UNIVERSITY OF SOUTHAMPTON

FACULTY OF PHYSICAL SCIENCES AND ENGINEERING

Electronics and Computer Science

FACULTY OF SOCIAL AND HUMAN SCIENCES

Social Sciences

Hang On A Minute: A Bourdieusian Perspective On Enterprise 2.0

by

Mark Christian Schueler

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ABSTRACT

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Enterprise 2.0 refers to the use of networked social software in organizational practice. Blogs, wikis, social networking sites, and many other kinds of community-oriented computer applications, accessed primarily via the Web, are heavily promoted by software vendors and industry insiders, and are being implemented in organizations around the world. Enterprise 2.0 promoters make broad claims for benefits to be realized from uses of such tools—improvements in communication, collaboration, productivity, and worker satisfaction, for instance—but seldom offer evidence to support their claims. Such unsubstantiated claims suggest simplistic assumptions about the complex, contingent environments in which the tools are used. This thesis uses a mixed method approach to explore the influences of these tools on social and organizational behaviors and outcomes, and vice versa.

The research question to be addressed is, "What shapes the uptake, uses, and effects of Enterprise 2.0 in everyday practice?" It applies social theoretics to explain how and why social media practices develop, primarily through the use of Bourdieu's concepts of field, capital, and habitus. Planned research contributions are: empirical evidence of Enterprise 2.0 effects from everyday uses; the analysis and evaluation of Enterprise 2.0's impacts on differing organizational structures; understanding of the Web's contributions to organizational communication via Enterprise 2.0; and deeper understanding of the social processes at the interplay of individuals, organizations, and social media.

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Declaration Of Authorship

I, Mark Christian Schueler

declare that the thesis entitled

Hang On A Minute: A Bourdieusian Perspective On Enterprise 2.0

and the work presented in the thesis are both my own, and have been generated by me as the result of my own original research. I confirm that:

- this work was done wholly or mainly while in candidature for a research degree at this University;
- where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;
- where I have consulted the published work of others, this is always clearly attributed;
- where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work;
- I have acknowledged all main sources of help;
- where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself;
- none of this work has been published before submission.

Signed: ……

Date:……..

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Abbreviations

AIIM	Association for Information and Image Management
AJAX	Asynchronous JavaScript and XML
ANT	Actor Network Theory
CICS	Customer Information Control System
CMC	Computer-mediated Communication
CPRF	Council of Public Relations Firms
DE	Digital Economy
E2.0	Enterprise 2.0
ECS	Electronics and Computer Science
GBS	Global Business Services
GTS	Global Technology Services
IBM	International Business Machines Corporation
ICT	Information and Communication Technology
IM	Instant Message
IT	Information Technology
MCADSV	Missouri Coalition Against Domestic and Sexual Violence
REST	Representational State Transfer
ROI	Return on Investment
RSS	Really Simple Syndication
SCOT	Social Construction of Technology
SM	Social Media
SOAP	Simple Object Access Protocol
SST	Social Shaping of Technology
USRG	University Strategic Research Group
XML	Extensible Markup Language

1. The Web and Organization

The future always arrives too fast... and in the wrong order.

— Alvin Toffler

1.1 Introduction

The Internet is the largest computer network in the world. It comprises myriad nodes, pathways, services, and connections, and while its purposes have long supported information interchange in business and organizational settings, its uses have become increasingly communal over just the past decade—a relatively short period of time.

The World Wide Web, an information model built on top of the Internet, was little known outside of government and scientific circles in its early years. By summer 1993 there were only 130 mostly experimental Web servers worldwide (Campbell-Kelly and Garcia-Swartz, 2005). Just four years later, the Chronicle of Higher Education declared, "The Internet is a shallow and unreliable electronic repository of dirty pictures, inaccurate rumors, bad spelling and worse grammar, inhabited largely by people with no demonstrable social skills" (1997). Nonetheless, enabled by the Web, the network's uses have become overwhelmingly commercial since the mid-1990s (ICC Domain Names Taskforce, 1998; Beer and Burrows, 2007; Krotoski, 2010). According to a recent UN training guide:

> "The Internet has revolutionized, and continues to profoundly affect, the way one does business. It is now a critical (if not the main) tool and venue for conducting commerce. As a tool, it allows buyers and sellers nearly unlimited access to information, goods and services. As a venue, it does away with the limits of geography, the time zones and, in some cases, the need for a physical office. With its tremendous potential, it has become commonplace for businesses and consumers to utilize the Internet for a variety of transactions ranging from emails to actual online purchases" (United Nations, 2007: 1).

Business and organizational uses of the Web have transformed it far beyond its original construction as a virtual space for sharing information (Berners-Lee, 1989). Likewise

the Web has transformed business and organizational information practices, contributing to the massive growth of information and communication technology (ICT) in recent years. During the later 1990s and early 2000s, Web use in particular exploded globally as improved servers, browsers, security, search, and commercial sites became available. At the same time, the Web transitioned from a relatively small global distribution of static HTML pages to a huge interactive cyberspace, dynamically constructed, endlessly reconstructed, and continuously advancing in uses, scope, and sophistication. Berners-Lee recognized interaction between humans and these technical constructs as 'social machines' early on (1999), and Rousch similarly observed sociotechnical interplay in telephonic, Web, and Internet uses:

> "There is something different about the latest tools. They are both digital, rooted in the world of electrons and bits, and fundamentally social, built to enable new kinds of interactions among people. Blogging, text messaging, photo sharing, and Web surfing from a smart phone are just the earliest examples. Almost below our mental radar, these technologies are ushering us into a world of what could be called continuous computing–continuous in the usual sense of "uninterrupted," but also in the sense that it's continuous with our lives, in all their messy, social, biographical richness" (2005).

In 2005 an array of Web-enabled social software became known as Web 2.0 (O'Reilly, 2005). The past eight years have seen massive public adoption of so-called Web 2.0 applications like blogs, wikis, social bookmarking, media sharing, and online social networks. Used in organizational settings, these applications and tools, perceived by business and academic users as providing novel and quite useful collaborative capabilities, took on a new name: Enterprise 2.0 (hereafter labeled E2.0) (McAfee, 2006a). E2.0 now comprises a broad and growing domain of Internet-based software along with an industry that provides many related products and services, spawning discourse and claims in the Web and popular media with regard to its applications, usefulness, and potential benefits. Most of these claims treat E2.0 as an unmixed blessing, and E2.0 tools are being deployed in thousands of businesses and organizations globally (Enterprise 2.0 Conference, 2010b). We see broad and growing technological implementation (Perez, 2008) and attendant commercial promotion of

these tools, yet the many claims made for their advantages and effectiveness have rarely been encumbered by evidence (Hampton and Wellman, 2003). Furthermore, although some commercial and academic research has been done in the domain, it does little to address questions of uptake, uses, and social and organizational impacts resulting from E2.0—questions that its promoters do little to explain.

To what extent are promoters' claims true? To what extent are their claims predictable? What shapes outcomes? *What shapes the uptake, uses, and effects of E2.0?* What social and technological structures come into play in determining these results? As we will see, these tools have been rapidly deployed in large numbers worldwide, apparently on the strength of speculative claims. So E2.0 purchasers and users have only nebulous guidance from promoters with respect to tool implementations, uses, and values. This research seeks answers to these questions to get beyond the speculation and provide evidence of influential factors and outcomes. It will examine the contingencies which influence engagement (or lack thereof) with E2.0, the uses to which its tools are put (and why), and its social and organizational effects in practice. Since little evidence has been examined in this domain to date, a closer look is needed.

1.2 What's Really Going On Here?

As Chapter 2 will demonstrate, a large and growing market exists for E2.0 tools, with hundreds of vendors presenting, promoting, and supplying related products to thousands of worldwide enterprise customers. In Chapter 3 we'll see that research in the domain has been quite limited to date, and tends to focus on particular tools or usages. Further, a large and growing volume of discussion and claims, primarily commercial in origin and evangelistic in intent, attend the domain. Finally, the claims appear to rely on simplistic assumptions.

This raises a key research question: "What shapes the uptake, uses, and effects of E2.0 in everyday practice?" Other questions will certainly follow with respect to social and organizational impacts, but, for the moment, a broad approach serves to identify domain-wide effects, establishing a base upon which to build higher-level inquiries.

Given the domain's recent emergence, rapid growth, attendant hype, and limited research, this question begs prompt attention. This needs to be known because communication and uses of information are often vitally important in organizations, and E2.0 implementations and/or failures can be disruptive (Razmerita, Kirchner and Sudzina, 2009). It is also important to dispel the hype and resolve a clear picture of actual social usages and effects in the domain.

This thesis will seek to answer this question, first by examining the theoretic and conceptual underpinnings of E2.0's social environment, then by applying social and technical methods, both quantitative and qualitative, to its exploration through case studies. Before doing this, however, I'll provide some background and introduce E2.0 more fully. Toward that end, Chapter 2 will provide a brief history of the Internet and the Web, exposing some evolutionary stages of their growth and some key enabling factors, both social and technological, that led to further uses and innovations. This is important, because it shows how social software evolved from such early forms as email and bulletin boards. The chapter goes on to describe the emergence of social media—Web 2.0—and its characteristics. It then reviews E2.0, covering its emergence, some definitions, and concluding with its current state, which includes an examination of claims of efficacy, value, and fitness for purpose being made for its use.

My thesis then examines the contexts of E2.0's use in order to make sense of these claims and their underlying assumptions and to provide theoretic and conceptual background for the question raised. This includes exploration of the relationship between society and technology, the nature of information and its communication, the complexities of organizations and their environments, and conceptual explanations for social and organizational dynamics, engaging Pierre Bourdieu's concepts of field, capital, and habitus, which will help to understand social and organizational uptake and outcomes associated with uses of E2.0.

Following a review and critique of domain literature, Chapter 3 will consider the contingent nature of workplace interventions in order to furnish an understanding of complex interactions with technological and social actors. Then it will consider information—a basic element of E2.0—to explore the uses and value of information

and to provide theories of social, cultural, and symbolic capital that bear on the domain. Next, the complex nature of organizations will be examined, providing necessary theoretic background for understanding disparate organizations and the importance of recognizing their unique internal and environmental dynamics. Finally, the everyday practices of individual E2.0 users will be considered in the abstract as a foundation element for the empirical work that follows. These four areas of consideration will provide the theoretic and conceptual background needed to advance this research.

The thesis then describes a set of quantitative and qualitative methods for exploring causes and outcomes in the domain, followed by work performed in this study by these means. Finally, planned future work is described, highlighting its expected contribution to the body of work that explores and describes E2.0.

Why does this matter? I'll try to show that engagement with and uses of E2.0 are not deterministic, but are contingent upon contextual factors arising from the social and organizational fields in which they're deployed, as well as the forms of capital present and the habitus of actors within the fields. This ultimately matters for understanding how best to work successfully with social media in organizational environments.

2. A Brief History of the Internet, Web 2.0, and E2.0

2.1 Introduction

We've seen explosive growth in the Internet's population of users and radical transformation of its uses over the past 25 years, leading to increasingly communal applications and practices across both the Internet and the Web. To provide insight into how and why this transpired as it did, it is helpful to consider the background of the Internet as a whole from a historical perspective, and its evolution of the 'social Web', which helps to clarify present uses and practices. The artifacts and practices that comprise E2.0 did not spring into being fully formed, nor are they static constructs, but are rather a process or continuum of progressive development, which this perspective illuminates.

Ted Nelson described the contingent nature of this sociotechnical development in his recent history of computing hardware and software, "Geeks Bearing Gifts" (2009). In his introduction he explains his purpose:

> "I want to make clear how varied and conflicting have been the initiatives of what we call computer technology. I want to show here the huge variety of alternatives and disagreements and accidental lines of causality. The myth of "technology" … is a myth of unidirectional progress that leaves out the ideas, disagreements, maneuvers, forgotten possibilities, and politics. Everything cross-connects and criss-crosses. Everything influenced everything else, kind of. All these topics interpenetrate and overlap and continue today" (2009: 4).

Although E2.0 represents a small fraction of Nelson's much wider thesis, it nonetheless fits his analysis as both a technological and a social construct, and a product of all that has created it, either intentionally or not. This section helps to provide understanding of the socially shaped technological substrate upon which it is built, and in doing so, helps to explain the kind of sociotechnical construction that E2.0 has become. It further helps to explain the emergent context in which people might encounter and use E2.0.

The Internet's earliest infrastructure and software evolved primarily in the United States in the early 1970s. By the early 1980s, the Internet spanned continents and oceans, but was mainly used in academic, industrial, and governmental environments (Internet Society, 2010). Other networks existed at the time, but were purpose-built, closed networks predominantly dedicated to engineering, economic functions, and telecommunications. During this early time in the Internet's growth, technology-centric businesses created and grew their own internal data networks. During the late 1980s and early 1990s multiple factors contributed to fuel that growth, including developing organizational networks, an ever-growing number of skilled users and practitioners, more sophisticated and powerful operating systems and software, increasingly feature-rich computing platforms, and declining real costs of computing hardware.

Through the late 1980s and early 1990s, network tools such as email, bulletin boards, and file transfers were the most commonly used and best available computing communication means. At the time, however, numerous hardware and software differences throughout the global network made information sharing and reuse difficult. Developed mainly as a response to this problem, Berners-Lee's World Wide Web was released into the public domain in 1991 (ibiblio.org, n.d.), followed shortly thereafter by the Mosaic Web browser, neither of whose original permutations supported images. But that limitation quickly changed: Mosaic creator Marc Andreesen remembers, "Tim bawled me out in the summer of '93 for adding images to the thing" (ibiblio.org, n.d.). These developments radically changed the Internet's communication model from merely supporting document transfer of the sort mentioned above, to enabling graphics-rich hypertext. They also accelerated the popularity of the Internet, enriching and simplifying users' abilities to both access and publish information.

Meanwhile, commercial restrictions on the Internet gradually eroded over the early 1990s, culminating in their complete removal in May 1995 when the U.S. National Science Foundation ended its sponsorship of the Internet backbone (Internet Society, 2010). "Since then, the growth of commercial accounts on the Internet has far exceeded any other kind" (Yahoo!, n.d.). Explosive growth of the Web followed,

fueled by browser and security innovations that permitted reliable, secure payments on the Web. Data communication improvements, including streaming media, greatly increased bandwidth, and wireless technologies, with ever-increasing computer power and features, rich content, and improved search capabilities, also contributed to the Web's dramatic growth. Although a popular misconception in the late 1990s held that the Internet was doubling in size every three months, its actual growth was merely 100% annually (Odlyzko, 2001). Figure 1 demonstrates key events over the development of the Internet and the Web, in addition to showing the growth of Internet users and hosts over the past 18 years. It also depicts the approximate timeframes of three generally applicable usage phases, which are further described in the following section. Most of the events depicted relate to product release dates, while others, such as the "dot com bubble" and "broad wifi use" are approximations. Event dates for "Web 2.0" and "Enterprise 2.0" relate to when the terms were defined.

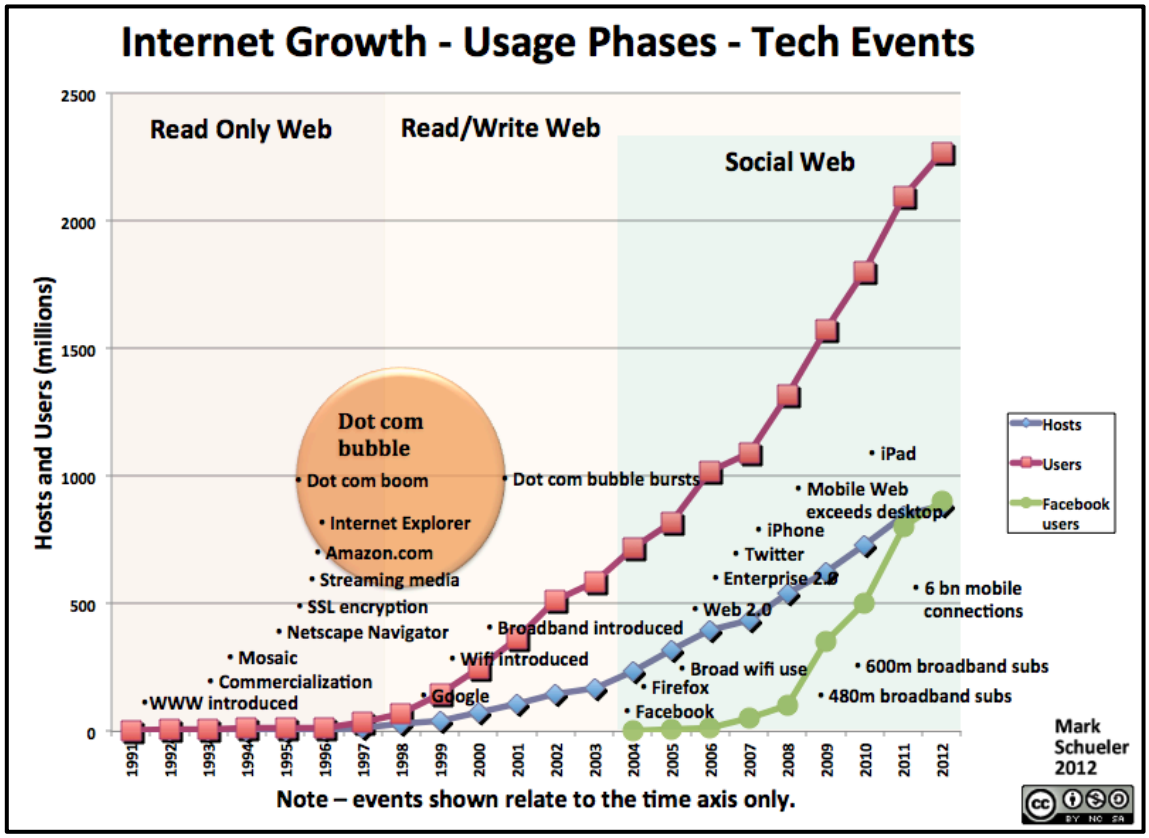

Figure 1: Growth of Internet demonstrating usage phases and technological events

(Sources in Appendix A)

These events meshed with global economics, producing synergistic growth across the

Internet and ICT. A UN training publication describes the macroscale dynamics of this evolution:

> "The global ICT sector has been, and continues to be, shaped by a number of powerful interrelated forces. Chief among these forces are:
>
> - Technological developments;
> - Convergence of telecommunications, broadcasting and multimedia;
> - Globalization and internationalization of markets; and
> - Emergence of broadband services" (United Nations, 2007: 2).

Myriad new Web-based business models, ranging from finely-crafted and resilient to wildly speculative, gave rise to the dot-com bubble, and ever-greater public and private awareness of the Web's utility in brokering information of all types. And although the dot-com bubble crash wiped out $5 trillion in market value of technology companies from March 2000 to October 2002 (Gaither and Chmielewski, 2006), it is noteworthy that Internet user and host counts have dramatically increased ever since, as shown in Figure 1.

2.2 Phases of Web Usage

From its earliest days, the Web supported read/write functionality. The first browser, WorldWideWeb (later renamed Nexus to avoid confusion with the Web abstract information space), allowed editing of local files (Berners-Lee, n.d.). An early version of Mosaic, the browser credited with popularizing the Web, included an annotation feature (NCSA, 1993; White, 2009). Editing features were little used and were subsequently removed from successive browsers. Thus, for its first five years, the Web was primarily used as an idea space for one-direction publication. It was predominantly a *Read/only Web*.

With the release of Java, JavaScript, and other browser-centric languages and tools in the mid-1990s, broad bidirectional communication became facile and pervasive, helping to launch a multitude of Web applications and fostering the dot-com boom. This was the beginning of the *Read/write Web*.

> "The reach and ubiquity of the Web makes it the ideal medium for communication, collaboration, business, social exchanges, and fun and

entertainment. However, in the past five years, the Web has gone through another significant transformation. It has evolved from a transactional, read-only Web to a participatory, read-write Web" (Sikander and Sarma, 2010: 8).

According to Sikander, the time frame in this claim is based on the advent of Web 2.0 (2010). But earlier technological extensions of the Web's functionality allowed user interaction with Web sites, fostering multiple participatory models and uses. I would argue that these extensions and their effects in Web space and resulting practice were well underway by the late 1990s—both Java and JavaScript were released in 1995 and were in broad use by 1997 (Champeon, 2001; Java Timeline, n.d.).

Still later, with the introduction of weblogs, wikis, social tagging, media sharing, social networking, and similar Web applications that offered capabilities for user-generation of content, as well as creating and advancing online social relationships, the *Social Web* was born. Note that the *Social Web* phase is shown in Figure 1 as a component of the *Read/write Web*—a reflection on the evolution and growing sophistication of Web applications and their uses.

Although the chart in Figure 1 appears to delineate fixed times for the beginnings and endings of these usage phases, these are approximations due to the difficulty of fixing dates on complex sociotechnical developments. Note also that the gap between the start of the *Social Web* phase and the definition of Web 2.0 indicates a period during which nascent social applications were starting up and proliferating ahead of their categorical recognition.

2.3 Social Software / Social Media

Shirky succinctly defines *social software* as "software that supports group interaction" (2003). This definition simplifies years of prior art, building upon notions of 'electronic information exchange' and 'groupware' initiatives undertaken primarily in corporate practice from the 1970s through the 1990s (Allen, 2004). More recently, *social media* has become a popular nearly synonymous term, which Kaplan and Haenlein define as:

> "a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user-generated content" (2010: 61).

In this thesis I use both terms with the understanding that the real difference between the two is that the former is historically rooted to pre-Web computer-mediated communication (CMC) practices (and largely understood to be work-related), while the latter is perhaps more commonly used (and understood as both work- and non-work-related).

Older networked software applications such as email and Usenet offered social functionality but, while widely used, their communities of interest were much smaller in the pre-Web era and they were treated more as tools than as social communities. Similarly, early large scale corporate attempts to bring an interactive, "social" online experience to the masses by AOL, Prodigy, and CompuServe enjoyed limited success in the 1980's and 1990s (Borders, 2009). More recently, with the advent of collaborative software such as blogs and wikis, Web applications became popular when they offered "community formation" capabilities. In broad terms,

> "People form online communities by combining one-to-one, one-to-many, and many-to-many communication modes. The commonality is that all tap the power of new information and communication technologies and the resultant interconnectivity to facilitate engagement, collaboration, and sharing of tacit knowledge" (Lu and Serrat, 2009).

Note that my use of "social" has different levels of meaning according to the context in which it is used. Here it is meant to convey uses and practices (in this case, relating to social software) that are "relating to society or its organization" (Oxford Dictionaries, 2010) or "relating to or designed for activities in which people meet each other for pleasure" (Oxford Dictionaries, 2010). As we'll see in Chapter 3, it also relates to the complex, interdependent institutions that contribute to human relationships at all levels of society, as well as the social dimension of "sociotechnical" phenomena.

