk about, we talk about legal team, we look at incidents that might have pop up, analytics, social media monitoring. We also define governance that needs to be there, so if a question was should we or should we use if with client, we will work that through with the business and then ultimately make that decision. Our role is also to really promote the use of social capital within Case A – what we do and how do we take that up and how do we also extend and push us at a leading edge of what we are doing.

Diana: So you do your own assessment as well based on the social capital on how these social media intervention is actually promoting or uplifting the social capital?

Partner: Absolutely. We have been working with other people doing research, and we are always wanting to learn our Case A Digital business and getting advice on digital strategy business. We apply that to ourselves and it have been a great proving ground and learning ground for us on that.

Diana: That's good background of how the implementation of Yammer and some part of the governing factors and the introduction to the culture within Yammer and Case A. Is there anything else you want to share in the overview/background of Yammer?

Partner: It is always challenging to get the critical mass and adoption of a tool. Again, we have no mandate; no one has to do it. We have a very liberal social media policy, within the business and with the external business. It still has to be appropriate, I guess in terms of appropriate and respectful, so very much the core signal in Case A is empowering trust, up to us to basically coach/guide our people to make good choices, to protect their client's information. But social as a tool is not good nor evil, it is no different to email or anything, potentially expose confidential information or deliver tremendous benefit to the firm. So that's sort of the first part there.

We really encourage that open conversation. Not everybody feels comfortable in working with these technology tools. We have far more people today than we did in 2007. We spent a lot of time in trying to look at different ways to bring people onto the system because that's going to make it the real critical mass and the benefits from innovation and crowd sourcing. So, we might run topics like scones, "do you prefer jam on top of cream or cream on top of jam." First thing first in the company feed, that will be things that we will get lots of posts where someone feels safe, you know you are not going to laugh at me if I do that that. We have people that are lurkers that sort of consume. We try to take people from being laggards - not using at all, to lurkers, so we give them a lot of coaching and training. We also run social media mentoring.

Diana: Is this the KM team or the Social Media Steering Committee who is doing this?

Partner: This is just Case A as a whole. Because Yammer is really about community, so we activated that community. For example, we have LinkedIn policy, they basically are about 70 people around the business, they basically are just good users with social media and they are willing to mentor other people in the business voluntarily. They might upwards mentor one of their executive, or they might just, you say "I want to get onto Yammer what do I do?", so that sort of thing. They will help people understand social in the business context, predominantly Yammer, Twitter, and LinkedIn – so, why would I use LinkedIn, explaining all these things, helping them through, guiding them. That's why we activated that, where the community does that as oppose to being a function that we staff or orchestrate in any great way. It is great one, as an open innovation.

So, we do that to get people to feel comfortable, we also by the creation of different groups, some people might have a topic interest. It could be like Case A Gamers' group, so everyone talks about the latest EA game. So it could be things that are not work related or it could be very topical tax technical issue like GST and 4 - 5 people who will be ready to share information on that.

It could also be a particular office, like Brisbane. The Brisbane office might have all the general communications. We start with a little bit, but gradually we see more and more move to Yammer to reduce the amount of emails or other forms of communications. We need that critical mass to get it there because whatever gets people into the platform. Yammer is great, but it doesn't really matter if it's Yammer or some other systems. It really is about collaboration.

Then you start to get the benefits of the knowledge sharing or the crowd sourcing. People would post up "I have a client that has a particular problem, does anyone know something about whether this industry or something". Before, we used to email it to the people we know who they know that someone they know before they get back. That is usually within minutes, either the person responded or they say "That is great, Jane knows something about that or Bob knows something about that", and you very quickly get people giving ideas and that is all searchable, so we found that really useful. In fact, sometimes now during a client meeting, if there is a particular issue that comes up they will post that and very often during the session they will be able to provide the issue insight. It is really about reducing the time.

At a project level, a lot of what we do is delivering projects for clients' engagement. When we run a project via Yammer, what we have is the whole team can see everything that is going on about it. Not just the deliverables, there is the PowerPoint document, the conversation about what is going on, here's another version I just made changes, or these things, or just come out of the meeting with client, and they have got a concern about this area and they would like us to change it. So if I read through the history, I can get a much better perspective about what was going in the project.

Diana: I imagine this is more effective if the team is much dispersed?

Partner: At the start it was very disperse, that has created the need. We have got a team in Adelaide, Melbourne, and Sydney. They can all see what is going on. We do things like in a lot of our technical projects; we will have a morning stand up meeting. So everyone would come in at 9:30 am and say what did you go yesterday, or they will take their turn.

We will try to get 20 people in the room, some will be on their phone, some have some technology problem with phone and can't dial in, and someone's dropping the kids at school and can't make it to the meeting. There's flexible ways and find it very hard to find a fix time. But the idea here to the stand-up is "Yesterday I program this module, today I am going to work on this thing and these are the issues that are holding me up." Then we go around, that will take about an hour for over 20 people to do it.