2.4 Setting the Stage for the Social Web and Organizational Uses

In recent years, computing infrastructure has grown into a global network comprised of billions of nodes with nearly ubiquitous connectivity in organizational settings. Mobile computing, automatic wireless session setup, and low-cost cloud computing

have all come into broad and increasing use. Open source operating systems and applications compete with expensive proprietary tools, reducing economic barriers to expanding uses of computing. Efficient new Web search technologies, easier-to-use browser-based interfaces, streaming media, deliberately engineered social applications, and other emerging scripting and composition environments provide features and functions of increasing sophistication. Recent estimates show more than 1.8 billion worldwide Internet users (Internet World Stats, 2010), nearly a quarter of the world's population. Over the past two decades, this growing population has created countless uses and applications for information handling. Also during this time, computing platforms have continually improved in accordance with Moore's Law, which states that the number of transistors on a chip will double about every two years (Intel, 2010). In addition, improvements in memory, disk storage, graphics, and displays, coupled with declining costs across these technologies, have provided technological benefits to improve users' experience with Internet client devices.

These broad advances in information technologies have had significant organizational impacts (Brynjolfsson and Mendelson, 1993; Castells, 2009). Multiple modern organizational structures have been observed, including networked, virtual, matrix, chaordic, hybrid, and combinations of the preceding—complex adaptive design dimensions meant to provide organizations "adequate agility and organicity, so that drastic strategic choices may be implemented in a timely and successful fashion" (Geisler, 2001.) Information workers at all levels of organization are becoming more experienced and skillful in using advancing information technologies (Kallinikos, 2006).

All these elements have converged over the past ten years, creating a dynamic, fertile space for ever-faster and cheaper communication and collaboration, setting the stage for the explosive growth of the social Web and its concurrent assimilation into the structures and processes of organizations. As we'll see in the next two sections, this collision of the social Web and organizational practices *created* E2.0. But that evolution grew out of the Web's origins (and structural limitations), through its unfolding usage phases, and was significantly enabled by its multiple recent technological advances and attendant network effects.

2.5 Web 2.0 Overview

2.5.1 Social Web History

The roots of the “social Web”—the second generation of the World Wide Web which focuses heavily on user-generated content, communities, networking and social interaction—predate the Web itself, the core ideas dating back to Bush’s “memex” (1945) and Engelbart’s “augmentation” (1962). Bush’s conceptual device approximates a modern computer:

> “A memex is a device in which an individual stores all his books, records, and communications, and which is mechanized so that it may be consulted with exceeding speed and flexibility. It is an enlarged intimate supplement to his memory” (1945: 13).

Later, his article describes the device’s use as an aid to groups:

> “And his trails do not fade. Several years later, his talk with a friend turns to the queer ways in which a people resist innovations, even of vital interest. He has an example, in the fact that the outranged Europeans still failed to adopt the Turkish bow. In fact he has a trail on it. A touch brings up the code book. Tapping a few keys projects the head of the trail. A lever runs through it at will, stopping at interesting items, going off on side excursions. It is an interesting trail, pertinent to the discussion. So he sets a reproducer in action, photographs the whole trail out, and passes it to his friend for insertion in his own memex, there to be linked into the more general trail” (1945: 15)

Similarly, Engelbart’s concept prefigured contemporary computing practices:

> “By "augmenting human intellect" we mean increasing the capability of a man to approach a complex problem situation, to gain comprehension to suit his particular needs, and to derive solutions to problems. Increased capability in this respect is taken to mean a mixture of the following: more-rapid comprehension, better comprehension, the possibility of gaining a useful degree of comprehension in a situation that previously was too complex, speedier solutions, better solutions, and the possibility of finding solutions to problems that before seemed insoluble. And by "complex situations" we include the professional problems of diplomats, executives, social scientists, life

> scientists, physical scientists, attorneys, designers—whether the problem situation exists for twenty minutes or twenty years. We do not speak of isolated clever tricks that help in particular situations. We refer to a way of life in an integrated domain where hunches, cut-and-try, intangibles, and the human "feel for a situation" usefully co-exist with powerful concepts, streamlined terminology and notation, sophisticated methods, and high-powered electronic aids" (1962: 1).

These concepts preceded the technological means for their implementation, but nonetheless informed subsequent development of Internet-based applications for communication and collaboration, including email, newsgroups, groupware, and virtual communities.

From its beginning in the early 1990s, the Web was understood (by its inventor) to be oriented toward social use. Berners-Lee points out, "The Web was designed so that every user could be a contributor. That sort of participation was the whole idea and was there from the beginning" (Economist Intelligence Unit, 2007). For the first dozen years or so of its existence, this aspect of the Web's character was largely lost on its broader population. Indeed, a 1993 version of the Mosaic browser provided Web page annotation functionality, but the feature experienced light use and was subsequently deprecated (White, 2009).

Although the Web's first social networking website, theglobe.com, was launched in 1995 (theglobe.com, 2009), it would be some years until deliberately social Web applications became viable and broadly used. By 2003, however, with multiple socially oriented Web applications freely available and growing in popularity, the medium reached a tipping point and social usage exploded.

2.5.2 Web 2.0 Defined

In 2004 the term "Web 2.0" emerged from a conference brainstorming session between O'Reilly Media and MediaLive International, a conference production company.

> "Dale Dougherty, web pioneer and O'Reilly VP, noted that far from having "crashed", the Web was more important than ever, with exciting new

applications and sites popping up with surprising regularity. What's more, the companies that had survived the collapse seemed to have some things in common. Could it be that the dot-com collapse marked some kind of turning point for the web, such that a call to action such as "Web 2.0" might make sense? We agreed that it did, and so the Web 2.0 Conference was born" (O'Reilly, 2005).

A play on the software industry's product version naming convention, it originally signaled a post-crash reboot of the Web and its unquestioned affordances. The conference Web site observed that,

> "While the first wave of the Web was closely tied to the browser, the second wave extends applications across the Web and enables a new generation of services and business opportunities" (Web 2.0 Conference, 2004).

The name soon became controversial (Graham, 2005). In 2005, publisher Tim O'Reilly's online article, "What Is Web 2.0," set out to provide a clear definition for the developing phenomenon, describing it as referring to an epochal transition in the Web's development and functionality (2005). In his article, he articulated seven key concepts that distinguish the recent developments in Web application uses from those previously offered. These included:

- Services, not packaged software, with cost-effective scalability
- Control over unique, hard-to-recreate data sources that get richer as more people use them
- Trusting users as co-developers
- Harnessing collective intelligence
- Leveraging the long tail through customer self-service
- Software above the level of a single device
- Lightweight user interfaces, development models, and business models (2005).

All taken, these elements added up to a sea change in Web approach and usage, with users co-producing content and value, and interacting with each other in unprecedented numbers and ways.

In a 2006 interview, the Web's inventor demurred:

> "When asked if it's fair to say that the difference between the two might be

> fairly described as "Web 1.0 is about connecting computers, while Web 2.0 is about connecting people," Berners-Lee replied, "Totally not. Web 1.0 was all about connecting people. It was an interactive space, and I think Web 2.0 is of course a piece of jargon, nobody even knows what it means. If Web 2.0 for you is blogs and wikis, then that is people to people. But that was what the Web was supposed to be all along. And in fact, you know, this Web 2.0, it means using the standards which have been produced by all these people working on Web 1.0"" (Anderson, 2006).

Although controversial, the Web 2.0 sobriquet nonetheless included recognition of other significant changes in the Web's economic, social, and technical evolution, not least the post-dot-com-bubble realization that services delivered via the Web matter more than the software that enables the Web. While dismissing the term's use as a buzzword, Davis nonetheless echoes Berners-Lee:

> "Here's my take on it: **Web 2.0 is an attitude not a technology**. It's about enabling and encouraging participation through open applications and services. By open I mean *technically open* with appropriate APIs but also, more importantly, *socially open*, with rights granted to use the content in new and exciting contexts. Of course the web [sic] has always been about participation, and would be nothing without it. It's [sic] single greatest achievement, the networked hyperlink, encouraged participation from the start" (2005, original emphasis).

Shortly thereafter, O'Reilly updated his earlier description of Web 2.0 with a more succinct definition:

> "Web 2.0 is the business revolution in the computer industry caused by the move to the Internet as platform, and an attempt to understand the rules for success on that new platform. Chief among those rules is this: Build applications that harness network effects to get better the more people use them" (2006).

2.5.3 Web 2.0 Enabling Technologies

At a high level, Web 2.0 enabling constructs include server-software, content-syndication, messaging-protocols, standards-oriented browsers with plugins and extensions, and client-applications. Mashups are also commonly used in Web 2.0 applications:

> "In web development, a mashup is a web page or application that combines data or functionality from two or more external sources to create a new service. The term mashup implies easy, fast integration, frequently using open APIs and data sources to produce results that were not the original reason for producing the raw source data" (Peenikal, 2009: 2).

These constructs are themselves enabled by multiple lower-level technologies, including uses of XML (Extensible Markup Language), AJAX (Asynchronous JavaScript and XML), REST (Representational State Transfer), SOAP (Simple Object Access Protocol), RSS (Really Simple Syndication), and other tools and strategies for enhancing machine-to-machine communication (ProgrammableWeb, 2010).

2.5.4 The State of Web 2.0 at its Definition

Shortly after Web 2.0's identification, Hinchcliffe identified an extant field of 212 relevant applications covering 22 usage categories (2006). These included such usage models as blogs, wikis, social bookmarking, social tagging, portals, calendaring, contact lists, messaging, RSS feeds, and others, all bearing O'Reilly's social engagement imprimatur. Some manifestations were map server Google Maps, social networking sites MySpace, Orkut, and LinkedIn, social bookmarking site del.icio.us, peer production news sites digg and reddit, and media sharing site flickr. Some noteworthy omissions included sites that certainly fit the Web 2.0 model, were then extant, and went on to become popular, including Wikipedia, Facebook, and Youtube (Hinchcliffe, 2005).

2.5.5 Web 2.0 Now

Today a broad array of Web applications and services populate the Web 2.0 domain. In addition to the usage models articulated above, others have been added, such as hypertext and unstructured search tools, collaborative planning software, social editing, ideas banks, prediction markets, customer/user support forums, online

feedback, and browser sharing (AIIM, 2008). A significant market supplies these and numerous other related applications. Technology directory site eConsultant in 2008 listed over 1,200 Web 2.0 sites/services/links in over 50 categories (eConsultant, 2008). By June 2012, Web applications index go2web20.net listed over 3,000 Web 2.0 sites/services/links across 386 categories (go2web20.net, n.d.).

All these applications and the functionality they provide are affected by (and affect) their users. This can be seen in their rapid uptake and evolution in just the past six years, as hundreds of millions of global users enthusiastically embrace them (comScore, 2007). As shown in Section 2.2, *Phases of Web Usage*, previous to Web 2.0 tools and usages, the Web primarily offered information publication and retrieval in addition to basic interaction. With the new tools, the Web offered broad interaction and communication with others in addition to all previous usage models, making the Web much more social and dynamic. Businesses, seeing broad potential in these social Web innovations, rapidly adopted them, leading to the emergence of E2.0.

2.6 E2.0 Overview

2.6.1 E2.0 Defined

Being a relatively new construct with no clear champion or specific leadership, E2.0's definition remains vague in the literature (I will offer my own definition shortly). Associate Professor Andrew McAfee of the Harvard Business School, a leading advocate of enterprise social software who coined the term "Enterprise 2.0" and who frames its scope within business environments, describes E2.0 applications as follows:

> "Enterprise 2.0 is the use of emergent social software platforms within companies, or between companies and their partners or customers.
>
> Social software enables people to rendezvous, connect or collaborate through computer-mediated communication and to form online communities. (Wikipedia's definition).
>
> Platforms are digital environments in which contributions and interactions are globally visible and persistent over time.
>
> Emergent means that the software is freeform, and that it contains

mechanisms to let the patterns and structure inherent in people's interactions become visible over time.

Freeform means that the software is most or all of the following:

- Optional
- Free of up-front workflow
- Egalitarian, or indifferent to formal organizational identities
- Accepting of many types of data" (McAfee, 2006b).

He also qualified a list of E2.0's attributes:

"Technology paradigms are often made up of several components. For example, the components of Windows, Icons, Menus and Pointers (mice) combine to yield the WIMP user interface of most personal computers today. Similarly, I use the acronym SLATES to indicate the six components of Enterprise 2.0 technologies" (McAfee, 2006a).

- Search: allow users to search for other users or content
- Links: group similar users or content together
- Authoring: be easy to produce content
- Tags: allow users to tag content
- Extensions: recommendations of users or content based on profile, preferences, and/or behavior
- Signals: allow people to subscribe to users or content (AIIM, 2010).

Although search and links have existed since the Web's early days, the instant usages refer to socially oriented practice; basically community formation and change through shared goals and interests.

The Association for Information and Image Management (AIIM), a non-profit association dedicated to nurturing, growing, and supporting the Enterprise Content Management community, defines E2.0 as "a system of Web-based technologies that provide rapid and agile collaboration, information sharing, emergence and integration capabilities in the extended enterprise" (AIIM, 2010).

Hinchcliffe maintains that its essential core meaning is “social applications that are optional to use, free of unnecessary structure, highly egalitarian, and support many forms of data” in a business environment (Hinchcliffe, 2007). He provides a graphic, shown in Figure 2, that illustrates its evolution out of earlier Web usages, including salient characteristics at each level of use.

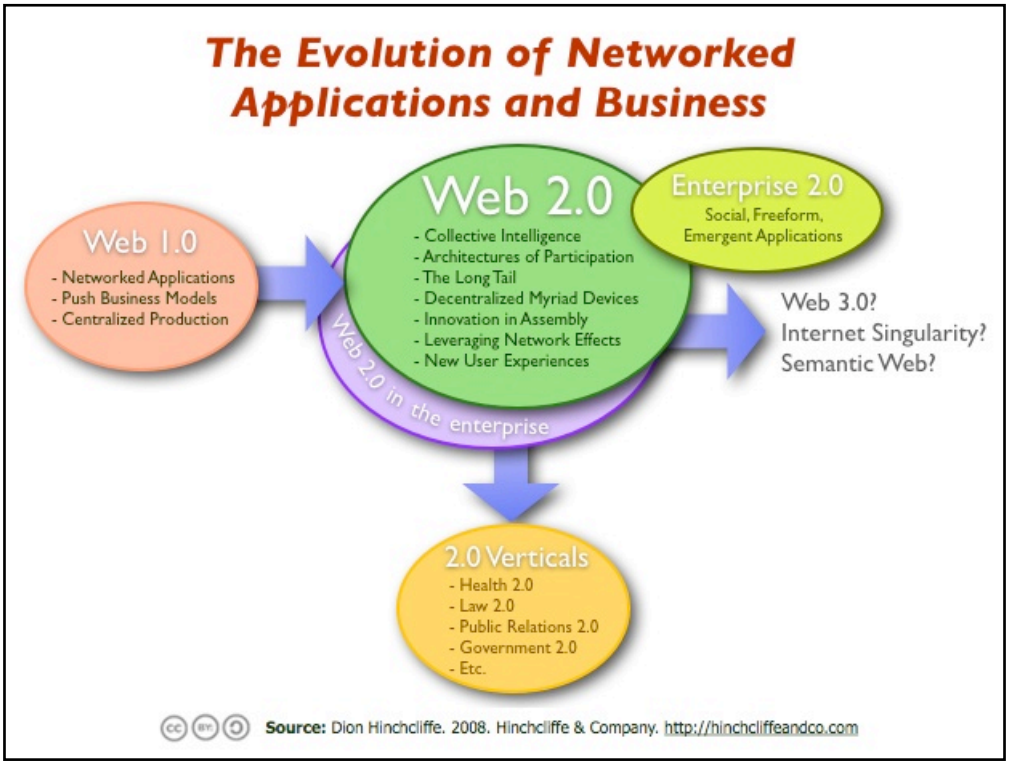

Figure 2: Characteristics and directions of Web 2.0 and E2.0 evolution (Hinchcliffe, 2008)

These definitions together offer an approximation of E2.0’s meaning, but no clear consensus. As such, a more concise definition will serve to advance this thesis.

Since organizational requirements for communication and collaboration are not exclusively limited to the purposes of business or commercial entities, the scope of the term “enterprise” should not be limited to such organizations. In this way, “Enterprise” may be seen as any organization, using Weber’s definition of organization as “a system of continuous activity pursuing a goal of a specified kind” (1962: 115). This approach is used because the utility of organizational communication tools is not considered to be subjective to the type of organization in which they are used.

Put simply, I define E2.0 as social software used in organizational settings to advance organizational goals. “Social software” here refers to networked computer applications which allow interaction and data sharing. This is a wider interpretation than the above definitions, but one which allows unrestrained flexibility of social interaction.

2.6.2 Current Applications

Numerous applications that fit the above definition serve a broad range of use cases, employing varying technologies and using some combination of text, graphics, audio, and video communication modalities. Some examples of widely used applications and their general functions follow in Table 1.

Application	Simple Definition	Function
Wikis	Collaborative authoring and editing	A Wiki is a series of Web pages that can be edited and maintained by multiple users, typically as a long-term knowledge repository or database. It is usually devoted to a specific subject or field of interest.[1]
Social Networking Sites	Connecting people globally	A social network service focuses on building and reflecting of social networks or social relations among people, e.g., who share interests and/or activities. A social network service essentially consists of a representation of each user (often a profile), his/her social links, and a variety of additional services.[2]
Blogs	Journal or diary	A simple Weblog is typically operated by an individual who regularly posts comments and news, often including multimedia files.[1]
Social Bookmarking	Folksonomy or shared metadata on multiple Web resources	Social bookmarking sites store and allow users to comment on favorite Web resources and share them with others.[1]
Web Conferencing, Webinars, Webcasts	Virtual meetings and presentations	Web conferencing is used to conduct live meetings, training, or presentations via the Internet.[2]
Bulletin boards/forums	Online discussion site	Forums or boards are Web applications managing user-generated content.[2]
IM, Text Chat	Synchronous conferencing	Chat is primarily text-based Internet-mediated real-time communication.[2]
Social News Sites	Ways of sharing content with others	The term social news refers to Web sites where users submit and vote on news stories or other links, thus determining which links are presented.[2]
Micro-blogging. Presence Networks.	Broadcast instant messages	Form of blogging which allows brief (Instant Message size) text updates.[2]

Table 1: Social applications comprising Web 2.0 and E2.0

E2.0 use cases include internal applications used inside the organizational firewall, external supplier- and customer-facing applications, and applications which cross boundaries to interact with external entities with whom the organization does not

[1] Web 2.0 Tools – http://cybersmartcurriculum.org/tools/
[2] Wikipedia – reference individual applications

have a business relationship. Table 2 shows examples of these use cases. The applications shown in Table 1 may support any of these use cases, depending on how they are configured.

Internal	Internal -> External	External
Internal management processes Knowledge creation and sharing (internal) Expertise location Project management Project collaboration Business intelligence and awareness	Product and service development Customer service (loyalty and development) New product development Idea generation and innovation	Marketing Market research Referrals/amplifying word-of-mouth Reputation management
	Employee recruitment, retention and learning Recruitment Informal learning and use of Enterprise 2.0 within training strategies Skill (re)generation Work-life balance	Access to external resources Open innovation Relationships with Strategic Alliances and other Partners Communication with External Information Sources Exploiting ideas Manufacturer-Supplier-Distributor Networking

Table 2: E2.0 use cases (Osimo et al., 2010: 12)

2.6.3 Current E2.0 Industry

Multiple types of applications presently comprise the E2.0 realm. And although the tools and uses described in Table 1 are available as consumer applications (and most of them primarily used as such—e.g. Wikipedia, Facebook, Twitter), commercial offerings exist in most categories for organization-specific uses. Examples are shown in table 3.

Technology	Sample enterprise solutions
Wikis	Socialtext, Atlassian Confluence, Twiki
Social Networking Sites	Awareness, Jive, Communispace
Blogs	Automattic, Six Apart, Traction Software
Webinar/Webcasts	WebEx, LiveMeeting, IBM Beehive
Micro-blogging. Presence Networks.	Yammer, IBM Sametime, Cisco Quad

Table 3: Organizational social software applications

Over the past three years a significant market has arisen which provides these and other related tools for organizational social computing uses. Forrester Research reports that the current $1+ billion market for E2.0 products and services may be expected to rise dramatically over the near term:

> "Enterprise spending on Web 2.0 technologies will grow strongly over the next five years, reaching $4.6 billion globally by 2013, with social networking, mashups, and RSS capturing the greatest share" (Young, 2008).

In addition to the E2.0-specific market, many consumer applications such as Facebook, Twitter, and Google+ are used by organizations as E2.0 tools, as this research will show in Chapter 5.

2.6.4 Commercial Promotion and Claims

In addition to fostering an industry in its own right, E2.0 has become a hot topic for discussion and debate, with hundreds of articles, blog posts, and commercial white papers being published monthly, primarily on the Web. Although a small percentage advise caution and/or provide criticism of developments currently underway, the majority extol the virtues and benefits of E2.0 in general, or of specific tools or usages. These often take the form of unsupported claims, examples of which follow:

> "[These tools] can help break down the boundaries, compress hierarchies, reduce the friction of information flow, and in so doing unlock value with increased innovation and productivity" (D2C, n.d.).

> "Web 2.0 enables masses of individuals to become application and content developers and deploy Web 2.0 applications that implement their own versions of established business rules and practices. Although this entails risks, it can also unlock huge business value" (Gartner, 2008b).

> "The end result is improved knowledge management, better talent management, faster onboarding, and easier discovery of relevant information and people expertise. Ultimately, enterprise social computing increases corporate productivity and enterprise agility by connecting employees to the people, data and assets that they need instantly — no matter where on the globe that resource is located" (GMA and Microsoft, 2011).

> "These tools can help productivity. These tools can ease the flow of information. These tools will save us money by helping to create an organisation where employees are less stressed" (Manchester, 2008).

Although these are opinions, they are typical of those commonly expressed in the commercial press and blogosphere that attends E2.0. Such claims suggest assumptions (covered in the next subsection), related to commercial interests in the E2.0 marketplace.

Multiple large international conferences, attracting thousands of participants and almost entirely commercial in nature, have arisen over the past five years, adding to the generation of ideas, speculation, and hype in the space. The 2010 Enterprise 2.0 Conference, held in Boston in June, attracted more than 1,500 attendees, an increase from the previous year and an indicator of the topic's popularity, despite the current recession (Garland, 2010).

2.6.5 Assumptions Underlying Commercial Claims

The popular view, mainly promoted by extensive commercial blogging in the domain, assumes:

- That uses and outcomes of E2.0 tools are predictable and positive.
- That the technologies will "free" organizational information and communication.
- That organizations respond equally to interventions.
- That all organizational communication goals are homogeneous.
- That E2.0 tools have fixed capabilities.
- That individuals will embrace the tools.

These assumptions reveal simplistic approaches to organizations, to organizational communication, and to social uses of workplace technologies.

3. Creating a Social Perspective

AIIM's recent study of "441 end users found that a majority of organizations recognize Enterprise 2.0 as critical to the success of their business goals and objectives, but that most do not have a clear understanding of what Enterprise 2.0 is" (2008).

3.1 Introduction

We've seen in Chapter 2 the claims being made in the commercial realm about the affordances of E2.0. They include multiple benefits arising from organizational uses of information enhanced by social media. In sum, as E2.0 evangelist Ross Dawson exemplifies, among the benefits are increased "productivity and efficiency, staff engagement, knowledge sharing, and enhanced reputation" (2009: 31).

Embedded within these claims are assumptions (described in Section 2.6.5, *Assumptions Underlying Commercial Claims*) about social uses of workplace technologies, information, and organizations. Indeed, the commercial literature leaves much to be desired in terms of its sophistication, little evidence being offered to empirically support these claims. If we are to really understand the results of E2.0 in practice, we must dig deeper. My goal is to cut through the assumptions about E2.0 by reframing its consideration with a more grounded set of concepts, and develop a clearer understanding E2.0's effects on social and organizational dynamics through their use. To that purpose, this chapter reviews E2.0-related business and academic literature, shows how a sociotechnical approach can help to make sense of the relationship between technology and its social uses, and then draws on theories of information and organization to explore how we might look at E2.0 in those particular contexts, using theoretics of French sociologist Pierre Bourdieu to show us how to understand the social dynamics that both influence and result from "objective social structures and everyday practices" (Webb, Schirato and Danaher, 2002: vi).

3.2 Previous Research

We've seen that commercial claims regarding the benefits of E2.0 are being made, but what do we actually know about the uses of E2.0 tools in practice and their outcomes?

What we know thus far is demonstrated by relatively little research specific to E2.0—owing primarily to the recent emergence of the domain—and these studies are rather narrowly focused.

Previous research on E2.0 runs from commercial to academic: from explorations of related business uses, economics, and markets; to investigations of functional attributes of E2.0 tools and technologies; to examinations of largely categorical social outcomes from uses of E2.0, such as analyses of user satisfaction, motivation, trust, and similar perceptions related to application use. These three main areas of research across the domain are considered in turn in the following sections.

3.2.1 Economic/Market Research

A significant area of research in the E2.0 domain addresses the business and market characteristics—such as market value, segmentation, growth, and so on—of the associated applications and broader technologies. Business research organizations, such as Forrester Research, Gartner Research, Butler Group, and AIIM, provide periodic reports on the business of E2.0, typically based on market surveys and targeted mainly at business executives with a view to influencing software purchases and business practices. We saw the earlier example of Forrester Research's report predicting greater than four-fold E2.0 market growth from 2007-2013 (Young, 2008). Similarly, Gartner Research found, in their recent survey of 1,500 CIOs worldwide, that half of the respondents were planning to make their first investments in Web 2.0 technologies in 2008 (Gartner, 2008a). This kind of quantitative research provides IT and senior executives with macroscale views of the E2.0 market and some exposure to its component applications. It also seeks to provide guidance for IT management. For example, a recent report from Butler Group explains

- Why re-evaluating the corporate desktop could improve employee mobility and corporate productivity.
- Why business leaders should consider exploiting social networking trends and technologies…
- How Software as a Service and Service Oriented Architecture are related to Enterprise Web 2.0.
- Why new software development architectures, models, and strategies are

required to make enterprise applications a "joy to use" (Butler Group, 2008: 8).

In fact, this amounts to speculative advice, buzzword rich but devoid of analysis of the deeper social or organizational uses or impacts of E2.0. As such, it provides little evidence to support its claims or explain why these outcomes might be anticipated. In a more in-depth study, The McKinsey Quarterly conducted a survey in June 2008 and received responses from 1,988 executives from around the world. They were asked which E2.0 tools their companies had adopted and for which purposes, what they were doing to encourage adoption, and how satisfied they were with their use of these tools. They were also asked to what extent they were using such new technologies to interact with their employees, customers, and suppliers—and, ultimately, how important these tools were to their companies' competitive edge. This study found that

- Companies have adopted more Web 2.0 tools this year than in 2007 and are using them for higher-value purposes.
- Some 21 percent of the respondents are satisfied with the way their companies use Web 2.0 tools, which are changing management practices and even organizational structures.
- Other companies report that the barriers to adopting Web 2.0 tools include management's inability to grasp their potential financial returns, unresponsive corporate cultures, and less-than-enthusiastic leadership (McKinsey, 2008).

Other recent research, including a study on "Enterprise 2.0 in Europe" (Osimo, et al., 2010), and studies by diverse research organizations develop along similar lines, offering perspectives of the domain tailored to meet the interests of their constituent markets (JISC, 2007, 2009; McKinsey, 2011; Infiniti Research Limited, 2012; Ovum, 2012; RealStory Group, 2012). Although these studies seek to provide organizational consumers with research-based predictions of market growth and the like, they remain largely speculative, to the extent that they are projections couched in supportive economic assumptions. This approach is problematic because of its orientation toward advancing sales in the E2.0 industry—as such, it takes little notice of or interest in results not directly related to marketing. In addition, since the target audience for this

type of research comprises organizational budgetary decision makers, such information is developed and delivered in both quantitative and qualitative business terms, e.g. estimates of E2.0 market sizes and management issues attending technological interventions. This business orientation does little to advance inquiry or insight into these interventions' influences on social and organizational dynamics, rather maintaining that "technology is something for us to 'master'" (Jones and Munro, 2005: 4).

Some of the promotional research is also suspect. One noteworthy study presented by Oracle claimed,

> "Inefficient storage and working practices are costing UK plc up to £900 million a week, according to the Enterprise 2.0 research commissioned by Oracle and carried out by independent research house ICM. The research revealed that the equivalent of 30 million hours a week is wasted in the UK as people struggle to locate disparately stored documents, and share up-to-date information across systems" (2010: 4).

This claim amounts to over 3% of UK GDP (Rogers and Sedghi, 2013) at the time of the research and appears to be based on the assumption that *all* UK workers struggle with document and information searches—struggles which must hence cost the national economy nearly £47 *billion* annually—clearly a questionable assumption. In this instance, the research appears to overstate the problem in order to promote Oracle's sales of E2.0 technology.

3.2.2 Tool Research

Tool- and technology-related research in the domain has explored utilitarian aspects of E2.0 technologies through examinations of specific applications and their uses, as well as underlying technologies that enable social uses. These are studies specific in terms of both social software and organizational applications. For example, studies have explored features and organizational uses of: mashups (Makki and Sangtani, 2008), social bookmarking (Pan and Millen, 2008; Damianos, et al., 2007), social search (Ehrlich, Lin and Griffiths-Fisher, 2007), blogs (Agarwal and Liu, 2008), wikis (Ding, Danis, Erickson and Kellogg, 2007), and microblogging (Zhang, Qu, Cody and Wu, 2010). Other studies have examined the application, effectiveness, and business

impacts of enabling technologies such as Semantic Web (Passant, 2008), Web services (Fink and Neumann, 2009), and widgets (Laga, Bertin and Crespi, 2009). Such studies help us to understand specific E2.0 technologies and their uses and/or organizational contributions. As such, they provide a view inside the "black box" of E2.0 technology, but these are mainly functional observations of some E2.0 tools in use—they show us a great deal of detail on features, uses, and technological affordances.

Tool-related research demonstrates benefits to individuals and organizations from such uses, as well as areas for improvement through them. For example, Makki and Sangtani show that

> "mashups are useful in enterprise settings … since mashups can be used to organize information presented to the user according to relevance priority, and personalized, if necessary, according to the user's choices. Mashups in enterprises have better interpretation value and lesser navigation cost to the user than an individual application that is not a mashup" (2008: 445).

However, Peenikal sees both benefits and risks of mashups in E2.0 applications:

> "Mashups help move Web 2.0 into the enterprise and can reduce application development costs, improve time-to-market, increase productivity, leverage SOA investments, and spur innovation. But enterprises are currently in a wait and watch mode, as some of the hard pressing challenges like governance, security, manageability, standardization are yet to be addressed" (2009: 5).

Apart from the risks associated, we see that users and, by aggregation, their organizations gain utility and economy through mashups. Similarly, Pan and Millen assert that "the results of our investigation can be used to better support communities of practice with social bookmarking services" (2008: 1), again emphasizing a practical outcome of their research, more economic than social in character.

Technology-related research within the domain looks at enabling technologies, such as Web services or Semantic Web, as applied specifically within social/organizational contexts. This research primarily focuses on the suitability and utility of such technologies for E2.0 purposes, quite apart from other less 'social' or 'organizational' uses. For example, one such study found

> "that the implementation of Web services applications positively affects the flexibility of IT infrastructure resources and information flexibility. The results also show that a specific implementation – an Enterprise Information Portal – also has positive effects on the flexibility of IT infrastructure capabilities, information quality, and IT-based competitive advantage" (Fink and Neumann, 2009: 84).

and that "the significant organizational impacts are IT integration, IT modularity, and information flexibility" (Fink and Neumann, 2009: 101). These are useful insights for IT architects and managers, but narrowly scoped to the functionality and economic impact of a particular technology. Similarly, a study on Electricité de France's R&D E2.0 initiative found

> "Key Benefits of Using Semantic Web Technologies
>
> - unifying Web 2.0 and the Semantic Web with lightweight ontologies;
> - common semantics to model meta-data of existing Web 2.0 services with SIOC;
> - advanced and collaborative knowledge modeling using wikis;
> - interlinking tags, ontology instances and tagged content with MOAT;
> - reusing ontologies and RDF data available on the Web;
> - ability to merge and query data from various services using a central storage system;
> - ontology based querying;
> - suggesting related content thanks to relationships in the ontology;
> - evolution of query services thanks to the SPARQL language and protocol;
>
> Finally, one of the most important points of our system is that most of the semantics are hidden from end users who do not need to struggle with complex Semantic Web modeling principles to benefit from the services" (Passant, 2008: 3).

In this instance benefits of a particular technology enabling E2.0 are seen, but again limited to a technical perspective. We see evidence in this type of research of E2.0 usages providing improvements in communication, knowledge sharing, and

management, as well as fine-grained contributions of specific technologies. Yet such studies contribute little evidence of social dynamics that underlie tool use or non-use, or related social effects.

3.2.3 Social Research

A growing body of research has attended the development and increasing use of E2.0, with much of it exploring an assortment of social dimensions, including user satisfaction and motivation, communication formality, and influences on interpersonal and group trust. Almost without exception (Turner, et al., 2010), it has been specific to social outcomes associated with particular applications.

Much of this work looks into social effects associated with specific tools. For example, studies have examined social aspects of instant messaging (IM): its influence on organizational communication satisfaction (Pi, et al., 2008) and growing formality in its uses (Lovejoy and Grudin, 2003). Other studies (Constandt, et al., 2009; Scherp, et al., 2009) have focused on issues of trust relative to organizational uses of social networking tools. Another (DiMicco, et al., 2008) examined users' motivations for their uses of social networking tools in businesses. These studies offer limited sociological insights into user satisfaction and motivation, formality of uses, and maintenance of trust related to specific E2.0 technologies as follows:

- IM behavior is positively influenced by social influence, perceived IM capacity, and task nonroutineness (Pi, et al., 2008: 1).
- Computer self-efficacy does not influence IM behavior (Pi, et al., 2008: 1).
- IM behavior positively influences an organization's formal and informal communication satisfaction (Pi, et al., 2008: 1).
- Informality of IM positively influences organizational use (Lovejoy and Grudin, 2003).
- Increasing exposure of personal information and loss of trust through social networking software may be mitigated by Semantic Web approaches (Constandt, et al., 2009).
- Relationships and trust between communities and their emergency responder organizations can be positively influenced by Web 2.0 usages (Scherp, et al.,

2009).

- Users' motivations for using social networking sites at work "include connecting on a personal level with coworkers, advancing their career with the company, and campaigning for their projects" (DiMicco, et al., 2008: 711).

These narrowly focused, application-specific insights make no attempt to understand or explain larger consequences of tool usage, such as IM or social networking sites' deeper social impacts on their host organizations—impacts on authority or hierarchy, for example.

To date, the most broadly scoped social explorations of E2.0 fall short of addressing such deeper effects. Skeels and Grudin (2009) examined attitudes and behaviors of users of social network sites within a large corporation. Their emphasis was on the social aspects of use, such as user attitudes and behaviors, and their analysis observed extensive social and work uses in addition to tensions arising when use spans social groups and the organization's firewall. But this approach and these findings did not provide insight into the deeper social causes and results of the uses of social network sites and the tensions observed. Another recent study by the PROLEARN Consortium, while mainly focused on E2.0 implementation issues in business, also offers

> "one important finding of the case studies underpins the bottom up approach by outlining the high dependency of individuals, their motivation, attitude and personal dispositions with the output of very different and diverse usage scenarios in corporate environments" (Kieslinger and Hofer, 2007: 47).

While such results are helpful as observations of social outcomes, they don't tell us why these phenomena occur.

A study of multiple organizational communication modalities (Turner, et al., 2010), including E2.0 tools and uses among other more basic means (face-to-face, telephone, physical notes), examined the "sociotechnical ecology" of a small American firm. In analyzing the relative strengths and weaknesses of the different communication channels, it took into account:

- Function: signal range, signal capture/transfer; signal ability, requirement, record, structure
- Immediacy: synchronicity, immediacy, availability

- Productiveness-Efficiency: establishing common ground, quality of message, efficiency, effectiveness, expressiveness, ease-of-use, characteristics, cost, distance matters
- Social Aspects: social characteristics, emotional affect, social affect, preference, privacy (Turner, et al., 2010: 847).

It found that employees used communication tools in accordance with their perceptions of these attributes of available channels and how they fit the nature of the communication at hand. Although this study included communication means and methods beyond the scope of E2.0, we nonetheless find detailed explanation of related sociotechnical tool uses, but not at the level of group or organizational impact.

3.2.4 Outstanding Questions

We see three main approaches to E2.0 research: business- and market-driven, tool- and technology-centric, and socially orientated investigation. Yet all of these approaches take a narrow (if any) social focus and none provide a clear perspective of the deeper social and organizational impacts of E2.0. We have this patchwork of socially focused results, yet little that shows us how tools are used in everyday practice and the social and organizational results of those uses. We don't see any resulting social outcomes, either for the individual or the organization in terms of social relationships—a key feature of organizational dynamics and central to a well-formed understanding of E2.0 impacts. Thus, our knowledge of the deeper social aspects of E2.0 is sketchy and in need of further exploration.

3.3 Social/Technology Relationship

3.3.1 Understanding Claims

Promoters often make claims that predictably beneficial outcomes will be gained from uses of E2.0 tools. Such rhetoric amounts to, "These uses produce these results." Put another way, this suggests that organizational uses of social software will necessarily produce reliable, economically positive results. In sociological terms, this viewpoint is technologically deterministic: *X* technology produces *Y* results.

This position has been subject to extensive critique, with alternative approaches, including Social Construction of Technology (SCOT), Social Shaping of Technology (SST),

and Actor Network Theory (ANT), that argue for much more complex and nuanced understandings about the relationship between technology and society. These arguments are elaborated in the following sections.

3.3.2 Technological Determinism

Technological determinism is a set of assumptions that technology produces a society's social and cultural values, and consequently underlies the patterns of social organization. It takes a simple cause→effect form. This approach typically holds first that technological development follows a predictable path outside social or political influence, and second that technology affects society in such a way that society reacts and organizes itself to support the technology's continued development.

Notable arguments have been made for technological determinism. Karl Marx observed, "The hand-mill gives you society with the feudal lord; the steam-mill, society with the industrial capitalist" (2009: 49). This is of course not meant to be taken literally, but rather as a seminal cause for a wider socioeconomic outcome. A similar take on technology's broad effects on society was articulated by Marshall McLuhan, who argued that new technologies, such as alphabets and printing presses, strongly influence cognition, affecting social organization: print technology modifies perceptual habits ("visual homogenizing of experience"), ultimately affecting social interactions ("fosters a mentality that gradually resists all but a... specialist outlook") (1962: 125-126). Although a loose interpretation, this nonetheless argues that technology is a major determinant of social results. More recently, futurist and inventor Ray Kurzweil's multiple publications, including *The Age of Spiritual Machines* and *The Singularity is Near*, develop solidly technologically deterministic themes, such as technologically ineluctable trends toward superhuman Artificial Intelligence and a resulting technological singularity (2000; 2006). But are these arguments complete? Many contemporary social theorists would say otherwise, arguing that technology is, to a greater or lesser degree, socially constructed and not autonomous. Technological determinism faces strong critiques and is considered by modern theorists of technology and society to be an inaccurate view of the way society interacts with technology.

3.3.3 Theories of Social Construction

Recent research in SCOT, SST, and related fields has emphasized more nuanced approaches that reject simple cause/effect formulations. Social constructionists argue that technological artifacts, their uses, and their outcomes are the result of countless human choices, dependent upon contingent aspects of our social selves (Boghossian, 2001).

For example, SCOT maintains that social forces have strong influences in technological development and adoption. It recognizes five core concepts: interpretive flexibility, relevant social groups, design flexibility, closure, and technological frame. In SCOT, *interpretive flexibility* means that technological artifacts may be understood in different ways by different groups of people. Different social groups may be stakeholders of and have influence over a given technology, hence, the concept of *relevant social groups* holds that users and producers of technological artifacts are primary, but other groups may have an interest as well, including journalists, politicians, civil groups, and so on (more in Section 3.5.7, *Stakeholders*). In addition, there may be multiple ways of constructing technologies; this gives rise to the concept of *design flexibility*, whereby different groups may elect differing designs depending on their interests. These interpretations shape what a technology becomes. As technologies develop, their interpretive and design flexibilities end with either the social perception of a final best solution to the problem the technology set out to solve, or the replacement of the original problem with a new one—in either case leading to *closure* (Pinch and Bijker, 1987). Finally, the concept of *technological frame* may include:

> "goals, key problems, current theories, rules of thumb, testing procedures, and current artifacts that, tacitly or explicitly, structure group members' thinking, problem solving, strategy formation, and design activities" (Klein and Kleinman, 2002: 31).

Taken together, these concepts form a theoretic framework that proposes powerful yet contingent social influences on the path of innovation and its consequences.

Social constructionist models contend the cyclical co-dependence, co-influence, co-production of technology and society upon the other—technology upon culture, and vice-versa. Murphie and Potts describe such co-construction:

> "The relationship between technology and society cannot be reduced to a simplistic cause-and-affect formula. It is, rather, an "intertwining", whereby technology does not determine but "...operates, and are operated upon in a complex social field"" (2003: 21).

Orlikowski and Scott propose the umbrella term *sociomateriality* in recognition of the concept of the inseparability of social and technical, observing that

> "Research framed according to the tenets of a sociomaterial approach challenges the deeply taken-for-granted assumption that technology, work, and organizations should be conceptualized separately, and advances the view that there is an inherent inseparability between the technical and the social" (2008: 434).

Such socially extended views of technological development place significant doubts on the rather simple technologically deterministic stance taken by E2.0's commercial advocates.

3.3.4 Actor Network Theory

ANT presents a modified social constructionist model for understanding the sociotechnical relationship. Like SST and SCOT, it offers an interdisciplinary approach to technology studies and the social sciences, but unlike SST and SCOT, it takes a radically different theoretic approach from previous orthodoxy. According to The International Society for Complexity, Information, and Design:

> "The ANT perspective attempts to explain and interpret social and technological evolution using neither technical-material nor social reductionism, but rather it incorporates a 'principle of generalized symmetry', that what is human and non-human should be integrated into the same conceptual framework. As a result, humans and non-humans are sometimes both referred to as 'actants'" (ISCID, 2005: 1).

Thus, different kinds of actors, both human and non-human come into play to create different kinds of outcomes. This is accomplished through their relationships in networks of action. Every outcome is always the result of emergent networks of practice and emergent combinations of social and human actors. As Bruno Latour puts it in *Reassambling the Social*, it's not that the social shapes outcomes, it's that the social is an outcome of networks of human and nonhuman actors operating together to produce outcomes (2005). From this perspective, things only acquire their ontologies or "thing-ness" in networks with other things—they only become what they are through their relationships with other things. For E2.0, this means that technology integration with group structures and processes is neither certain to meet its social goals nor produce specific results, but rather remains a highly subjective and contingent matter.

3.3.5 Sociotechnical Summary

We've seen the claims made by E2.0 promoters and observed that technological determinism is unlikely to provide a satisfactory explanation for the real-world outcomes of its use. If understanding is intended, claims must be more nuanced, since, as we've seen, no one technology bears invariant social effects, but rather becomes constitutive of a range of effects in concert with its social and technological context.

Applied to E2.0, the *notion* of technological determinism is employed as a persuasive device. Promoters claim, "These tools will enhance collaboration, increase customer satisfaction, increase productivity," and so on, without evident consideration of the social, material, or symbolic inputs and influences that may help or hinder such benefits. What we observe then amounts to industrial self-promotion. This casts doubt on the claims, and recalls our earlier question: What is actually going on here? What impacts do E2.0 technologies and their uses have on social relationships in organizations? Theories of social construction and ANT provide conceptual tools and methods to answer this.

In order to address, unpack, and explore how E2.0 is brought into use, these considerations have shown that:

- Nothing is predetermined.
- Outcomes are ongoing and dynamic.
- We need to look at both human and nonhuman actors to understand the emergent outcomes.

We see that technological determinism is problematic. A sociotechnical approach is thus suggested to reach a deeper understanding of E2.0 in use. Insights provided by theories of social construction (cyclical development nature of technology and society) and ANT (dynamic network of actants and their relationships) will provide my thesis a more theoretically grounded means to reach this understanding.

However, these are general theoretic principles. I want to look at the specific issues and settings at hand. To do so requires additional resources. I'll begin by examining the nature and uses of information, the complexity and variability of organization, everyday practices of users, and how to analyze E2.0 in that context.

3.4 Information

We've seen that E2.0 promoters tend to oversimplify complex aspects of the sociotechnical domain in which its tools are used. Their approach to uses of information is similarly simplistic. "Collaborative technologies accelerate information flow to drive revenue and productivity" (Enterprise 2.0 Conference, 2010a) is a common claim, and a typical article in CIO Magazine, 'Enterprise 2.0 Definition and Solutions', invokes 'information sharing' 14 times (Miller, 2007). These treatments suggest that they view information's use via E2.0 as undifferentiated and constructive. Yet organizational information has characteristics, uses, and purposes, contextually derived, which impart significant valuations beyond E2.0 enthusiasts' treatment of it as a "free good." These valuations may arise subjectively, according to its organizational application, its economic worth to interested parties willing to pay for it, its social worth as influence within a social network, or its cultural/technical worth in the form of knowledge, either embodied (individuals' experience and skills) or objectified (tools, data, processes). Information may thus be seen as providing its users with a range of possible values according to context, and its uses need to be understood from that perspective at sufficient depth to take in how those uses and contexts affect the

relationships of E2.0 users, both as individuals and as groups.