So, by moving that to Yammer, by 9:30 every morning, you will have to post what you did yesterday, what you doing today, or any roadblock. So instead of everyone wasting an hour, we get all the efficiency there, by 9:30am, the entire project and everybody that is doing the project, and the project managers know what is the most important issue to deal with. So it surfaces these things a lot easier. People can drop the kids at school and not miss out on that meeting. From efficiency point of view, that is something we found really good.

The other thing which is sort of flow through are things like on-boarding. So, when someone leaves the project team and a new person joins the project team, 3 months into the 6 months project. They can very quickly look into the history because all the communications for the project is via the tool, not stuck in 3 emails plus Yammer that reduces our risk. That is one for knowledge sharing. That is great.

Often focuses around all these social media brings out the whole visibility, the transparency in space sharing, we tend to find that those projects that work in this way tend to have less issues or defects or re-work because everyone is more aligned and issues are addressed and raised much earlier in the project.

Diana: These are part of your own experience?

Partner: Not everyone in the business does that and it is only one tool is not necessarily the answer to everything. People have successes using different one. It promotes them to use the network more, and then by being on the network they are more able to impart their knowledge and opinion to particular issues and then as an organisation, we benefit. It also keeps information in a more central searchable format rather than being stuck on individual's hard drives or email inboxes.

Diana: Is that a form of compulsory participation from project members?

Partner: It will only be effective if all the members of the project team work in that manner. So, the partner will be leading the project will sit the team down at the start and say this is the way we going to communicate and run this project. They need to lead from the people leading the project rather than you use Yammer and other sits back and send me an email. It needs to be an active participation. We are very focused on that notion of leading by example. That should be common sense.

We have also done a lot of analytics. We are very data centric, a very strong analytic practice. When we analyse things like the usage of Yammer or social networks, we map that back to business performance of our business partners or leaders that are more engaged on Yammer are in our highest profits, highest staff engagement, lowest turnover. I guess if you took Yammer out of that, and just say partners that meet regularly with that team, share information, they going to be more successful. It is pretty intuitive and we found that Yammer is a great way to do that across a broad group very quickly and efficiently.

Diana: I assume that the way how Yammer sits in Case A is of a very mature stage.

Partner: I think it is. One of the challenges is that social capital steering group is to really look at the ways we begin and take that up and to become more efficient and it doesn't necessarily have to be via Yammer. Yammer is the way people getting comfortable with working of those, and we use the same skill and experience in the way that we manage our external networks, like via LinkedIn or Twitter. It is the same attributes of engaging with the network, contributing, and that sort of flows through. Some people are really great, in that they don't use Yammer and they suddenly become really active on Yammer and they find that Yammer is a nice safe way to experience social media or putting out a point of view and not knowing who is listening. A lot of people need to get pass the first hurdle so we try to make it as easy as possible for them.

Diana: So I guess, as organisation you want to trust the individual and as individual you want to feel that they are comfortable at sharing thing without being scrutinized or used against them? Or even potential concern of IP shared.

Partner: Digital business for me, we have an overall; obviously Case A's strategy and cascades down we have the Case A's Digital strategy. So, we use Yammer as a way of crowd sourcing from all of our team members, one of the emerging trends that they are seeing out there where they think that the technology place we should be, so we can socialize and do these things far more efficiently by Yammer or when we have chosen a particular marketing campaigns or messages that we take out to the market, we use Yammer and run more like a competition so everyone can sort of say, "Here's my entry for the new Case A's T-shirt" that we are going to do. We get people to build off those ideas it is great because we get good outcome from it, but it also makes people feel more likely to

Says we can create a critical mass of that channel and gradually removes voicemails and emails and other things, more like a convergence. We stop channel fatigues so we don't have to check emails, or check voicemails, check some of the project systems. The more convergence.

Obviously, SharePoint is the Yammer feed gets pulled into the SharePoint for particular project or something. We can leverage it in that way. SharePoint if you run that, whether its external or internal to the organisation, there's a like a widget that you can put on the page which basically draws. It's nothing we develop; it's out of the box, it is a standard widget, this Yammer this feed. I can be in SharePoint and I still can see the feed then realize the project that I am in SharePoint and I can see this and post directly there so I don't have to have Yammer open in another Window.

Diana: That's a very good introduction to in terms of how you use it and some of the examples given. That's very helpful. What about in terms of does it increases your network ties, before Yammer or ever since started using Yammer.