3.4.1 Information in E2.0

E2.0 is comprised of social software applied in organizational settings, that is to say, in social networks (Jeong and Brower, 2008). As such, it exists for the purpose of information handling in a social setting. One perspective on social uses of information comes from an organizational viewpoint. Writing in *Images of Organization*, Gareth Morgan observes,

> "If one thinks about it, every aspect of organizational functioning depends on information processing of one kind or another. Organizations are information systems. They are communication systems. And they are decision-making systems" (Morgan, 1986: 80).

Information plays multiple roles in organizational use. From a perspective of organizational competitiveness, it plays a key role in reducing uncertainty that arises from conditions in an organization's perceived environment (Hatch, 1997). It also provides competitive advantages for its organizational users in the broader marketplace. From an organizational control perspective, knowledge and information are important sources of power, providing significant advantages to those who control its availability and flow (Morgan, 1986). These strategic business dimensions of organizational information use are of interest to management. A more generic, business-centric definition holds information to be:

> "In general, raw data that (1) has been verified to be accurate and timely, (2) is specific and organized for a purpose, (3) is presented within a context that gives it meaning and relevance, and which (4) leads to increase in understanding and decrease in uncertainty. The value of information lies solely in its ability to affect a behavior, decision, or outcome. A piece of information is considered valueless if, after receiving it, things remain unchanged" (Businessdictionary, n.d.).

So information is data that contains to some degree a social and/or economic purpose from which arises its value, depending on its constitution and context. Floridi points out, "Polysemantic concepts such as information can be fruitfully analysed only in relation to well-specified contexts of application" (2005: 352). Taken in the context of

E2.0, still other dimensions of value arise—other dimensions are in play with different stakeholders. These dimensions and stakeholders need further consideration.

"Information is power" is an old adage that rings no less true in modern contexts. This power, and its resulting contextual value, exists at different levels, depending on the scope of its application. For example, Castells argues that knowledge and information "now constitute the strategic factor(s) in both competitiveness and productivity for firms, regions, and countries" (1989: 18). Certainly at a macro level, information cannot be simply treated as a free good. Rassool expands upon its multiple uses at a finer-grained level,

> "information as represented in the technological development paradigm can be seen as constituting, simultaneously, a tool (means), a form of knowledge (technical know-how), a practical application (artifact/data), a consumer commodity (use value) as well as a commodity with an exchange value" (1999: 180).

In each of these cases, information can be seen to have some kind of value, dependent upon its contextual use anywhere in the range from macro to micro application. As we've seen previously in the ANT perspective, these contexts emerge from the immediate network(s) in which information as actant is deployed and through its relationships with other actors in the network(s). Asymmetries of information possession and need within these relationships produce its relative valuations. From this perspective, organizational information may thus be viewed as some variable form of capital—"understood as the set of actually usable resources and powers" (Bourdieu, 1984: 114).

3.4.2 Capital

One way of understanding this multiplicity of information uses and its place in everyday practice is to draw on Bourdieu's concept of capital, in which we might see information variously as constitutive of economic, social, or cultural capital. In the context of E2.0, where we're looking at the flow of information within organizational boundaries, this is likely to take the form of cultural capital and social capital.

Bourdieu's definition of 'capital' is the power that individuals have within fields that provides them with access to the 'specific profits that are at stake within the field' (Bourdieu and Wacquant, 1992: 97). An example might be that of social network domination—an individual with a large amount of social capital in a specific social network might use his or her position and influence in the network to limit direct access among other group members to one another, acting as a go-between in material or information exchanges, and profiting as a result. Bound up in the concept of capital, be it economic, social, or cultural, is that each is the product of, and each requires, an investment of the appropriate type and each can provide a return on that investment. In addition, capital may be converted from one form to another, given the right circumstances. In Bourdieu's words:

> "Capital can present itself in three fundamental guises: as economic capital, which is immediately and directly convertible into money and may be institutionalized in the form of property rights; as cultural capital, which is convertible, in certain conditions, into economic capital and may be institutionalized in the form of educational qualifications; and as social capital, made up of social obligations ("connections"), which is convertible, in certain conditions, into economic capital and may be institutionalized in the form of a title of nobility" (Bourdieu, 1986: 16).

Beyond the three primary sorts of capital, a variety of different species of resources, similarly convertible into one another at different rates of exchange, may be operative in different fields both as stakes and as weapons in the contests for field ascendancy. Having one or more of these types of capital—informational, financial, political, technical, legal, and so on—can be said to "allow [the] possessors to wield a power, or influence, and thus to exist, in the field under consideration instead of being considered a negligible quantity" (Bourdieu and Wacquant 1992: 98).

Capital conversions—particularly between cultural capital and social capital (Bourdieu, 1986)—are a key feature of the capital dimension of E2.0 in practice. Such conversions occur in everyday life as part of an integrated and ongoing social dynamic. Silva and Edwards explain:

> "Crucial to Bourdieu's thinking about capitals is the idea that we live

simultaneously in multiple synchronic fields. In this conception the three forms of capital interact in different ways, diversely affecting social positions. People have packages of capitals rather than having or not having a certain type or another. These processes work in different directions and they are continuously transferred, as well as being transformed" (2004: 3).

The following two sections on cultural capital and social capital apply these concepts to E2.0 uses. A third following section looks at symbolic capital, or "capital in any of its (aforementioned) forms insofar as it is accorded positive recognition, esteem, or honor by relevant actors within the field," (Emirbayer and Johnson, 2008: 12) and relates this also to E2.0 in practice.

3.4.3 Cultural Capital

Since E2.0 information exchanges inside organizations take the forms of cultural or social capital, we'll examine these concepts further, considering cultural capital first. Emirbayer and Johnson provide a comprehensive overview of the concept, explaining that cultural capital:

"encompasses educational capital – i.e., number of years in school or degrees obtained – as well as possession of cultural objects and (even more importantly) possession of the cognitive, affectual, and even bodily means to appropriate and use them: that is, long-lasting dispositions of the mind and body that vary significantly along class, gender, and race lines. Cultural capital differs from economic capital in being transmissable only by means of an investment of time, which itself requires "distance from necessity"; it differs from human capital in being not an individual-level phenomenon, but rather, a subjectification of objective structures within the mind and body of the singular actor; and it differs from social capital in being the product, not merely of extant network ties, but, more deeply, of a person's life history, understood as the experience of and passage through a number of distinct social fields. Conceptualized in these ways, it is a key source of power in organizations, one that has remained, with the exception of its more outward or institutionalized modalities as educational capital, relatively underexamined" (Emirbayer and Johnson, 2008: 25).

Bourdieu further situates cultural capital:

> "Cultural capital can exist in three forms: in the embodied state, i.e., in the form of long-lasting dispositions of the mind and body; in the objectified state, in the form of cultural goods (pictures, books, dictionaries, instruments, machines, etc.), which are the trace or realization of theories or critiques of these theories, problematics, etc.; and in the institutionalized state, a form of objectification which must be set apart because, as will be seen in the case of educational qualifications, it confers entirely original properties on the cultural capital which it is presumed to guarantee." (1986: 17).

By extending this view to include data and communication artifacts, information may be understood to constitute objectified cultural capital. But the concept of cultural capital presupposes its embodied form in order for individuals to apprehend its objectified forms. In other words, one must possess the appropriate cultural capital beforehand to understand the meaning and significance of the data and/or communication artifacts. Weininger and Lareau explain:

> "Objects themselves may function as a form of cultural capital, insofar as their use or consumption presupposes a certain amount of embodied cultural capital. For example, a philosophy text is an "objectified" form of cultural capital since it requires prior training in philosophy to understand" (2007: 1).

They additionally note its similarities to economic capital:

> "Bourdieu maintained that [cultural capital] shares many of the properties that are characteristic of economic capital. In particular, he asserted that cultural "habits and dispositions" comprise a resource capable of generating "profits"; they are potentially subject to monopolization by individuals and groups; and, under appropriate conditions, they can be transmitted from one generation to the next" (2007: 1).

Computing or aerospace engineers would be examples of such a resource, having learned the culture and skill sets of their disciplines, being capable of generating profits for themselves or their employers as a result of those skills and habits, and so on. Embodied cultural capital thus enables objectified cultural capital and gives it

value beyond the intrinsic. As we'll see in Chapter 7, 'technical capital' forms a conceptual subset of cultural capital.

In organizational application, information is manifest in many forms of objectified cultural capital such as various forms of data and artifacts. By this we might understand any contextually useful information as cultural capital. And since the essence of E2.0 is socially directed uses of information, it may be seen as a vehicle for cultural capital. This needs to be understood as a component of a larger theoretic construct of capital. Reay points out that

> "[Cultural capital] is primarily a relational concept and exists in conjunction with other forms of capital. Therefore, it cannot be understood in isolation from the other forms of capital that, alongside cultural capital, constitute advantage and disadvantage in society. As well as cultural capital, these include economic, symbolic, and social capital" (2004: 57).

And, as cultural capital is convertible to social capital (Bourdieu, 1986), information may be seen to be constituted in and constitutive of social networks. Indeed, information and its uses comprise a vital element of social networks. In such application, information's context is the key to its uses and value. As we've seen, cultural capital's "worth" is a relative concept—the value of embodied or objectified cultural capital exists in relation to the field in which it may be used.

3.4.4 Social Capital

The concept of social capital has been recently applied by sociologists, political scientists, and economists in a broad range of studies in their respective fields (Adler and Kwon, 2002). It was originally articulated by Hanifan, who contrasted it with material goods:

> "In the use of the phrase *social capital* I make no reference to the usual acceptation of the term *capital*, except in a figurative sense. I do not refer to real estate, or to personal property or to cold cash, but rather to that in life which tends to make these tangible substances count for most in the daily lives of people, namely, goodwill, fellowship, mutual sympathy and social intercourse among a group of individuals and families who make up a social unit…" (1916: 130, original emphasis).

Bourdieu described it in (1977), later clarifying the term in contrast to economic, cultural, and symbolic capital (1986). No less than 21 subsequent, nuanced definitions were articulated during the 1990s by social scientists (Adler and Kwon, 2002). Bourdieu defines social capital as:

> "the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition—or in other words, to membership in a group" (1986: 21).

In this definition, social capital frames the relationships between actors in a network in terms of what each may be able to offer others in the network. Although we might read information as a resource into this definition, Adler and Kwon provide a more recent one that offers a better "fit" with social networks and notes the place of information in its constitution:

> "Social capital is the goodwill available to individuals or groups. Its source lies in the structure and content of the actor's social relations. Its effects flow from the information, influence, and solidarity it makes available to the actor" (2002: 23).

Information is thus a key element of social capital. And although social capital is seen to be a property of social networks, the processes by which its value is created are not well understood. Bourdieu observes, "*capital does not exist and function except in relation to a field*" (Bourdieu and Wacquant, 1992: 101, original emphasis), extending Marx: "capital is not a thing, but rather a definite social production relation" (2010: 1). In the case of social capital, the "field of play" to which Bourdieu refers might well be exemplified as an organizational social network, and E2.0 a mechanism for its transfer and possible conversions. By this logic, E2.0 is understood as one of the possible communication vectors that afford changes in relationships within a variety of social structures. This is possible through the plastic nature of both social capital and social structures:

> "The breadth of the social capital concept reflects a primordial feature of social life—namely, that social ties of one kind (e.g., friendship) often can be used for different purposes (e.g., moral and material support, work and non-work

advice). Coleman calls this the "appropriability" of social structure. Appropriability legitimates a conceptual strategy of bringing under the one notion much of what has been studied under such concepts as informal organization, trust, culture, social support, social exchange, social resources, embeddedness, relational contracts, social networks, and inter-firm networks" (Adler and Kwon, 2002: 17-18).

These structures may also be understood as the organizational field of play, which will be discussed further in a later section.

Social capital may itself be differentiated into subtypes that have different functions in the field and help to understand and measure its work and outcomes. Putnam identifies two subtypes as bridging capital and bonding capital, which refer to the value assigned to social networks between socially heterogeneous and socially homogeneous groups of people respectively (Putnam, 2000). He approximates their actions as "…bonding social capital constitutes a kind of sociological super glue, whereas bridging social capital provides a sociological WD-40…" (2000: 19). These subtypes provide distinctions of social relationships that allow clearer measurement of social networks and their dynamics. Furthermore, these dynamics introduce their own effects:

"Different types of social capital (bridging, bonding social capital, obligations) are not equally convertible into economic, symbolic, and cultural capital. There are large interpersonal differences in social capital conversion effectiveness, that are best explained by the amount of available social capital and active investments into social capital – in other words – doing networking. Surprisingly, demographic attributes and structural variables, like network size, do only affect the amount of social capital, but not the effectiveness of its conversion" (Leiner, Hohlfeld and Quiring, 2009: 1).

Social capital is thus accessible in various ways and at various structural levels by uses of E2.0. Where cultural capital comprises information in context, social capital comprises relationships in terms of trust, obligations, networks of connections, and selective sharing. Bridging capital comes into play when these relationships are created across organizational communities or organizational boundaries, tasks well-suited to

E.20; bonding capital is raised in more local exchanges, for example through the use of social networking sites to connect and share information among members of an organizational team.

3.4.5 Symbolic Capital

Symbolic capital, as we've seen, may be any other form of capital held in particular esteem by relevant actors within a particular field. For Bourdieu, possessors of symbolic capital have "a reputation for competence and an image of respectability and honourability" (1984: 296), hence, elements of social distinction.

Where economic, social, and cultural capital provide actors with relatively objective resources, their symbolic capital dimension helps to leverage their uses when they are "perceived by social agents endowed with categories of perception which cause them to know it and to recognize it, to give it value" (Bourdieu, 1998: 47). Siisiäinen explains this leverage:

> "These three resources become socially effective, and their ownership is legitimized through the mediation of symbolic capital. Bourdieu's concept of social capital puts the emphasis on conflicts and the power function (social relations that increase the ability of an actor to advance her/his interests). Social positions and the division of economic, cultural and social resources in general are legitimized with the help of symbolic capital" (2000: 1).

Cultural capital is frequently taken as symbolic capital

> "Because the social conditions of its transmission and acquisition are more disguised than those of economic capital, it is predisposed to function as symbolic capital, i.e., to be unrecognized as capital and recognized as legitimate competence, as authority exerting an effect of (mis)recognition" (Bourdieu, 1986: 18).

As we will see in Chapter 7, much (though certainly not all) of the discourse within E2.0 tools/environments has to do with the legitimate business of the organizations in which they are used. In such uses, apart from the semantic meanings of discourse, symbolic capital serves to position participants on the basis of prestige, honor, or recognition.

3.4.6 Information Summary

This section has demonstrated that information is a key feature of organizational practice and constructive of cultural and social capital. Its uses are diverse, complex, and not at all value-neutral. Since its uses operate in the conceptual realm of social and cultural capital exchanges and conversions, these concepts provide tools for understanding actions and processes developing through uses of E2.0.

Certainly other means are used to transact information—telephone, hardcopy publication, face-to-face exchanges, etc.—but modern technologies may be seen to greatly accelerate these interactions and capital transformations. Although the Internet greatly reduces economic costs associated with information transfer (de Kuijper, 2009) and its subsequent transformations as cultural and social capital, those transfers and transformations remain constrained by social structures, authority, and other social limits. So, while the ascendant digitally networked technologies may seem to E2.0 promoters to offer near freedom of information goods, they only do so with respect to declining costs associated with communication and storage of information. Information goods nonetheless retain their contextual capital dimensions, and are thereby socially and structurally limited.

3.5 Organization

As we've seen with E2.0 promoters' simplistic approach to information, they tend also to oversimplify the nature of organizations—the environment in which information/capital is transacted. By treating organizations as homologous in nature and behavior, they again minimize a complex social and structural ecology.

The study and theory of organizations runs broad and deep, crossing multiple perspectives and taking in different models and concepts. While controversy exists among organizational theorists with regard to appropriate or correct models, it is certain that no one model suffices for all organizational cases. Yet by ignoring or denying such complexity, E2.0 promoters imply just such a circumstance. However, interventions in organizational communication have real impacts (Zamanou and Glaser, 1989; Alderfer, 1977; Zammuto, et al., 2007) and hence require deeper understanding of the circumstances in which they are employed. In addition, since

social and technological constructs influence and co-create one another, organizational uses will be seen to shape E2.0's evolution.

To seek a fuller, more comprehensive understanding of organizational intricacies and behaviors, this section describes two distinct levels of organizational complexity—that within and that between organizations—then considers modern organizational structures and the role of information technology in their production and evolution. It also considers the organizational influences of formal and informal structures and the social networks and dynamics that contextualize the organizational field of play.

3.5.1 Organizational Complexity

A first level of complexity arises within any given organization. To paraphrase Morgan: planning, authority, control, hierarchy, change, human factors, and learning are subjective dimensions which exert influence on an organization's ability to produce its desired outcomes (1986). An organization's variable mix of these dimensions and its resulting behaviors are hence subjective and difficult to predict with precision, mooting broad generalizations about the outcomes of specific E2.0 interventions. Goldstein points out that

> "Organizations turn out to be a particularly apt place to study the dynamics of complexity since they abound in networks of connectivities, scaling phenomena, self-organization, and the consistent emergence of new structures with new properties" (2004: ix).

So organizations are complex entities within themselves, constructed as they are as networks with varying sorts of social relationships, both formal and informal.

The second level of complexity exists between the organizational structures and characteristics of different organizations. Organizational structures vary dramatically, from mechanistic to organic to bureaucratic to networks, each with the highly variable and complex makeups just described. They experience differing environments both internally and externally. They have different social and cultural makeups, technologies, tasks, systems of authority and communication, environmental influences, rates of change, and so forth. Given the range of complexity that results

from these variables, organizational phenomena such as design, change, authority, and conflict are in turn complex.

Organizations may be structured in different ways, depending on their origins, styles, objectives, and environmental factors. Small organizations typically employ pre-bureaucratic, charismatic structures, dominated by a strategic leader and not well suited to E2.0 affordances (at least internally), as often communications are one-on-one and face-to-face. Larger organizations usually manifest bureaucratic or post-bureaucratic structures, based on Weberian rule-bound rationality. These are typically hierarchical, command-and-control structures, realized in a variety of forms, including functional, divisional, and matrix structures.

3.5.2 Modern Organizational Structures

Recent developments in organization structures include teams, networks, and virtual formations. These have evolved in support of new forms of work (Monge and Contractor, 2003) which are considered to be outgrowths of the

> "shift from an emphasis on systems of production and related manufacturing processes to an economy based on information and the management of intellectual capital toward the development of services and innovation" (Quan-Haase and Wellman, 2004: 242) ,

as well as the development, deployment, and continuous evolution of information and communication technologies, in particular CMC—recently manifested as E2.0. Networked organizations particularly fit the information society paradigm, having the ability to acquire and use information from anywhere at any time, in contrast to more bureaucratic structures which tend to be bound by spatially and temporally situated communication (Castells, 1996). While boundary-spanning CMC is thought to offer easy and effective organizational communication modalities, further research is necessary to demonstrate its usefulness (Quan-Haase and Wellman, 2004). Information technology has nonetheless played a pivotal role in the development of modern forms of organization structure—in virtual organizations it is a key enabler.

3.5.3 Social Networks

Underlying formal structures, however constituted, are informal structures, which include informal relationships, trust-based relationships, externally oriented relationships, and emotionally inclusive relationships (Wang and Ahmed, 2003). Such structures may be understood as interlocking social structures that govern how people and groups work in practice. These may also be seen as social networks:

> "The organization is a social network in which the member agents are interlinked. Such an interlinkage exists essentially in the form of social interaction. Without social interaction, such an interlinkage does not exist, and accordingly there can be no organization as a social network. Naturally, the organization (a social network) and social interaction cannot be understood in isolation. The organization as social network is not a container within which social interaction occurs but rather is the process of social interaction" (Jeong and Brower, 2008: 242).

We've seen social networks to be the environments in which social and cultural capital is transferred and transformed. Such capital transferrals, in the form of resources, information, or influence (Marin and Wellman, 2010), amount to circumvention of formally established communication channels. Tension then arises between the common rule-based hierarchy and the underlying informal networks (where much of the work of the organization gets done), as the formal structure and command apparatus seeks to contain and control flows of information, while the informal social network routes such information flows according to its own subjective logic (Zenger, Lazzarini and Poppo, 2000).

3.5.4 Fields

Given these formal and informal social structures and the exchanges and transformations of capital to which they play host, we turn again to Bourdieu for a more relational way of understanding their dynamics. Bourdieu stressed the ineluctable relationship between capital and field (Bourdieu and Wacquant, 1992). We see that organizations provide structures and rules, both explicit and implicit, which define social spaces. These spaces may be considered a field of play in which the

different forms of capital are exchanged within and among the social networks that occupy them. Bourdieu understood field as

> "a social arena in which people manoeuvre and compete for desirable resources. Field could be also seen as a system of social positions, structured internally in terms of power relationships" (Zarycki, 2007: 532).

Davey clarifies further

> "Bourdieu's concept of "field" is a structured space, yet it is a space which relies upon individuals' willingness to accept its rules and play its particular game… the concept of field conveys both the objective and symbolical structures that divide social space. Fields become places of domination, with individuals or groups occupying positions according to their accumulation of capital" (2010: 33-34).

To further clarify the application of this concept to E2.0 situational dynamics, we consider its use from an organizational perspective. Emirbayer and Johnson examined such an application in their study of Bourdieu and organizational analysis (2008), first sketching organizational fields, then expanding upon organizations as fields.

3.5.5 Organizational fields

The standard definition of an organizational field is:

> "Those organizations that, in the aggregate, constitute a recognized area of institutional life: key suppliers, resource and product consumers, regulatory agencies, and other organizations that produce similar services or products" (DiMaggio and Powell, 1983: 148).

The concept presents a network of nodes or a configuration of entities that together constitute a set of power relations within what is ultimately a struggle for field domination. This struggle engages uses of power or influence manifested by some forms of capital, be they economic, social, cultural, technical, and so on; resources used as weapons or as stakes in the struggle for dominance over the field. As such, fields provide arenas for individual and group uses of the different forms of capital. *Position-taking* provides a powerful means of symbolic distinction for organizational actors within fields, exercising capital in the form of works, products, arguments, and so forth, "which derive their semiotic significance in relational fashion from their

difference vis-à-vis other such position-takings within a space of position-takings" (Emirbayer and Johnson, 2008: 14).

3.5.6 Organizations as fields

Individual organizations may be understood as fields, providing structure at the organizational and intraorganizational levels for the power struggles and attendant uses of capital and position-taking described earlier (Emirbayer and Johnson, 2008). And although, as we've seen, organizations have official posts and hierarchies with formally stated scopes and powers, uses of social and cultural capital in unofficial channels may well supersede these formal designations, creating alternate, unofficial power structures. This poses problems for researchers seeking to determine the field's structure and the actual possessors and flows of capital within it. Possible techniques for resolving these problems include assessments of membership, types of performed activities, and interaction networks. The struggles for organizational power determine which of the different types of capital extant in the organization will have the greatest influence in shaping its direction and activities, with possessors of the dominant species of capital opposing those seeking to promote and leverage their subordinate species.