Partner: Definitely. Not just for myself, but I think generally people are more connected through that, because you tend to see this little face next to everyone's face. You actually meet people across the business. You often communicate with someone via Yammer and you never actually see them face-to-face and when you actually do meet them you know more about them because you have been sharing. Because it is a fairly flat structure by Yammer, you communicate with people across different levels and you communicate with people outside the core competency. We have seen the degree of connections in our organisation. Fundamentally there are 6 separate service offerings within Case A - consulting, audit, tax, etc. So, if we go back in time, there was a more siloed operation. When we were doing our analysis of the network connection, who can communicate with who, we will be able to see fundamentally this group does not communicate with this group, or there are super connectors which communicate more. There is much more overlap between that, much more communication since the use of Yammer. We look at those things and not just Yammer, we throw in email and calendar as well, we can see that our top performing employees have more meetings, or send more emails, with their peers, their partners, and their direct reports than those people of mid-level performance or bottom performance. There is a very strong co-relation to your performance in an organisation as to your career success as to your ability to network. Because we are professional service, we really into business relationships, this whole is true not just inside Yammer but for our LinkedIn. A lot of people have great external connections and network that maintain them on business cards. When that is fully translated to LinkedIn, we can see the same correlation between our degrees of connectivity by LinkedIn that we see internally. It directly relates to the financial performance.

Diana: You've done the social network analysis and your observation would be that the more extensive your network outside your community the chances of you performing is higher or potentially more effective.

Partner: I think it could just that be the types of personality that likes to connect to other people to see how these things are reinforcing, or because as a professional service business we often selling, we effectively selling our time, we are also selling solutions for our clients, we need to know what their needs are which we understand through these networks we communicate quite regularly. If you simply mimic the behaviour that we want to see, that wouldn't necessarily make you the most awesome consultant. But it would directly result in you being more successful in your career, you would probably advance faster, you would have more impact, you would work on better job as a result from it which is then reinforce, we keep coming back. That is one thing you can do. It is fairly consistent, that we say if you are always looking for those opportunities, it comes back to the notion of the crowd as well; all of us are smarter than one of us. If you are always looking to tap into that, you are able to bring that knowledge to sow a solution to your customer at the faster pace of time which makes them more successful which then you more successful at the projects you do and more people would know what you do and you are more likely to be ask to work on. Even if you starting, you say you want to work on this great and exciting project, I've never heard of you how am I going to know that you got those skills, it is going to be through the way you network.

Diana: How likely are you to share knowledge in that area? Would you hold back your knowledge?

Partner: When you use the network and you take something that is of value and you can get some success. Once you start that behaviour to give back to the network, once you have done it a few time, you kind of just get hooked on to that method. Hoarding knowledge isn't actually powered because now through the crowd sourcing, even if I have tremendous knowledge, more than you about a particular topic or anybody successful in hoarding that for as long as you try to out execute me on your own. The network will always be more successful, more influential, and more knowledgeable than anyone individual. That is the broad trend or behaviour that we are trying to get everyone in our business to understand, and Yammer is a simple way for them to feel comfortable exploring and using them, and then they start to leverage their network externally, tap into other subject matter experts outside of our core business. I should point out that Case A is a global brand, we have 202000 people. So, before these methods came in, one of our early proposition would be, if you come to us, we have 202000 people, anything you that you need to know, we have someone who would know something about it. Then we can bring those connections from our global network together, we are very successful. But now there is also a lot of knowledge exists outside of our organisation. It doesn't matter how bid we get, Case A being able to tap in that efficiently and effectively is very important to us and because our customer from the market is also familiar with the same tool. Our client could put together their all-star team using LinkedIn which might not be mostly our team but people from elsewhere. We need to be able to adapt and embrace that trend. So Yammer is a nice safe internal way to do it. So if we just post it up the latest happenings or team drink on Friday, if it was a one-way conversation and that all that happen, it will be pretty useless. We wouldn't actually be using it. It has to be a two-way exchange between yourself and the network.

Diana: How do you connect with people, any methods or you connect base on communities or reference?

Partner: It is different to the way say LinkedIn you have to actually build connections to see and gain value. With Yammer you are effectively a member with the whole business network to start with. You can follow people but people tend not to follow people inside of it. I don't know why. I would follow and people follow me. It doesn't really have the same role that says something like Twitter or LinkedIn. That's because I can see everything in your company feed. So, our company feed is actually quite busy. It is anything from dinner night and football on the weekend that can be on your company feed, to I got a major pitch going out to a client I need a subject matter expert on this topic.

Diana: Sorry, so this feed is based on the people you are connected with?

Partner: No, it's the all company feed so every time you do that all 5500 people can see the entire feed. Unlike LinkedIn, you only see the activity you follow or connected with. So, in Yammer, the all company feed is like sending an email to everyone in the organisation all the time. So when you reply, everyone in the organisation sees the reply. That is the all company feed. Some organisations keep that really clean, that is only for official messages. For us it's everything. It is literally from jam on cream on scones, or to how is the football, or to just want to let you know this is an important announcement or I have this urgent issue can anybody help me. So that is the all company feed. You tend not to get an email notification on that because that will just be too noisy. So you get to consume it that way or get your daily digest or just it's always running on your desk, and would just looking at it on in your mobile device.

Diana: It doesn't matter who you connect with because you are getting information from anyone.

Partner: Correct. So, that is how I actually learn about a lot people based on what they are saying. So, okay, Sarah talks a lot about this particular tax issue, next time I need something, if I don't know who and I post to your company feed. And If I know something then I might go, add Sarah to see if Sarah can help so that is how I build my relationship with somebody. I don't usually use the follow function as a way of grouping my network.

Diana: So, your initial point would be from feed?

Partner: That would be the first point. We have all the groups. We might have 300 odd groups or something, and that could be public or private groups. It could be about a topic. We going to use your company feed or all company feed, we going to run a Hackathon, who is going to join in and organize and what should we do. So then we create a Hackathon sub group, then people join that, then we have a dialogue in there because it didn't need to be on your company feed. But then we go, right we

are going to run it on this particular date, say January. Let's post back up to your company feed, hey we are running Hackathon and who wants to come join, for more information go look at this other thing.

We can play between these and then I guess my networks are people I interact most will be the ones that have more of the groups I am in than others. We still don't actually, well, I don't and I don't know if anybody that tends to think of the network in the same way as we do. They might connect outside of the group; they might meet up for drinks or they might chat in the group. Not all the groups are the same. Some of the groups perhaps they are started by people that are less comfortable, less familiar with these tools. They will over think the rules that they need to have, and they feel that is not an appropriate message in the group and that is okay. We don't police or manage any of those things other than it has to do with respectful. We let the groups self-form. They can exist as long as they want, they can disband when they don't want to. So far we haven't retired any group because we want to retain knowledge and it is still searchable. We have groups that are in-active, but that is all okay.

Diana: I suppose these groups are very helpful, and in the way that previously these groups may not be so easily formed. Do you know everyone in the group?

Partner: Quite often I know half the people in the group itself, my particular role I spend a lot of the time traveling. Most often there are these groups that I will know less than half of the people that I actually met, but I will build up that relationship over there and people feel quite comfortable in the group. I will post things that can be still very broad range. So I might be about a topic or about socially related things. So, get back to our project group. Apart from managing the project information, I would use the group and say 'hey, we're going down for ice cream run at 10am, who wants to meet me at the foyer'. People come down from different floors and catch up. So there is still a social aspect as well.

Diana: Is there one group that shares more knowledge than another?

Partner: They all share knowledge differently because there is no rules. Whenever we have success, we share the success via story. We will tell the story, we will present the story to the team meetings, and we will tell the story on Yammer. Great success for this project, you should try it to. We tend to do a lot of stuff off network to share the benefits of the network. We don't send out an email on Yammer to say, "Join Yammer". It is much more effective to say "Hey, everyone in the room, we have worked on this project and this is going to be the tool we do it". We have a real conversation about it. We have video link up between all the offices like a town hall meeting. By the way we are doing cool stuff on the Yammer. If you want more information, have a look at the in this particular group. We try to drive people.

In terms of sharing, it probably depends there are so many different parts of the business and every person, team, client, project or requirements is different so that is why we don't really have a type of group that shares more. If I'm working in a part of the business that is very system orientated, something like audit. So audit has a system where all the audit information or the opinion or the work that they do exist. Putting that in Yammer may be redundant. Even if Yammer was perfect for it, they need to maintain and regulate it. It is a service that we provide so it has to be in the audit file. So they might use Yammer to talk more about the overall engagement and understanding of the business they are working with or emerging trends or industry information shared so the team understands it. But the work paper or files would be in the other systems.

There is other times we might be doing something like a Digital strategy, we might use Yammer as a way to share everything from the minutes, the agenda of the meeting, the minutes of what happened, the activities, the photos, the whiteboard, the work that clients they go "Just heard about something, here's the PDF what do you think it is", or just read this Gardner report or something. So, it can be really quite open.

Diana: So what you are trying to tell me is the context and awareness of knowledge which is the next part of my question. So, it really depends on the context of the discussion within that group. You have given the example of the audit, and the project to the scones and jam discussion.

Partner: I think every part of the business uses it and derive value from it. Sometimes, the way they drive value would be different. My reason is, as a partner of the business, every partner has their own way. We work to an industry standard and quality, but everyone is still free to manage the engagement in the way they want to within that framework.

Diana: In terms of the cognitive dimension, I am trying to understand these individuals that are connected how much do they understand each other? Seems like you are able to understand what is going on based on what you shared?

Partner: We have a lot of projects that we might be working on a business transaction that is entirely confidential and you know only 4 people in the business will know about it. So, Yammer won't be the place to go that they will share that. Or, they could be sharing within a private group but just that 4 people because you can still gain that sort of efficiency depend on the nature of it. Certainly with anyone that I am interested in or participate with, I can say pretty much everything that is going on provided I have been invited to that group or something like that. We don't just sit there and review every group. Just in the same way you need to be invited to a conversation or if it is team meeting for a particular part of the business they need to know the conversation that they have is within that team. They might flavour or put different context if they know that they are actually hosting out to the whole company versus hosting out to 3-4 people.