3.5.7 Stakeholders

Although fields as manifested by individual organizations comprise the primary level of analysis in this thesis, they need to be understood to exist also within a larger field—as described above—which includes external interests. We've seen that E2.0 tools and implementations can have multiple stakeholders, both within the organization as field (I'll call a notional instance of this the *instant field* for reference) and external to it. Within the organization, individuals at different hierarchical levels have similar but differing interests in tool uses, both practical and strategic. External stakeholders may include customers, media groups, investors, and citizen activist groups. Other potential stakeholders might be industry experts, market analysts, business-to-business partners, academics, politicians, and government officials (Council of Public Relations Firms, 2010). SM vendors, designers, and developers also have an interest in implementations of their products.

External stakeholders, while holding an interest in the "state of play" within the instant field, have greater interests in their own respective fields, be they customer, vendor, politician, and so on. As such, their concerns and attention are in greater alignment with their own fields. Yet they still interact with and influence (and are influenced by) the instant field. And while these inter-field influences exist, the key stakeholders are members of the instant field and SM tool vendors—those for whom the stakes are highest with respect to project success or failure.

3.5.8 Organization Summary

While E2.0's communication capabilities and consequent transfers and transformations of cultural capital described earlier may well provide organizational benefits, the multiple complexities inherent in organizations and their (shared) environments preclude context-invariant "correct" solutions. As with E2.0 promoters' oversimplification of information's attributes and uses, E2.0 marketing and promotion similarly oversimplifies multiple levels of complexity in organizational behavior and function. Popular accounts further neglect the dynamics and influence of informal social networks within organizations. Given these additional contingencies, deeper understanding is required of the impacts of E2.0 interventions with respect to the organizational circumstances in which they are deployed.

3.6 Everyday Practice

Considerations of information and organization help us to understand social and structural influences upon uses of tools such as those that E2.0 affords. But it is in everyday use, where these technologies become normalized, that we find precisely how they are engaged. Individual users are the actors at this level, and while E2.0 promoters often claim they'll behave in predictable ways, their options as individuals vary. Indeed, E2.0 users will have differing perspectives of the purposes and functionalities of related tools. These differing perspectives arise from our differences as individuals, our educations, our backgrounds, our roles within organizations, etc. To suggest that E2.0 users will behave predictably suggests that all users are the same—a suspect proposition. In addition to our individual subjectivity, we tend to engage differently in varying social and cultural fields. According to Bourdieu, these

differences in individuals' approaches to everyday practices are the result of their individual habitus.

3.6.1 Habitus

Within fields people participate in practices appropriate to that field. Bourdieu refers to this as 'habitus' or the

> "system of lasting and transposable dispositions which, integrating past experiences, functions at every moment as a matrix of perceptions, appreciations and actions and makes possible the achievement of infinitely diversified tasks" (Bourdieu and Wacquant, 1992: 18).

Bourdieu's concept of habitus holds that:

- Knowledge (the way we understand the world, our beliefs and values) is always constructed through habitus, rather than being passively recorded.
- We are disposed towards certain attitudes, values or ways of behaving because of the influence exerted by our cultural trajectories. These trajectories are transposable across fields.
- The habitus is always constituted in moments of practice. It is always "of the moment", brought out when a set of dispositions meets a particular problem, choice or context. In other words, it can be understood as the "feel for the game" that is everyday life.
- Habitus operates at a level that is, at least, partly unconscious. Why? Because habitus is, in a sense, entirely arbitrary; there is nothing natural or essential about the values we hold, the desires we pursue, or the practices in which we engage (Adapted from: Webb, Schirato and Danaher, 2002: 38).

Given that fields, whether at the organizational or organizations-as-fields level, provide spaces of objective positions and spaces of position-takings, they may be seen as homologous and mutually constitutive. The habitus is the source of this relationship of homology and co-constitution, providing embodied aspects of culture, skills, styles, tastes, and regulated improvisations – it allows the individual a range of possible position-takings or a "space of the possibles" within their particular field. Emirbayer and Johnson observe,

> "Thanks to the collective and individual experience embodied in the habitus, an actor in an organization similarly experiences certain position-takings as possible. At the same time, the habitus structures the perception of some of these possible position-takings as more appropriate or desirable than others. In organizations, such practical evaluation of possible position-takings occurs at every level and in every imaginable arena" (2008: 27).

The power to enforce position-taking on others and, by extension, the whole organization, is dependent on the temporal value and influence of individuals' and groups' various sources of capital. Bourdieu ties together his concepts of habitus and conflict in this way:

> "I developed the concept of 'habitus' to incorporate the objective structures of society and the subjective role of agents within it. The habitus is a set of dispositions, reflexes and forms of behavior people acquire through acting in society. It reflects the different positions people have in society, for example, whether they are brought up in a middle-class environment or in a working-class suburb. It is part of how society produces itself. But there is also change. Conflict is built into society. People can find that their expectations and ways of living are suddenly out of step with the new social position they find themselves in... Then the question of social agency and political intervention becomes very important" (2000: 19).

Sociologists have long sought to understand the process by which organizational change and reproduction derives from the actions of individuals (Emirbayer and Johnson, 2008). Bourdieu holds that fields (organizations in this instance) constitute spaces of powers and struggles, and habitus provides strategies of action relative to these fields, thus providing an explanation for how micro-level processes relate to macro-level phenomena. Certainly these social and organizational dynamics far predate modern digital technologies. Indeed, Sterne argues that technologies are themselves subsets of habitus:

> "…they are organized forms of movement. In this way, technologies are theoretically unexceptional. They are very similar to other ways in which we organize social practice through the habitus" (2003: 370).

E2.0 simply affords its individual users a new vehicle for these position-takings and uses of capital. The questions of whether it serves to accelerate or somehow modify these exchanges and postures remain open.

Methods for exploring these processes and relationships, in addition to those techniques mentioned earlier, include assessments of objective indicators of positions and indicators of position-takings. These will be discussed in greater detail in the next chapter.

3.7 Bourdieu's Triad

Although I've introduced Bourdieu's "triad"—his concepts of capital, field, and habitus—distinctly from one another over the preceding sections on information, organization, and practice, their utility as theoretic tools depends on their joint apprehension and use. Davey points out that:

> "To treat [Bourdieusian] concepts individually is to forget that each concept has meaning in relation to another. Moreover, each concept is dependent on the others. For example, the volume and type of capital possessed by an individual must be understood in relation to the dominant capital of the field in which that capital is being deployed" (2010: 255).

And Bourdieu encapsulates his theoretics briefly as:

> "A field consists of a set of objective, historical relations between positions anchored in certain forms of power (or capital), while habitus consists of a set of historical relations "deposited" within individual bodies in the form of mental and corporeal schemata of perception, appreciation, and action" (Bourdieu and Wacquant 1992: 16).

Sterne also shows how habitus fits within Bourdieu's larger theoretic constructs by explaining their interaction:

> "Habitus is a concept that mediates between relatively structured social relations and relatively "objectified" forms of economic or social agency or interest. Bourdieu uses the term "field" to describe groups of interrelated social actors, and "capital" to describe the specific forms of agency and prestige within a given field. These relations of power and forms of agency are in

constant flux, and are themselves struggled over: the relations in a field change over time, as does the specific form of capital in that field. "Fields" and forms of "capital" are not once and forever fixed (as they would be in a classic structuralist model). Conceptually, the habitus sits between these poles, as a set of social dispositions, a kind of "generative principle" of spontaneous and creative social action based on one's position in a field and one's access to and possession of certain kinds of capital resources" (2003: 375).

Thus, while we see that these concepts may be understood individually, their application as a theoretic framework requires recognition of their interrelationships and interdependence.

3.8 Summary

This chapter set out to cut through the speculation, claims, and assumptions that attend popular accounts of the domain. We've seen that

- E2.0-related research has provided a patchwork of results that do little to explain uptake or consequent organizational behavior or effects on social relationships.
- Technological determinism as employed by E2.0 promoters is problematic.
- Information and organizations may not be treated as simply accessible, homologous entities.
- Everyday uses of E2.0 tools are influenced by users and their individual perspectives and repertoires of capability.

I've also described a theoretic framework for further exploration of the E2.0 domain. The concept of capital allows mapping of a field's structure, that is to say a view of social relations produced by differential access to a specific, dominating type of capital—what's important in the field at hand. The habitus of an actor within the field provides that actor's sense of investment or commitment to the relevant institution. Use of the concept of habitus, in conjunction with those of field and capital, provides tools for understanding the emergence and reproduction of inter- and intraorganizational institutions. Bourdieu's concepts regarding the symbolic dimension of social life, including cultural capital, symbolic capital, and position-takings, offer

tools for understanding organizational processes, including organizational reputations, and closeness or distance between organizational members. Finally, Bourdieu's concept of power as being fundamentally relational and the result of field-wide relations without clear social proximity, offers a powerful tool for understanding organizational power relations.

4. Methodology

4.1 Introduction

Chapter 3 outlined the claims that have been made for E2.0 regarding the benefits that would accrue from use of these tools and critiqued these claims on the grounds that they spring from commercial motivations, rather than building upon empirical evidence, and that they are based on simplistic assumptions about information and organizational practices and about the predictability of technical intervention outcomes. Rather, Chapter 3 argued, we can only understand the value of E2.0 and its specific influences and outcomes if we attend to evidence of how the tools and their affordances are taken up in practice.

To that end, this chapter describes a mixed methods approach to generate exploratory evidence of E2.0 effects, both formative and resulting. This approach relies on the conceptual framework articulated in the previous chapter and applies these concepts to the qualitative and quantitative methods used. This chapter first discusses the thesis' purpose, taking in the exploratory nature of the research as well as specific questions it seeks to answer. It then addresses the case study approach to inquiry that this research has strategically engaged. Following a discussion on operationalizing the social theoretics taken up in Chapter 3, it then describes the methods to be employed, first in the abstract, then specific to this study, including descriptions and rationales for surveys and interviews as well as their design and interpretation using Bourdieusian concepts. It concludes with considerations of the ethical dimensions attending this research and how they have been addressed, as well as the reflexive nature of my participation in the study.

4.2 Research Purpose

This study's goal has been the investigation of everyday uses and resulting outcomes of E2.0. This research has taken an inductive approach to discovery: data has been gathered by mixed methods and used to develop a general explanation to account for the data. In summary, it has used a comparative case study design consisting of surveys to quantify group member uses of and attitudes toward E2.0 technologies, in

addition to semi-structured interviews which further examined these uses with particular attention to the reasons and meanings for uses. Both methods have been analyzed with particular attention to their Bourdieusian implications.

The objectives of this research are:

- To investigate social and organizational influences and outcomes of uses of E2.0 in everyday practice.
- To investigate emergent group behaviors resulting from uses of E2.0.
- To understand E2.0 uses from a Bourdieusian perspective: how does E2.0 usage affect individual and group habitus, uses of capital, and fields of play (and vice versa)?

4.3 Case Studies

Case study focuses research on integrated social units that are studied holistically and in their particularity, allowing maintenance of social and organizational context (Schutt, 2009). As we've seen, organizations fit Bourdieu's concept of field as a space of interactions and uses of capital between individuals. We've also seen that organizations diverge widely in multiple characteristics, so uses and consequences of E2.0 may differ significantly among organizations. As my research goal is to explore and expand upon knowledge of organizational uses of specific technologies, a case study approach provides a workable and more appropriate form of inquiry than experimentation or broad social survey by taking on the study of organizationally scoped processes as individual cases. The resulting case analyses may then be compared and contrasted both for their uniqueness as well as a possible basis for wider generalization.

4.3.1 Preparing for the Study

A pilot case study was undertaken three years ago using members of the Digital Economy (DE) University Strategic Research Group (USRG) at the University of Southampton. This organization was identified through discussions with key informants within the group as a suitable resource for developing and testing surveys and interviews that could be refined for use in my primary research project.

The University's DE group is one of a number of

> "multidisciplinary networks of researchers drawn from across the University and who are interested in working together on projects that address issues of direct and significant societal impact" (Multidisciplinary Research Excellence: FAQ, 2012).

Comprised of about 130 academics, students, and staff members from various schools throughout the University, the DE group is loosely organized, with two co-chairs, an administrative support person, and the balance forming a peer group. The resulting field is organizationally flat, although its members may be seen to possess varying degrees of social and cultural capital (faculty members are expected to have greater accumulations of social and cultural capital than postgraduates or members of staff) that may be used strategically within the field. Thus constituted, the group presented a convenient initial research object with the potential to provide useful empirical data for my broader study. At the time, the group's common communication medium was email.

For my pilot study, I developed an online survey and a set of interview questions for use with volunteer informants. The DE survey was approved by the university's Electronics and Computer Science (ECS) School Ethics Committee on 11 February 2010 and launched on the Web the same day. Email invitations to participate were sent via the digital-economy-announce mailing list to all 130 members of the group. 28 group members completed the survey, a 21% response rate.

This survey served two purposes:

- to determine the level of interest, the amount of use, and the work-related uses of Web-based social software in the DE group.
- to develop, exercise, and model a survey for both instant and subsequent use in later case studies.

In the survey, I requested volunteers for a semi-structured interview, resulting in twelve participants. Again following interview approval by the School's Ethics Committee, these informants were questioned and transcriptions prepared of their remarks.

In addition, an experimental social networking site was developed for use of DE members and interested parties. The results of this activity, as well as analyses of the survey and interviews, are further described in Chapter 8.

4.3.2 Case Selection

During the past four years I established contacts with a number of organizations with a view to performing case studies. These included a statewide social services agency in the United States, a federal level health agency in the United States, several global business organizations, and a second research organization within the University of Southampton.

These organizations were either current users of E2.0 tools or were planning to implement them in the near term. As such, they presented a range of possibilities for understanding E2.0 impacts, both as established in daily practice or as an emergent influence in the social ecology of an organization. Given the broad range of organizational types and their subjective social characteristics, I wanted to include multiple case studies in order to give due attention to organizational diversity, and examine any resulting subjectivity in E2.0 uses and effects. I met and/or corresponded with interested parties from the Centers for Disease Control, Microsoft, Boeing, Wipro, and Aviva Investors, among others. In the end, I was able to work with two of the prospect organizations.

4.3.3 Missouri Coalition Against Domestic and Sexual Violence

The Missouri Coalition Against Domestic and Sexual Violence (MCADSV) is a statewide membership coalition of organizations and individuals working to end violence against women and their children through direct services and social and systemic change. Based in Jefferson City, Missouri, the coordinating body is a small organization with just 15 employees, but its wider network includes some 100 offices statewide staffed by anywhere from two to 60 employees. Their current state of E2.0 usage is limited, although they make extensive daily use of email.

4.3.4 IBM DevCentre

IBM DevCentre is a software development organization located in the UK. Made up of approximately 1,500 employees, the organization provides mission critical software for

thousands of businesses worldwide. Group members have many E2.0 options, both IBM proprietary and public domain, and their uses of these tools are mainly limited by company strictures on protecting proprietary intellectual property.

4.4 Operationalizing Bourdieu

To recap Chapter 3, E2.0 evangelists have made claims with respect to multiple benefits to be gained through the use of associated technologies. These benefits include improvements in knowledge-sharing, productivity, efficiency, staff engagement, reputation, competitive advantage, innovation, expertise identification, and relationship development (Dawson, 2009: 34). They have also made claims that E2.0 offers better collaboration with project teams and partners, greater engagement with the customer base, and cost savings (AIIM, 2011). As Chapter 3 pointed out, these claims appear to rely on several assumptions:

- That uses and outcomes of E2.0 tools are predictable and positive.
- That the technologies will "free" organizational information and communication.
- That organizations respond equally to interventions.
- That all organizational communication goals are homogeneous.
- That tools have fixed capabilities.
- That individuals will embrace the tools.

Yet typically such claims are not offered with supporting evidence, so their validity is open to question—as is that of their underlying assumptions. Do these things happen in practice? And if so, why? If not, why not? And what other effects, such as security, loss of control, impact on reputation, information reliability, and productivity impact (Dawson, 2009: 35), occur which may not be positive and beneficial—or detrimental—to the organization?

To answer these questions and address these claims and assumptions, I will operationalize and employ the concepts described in Chapter 3. I argued there that Bourdieu's concepts of field, capital, and habitus provide tools for understanding the emergence and reproduction of "organizational institutions," here understood as "joint actions [that] consist of the intentional individual actions of a number of agents

directed to the realization of a collective end" (Miller, 2011). Since deliberate, sustained E2.0 implementation may be seen as an organizational institution, providing as it does a potential structure and mechanism of cooperative action within organizations, these concepts will help to explore further the claims and assumptions made about E2.0. Since E2.0 uses have to do primarily with exchanges of information rather than (direct) economic commerce, I will be concerned particularly with social and cultural/technical forms of use as demonstrated by types of interactions and the nature of information sharing through E2.0 tools; uses which may be seen as being constructive of social, cultural/technical, and symbolic capital.

Such methodological adaptation is consistent with Bourdieu's approach to the research object. Silva and Edwards argue that,

> "For Bourdieu, theoretical concepts are "polymorphic, supple and adaptive, rather than defined calibrated and used rigidly." Thus the concept of capitals can be regarded as a set of "thinking tools." He describes, in *An Invitation to Reflexive Sociology*, a "logic of research" that highlights the "construction of the object." This is a methodological point of rupture in which researchers must recognise that unless they themselves construct the objects of their research, they are left dealing with objects that have been pre-constructed within narrow approaches" (2004: 4).

Habitus is useful here in drawing attention to and exploring if and how individuals' background, education, and profession/occupation may shape uptake of E2.0, as well as the choices they make in their uses of these technologies. Tranter explains the concept further:

> "Habitus describes people's embodied capacity to assume the attitudes and actions required within particular social fields. It is habitus and its relationship to the field and the capital valued by the field that determines whether a person is able to win, or even play, the game. It is a preconscious, shared set of acquired and embodied dispositions and understandings of the world, developed through both objective structures and personal history" (2007: 4).

Collectively, these dispositions and understandings constitute group or organizational habitus as the aggregation of individual habitus of group members and conditioned by the requirements of the organizational or group field. An example of such requirement would be the set of skills and experience needed for a position in a high-tech enterprise. Additionally, Björnsdóttir points out the reflexive nature of group habitus:

> "people who are in a similar social situation and share economic or social status, also share a group habitus, i.e. similar attitudes and dispositions that are based on how they experience and perceive the environment" (2010).

Habitus is thus both structured and structuring at both the individual and group levels, producing an,

> "endless cycle in which macro-level organizational phenomena (behaviors "of" the organization) are the result of micro-level phenomena (the dispositions and position-takings of individual members) that are themselves the product of macro-level phenomena (the structure of the social spaces – both intra- and extra-organizational – within which the dispositions of the habitus were acquired)" (Emirbayer and Johnson, 2008: 29).

My analysis presents evidence at both levels of resolution.

I look first, in each case, at the organization as field—the "structured social space of interactions, transactions, and events" (Bourdieu, 2005: 148) it represents. The concept of field has been described as a game with rules to it, "or, better, regularities, that are not explicit or codified" (Bourdieu and Wacquant, 1992: 98). Thomson describes the purpose and stakes of the game:

> "According to Bourdieu, the game that occurs in social spaces or fields is competitive, with various social agents using differing strategies to maintain or improve their position. At stake in the field is the accumulation of capitals: they are both the process within, and product of, a field. Bourdieu nominated four forms of capital: economic (money and assets); cultural (e.g. forms of knowledge; taste, aesthetic and cultural preferences; language, narrative and voice); social (e.g. affiliations and networks; family, religious and cultural heritage) and symbolic (things which stand for all the other forms of capital and can be "exchanged" in other fields, e.g. credentials)" (2008: 69).

As discussed in Chapter 3, Bourdieu's theoretical framework requires inclusive consideration of its key concepts—field, capital, and habitus—because they operate in relation to one another. Central to this framework is competition among the inhabitants of the field, through the use of dominant forms of capital, to achieve superiority within the field. As Bourdieu puts it,

> "The structure of the field, i.e., the unequal distribution of capital, is the source of the specific effects of capital, i.e., the appropriation of profits and the power to impose the laws of functioning of the field most favourable to capital and its reproduction" (1986: 49).

Thus, while I might simply describe my case study organizations and their social and technological attributes, they need rather to be described and understood as *organizations as fields* (cf. §3.5.6) (with attendant dimensions of capital and habitus) in order to make full use of the larger theoretic framework I'm applying to my research.

In order to unpack the field in each case, I'll seek answers to questions which relate to its goals and its intersection with uses of E2.0 technologies. What is its purpose? What is its history and the nature of its business? What is the context in which it operates? What are its technological resources? How does it approach and use technology? What are the dominant forms of capital and what are their sources and uses?

While typical operationalizations of cultural capital rely on assessments of high-arts participation and reading habits (Gaddis, 2012), my approach looks at the background and education attributes of organizational membership, in addition to their individual and collective uses (and non-uses) of E2.0 tools. Uses of capital are addressed in the aggregate through examination of uses of information in the organization as well as uses of E2.0 and related technologies, such as computing and communication assets. Capital and habitus are further examined at the level of individuals and their daily practices with E2.0 tools through survey responses and informants' descriptions of such uses. Since habitus may be revealed through future aspirations or expectations, as well as general self-esteem, belief in abilities, and sense of value (Gaddis, 2012)—all relative to the field of play—my methods also focus on these attributes.

In brief, I'm using field/capital/habitus to differentiate my research organizations and examine their E2.0 practices. This approach helps to:

- Expose a broad continuum of organizational compositions/trajectories;
- Address organizations of many structural forms with differing goals, environments, and dynamics;
- Explain micro-level behavior's influence on macro-level outcomes; and
- Provide a clear rationale for analysis of empirical data.

4.5 Mixed Approach – Quantitative and Qualitative

In order to build a broader and deeper analysis than might be achieved using a single approach, this study has engaged both quantitative and qualitative research methods, comprising a concurrent mixed methodology. Both approaches were designed and developed using Bourdieu's concepts to provide a basis for subsequent analysis in Bourdieusian terms. Attitudes and uses of E2.0 were assessed by quantitative means of surveys, and reasons and meanings applied to uses of E2.0 were assessed by qualitative means of semi-structured interviews.

Quantitative and qualitative methods each have advantages that may be exploited and disadvantages that may be mitigated by means of a mixed approach. Quantitative research methods provide hard data that can be extrapolated to larger populations using statistical techniques, allowing the researcher to create generalized accounts of structures in social life. However, they fail to offer causal explanations for observed phenomena and do not provide for any new concepts to be discovered during the research (Saunders, Lewis and Thornhill, 2007). Conversely, qualitative approaches offer a "sense of process" (Bryman, 2006: 106) in addition to context and causality for individual behaviors, allowing researchers to explore matters that are

- meaningful and culturally salient to the participant;
- unanticipated by the researcher; and
- rich and explanatory in nature (Mack, et al., 2005: 4).

Qualitative approaches are disadvantaged by limitations on inductive reasoning—findings cannot be projected to a larger population.