Diana: Does it increase your awareness or your understanding of the organisation or a certain topic? Maybe best way is to contrast before and after Yammer.

Partner: Definitely, because I can go back and also see the history on how that topic evolves. So, I am not just coming in to the conversation and hearing it from this point forward, I actually get a history of that if I am working with a particular group or office by effectively subscribing into that group. There will be group that I will be very active in. Say in tax group, I don't have a lot of tax information I can contribute. But being part of the tax group I can hear the general things that are going on so I can know more about what is happening in the industry or the emerging legislation that is coming true and then I might suddenly have a point of view about something that and I can contribute to that bit. So from the tax side, they are going that is great, there are a number of people from digital were listening and they come in when there is a particular cross over or intersection between tax and digital. So that is good. But then by just hearing those conversation, which I can consume my time rather than to be online all the time, I get to know the voice of the particular part of the business. I understand more about the culture of the Melbourne office or Sydney office through Yammer before I go and visit them. I will know whether it is Grand Finals in Melbourne, or rugby in Sydney based on the conversation.

It is a really powerful research tool. Instead of having to go off to many different areas, you get to see the activity or conversation unfold by reading the history. You can that by the thread of discussion or other thing and a lot of these are very similar technologies.

Diana: So would you say that it really depends on which group you join you find that you get the knowledge quicker and you are able to participate more actively?

Partner: In a group where it is most effective when there is a critical mass in the group that actually participates and share. If you got a group of 100 people, and there is only 3 people participate, it is a lot different than if it is a group of 20 people, say a group talking about LinkedIn, and then every time there is interesting research or someone has been in a conference or someone has interesting question like "Hey have you thought about using it?" As long as that network is alive and contributing, that will be my go-to place for it. So, there will be things that I will post a question to that group when I want to get some insight or opinion as oppose to going to Google and searching for it. It depends on what I am trying to find, "what is the current price of product X?" I will probably just Google that. If I need a bit more of an actual insight or opinion about the technology or how it might be used, then getting that from people is more valuable than just getting the data. If I Google it, I will probably less likely to read the product page and more likely to get the result that come from people's commentary about it.

Diana: Where would you go to look for an answer? Do you go especially to the group to ask that question or do you ask in general?

Partner: If I know that there is a group about a topic. If it was a group about, the best way to recruit people by university into the technology centre, I could go to our grad recruitment area. Then again, it won't just be the 20 people at work in the team. It might be 50 people interested in grad recruitment or mentoring others, so I could post to that group. Probably depends on the question. If I am in a rush, I don't know I would post in the company feed because there is a greater chance of somebody being able to get back to me more quickly or direct me to the right place to go. Say they will go that sounds like, have you tried Bob. By doing that of course, by tagging Bob, Bob will get a notification, and Bob will yea that's not me that is actually Jane in Perth. Get me to the person who knows about it, I will still get other contributions; there will be some people who might post 40-50 times a day or respond to lots of things. They might also have a role where whatever they are doing they are able to communicate more frequently or the people that are out at a client meeting that might basically checks Yammer once a day. That is fine. I probably would always give certain things a day to give the overall contributions of the network a chance if it is really important. But there are lots of things where you could be in a client's meeting, where you are concern with the increase in fuel price I am not sure how it will affect my tax position, so that is a pretty good think if the tax group have a view on it. You get an answer fairly quickly, if someone is available. Sometimes it works. Sometimes it doesn't. The more people you have on, the more often you the respond.

It is a fairly frictionless thing. If I post out, the worst that it can happen is nobody will respond. If it happens, I will find out some other way. It is very seldom, I can't recall seeing posts that go unanswered by somebody. I am sure there are, I don't know the stats but it is very uncommon because again we got the network, it is driven by people that are passionate about sharing in this way. So, if a post goes unanswered for too long, it is more like someone would say have you tried, or try to help people out in some ways.

Diana: The last bit, this is in term of trust, the relational dimension, it could obligation, identification, and norms.

Partner: I know them from their interactions. The network gives an in-built trust mechanism because of the transparency. We actually do learn about the people, their behaviour, who they connect with, who they respond to, just in the same way you could by observing the people for a long time before you engage in conversation.

Diana: If I posted something on news feed, if you don't know me, would you respond to it?

Partner: It is simply question on what you post. More often than not, who you are would be less relevant to whether someone would respond. As a community, it is important for us to make everyone successful or Case A successful. If there are some people when they post, as I get to know them, I will respond differently. So, if you post a question, say hey I am looking for help on this particular topic; I will give you a response. If I knew you better I might have a shorter respond, I won't be trying

to guess what you require or moderate. Or if I see that you wasted my time a lot before, I might give you shorter answer to direct you somewhere else.

Diana: Would you not be afraid if I ask for something and you tell me based on your experience, this is how it is. Are you not afraid if the person will use the information against you?

Partner: First of all, I will start with the position of trust. So if you use that against me in somewhere, I can't think how. Everything that we communicate whether it is verbal or via email should be authentic and stand up for it. If I will be worried about you posting or sending it to Sydney Morning Herald then I wouldn't say it on Yammer, I wouldn't say it in person. Within that context now, but if you, let's say you ask for my opinion and I give you a brief opinion, and you went off and say Partner says it was ok and I did this and it is not my fault it is Partner's fault. You wouldn't last very long because the network would say, the peer group would say that is non-acceptable behaviour. This is one of the things like the network will self-correct or moderate. It is a peer group ultimately. Just like on Wikipedia, anyone can type anything and anyone can change anything, but the network sees the value in that. I can't think of an example, which is great. But if you kept asking for things "I got this client problem, can you send me some example deliverables, can you send me a copy of the last proposal" and you don't give back and I am just going to start moving back and you probably won't be getting much responses from me. The network will also see that. When you are giving to that network and you are receiving from that network, you build up that trust; it comes back to the notion of transparency. So, there are people who will post, who like to be respected by their contribution. They won't get 5 responses they will get 50. People will be very or they will want to give something to someone who is a good connector. Coming back to it, because the more connected you are, it is really good for your career. It needs to be something of value, which is why sometimes people feel I don't have anything valuable and I will just listen. We have to coax something out to feel that they can give something back.

I can't think of a bad example. What works in the real world works, it is not actually that different. You email me and you just took and never gave back, eventually your email will make it lower down my inbox before I respond. The same thing happens if you were doing that in person. The behaviours aren't really all that different.

Diana: What happens if I am a very active and I just share any random insights opinion on various topics? Will you trust my information if I were to just share any information?

Partner: That probably comes up a little bit about who you are, and how much I know about you and what your role it? If I was asking you a question and someone from tax responded to there is a customer who got an online store, something to do with GST coming into the country. If I get a response from someone from tax, I might give greater weight to that response than somebody who doesn't necessary have legitimacy in that opinion because it is the first time I have seen them. It depends what the answer is, if I am pretty sure that answer is correct, I am likely to it. I will probably wait until I had two or three responses. Part of the thing too is the notion, so, if you think of the crowd, the crowd of the network is able to self-correct. Just in the same way that if you have CAPTCHA that is coming out from a website, if the number of people believe that the combination of words is actually is a particular language. If I posted should this product be subjected to GST? There will be a couple of things to consider. Hypothetically, this is product is subjected to GST. This someone goes 'no' but the network will be watching for those things. So, actually, it depends on whether it comes from this channel or this channel, and someone would go "yes, I agree". We got to a point when we there is enough of that general expertise of it.

It will be very difficult, it will be narrowed. Now we get enough critical mass, I build confidence but I wouldn't necessary take the first question. It is not educating my responsibility to just say I will just do whatever the network says.

Diana: Your trust could be from the network of people you are not very close with but it is also based on the amount of responses you gathered, and to a point there is enough expertise gathered in that area.

Partner: As you learn about people, from the watch of a particular person I can see that Steven is always putting up information about insurance industry. He is a thought leader in that space, he is always sharing. If I post a question, he said it I would just take it. If I post a question can I expense claim T-shirt or something like that. If someone else goes "that sounds like a good idea, go for it", I probably wouldn't do it. Unless, a partner in the business or someone from there say "yes that is claimable under our policy XYZ". If I have a partner respond I that I never met before, I probably take that very quickly.

Diana: So your trust is also based on role and position?

Partner: You can find out somebody's level but Yammer doesn't promote that. At face value, everybody in the organisation is equal until I look on their profile to see, which is actually kind of good for a flattening effect. More often in my case, when I am using it, people's role is not the determining factor that I will take it from the authority or somebody. It might be more based on the history of the conversation or how they communicate.

Diana. Just to reiterate my understanding, with Yammer in place, it will promote trust, based on the interaction, level of responses from different people, and based on role. As compared to without Yammer, it is harder to develop this kind of trust because you don't have the visibility.

Partner: There is definitely something on the visibility and transparency to build trust. I find this interesting. In the early days of Internet, can I trust this website with my credit card? This notion of trust wasn't there. All of these transparencies and the

social aspect of it have actually created a much bigger sense of trust. I will trust the opinion from a large group of consumer than on a brand statement. That trend outside the organisation is still the same trend inside the organisation. The way I see trust is the same I would done before the network can, I will trust the people I am with where I have a relationship where I have worked together. Yammer allows me to in a smaller sense, to work with more people, to build up those trust signals. And to also say that because it is transparent, who else is trusting me, working or building off their ideas and opinions. It allows me to which has a reinforcing effect across the whole business in the fact I can see the face value everyone in the business, all those that I see on Yammer.

Diana: What about within the community, when you participate in a project group, would you say that your trust is higher?