Mixing these methods, however, offers the advantages of both approaches and helps to diminish their individual disadvantages. Creswell and Plano Clark make the case for combined approaches:

> "Mixed methods research is a research design with philosophical assumptions as well as methods of inquiry. As a methodology, it involves philosophical assumptions that guide the direction of the collection and analysis of data and the mixture of qualitative and quantitative data in a single study or series of studies. Its central premise is that the use of quantitative and qualitative approaches in combination provides a better understanding of research problems than either approach alone" (2007: 5).

This study will further employ a blend of mixed method purposes, *complementarity* and *expansion*. By these means, this study's validity and interpretability are improved through investigation of "overlapping, but also different facets of a phenomenon" (Greene, Caracelli and Graham, 1989: 258). In the first instance, complementarity clarifies and illustrates results from one method through the use of another method. In this research, semi-structured interviews will add information about individuals' uses of E2.0 and help to qualify the nature, level, and guiding influences of study participants' perceptions. Niglas terms this *complementary multiplism*:

> "Here diverse methods play complementary roles and offer different viewpoints; together, they provide evidence that is markedly strengthened" (2000: 4).

Mixed method expansion will provide richness and detail to the study, exploring specific features of each method. Rocco explains:

> "To widen the scope of inquiry, expansion calls for including multiple components to extend the breadth and range of the study. An example is using qualitative methods to assess program processes and quantitative methods to assess program outcomes" (2003: 23).

These case studies will similarly use qualitative semi-structured interviews to examine individual and group E2.0 practices and quantitative surveys to examine overall outcomes of such uses. By using such means, complementarity and expansion, this analysis will seek to demonstrate extent and degree of changes in individual and group

amounts and distributions of social and cultural capital and resulting effects on social relationships and organizational dynamics as outcomes of E2.0 usage.

The following sections will provide details of the surveys and semi-structured interviews to be undertaken, including details of their design guidance with respect to eliciting data that reflects the habitus, capital, and field dimensions of the case studies.

4.5.1 Online Surveys

This study's quantitative method, a Web-based survey, was chosen for its ease and flexibility of use. Such surveys provide a tool which members of both case studies would find familiar and easy to use. It was designed to elicit group uses of social media, both within and without the work environment and includes minor variation across the cases. The MCADSV survey presented 20 questions and the IBM survey 18, the difference being two questions on the former relating to race and religion that were deemed inappropriate by my key informant at IBM. The first seven questions assess individuals' non-work-related uses of and attitudes toward social media. The next four ask about work-related uses and opinions. The remaining questions relate to demographic details, such as respondents' working networks, weekly work hours, organizational roles, gender, age group, and education. The survey's design was intentionally brief to minimize the amount of time users would spend on it and maximize responses.

The survey was originally designed to assess E2.0 use as previously noted. Additionally, post-survey interpretation according to Bourdieusian concepts and purposes was considered. Table 4 shows the relevant questions, their presentation, and their applicability to Bourdieusian concepts.

Question	Presentation	Concept
Section 1 – Non-work-related uses		
1. How frequently do you use the following social media Web applications?	Matrix of choices; six E2.0 applications, five frequency levels from daily to none	Frequency of use of social software demonstrates cultural capital and habitus
2. What non-work uses do you make of these social media applications?	Matrix of choices; six E2.0 applications, three involvement levels – active/passive/none	Degree of engagement with social software demonstrates cultural capital and habitus
3. In general, how would you rate non-work usefulness of these tools?	Single choice from range of 'Waste of time' to 'Indispensible'	Attitude demonstrates habitus
4. Do you create content in any of the following ways?	Matrix of choices; 15 Web 2.0 functionalities, five frequency levels from daily to none	Range of uses of social software demonstrates cultural capital and habitus
5. Have you begun using any social media applications during the past year that you did not use before?	Free text comments	Emergent uses of social software demonstrate cultural capital and habitus
6. How would you rate your social media skills?	Single choice from range of 1-10	Self-rating demonstrates habitus
7. I enjoy using online social media and frequently try out new tools and Web applications.	Single choice from range of 'Strongly disagree' to 'Strongly agree'	Enjoyment and experimental use of social software demonstrates cultural capital and habitus
Section 2 – Work-related uses		
1. How frequently do you use the following social media applications for work-related purposes?	Matrix of choices; six E2.0 applications, five frequency levels from daily to none	Frequency of use of social software demonstrates cultural capital and habitus
2. What work-related uses do you make of these social media applications?	Matrix of choices; six E2.0 applications, three involvement levels – active/passive/none	Degree of engagement with social software demonstrates cultural capital and habitus
3. Web-based social media tools can help advance the work of the [organization] community.	Single choice from range of 'Strongly disagree' to 'Strongly agree'	Attitude demonstrates habitus
4. In general, how would you rate the work-related usefulness of social media?	Single choice from range of 'Waste of time' to 'Indispensible'	Attitude demonstrates habitus

Table 4: Survey questions and their conceptual dimensions

This relies on a broad operationalization of cultural capital that engages with uses of technology, cf. E2.0, as an indicator. As we have seen previously (Section 3.4.3, *Cultural Capital*), tool usage and associated skills indicate embodied cultural/technical capital that improves its holders' access to objectified cultural/technical capital. Attitudes toward and engagement with E2.0 tools provides a measure of an individual's habitus (illustrated by their position-taking), and, in the aggregate, that of the group at large. A copy of the MCADSV survey is in Appendix C.

4.5.2 Semi-structured Interviews

This study's qualitative method, semi-structured interviews with volunteer members of the study group, was chosen as the most practical option given the natures of the study and the groups. Participant observation was impractical, given the study's scope over individual and organizational uses of social software, and insufficient resources to employ the method effectively and efficiently. Use of focus groups was deemed unsuitable due to difficulty scheduling and convening group sessions. Use of semi-structured interviews offered a means to gather process and perception data from members of the study groups with the advantage of being easier to arrange sessions with participants.

A set of questions was developed and tested in the DE pilot study to act as guidance for the interviews. The goal of this method was to elicit individuals' perceptions of social software and their uses (and non-uses) of it. Following introductory and background discussions, questions were posed with respect to participants' working networks, their uses of and attitudes toward social software, and their views on its effectiveness in their working lives. Interview questions were designed with consideration of Bourdieusian concepts, and operationalized with respect to Bourdieu's triad. Table 5 shows the interview question themes and their applicable Bourdieusian concepts. In the first instance, for example, discussion of the participant's background reveals information about their habitus and some portion of their cultural capital.

Question Themes	Central Bourdieu Concepts
Informant's background	Capital/Habitus
Qualifications and abilities	Capital/Habitus
E2.0 tools in use / uses	Field/Capital
Informant's working network	Field
Effectiveness of social software	Field/Capital
Structural limits on E2.0 use	Field/Capital
E2.0 ease of use / training	Capital/Habitus
Informant's enjoyment of E2.0	Capital/Habitus

Table 5: Question themes mapped to Bourdieu's concepts (Adapted from Faul, 2004)

Interview participants were solicited through the online survey and self-selected. Each participant was provided with written information outlining the project and also informed of their rights as participants in this study. Informants were not offered any incentive to participate. All interviews were digitally recorded and transcribed with all of the participants' knowledge and consent. Results are reported and discussed in Chapter 7 and a copy of the semi-structured interview is in Appendix D.

4.5.3 Examining the Fields

The fields of my two case studies were assessed through interviews with key informants and documentary research in public domain Web resources. These sources provided overviews of the goals, activities, organization structures, uses of information, group habitus, and dominant capital configurations of the two fields. These overviews are detailed in Chapter 5.

4.6 Use of Analytic Software

Analytic software package NVivo is used to organize and analyze complex non-numerical unstructured data. Its main use is deep analysis of rich text-based or multimedia information by qualitative researchers. It helps with classification, sorting, and arranging large amounts of data and with examining complex relationships contained within the data (Walsh, 2003).

My use of NVivo involved loading interview transcriptions into the database, followed by coding and tagging passages in the textual discourses with particular attention to indicators of field/capital/habitus, including objective indicators of positions and indicators of position-takings at both group and individual levels. NVivo was helpful in developing E2.0 usage themes across my case studies, particularly in highlighting similarities and differences of uses.

4.7 Remote Case Work

Since my case study organizations are not located in Southampton, my research necessarily made use of Internet-based communication modalities where appropriate. Survey participation was solicited by email and the surveys made use of the University of Southampton's iSurvey website (http://www.isurvey.soton.ac.uk/). My semi-structured interviews were performed face-to-face when possible and in some cases performed via Skype or telephone.

4.8 Ethical Considerations

In order to protect the rights of participants in this research, steps have been taken to ensure:

- Voluntary participation – participants have not been coerced into taking part.
- Subject well-being – participants have not been placed at risk of harm as a result of participation.
- Anonymity – although known to the researcher, the participants' involvement in the study will remain anonymous.
- Confidentiality – identifying information will not be available to anyone outside the study.
- Informed consent – participants have been informed of the procedures and risks involved in the research and have given their consent to participate.

These tenets were observed in the pilot case study as well as the subsequent case studies. The methods used in all three case studies were approved by the Electronics and Computer Science department's Ethics Committee prior to their use. Copies of the Participant Information Sheet and the Consent Form related to the formal study are in Appendixes E and F, respectively.

4.9 Researcher as a Reflexive Participant

Objectivity is both ideal and difficult to achieve in research, given the necessary research choices and interpretations of the researcher. Investigations of social phenomena often employ a defensive reflexivity to "maintain the fiction of objectivity" (Breuer, Mruck and Roth, 2002: 2). I took a proactive reflexive approach, one that embraced the situated and contingent nature of knowledge, offering an approximation of objectivity that took into account my own influences in the knowledge created through this study.

I also recognized the external influences on my approach that could have arisen from my use of interviews, one result of which may be expected affinities with subjects. This required periodic assessment of undue influences in the knowledge produced. Law cautions researchers:

> "As more than one critic has observed, if we follow the actors, we pay a price. This is that it becomes *difficult to sustain any kind of critical distance from them*. We take on their categories. We see the world through their eyes. We take on the point of view of those whom we are studying" (1991: 11, original emphasis).

Maintaining awareness of personal tendencies toward and external influences on my project has helped to mitigate personal biases and hopefully provided a suitable approximation of objectivity in the final analysis.

4.10 Summary

This chapter has presented my research objectives and the methods undertaken to achieve them. I introduced my two case studies and my rationale for their selection, then described how the social theoretics discussed in Chapter 3 were to be operationalized in order to provide answers to my research questions. I argued that use of mixed methods, surveys and semi-structured interviews, offer advantages over singularly quantitative or qualitative approaches to my research, and detailed my uses of both methods. Finally, I explained my observance of and compliance with the University's ethical standards as well as my attention to the reflexive nature of my research.

The following chapter details the fields of my two case studies and considers the nature of capitals in play and the implied contests for capital dominance.

5. Enterprise 2.0 in Practice – Two Distinct Fields

5.1 Introduction

This chapter begins my exploration of E2.0 in use, as it has been taken up in two organizations. It uses a comparative methodology, taking two very different organizations which may be understood as quite different organizational fields. Indeed, they were chosen because of these differences: one being a UK-based unit of a for-profit global technology firm; the other, a non-profit statewide social services agency located in the American Midwest. Both organizations took part in Web-based surveys of uses and attitudes toward E2.0 tools, and semi-structured interviews were carried out with a sample of staff in each organization. Initial in-depth interviews were conducted with key informants in each case, providing an overview of each organization and its goals, as well as a high-level introduction to the membership of each field.

A note on terminology used in this and subsequent chapters: since 'E2.0' may be considered a term of art or a level of abstraction above the actual use of social media tools in organizational practice, in surveys and when discussing such uses with informants, I used the more accessible term 'social media' (SM). Although the term 'E2.0' has the advantage of emphasizing the organizational or enterprise setting to 'SM', I chose the latter in data gathering interactions with informants, partly because we (and our topic) were situated within an organizational context (where the 'enterprise' locus was apparent), and partly because 'SM' was the more familiar and meaningful term for my informants, which is interesting in itself, and a point to which I return later in this chapter.

5.2 A Highly Technical Business Organization – IBM DevCentre

International Business Machines Corporation (IBM) is a global high-tech enterprise that provides computing hardware, software, and services across economic sectors in over 170 countries. Its 426,000 employees are primarily scientists, engineers, consultants,

and sales professionals (IBM on the Forbes Global 2000, n.d.). According to Forbes Magazine,

> "IBM is an information technology (IT) company. The Company operates under five segments: Global Technology Services (GTS), Global Business Services (GBS), Software, Systems and Technology, and Global Financing. GTS primarily provides IT infrastructure services and business process services. GBS primarily provides professional services and application management services. IBM's Software segment consists primarily of middleware and operating systems software. IBM provides clients with business solutions requiring advanced computing power and storage capabilities" (IBM on the Forbes Global 2000, n.d.).

IBM uses primarily a static hierarchical command and control organization structure (Piper, 2012) and secondarily, subject to emergent business requirements, limited-term matrix formulations—project teams which group employees by function and product, reducing operational overhead and increasing efficiency. Because of the nature of its business activities, its workforce is highly educated with particular emphases on hard sciences and technologies. Individuals in the company already have a propensity for active engagement with high technologies. The company provides further technical innovation impetus to employees, offering

> "special incentives for ambitious laboratory researchers and other technicians to bypass the established product divisions and work directly with partners in IBM marketing to commercialize their ideas" (Usselman, 2008: 270).

The management and processing of information is a key function of most businesses in the global economy, yet at IBM it represents a core competency. According to their 2010 annual report to the US Securities and Exchange Commission,

> "The company creates business value for clients and solves business problems through integrated solutions that leverage information technology and deep knowledge of business processes. IBM solutions typically create value by reducing a client's operational costs or by enabling new capabilities that generate revenue. These solutions draw from an industry leading portfolio of

consulting, delivery and implementation services, enterprise software, systems and financing" (IBM Form 10-K, 2010).

With adjusted income in excess of $21 billion (IBM Form 10-K, 2010), information and its uses are here constructive of high-value objectified technical and cultural capital, and convertible to economic capital by the organization as a high-tech business. The company identifies breaches of data security, including leakage or misappropriation of "proprietary information and sensitive or confidential data" (IBM Form 10-K, 2010) as one of its risk factors.

This case study examines SM practices at one of IBM's 43 worldwide development centers, IBM DevCentre UK. The DevCentre lab is home to about 1500 software professionals. IBM software developed in DevCentre is sold to companies around the world. DevCentre software includes transaction, integration and voice products, and the Java technology center is a leader in the global Java community. Products of DevCentre include Customer Information Control System (CICS), a transaction processing platform used by more than 90% of the world's Fortune 500 companies (IBM Software, 2012a), and WebSphere MQ, a message oriented middleware product used by over 10,000 organizations for fast, reliable messaging between computer applications (IBM Software, 2012b).

This organizational field in this case study is highly technical and populated by professional technologists who have ready access to state of the art computing and communications technologies. It represents a small subset of a global, highly profitable, technologically sophisticated organization that has business relationships with thousands of external entities worldwide, including customers, competitors, and regulatory agencies.

Recalling from Chapter 3, organizational field characteristics are important in this and the following case study because they provide a sense of the "field of play" and the rules that attend these social structures. The field presents its own objective, historical relationships between actors who possess and use various forms and stores of capital to try to improve their positions within the field. These capital uses are guided implicitly the actors' habitus, those "durable, transposable dispositions, structured

structures predisposed to operating as structuring structures" (Bourdieu, 1990: 53). Taken together, as indeed the interdependent relationship of field, capital, and habitus must be, these three concepts offer a sociological explanation for complex, contingent behaviors on a large scale—in this instance E2.0 uses or non-uses—arising from the actions of individuals within a social structure (Emirbayer and Johnson, 2008). In the next two chapters evidence of habitus, position-taking, and uses of capital—all relating to uses of SM—will be presented and analyzed.

5.2.1 Social Media at IBM

Like many companies in the early 1990s, IBM reacted slowly to the business opportunities presented by the Internet. However, in 1997, with the Web's rapid growth, market permeation, and robust business affordances, the company changed direction. In a break with previous market strategies,

> "Chairman Louis Gerstner described to the Securities Industries Association the Internet's ability to challenge centuries-old business models and transform the nature of all important transactions between individuals and institutions" (IBM Archives 1997, 2008).

At the same time, the company revised its internal approach to Internet use:

> "In 1997, IBM actively recommended that its employees use the Internet—at a time when many companies were seeking to restrict their employees' Internet access. In 2003, the company made a strategic decision to embrace the blogosphere and to encourage IBMers to participate. We continue to advocate IBMers' responsible involvement today in this rapidly growing environment of relationship, learning and collaboration" (IBM Social Computing Guidelines, n.d.).

Many new forms of SM have emerged since then, and the company has expanded its guidelines to include all forms of SM (IBM Social Computing Guidelines, n.d.). It now actively encourages their use:

> "IBM is increasingly exploring how online discourse through social computing can empower IBMers as global professionals, innovators and citizens. These individual interactions represent a new model: not mass communications, but

masses of communicators. Through these interactions, IBM's greatest asset—the expertise of its employees—can be shared with clients, shareholders, and the communities in which it operates. Therefore, it is very much in IBM's interest—and, we believe, in each IBMer's own—to be aware of and participate in this sphere of information, interaction and idea exchange" (IBM Social Computing Guidelines, n.d.).

IBM is thus taking a leadership role in its approach to SM technologies. It believes SM can advance their business goals, as well as employees' and communities' interests. The company values individual as well as community growth through creative engagement with technology. It sees SM not as a threat, but as an opportunity for deeper engagement with employees, business partners, business prospects, and wider communities.

Over the past nine years, company's employees have come to engage extensively with SM. According to IBM SM blogger Todd Watson,

"Today, IBM views itself as one of the most prolific users of social networking in the industry with one of the largest corporate-wide communities on social media sites. Some examples of IBM's internal social media footprint today include the following:

- 17,000 individual blogs
- 1 million daily page views of internal wikis, internal information storing websites
- 400,000 employee profiles on IBM Connections, IBM's initial social networking initiative that allows employees to share status updates, collaborate on wikis, blogs and activity, share files
- 15,000,000 downloads of employee-generated videos/podcasts
- 20 million minutes of LotusLive meetings every month with people both inside and outside the organization
- More than 400k Sametime instant messaging users, resulting in 40-50 million instant messages per day" (2011).

In addition, employees use many external SM tools such as Facebook, Twitter, and Google+ both for business and social purposes, according to most informants in this case study.

These uses are subject to the company's business conduct guidelines—a set of principles concerning integrity and business ethics—that employees must review annually and agree to observe and support as a condition of employment (IBM Business Conduct Guidelines, 2012; IBM Culture of Trust, 2008). These guidelines include understandings relating to IBM's information and property, IBM's handling of personal information, making commitments and obtaining approvals, working with organizations outside of IBM, competing fairly, acquiring and using information, international trade compliance, conflicts of interest, inside information and insider trading, public service and political activity, and speaking publicly and SM. The last of these is succinct:

> "When you speak out on public issues or in a public forum, you do so as an individual, and you should not give the appearance of speaking or acting on IBM's behalf. This is particularly important with the rise of social networking media. You must always be aware that such services are increasingly being monitored by clients, colleagues and regulators alike" (IBM Business Conduct Guidelines, 2012: 29).

Information and its uses (or misuses) are clearly at the center of these guidelines. The company's insistence on employees' awareness of adherence to these rules shows that, beyond its prior assessment of data security as a risk factor, it values and protects its information assets and public image. Uses of information (objectified cultural/technical capital) at IBM are thus also clearly constructive (or destructive) of economic capital, which constitutes DevCentre's dominant form of capital and will be examined further in Section 5.2.2, *Capital and its Uses at DevCentre*.

Having identified strategic value in improving internal communication efficiencies as well as economic value in the corporate marketplace (Dines, 2008), IBM has developed its own SM tools for internal use as well as for marketing to organizational clients worldwide. According to Stafford and Mearns,

> "IBM encourages the development of new tools and tests the adoption rates internally as one methodology of assessing whether the tools could have commercial potential and whether they should be packaged for resale in the market" (2010: 5).

Used within the corporate firewall, these have the advantage of protecting confidential information streams and associated data stores. When transacting confidential information, use of public SM such as Facebook of Twitter, even 'privately' in the form of 'direct messages', potentially exposes that information.

The company has about 40 different internal SM tools which are used throughout the global enterprise, the most widely used being Sametime and Lotus Connections (Stafford and Mearns, 2010). Since these tools are not widely known outside IBM, their purposes and out-of-the-box capabilities are described briefly in the text boxes over. These purposes and capabilities are not necessarily the limits of their uses—users can create new purposes and recombine capabilities in ways the designers of these tools did not anticipate. Uses of these specific tools and other SM applications will be described further in Chapter 7.

Note that development and product management groups around such IBM-produced tools have been cognizant of the "Enterprise 2.0" marketing label and make use of it as such (Lennon, 2009; Benitez, 2011). Since IBM promotes products in the E2.0 marketplace and employees are continuously exposed to the company's product and market initiatives (often through SM), the term is broadly understood *in addition to* "social media."

Sametime

The tool most often described by IBM DevCentre informants is Sametime, a client-server application that offers synchronous and asynchronous communications, presence information, group and multiway chat, instant messaging, web conferencing, social networking, and community collaboration. According to a Sametime user guide,

> "IBM Lotus Sametime is software that helps people communicate and work together — in real time, with no waiting. It enables instant online communication with available coworkers and lets you know who's actually available so you don't waste time playing phone tag or sending ten emails to set up a conference" (Londergan, 2006:5).

Sametime is developed and sold by IBM's Lotus Software division, and is available to all IBM employees in conjunction with Lotus Connections. It has many uses, primarily as a business communication tool, in which capacity it effectively competes with older technologies such as email and telephone.

Presence information is a key feature. The application displays all of a user's contacts with indications of who's online and available, who's in a meeting, who's offline, and so on. This creates shared rules of practice between users with respect to responsiveness to requests. This contrasts with email or telephone communications in that the initiator does not know whether the person they're trying to contact is available or not. The receiving party in such cases may choose to ignore such contacts, but this is less likely to occur when their presence is known, as with Sametime.

Lotus Connections

Another proprietary IBM client-server application, Lotus Connections, is a social software tool developed for business uses. Like Sametime, it features a central server application and client applications for multiple operating systems and platforms. Users can access the system from their desktop computers, web browsers, and a variety of mobile devices. The system provides numerous features, including tools for creating, finding, joining, and working with communities of people; sharing files; collaboratively editing content; quickly finding needed people and expertise; presenting ideas in Weblogs and getting feedback from others; saving, organizing, and sharing bookmarks using social bookmarking; gathering emails, IM chats, documents, messages, and other information needed to accomplish business objectives; remaining informed of social data updates from across the IBM Connections services; and providing convenient on-line discussion boards where people can ask questions, share their experiences, and discuss topics of common interest (IBM Connections, 2011). In short, Lotus Connections offers users a broad range of SM tools and capabilities aggregated into a single package with single-sign-on access. Yet despite these features and a laundry list of benefits (IBM Connections, 2011), we'll see that the package, while well-known throughout the company, is little used at DevCentre.