Partner: It will depend, I think. So, if there are a lot of people in that group that I was working with, we will build trust. If I have people that I have no activity with, at all, then of course I will have higher trust level in the other group. That will be the same if I just went to people in a project, or just in my office, or my proximity, or my service line, you need to have relationship to give you that trust cue. So, if I have a group of people that I only work in a room like this and I have another group that I only work on Yammer, I would probably say I would end up with the trust level in both groups. Maybe I would arrive, this is hypothetical now, I would arrive at trust decision about a larger part of that group via Yammer, if they all contributed, because I can perhaps learn and see things. But Yammer is only one form of communication, a written communication. So, it is easy to say things, then to actually deliver on those promises and the actions you do and how you actually work. With enough time you can achieve the same outcome in both environments.

So, do I have relationship and trust people that I have never met face-to-face in this business? Yes, Could I establish those via email? Yes, they would have taken longer and I might not even know if that person really exists in the organisation, so that's where it can be useful. I can have greater confidence when I got a problem restricted and I am able to bring the best of the Australian firm that problem via Yammer than I put of any other mechanism.

I would have had my super connector that I would go to. But even the best super connectors are not connected to everybody. Sure they can go follow, follow, follow. It is not possible for someone to have 5500 meaningful interaction or relationships with people. You can extend it, you can probably service more relationships via this technology as you can face-to-face but you will still going to have to rely on who are the people in your network. It is just about making sure we can be sufficient around that as possible to make us successful.

Diana: This is the last question, in terms of norms; I gather that the way how individuals use Yammer in Case A seems to be very encouraging to one another. Everyone's participation kind of shapes the culture and norms as whole or particular groups?

Partner: I would like to think that yes we share the same overall organisation culture. Just as group as groups have their own same sub culture, we are not actually about having a single culture in Case A, unless they are guiding principles or shared beliefs that we have. The project group would have a shared understanding. Obviously for a culture thing, so whether it is our team's bad joke on Tuesday, there are cultural norms that we will do. We would communicate certain things via Yammer because that is the way we do. We like to have a flexible culture, but we are not focusing on trying to get a consistent one because a lot of our stuff we are doing is around problem solving, therefore we want a diverse point of views, but we want us to still have something that binds us together. We try to live with the best outcome for our client. We don't want to just do the same work that we did last week or last deliverable and we just change the name. We want to constantly up our game with what we are doing.

Diana: Do you feel that everyone thinks the same in the group?

Partner: I think there is never consistency. I think there is more alignment in our high performing teams. Are they high performing because they have more alignment? Probably so, because they communicate better. So I think that is our main aim and Yammer is a great way of keeping that culture for when we can't all be together. As I've said, we have a lot of people that might work part time, or if they are not part time they are working at the client's for 3 months, or some people that are not in the office the whole time, some people are jumping around, so those are that things that gives us sort of cues or cultural norms.

Projects that just share project information probably won't get all the benefit when they share project and social aspects and knowledge thing and just broad topic within that group. The closer the interaction matches the base interaction you will have in real life, the better it is. If it is too narrow, it still can deliver values. It can be used as a variance fit and say this is just for our communication channel for our key event and some highlights. But the real power is when we actually, one of our things around the social capital strategy, every person everyday work in social. It really is about the way that we work, we collaborate, the way we do business.

Diana: Can you describe to me the dynamics of the group you participate or interact frequently with?

Partner: The group that I am probably closest right now is our focus around innovation and digital disruption. There are probably 30 of us across different offices and we also have a lot of alumni. We have a lot of team that roll in to my group for 6-12 months and then roll back out to take the understanding of innovation and digital design. Probably now there is 45 people in the group. It is highly interactive. So there will be 30-40 messages posted or activities in that group, it can be anything from "Hey I am coming over to Melbourne, anybody needs to catch up on anything?" to people saying "Just finish this phase of the project, check this out" or "I need some help on something". Tuesday is a bad jokes Tuesday. There is a trail of really, really

bad jokes, it's getting worst and more corny, but it is something that keeps us going. There is a photo on our internal Internet, people modify and share those things. So we had a lot fun, or if someone is in town or to coordinate a social event, "let's go for dinner tonight", or for new people start and we welcome Heidi just joins the group. They might have come from another group or area and also might have just joined, don't have actually work in my team, and there might be someone that we are working with, so they can join the group. We got a fairly open approach. They might already be very comfortable with this type of thing, or they might go take that back their group after they see this sort of benefit and how we do that.