IBM is a highly technical organization, well-equipped with all the latest CMC technologies and access to both internal and external SM tools. Yet, as it remains open to voluntary SM engagement with few imposed requirements, apart from its Social Computing Guidelines (see above), it presents an excellent opportunity to examine what gets taken up and what is ignored. In turn, it is important to explore why these tools are taken up and the purposes to which they are engaged: what are the social dynamics that lead to uses of which technologies and what are the resulting effects of those elections?

5.2.2 Capital and its Uses at DevCentre

IBM is a publicly traded multinational corporation oriented toward making profits through delivering high technology products and services. The primary stakes and dominant capital in their field are thus economic capital which is supported primarily by cultural and technical capitals, both objectified (in corporate culture, hardware, software, documents, processes, and so on) and embodied (in its workforce). So although relationships and influence at DevCentre are dominated by the company's larger economic goals and interests, they depend also to a lesser degree on uses of cultural and technical capital within the field that DevCentre comprises. Emirbayer and Johnson describe how this operates:

> "particular positions or roles, including those that mark the dominant and dominated poles of the field, can be rigorously analyzed in terms of the distinctive profiles of capital associated with them. Thus, within any organizational field, different specific organizations – occupants of these distinct positions – can be said to engage in the struggles ongoing within that field as bearers of different amounts and combinations of resources, some of which yield greater advantages within that particular field than do others" (2008: 11).

At DevCentre, cultural and, in particular, technical capital may be seen to offer such competitive advantages to its holders because the organization as a whole values technical capital more than social capital. Specific expertise in the technologies under development at DevCentre, as well as the ability to communicate effectively about them, thus yield the greater advantages in the field it represents. By extension, symbolic capital, both as a misapprehended or misrecognized form of cultural capital (Bourdieu, 1986) or in the form of recognition, esteem, and ethical business practices (Fuller and Tian, 2006), is also important in DevCentre's field.

Social capital in the form of working relationships, workgroup memberships, and external contacts is somewhat less important and constitutes a dominated yet useful form of capital in this field.

5.2.3 IBM Interview Subjects

In November 2011, I interviewed 12 members of the IBM DevCentre Software Group, represented in Table 6. Most of these informants hold white-collar positions as software developers, testers, and consultants. See Chapter 4 for details of sampling techniques. In Chapter 7 I describe and analyze my interviews and findings, as well as further characterizing many of these informants.

Name	Position	Age	Education	Experience at IBM
Aaron	Software support analyst	40s	PhD in Biology	10 years
Alex	Software support specialist	30s	Master's in Computer Aided Engineering	10 years
Amanda	Human-computer interaction specialist	30s	PhD candidate in Psychology	9 years
Curt	Software developer	30s	Master's in Computer Science	13 years
Dean	Software tester	20s	Bachelor's in Computer Science	7 years
Doug	Information architect	40s	PhD in Computer Science	11 years
Franz	Software developer	20s	Bachelor's in Computer Science	New hire
Fred	CTO	40s	PhD in Computer Science	20 years
Grant	Technical specialist	50s	Completed school	12 years
Ken	Software developer	20s	PhD in Computer Science	1.5 years
Leo	Software developer	20s	Bachelor's in Computer Science	3.5 years
Michael	Software developer	20s	Bachelor's in Computer Science	2.5 years

Table 6: IBM DevCentre informants in alphabetic order

5.3 A Nontechnical Third Sector Organization – MCADSV

In contrast to IBM, my second case study is a non-profit organization:

> "[MCADSV is] the membership coalition of those working in the Missouri movement to end violence against women. Founded in 1980, MCADSV has

more than 100 member programs that provide services to victims of violence against women. Since its beginning, MCADSV has worked to ensure there is someone to talk to, someplace to go and someone to help women victimized by violence when they need it most. MCADSV's members—individuals and organizations from throughout the state—count on the Coalition to provide them with the resources, training and expertise to further social justice in their own communities as well as a unified voice at the state level to improve public policy, systems and responses to violence against women" (MCADSV, 2012: 47).

Member agencies are community based organizations, some in urban settings with dozens of employees, but most in rural communities with ten or fewer staff (Robb-Welch, 2012). Their services include state and local hotlines, crisis intervention, shelter, transitional housing, support groups, services for children, professional therapy, ongoing advocacy, and court advocacy. It comprises a coordinating organization at the state level with offices in the state capital, and over a hundred member agencies in cities and towns statewide. Its employees and associates include advocates, coordinators, counselors, directors, and managers, with the following responsibilities:

- **Director:** Responsible for the overall operations and/or administration of the agency. Reports to a board of directors.
- **Manager:** Supervises staff and/or program operations.
- **Counselor:** A licensed or certified professional providing individual or group therapeutic services.
- **Advocate:** Conducts the everyday work of the agency by providing supporting services to survivors of domestic and/or sexual violence.
- **Coordinator:** Oversees specific aspects of the agency's daily operations, such as volunteer coordination (Robb-Welch, 2011).

According to key informants within the organization, the central core performs a range of services to the statewide agencies, with coordination and communication as primary functions:

"We provide the main voice for public policy, implementation of policy, training of advocates and all of their partners around the state. We set standards for

how services are to be done around the state in accordance with ethics and best practices. We help programs at all levels of their development, from starting up through everything, including how they do their accounting, how they do their HR, how they train their boards and do strategic planning, what they do in unusual circumstances and take those immediate phone calls to help them problem solve. We create publications. We are connected to our national network, so we're able to see what trends are emerging in other places. Or we may be the place where something is happening, so we share that with others. So we're sort of the clearinghouse for information and resources and actions, from a statewide perspective, to deal with rape and intimate partner battering. We're focusing a lot more right now on prevention work, which is taking us into new networks with schools to address middle school students" (Robb-Welch, 2011).

The core organization is governed by a board of directors, managed by several executive officers, and comprises less than 20 individuals. It is funded primarily through grants from the state of Missouri and other Missouri-based institutions. Member agencies are guided by their own boards of directors, managers, and funding sources. Employees throughout the statewide membership are predominantly social workers and most use computers in their daily work for email as well as information storage, search, and retrieval, but they do not have strong technological backgrounds. The Coalition and its member agencies mostly own their own computing and communications hardware, but contract for IT services and support with outside vendors.

The members of the statewide coalition are privy to a great deal of personal information about clients, most of whom have been victimized, often resulting in physical injury. Hence, their duty of care is to protect these clients from further abuse. This requires that contact information and whereabouts be carefully guarded. A secondary, but nonetheless important, concern has to do with meeting information requirements set forth in grant agreements.

The field of the second case study, MCADSV, is primarily nontechnical and populated by professional social workers. The organization operates in a stressful, difficult realm

of social services for victims of physical violence. Its employees and associates are primarily focused on providing the best services possible for their clients.

5.3.1 Social Media at MCADSV

SM applications in use include both well-known external tools, such as Facebook and Twitter. Google+ is mentioned as well as various blogs, wikis, and forums, but these are little known and see very light use among MCADSV's membership.

SM resources within MCADSV are quite limited. Informants across the organization describe a lack of funds, time, and necessary skills to engage with SM as much as they would like. The parent organization in Jefferson City and several other member agencies created Web sites more than ten years ago, and some have expanded their online presence to include SM in recent years. There have not been any centrally directed initiatives, advocacy, or strategies for advancing SM uses among the membership to date. Similarly, the organization has yet to articulate policies or standards for SM use.

In contrast to IBM's familiarity with "Enterprise 2.0" as mentioned above, MCADSV's limited exposure to SM and non-engagement with the E2.0 marketplace appears to have limited their awareness of the tools that fit into the rubric as such. Where "social media" was familiar to all the informants with whom I interacted, any mention of "Enterprise 2.0"—for example, when explaining my broader thesis—had to be explained.

5.3.2 Capital and its Uses at MCADSV

MCADSV is a non-profit social services organization which depends on primarily on state grants and private donations for its economic support. While economic capital is important to the organization and allows development and promotion of many programs, it is not the dominant capital in this field. For this group, cultural capital and social capital are dominant because it is guided through the expertise of members and aligned through its social connections. The core organization has extensive experience with all aspects of sexual and domestic violence advocacy and support, and uses this deep knowledge to support and guide the wider organization. This deep experience

comprises the group's primary source of cultural capital. Smooth organizational interaction and good interpersonal relationships are also important for maintaining cohesive action in a dynamic and stressful environment. As we've seen earlier, coordination and communication are primary functions in both the core group and across the statewide organization. Here social capital is a key influence which the group works hard to maintain and promote. Symbolic capital is also important in MCADSV's field and is available primarily as attending on social capital as "'being known and recognized and is more or less synonymous with: standing, good name, honour, fame, prestige and reputation," (Bourdieu, 1993: 37) as well as on cultural capital, where the esteem with which objectified or embodied forms are regarded within the field provides mediating power to its holders (Bourdieu, 1986).

For MCADSV the subordinate forms of capital are economic and technical capitals. Technical capital is valued but limited within the field proper as the organization contracts its technical support externally.

5.3.3 MCADSV Interview Subjects

In September 2011 I interviewed 12 members of the MCADSV community, both from the parent organization and its member organizations, represented in Table 7. Informants were mostly professional social workers; a few were communication specialists. Several held leadership roles in their respective organizations. See Chapter 4 for details of sampling techniques. Many of these informants are further characterized in Chapter 7, and their accounts of their SM uses are analyzed there.

Name	Position	Age	Education	Experience at MCADSV
Carla	Community educator	30s	Master's in Social Work	12 years
Christabel	Executive director	20s	Bachelor's in Political Science	5 years
Dana	Events manager	50s	Bachelor's in English Literature	4 years
Elizabeth	Education coordinator	30s	Master's in Social Work	9 years
Emma	Marketing director	40s	Bachelor's in Marketing	4 years
Erin	Executive director	30s	Master's in Sociology	7 years
Jackie	Executive director	20s	Bachelor's in Criminology	3 years
Jane	Training developer	30s	Bachelor's in Business Management	New hire
Julie	Communications coordinator	20s	Master's in Public Health	4 years
Kim	Marketing specialist	20s	Bachelor's in Communication	1 year
Michelle	Executive director	60s	Master's in Education	4 years
Tom	Community coordinator	40s	Bachelor's in Sociology	2 years

Table 7: MCADSV informants in alphabetic order

5.4 Summary

This chapter has examined the disparate *organizations as fields* of IBM DevCentre and MCADSV, with particular attention to their different approaches to and uses of SM at a high level.

We've seen that IBM's dominant capital is economic, owing to its primary organizational goal of making money. Yet we also see that its employees are highly technical, both in background and practice, and how the company has made longstanding uses of SM. So internally, beneath the dominating economic capital, the field of IBM places particular value on cultural and technical capital, as well as supervening symbolic capital, over social capital. Further, we have some sense of the habitus of individuals and the group as a whole because of their technical focus and the nature of their everyday activities.

On the other hand, we've seen that MCADSV's focus on social services and limited knowledge of and exposure to SM raises the value of social and cultural capitals and their uses in the organization (again attended by their misrecognition as symbolic capital) dominating the value of economic and technical capitals. Given these differences in field and subjective valuations of capital, we may expect to see differences in uses of SM in practice. Here again, we get a broad sense of habitus within the field through their activities.

The next chapter will examine SM uses and attitudes at IBM and MCADSV, looking particularly at group habitus and position-taking through analyses of quantitative data collected in the two organizations.

6. Deeper into the Fields – Group Habitus and Position-takings

6.1 Introduction

The case study organizations in this research present two distinctly different fields of activities arranged in pursuit of their specific goals. This chapter will further characterize these fields and examine their engagement with SM tools as well as some demographic aspects of these engagements. As we saw in Chapter 3, adoption of particular technologies and strategies (or non-adoption) in an organizational context may be understood as position-taking. As these position-takings arise from the habitus and both social and cultural capital of individual actors (Warde, 2004), attention is focused here on these indicators of habitus and capital. The combination of individual opinions and choices taken provides evidence of group habitus in these organizations, as well as providing a clearer picture of the fields and capital uses in the "game" being played in each.

Note that although quantitative operationalizations of habitus (Dumais, 2002; Maynor, 2011; Gaddis, 2012) are unusual, and have been critiqued as quantifying a nebulous concept (Sullivan, 2002), I have described my quantitative approach earlier in Section 4.4, *Operationalizing Bourdieu*, and noted my additional reliance on subsequent complementary qualitative data and analysis in support of this approach.

Although sample sizes in both case studies lack statistical significance, there are some results worth noting, in that they provide a sense of apparent trends within the fields of the two case studies, particularly having to do with habitus and cultural capital as demonstrated in the two organizations.

After a brief description of how the surveys were promoted and their respective response rates, this chapter presents and discusses the results gathered, comparing across fields. The first section considers demographic measures of the fields, followed by a section addressing respondents' attitudes and opinions regarding SM. These are followed by a section on tool usages, both non-work- and work-related. Finally, two

sections on SM participation complete the chapter, the first looking at active/passive uses/non-uses of SM tools, and the second considering overall engagement by age group and education.

6.2 Survey Administration

The two Web-based surveys described earlier in Chapter 4 were administered in late 2011, the first at MCADSV and the second at IBM. Although largely the same survey, there were a few variations in questions as the IBM liaison recommended:

- Separation of questions about work-related SM usages to distinguish between uses of external tools (e.g., Facebook, Twitter) and internal tools (e.g., Sametime, Connections).
- Omission of questions relating to race and religion.

In MCADSV's case, invitations to participate in the survey were sent to 633 members of the statewide organization via broadcast email. A password was provided to prevent illegitimate uses of the survey. Responses totaled N=81, yielding a response rate of 13%—a marginally significant result.

At IBM, an open invitation to participate in the survey was published in the Software Group's key news website. At the time of the survey, DevCentre's Software Group numbered approximately 1,500 members. Whether the invitation was seen by all members of the community is unknown. The IBM survey was also password protected. Responses totaled N=83. If we assume that all 1,500 members of the target population saw the invitation, the response rate is only 5%—unfortunately too weak to establish statistical significance.

While I cannot draw scientific conclusions based on the outcomes of these surveys, they nevertheless suggest some interesting findings may be gleaned from the available data. As the American Association for Public Opinion Research points out, low rates "do not necessarily differentiate reliably between accurate and inaccurate data" (AAPOR, 2008). As noted earlier, the complementarity of later qualitative research discussed in Chapter 7 will help to strengthen the evidence presented here.

6.3 Survey Results – Habitus Differences

6.3.1 Populations and Characteristics

Survey results help to portray the fields of the two organizations, providing some demographic details of their composition. The counts and percentages in the following tables and figures represent the 83 respondents from IBM and the 81 respondents from MCADSV. The first six result sets from the surveys demonstrate comparative distributions of age groups, gender, education levels, and organizational roles, in Tables 8-12, and self-described personal networks in Figure 3.

	IBM		MCADSV	
Age group	**Count**	**%**	**Count**	**%**
< 20	1	1%	0	0%
20 -29	17	21%	14	17%
30 - 39	32	39%	30	37%
40 - 49	18	22%	22	27%
50 - 59	13	15%	7	9%
> 59	2	2%	8	10%

Table 8: Comparative age distribution

Table 8 shows similar age distribution across both cases. There appears to be slight variation toward a younger overall population at IBM. If so, this finding would be consistent with DevCentre's policy of annual student placements and hiring of Computer Science students from local universities (Piper, 2012).

	IBM		MCADSV	
Gender	**Count**	**%**	**Count**	**%**
Female	6	7%	72	88%
Male	75	93%	11	12%

Table 9: Comparative gender distribution

Table 9 shows nearly reversed gender distribution across both cases.

	IBM		MCADSV	
Highest completed	**Count**	**%**	**Count**	**%**
Completed school	14	17%	8	10%
Bachelor's degree	34	40%	35	44%
Master's degree	26	32%	33	40%
PhD	9	11%	5	6%

Table 10: Comparative education levels

Table 10 shows fairly even distribution of education levels across both cases, although key informants at both organizations have qualified these degrees as technically focused at IBM and socially focused at MCADSV. Survey respondents report fairly strong educational achievements, with both groups reporting ~40% Bachelor's degrees and >40% advanced degrees. Both fields are thus well-educated, meaning that the actors present have significant embodied cultural capital and habitus appropriate to their respective fields, since their educational backgrounds fit the requirements of their organizational functions.

Role	**Count**	**%**
Software Group manager	4	5%
Software Group (development/test)	57	68%
Other Software Group	14	17%
Other IBM	8	10%

Table 11: Roles at IBM

Table 11 shows that IBM respondents are primarily software developers and testers, with only a small percentage of the sample in management roles. As previously noted, these are primarily highly technical roles, solidly focused on computing technologies. These respondents bring to their field the forms of cultural and technical capital that the field requires, along with technically evolved and focused habitus. Programmers, as Coleman puts it, "hold affinities with their technical *habitus* borne from "practical" (as in meaningful, embodied, and collective action) experiences formed around the pragmatics of programming and the aesthetics of technical architectures" (2004: 511). This community is thus predisposed to making uses of technical artifacts in creative ways to satisfy emergent needs, including communicating and sharing information.

Role	Count	%
Director	20	26%
Manager	11	15%
Advocate	18	24%
Coordinator	11	15%
Other	15	20%

Table 12: Roles at MCADSV

In Table 12, we see that MCADSV respondents work in a variety of roles across the organization, but that a much larger segment—over 40%—work in management roles, although six respondents did not indicate their positions in the survey. Here the field's focus is social, so the forms of capital valued in this case are social and cultural—little technical capital is present or valued.

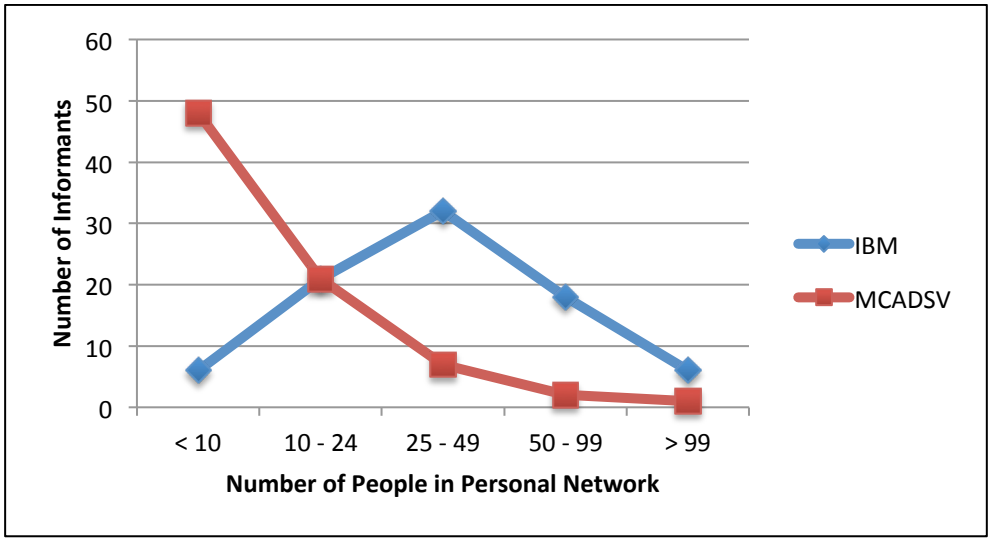

Figure 3: Personal networks within organization

Survey respondents were asked to estimate the number of people in their organization with whom they have work-related interactions in the course of any given month. In Figure 3 we see that MCADSV respondents report predominantly smaller working networks than those of IBM respondents. This suggests that IBM workers tend to work with larger teams, although the role estimates we've just seen may have an impact on these findings. Another possible cause for this finding may be the nature of the two populations: Devcentre has ~1,500 mainly software developers working together in a

single campus location, while MCADSV's smaller population is scattered across the state of Missouri in ~125 mostly small offices.

By these measures, similarities between the fields relate to age and education levels, although the latter differs with respect to technical or social focus. We also see a sharp difference in gender composition, as well as quite different roles in the two fields. Finally, IBM respondents appear to work in larger interactive networks than do respondents from MCADSV.

6.3.2 Attitudes Toward Social Media

Five survey questions assessed respondents' attitudes toward their uses of SM, including opinions about their own abilities with SM as well as work and non-work usefulness of the tools.

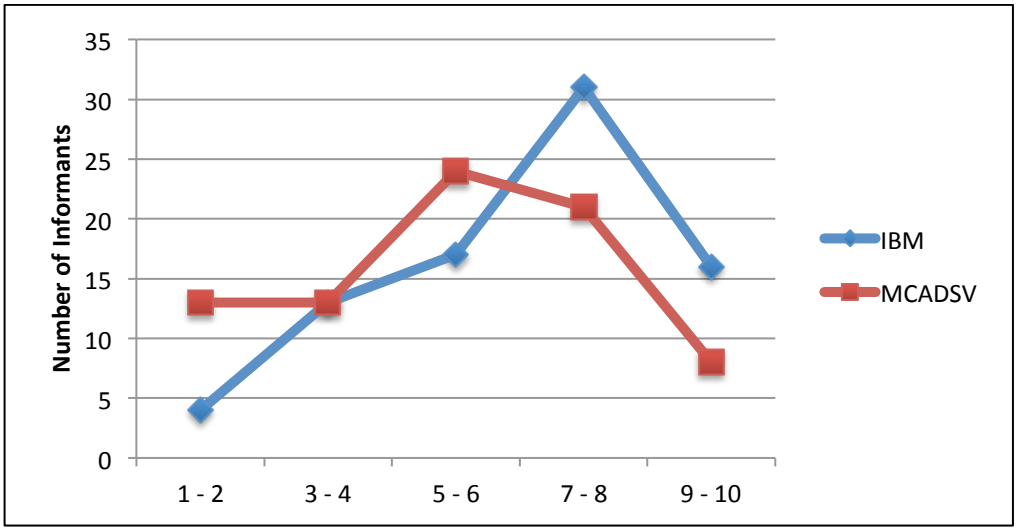

Figure 4: Self ratings

Survey respondents were asked to rate their SM skills on a scale of 1-10, with 1 being unskilled and 10 being highly skilled. In Figure 4 we see that MCADSV respondents tended to rate themselves lower than IBM respondents, although significant numbers of both groups claimed skills in the 7-10 range.

Age	IBM	MCADSV
< 20	8.0	no data
20 -29	7.9	7.6
30 - 39	6.9	6.4
40 - 49	5.8	4.5
50 - 59	4.8	3.4
> 59	3.0	2.4

Table 13: Mean self-rating by age group

As Table 13 demonstrates, self-ratings appear to have an inverse relationship with age groups in both sets of respondents— younger respondents tended to rate themselves higher on the scale and older respondents tended to rate themselves lower. This suggests differences in habitus related to age, which will be further explored in Section 6.3.5, *Age-related User Engagement*, and in the next chapter.

Education	IBM	MCADSV
Completed school	6.2	5
Bachelor's degree	6.6	5.6
Master's degree	6.5	5.3
PhD	6.4	5.2

Table 14: Mean self-rating by education level

Interestingly, although little variation is seen in self-ratings according to educational accomplishments as shown in Table 14, IBM respondents nonetheless show approximately 20% higher means than their counterparts at MCADSV.