When we are working on particular ideas or take minutes or the photos we take off the iPhone, stick that back up there, then people add view to it and we can sort of let the idea sits. It's another area we use it to do things, like recognize contribution or something. We just want to recognize Catherine, congratulations on her promotion. Got everyone excited, this is good and those sort of things, and visibility. People start picking up recognition is part of the norms in this group. Those are the things we do outside. It just allows us to do it across a broad diverse group in a more timely manner. So, if they are away, ok I'll catch up with you in 2 weeks' time in Sydney or something where now usually within 24 or maybe 48 hours tops, everyone would have seen and commented anything they need to comment. Just even liking something, just a really simple way of saying that it is cools, I have read it, I agree, or how do I like more than once which we don't have. The other thing we tend to do, you can take a posting you can share it with different group that sort of brings a whole bunch more people into that particular conversation or allows them to understand more about what's going on the business.

Diana: Just out of curiosity, do you have any tool that you really like in Yammer?

Partner: I don't use any other tool per se. I think there are some Yammer adds on. In our group, we will tag more for humour than for searchability. Some of the made up text is more for humorous punch. For me the 'Like' tool is particularly powerful because I got 30 people I try to deal and they are all telling me what they doing, or if they need something I will reply back. If they are doing okay and on-track, than liking is the great way that I can let them know that I know what's going on.

It is actually very quick and they get more regular feedback. Otherwise I got to go "Dear Catherine, that is really good" Sometimes, by email you can almost be seen false because all I do is say "great job and that is good" where I mean I can send an email that says "great job". It is just a little bit more cumbersome. I can keep on top on more things via the tool than I can via email.

Diana: I really appreciate the information that is provided.

Partner: When you talking to others, feel free to explore things. They might probably mention a particular client's name, and you probably would not need to put that in your report but just that if they did that I just want to check it out. I had probably given a bit more of a general background that will be applicable for lots of people, but feel free to explore. This is just my view. You are more likely to get people that are keen in Yammer who will more likely to contribute to your research.

Appendix D: Classification of Individual Use of Enterprise 2.0 and User Types

Interview Participants	Case	U1: Finding Quick Answers or to Get Help U2: Gathering Insights or Knowledge U3: Observing and Learning about other Individuals' Activities and Organisation Updates U4: Keeping Informed of Knowledge, or Artefacts U5: Sharing Insights, Knowledge, or Artefacts U6: Sharing Status or Work U7: Acknowledging or Encouraging Others							User Type
Partner, Digital Transformation, Innovation, Social Capital	A								Active
Partner, Technology	A								Active
Director, Strategy and Operations	A								Active
Director, Corporate Affairs and Communications	A								Average
Knowledge Manager, Knowledge Solutions	A								Active
Client Manager, Tax	A								Active
Senior Consultant, Market Intelligence	A								Active
Senior Consultant, Technology	A								Active
Analyst, Technology Assurance, Risk Advisory	A								Active
Information Management Office Director	A								Inactive
Director, Knowledge Solutions	A								Active
CEO, HICAPS	B								Active
Senior Business Analyst, Regulatory Change Implementation	B								Active
Senior Business Analyst, Enterprise Business Analysis	B								Average
Business Analyst	B								Average
Graduate, Frontline and Internal Channels	B								Active
Strategic Marketing Consultant	B								Active
Communications Manager, Property Services	B								Average
Graduate, Change Analyst	B								Active
Graduate, Anti-Crime Solutions	B								Active
Senior Relationship Manager	B								Average
Senior Consultant, Change Management	B								Average
Business Analyst	B								Active
Manager Spatial Services, Information Management and Technology	C								Active
Infrastructure Analyst, IT Operations, Corporate Services	C								Active
Service Desk Coordinator, End User Services - IT Operations	C								Average

Team Leader Project Delivery, Major Projects	C		Inactive
Senior Road Safety Coordination Officer, Road Safety Strategy	C		Active
Senior Policy Officer, Policy and Programs	C		Inactive
Team Leader, Planning and Relocation	C		Active
Team Leader, Engineering Information Management	C		Active
Executive General Manager, People Services	C		Average
Acting Business Operations Specialist	C		Active
Communication Advisor, Corporate Communications	C		Average
Senior Technical Support Specialist	C		Average
Senior Domain Architect - Enterprise Systems	D		Average
Practice Lead, Architecture	D		Inactive
BI Architect	D		Average
Senior Architect	D		Average
Network and IT Operations	D		Average
Network Commercial Engineering Graduate	D		Active
Yammer Coordinator	D		Active
Communications Officer	D		Active
Global Client Advisor (1), Key Accounts	E		Average
Global Client Advisor (2), Key Accounts	E		Inactive
Enterprise Architect	E		Inactive
Enterprise Architect, Middleware	E		Active
Industry Solutions Director, Communications and Media Industry Solutions	E		Average
Product Support Manager	E		Average
Product Support Manager	E		Average
Global Client Advisor (2), Key Accounts	E		Active
Tutor	F		Active
Associate Professor	F		Average
Faculty IT Manager	F		Average
Director, IT Strategy and Planning	F		Average
Academic and Learning Systems Support Manager	F		Active
Associate Professor	F		Average
Senior Coordinator, eLearning	F		Active
Academic and Learning Support	F		Active