The next four tables compare responses from both case studies on opinions regarding both non-work- and work-related uses of SM. These help to further establish respondents' habitus and position-takings relative to SM.

	IBM		MCADSV	
	Count	**%**	**Count**	**%**
Indispensible	21	25%	6	7%
Positive	45	56%	45	57%
Neutral	8	10%	25	32%
Negative	3	4%	1	1%
Waste of time	4	5%	2	3%

Table 15: Non-work usefulness of SM

Table 15 compares opinions across the two cases regarding non-work-related usefulness of SM. In this instance, IBM respondents appear to hold a somewhat more favorable opinion, although both groups are generally favorable.

	IBM		MCADSV	
	Count	**%**	**Count**	**%**
Indispensible	8	10%	8	10%
Positive	40	49%	52	65%
Neutral	24	30%	17	22%
Negative	4	5%	2	3%
Waste of time	5	6%	0	0%

Table 16: Work usefulness of SM

In Table 16 we see a similar distribution of opinion about SM's work usefulness, although, in contrast to the previous finding, here MCADSV respondents appear to hold a somewhat more favorable opinion.

	IBM		MCADSV	
	Count	**%**	**Count**	**%**
Strongly agree	15	19%	6	7%
Agree	19	23%	18	22%
Neutral	23	29%	32	41%
Disagree	16	20%	19	23%
Strongly disagree	7	9%	6	7%

Table 17: "I enjoy using online SM."

Table 17 shows fairly even distribution of SM enjoyment, with IBM respondents once more appearing somewhat more favorable. Note that this question was not specific with respect to enjoyment of work/non-work uses of SM.

	IBM		MCADSV	
	Count	**%**	**Count**	**%**
Strongly agree	12	15%	32	41%
Agree	37	46%	33	42%
Neutral	23	28%	13	16%
Disagree	6	7%	1	1%
Strongly disagree	3	4%	0	0%

Table 18: "SM can help advance our work."

Table 18 shows that both sets of respondents tend to believe SM can help advance their respective work. It is interesting that the non-technical group appears to be somewhat more positive on this, yet this finding is consistent with the results of Table 16.

These findings suggest that the two groups hold similar opinions regarding their own abilities with SM and their enjoyment of it. Slight variation appears in opinions regarding its usefulness and its helpfulness to advance organizational work, suggesting a difference in group habitus.

6.3.3 Tool Uses and Non-uses

The next five figures present results from five questions regarding which SM tools respondents make use of in both non-work and work settings. Response choices were limited to the six of the most used SM tool categories. Note that Figures 5 through 9 show raw numbers of tool users and non-users, rather than percentages.

Here tool non-use is as informative as use. Cockerham and Hinote observe,

> "Action or inaction with respect to a particular… practice leads to its reproduction, modification, or nullification by the habitus through a feedback process. This is consistent with Bourdieu's assertion that when dispositions are acted upon, they tend to reproduce or modify the habitus from which they are derived" (2009: 210).

Again, both use and non-use are position-takings, as are specific elections of tools.

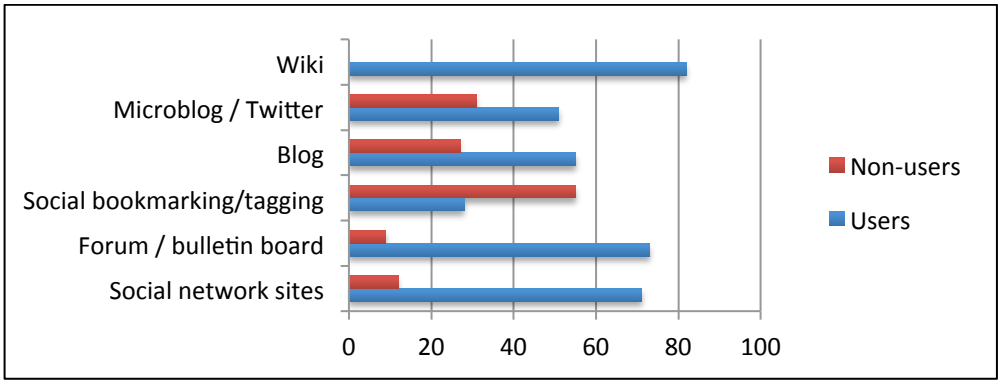

Figure 5: Non-work SM application uses – IBM

Figure 5 shows that the majority of IBM respondents make use of most of the tools listed, with the exception of social bookmarking/tagging, in non-work settings.

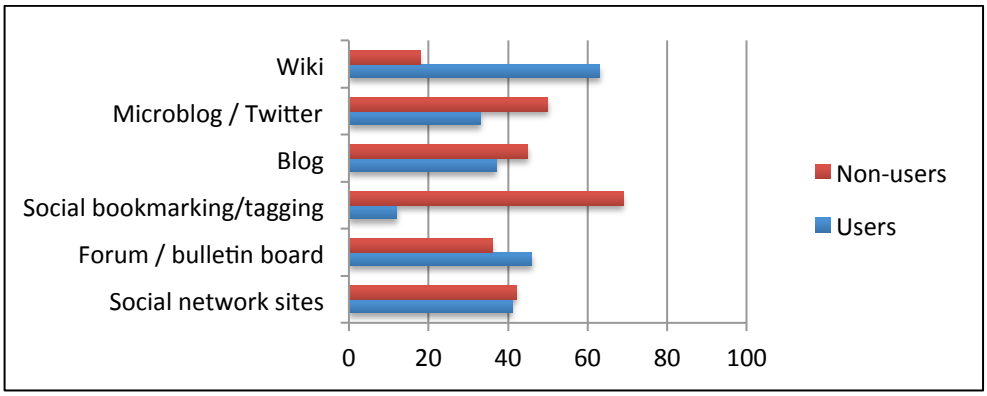

Figure 6: Work SM application uses – External – IBM

Figure 6 shows that IBM respondents' work-related usage of external SM tools, such as Facebook, blogs, and Twitter, is significantly less than their non-work usage. It has been argued that younger people, having grown up with SM, tend to transfer it easily to their working environment. Yet as we'll see in the next chapter, SM uses that appear to be associated with age may actually be more closely associated with habitus and cultural/technical capital.

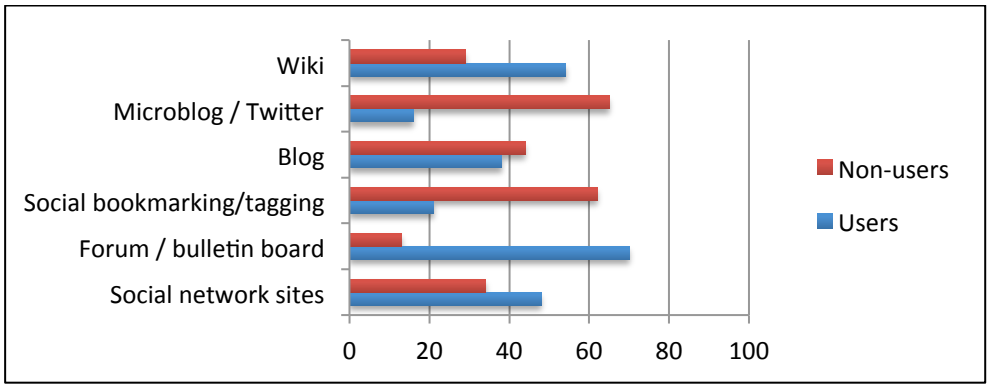

Figure 7: Work SM application uses – Internal – IBM

In Figure 7, work-related usage of internal tools such as Connections, we see similar levels of use, with somewhat stronger engagement in bulletin board and social network site usage. IBM respondents appear to engage with SM more readily for non-work uses than for work purposes.

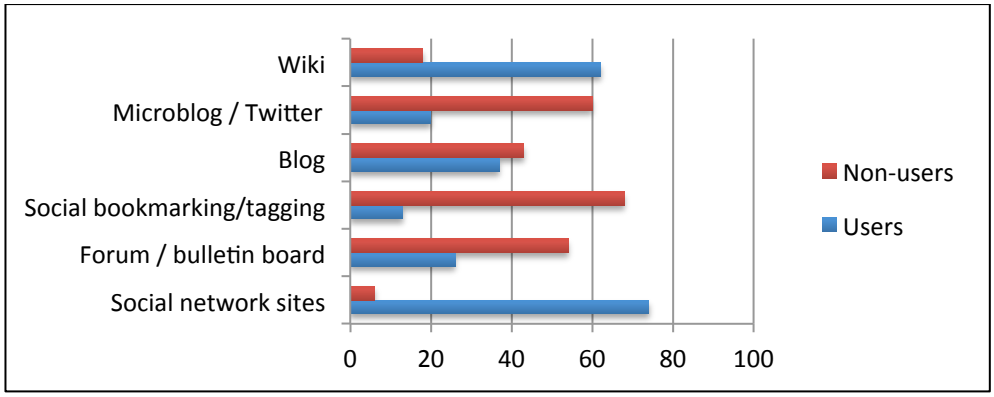

Figure 8: Non-work SM application uses - MCADSV

Figure 8 shows MCADSV respondents strong preference for wikis and social network sites in non-work usage, but the majority tend not to use other tools on offer.

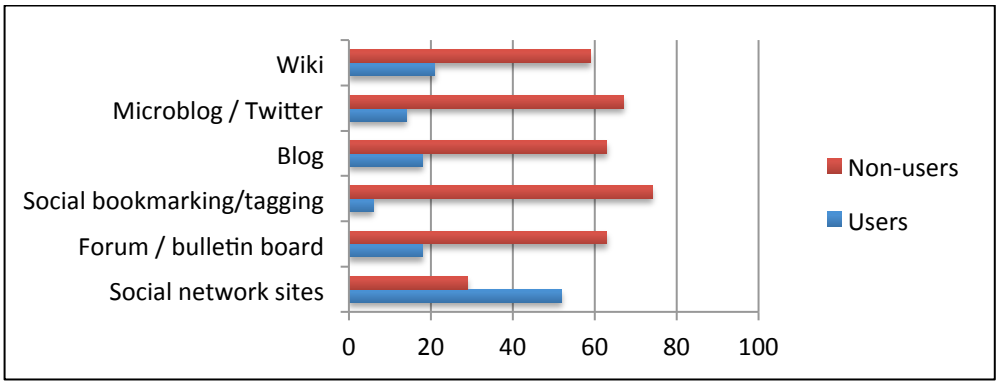

Figure 9: Work SM application uses – MCADSV

In Figure 9 we see that a small majority of MCADSV respondents favor social network sites for work-related use, but most make little use of other SM tools. While we've seen in Tables 16 and 18 that MCADSV respondents hold more favorable opinions than their counterparts at IBM about the usefulness of SM for work and in meeting organizational goals, it is noteworthy that they appear to make significantly less use of the tools available to them. This disparity will be examined further in Chapter 7.

6.3.4 Active/Passive/Non Participation

The next two tables provide a sense of respondents' tool-specific participation with SM, again distinguished by work and non-work usages. Respondents were asked to distinguish their tool usage by whether they contribute content, read content only, or make no use at all. Here again we see respondents from both cases show greatest participation in non-work-related usages, corresponding with results in Figures 5 through 9.

	Contribute		Read only		None	
Non-work	**Count**	**%**	**Count**	**%**	**Count**	**%**
Wiki	10	12%	68	83%	4	5%
Microblog / Twitter	45	55%	10	12%	27	33%
Blog	25	30%	32	39%	26	31%
Social bookmarking/tagging	13	16%	13	16%	57	68%
Forum / bulletin board	39	48%	35	42%	8	10%
Social network sites	59	72%	12	14%	12	14%
Work	**Count**	**%**	**Count**	**%**	**Count**	**%**
Wiki	5	7%	62	76%	13	17%
Microblog / Twitter	24	30%	10	12%	47	58%
Blog	11	13%	29	36%	42	51%
Social bookmarking/tagging	9	11%	9	11%	64	78%
Forum / bulletin board	17	21%	32	39%	33	40%
Social network sites	16	19%	22	27%	44	54%

Table 19: IBM non-work and work SM engagement

As in Figure 5, Table 19 shows IBM respondents make most non-work uses of all tools except social bookmarking. Their content contribution is strongest with social network sites and Twitter. Again, as in Figures 6 and 7, work-related participation is much reduced in both external and internal tool usages.

	Contribute		Read only		None	
Non-work	**Count**	**%**	**Count**	**%**	**Count**	**%**
Wiki	1	1%	49	61%	30	38%
Microblog / Twitter	9	11%	10	13%	61	76%
Blog	5	6%	29	36%	47	58%
Social bookmarking/tagging	4	5%	8	10%	69	85%
Forum / bulletin board	4	5%	25	31%	52	64%
Social network sites	60	74%	14	17%	7	9%
Work	**Count**	**%**	**Count**	**%**	**Count**	**%**
Wiki	1	1%	17	22%	61	77%
Microblog / Twitter	12	16%	3	4%	64	80%
Blog	6	7%	13	16%	62	77%
Social bookmarking/tagging	2	3%	6	8%	71	89%
Forum / bulletin board	4	5%	15	19%	62	76%
Social network sites	34	42%	19	23%	28	35%

Table 20: MCADSV non-work and work SM engagement

Table 20 shows MCADSV respondents' strongest SM usages to be both work and non-work-related uses of social network sites. Their uses of other SM tools are generally limited. As before, this contrasts with their expressed interest in using these tools for work-related purposes.

6.3.5 Age-related User Engagement

The next two figures show results from an evaluation of user engagement in both work and non-work settings. This was done to assess the overall engagement of each group and was ordered by age group. For the purposes of this evaluation, I interpreted engagement as being expressed by individuals' frequency of uses of the six key SM tool types—both non-work and work-related, their content creation tendencies with the six tool types, and their frequency of SM content creation activities. Survey results were interpreted for questions 1.1, 1.2, 1.4, 2.1, and 2.2 (see Appendix C).

I assigned frequency and content creation values as Table 21 shows. The values in the first instance are approximations drawn from the notion of number of uses per month.

In the latter instance the value for 'Read/view only' is intended to form a baseline and the value for contribution is cast as significantly greater.

Questions 1.1, 1.4, and 2.1	
Daily	30
Weekly	5
Monthly	1
< Monthly	0.5
Never	0
Questions 1.2 and 2.2	
Contribute content	5
Read/view only	1
None	0

Table 21: Engagement weighted scores

I then totaled each individual's values for all five questions and developed the scale shown in Table 22 to rank the results. The scale was developed by iterative assessments of selected scores and the SM usage behaviors of associated respondents. Frequent use of multiple SM tools, both non-work and work-related, in addition to frequent content creation was deemed to show very strong engagement. Intermediate and lower strength bands were estimated from diminishing levels of reported frequencies of tool use and content creation.

Very strong	> 200
Strong	100-200
Moderate	50-99
Weak	25-49
Very weak	0-24

Table 22: Engagement Strength

I finally grouped all the results by age group, producing Figures 10 and 11. These demonstrate significantly greater SM engagement by the IBM respondents than that of MCADSV respondents across all age groups. Although the sample limitations in these surveys preclude firm conclusions based on the data, it nevertheless appears that IBM's respondents are more avid users of these tools than their counterparts at

MCADSV. Not surprisingly, SM engagement is also seen to be significantly related to age in these figures with younger respondents of both groups showing greater levels of engagement than older respondents.

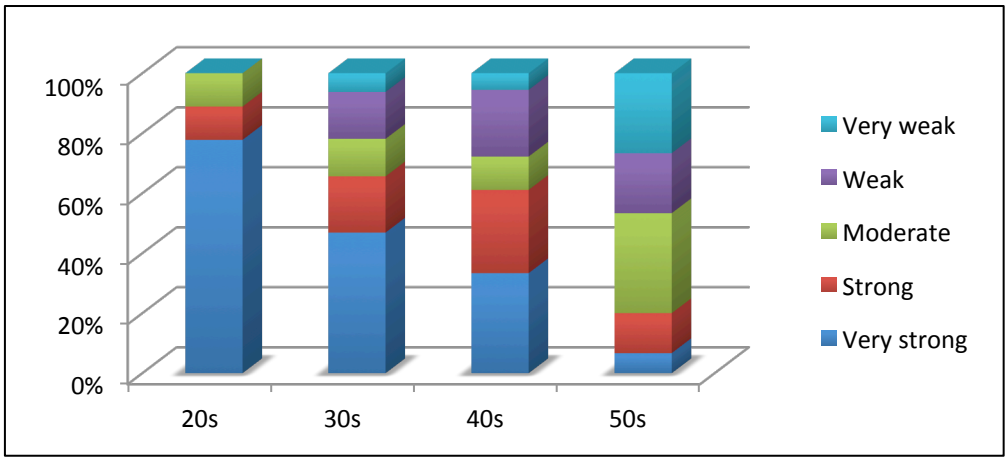

Figure 10: SM engagement by age group – IBM

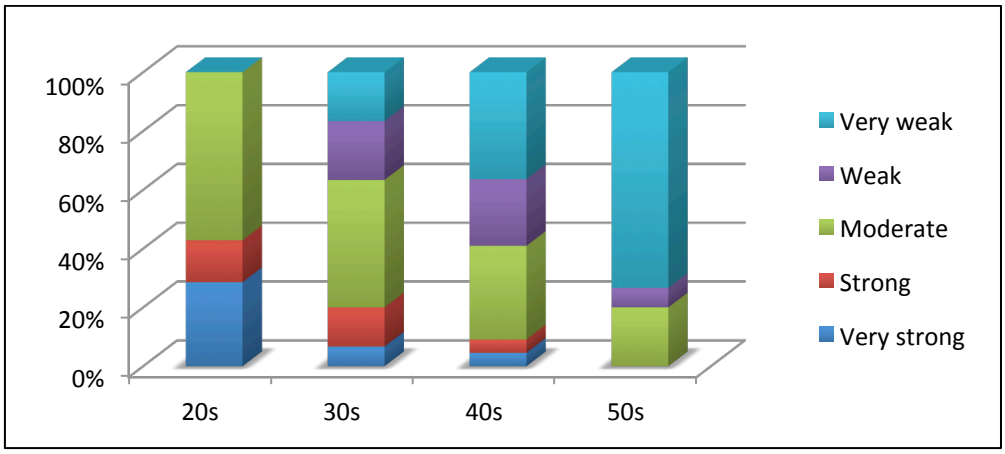

Figure 11: SM engagement by age group - MCADSV

Chapter 7 will return to a closer examination of age-related uses and engagement with SM.

Figures 12 and 13 show engagement evaluated as above against educational levels. Here we see apparent increases in engagement corresponding to higher education in both groups, with the effect appearing to be stronger in the IBM population. As with the previous charts on age-related engagement, these figures again illustrate IBM's greater overall engagement than their counterparts at MCADSV, a finding which

suggests differential operation of group habitus—more favorable to SM on the IBM side and less so at MCADSV.

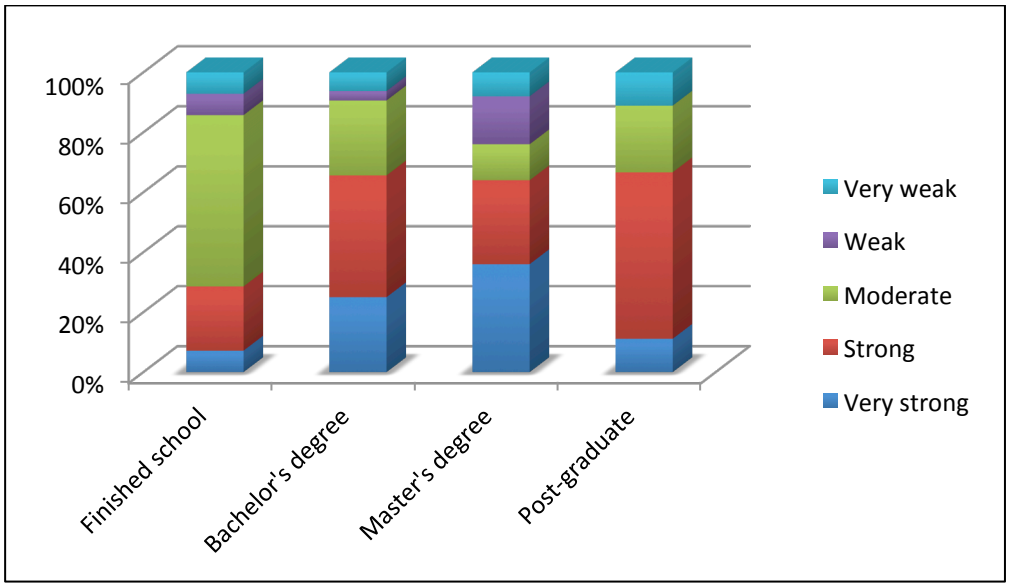

Figure 12: SM engagement by educational level – IBM

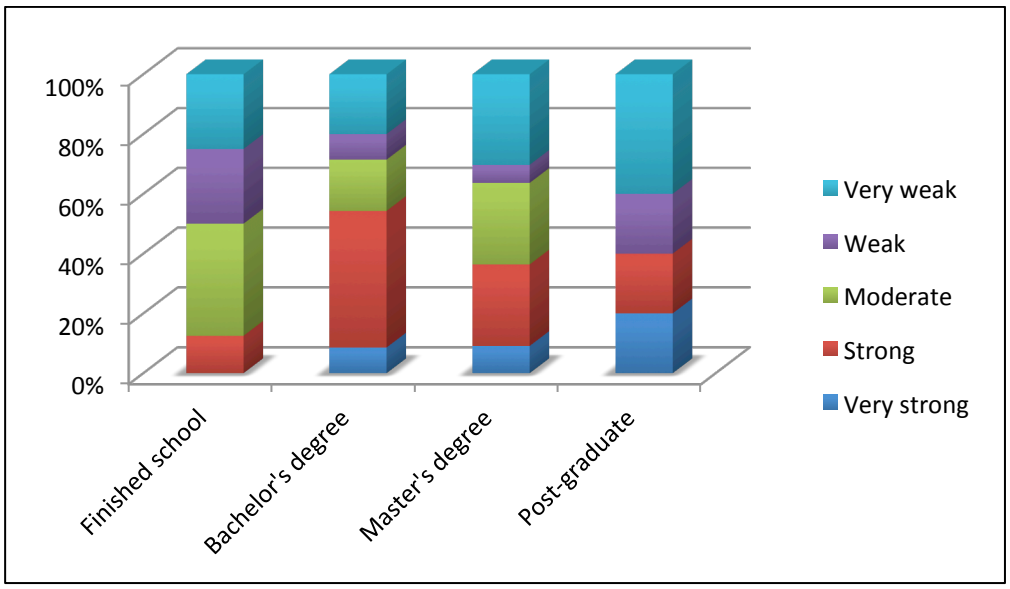

Figure 13: SM engagement by educational level – MCADSV

6.4 Summary

This chapter has helped to expand our understanding of the fields of these two organizations by exposing specific habitus and position-taking characteristics of each. My surveys produced evidence of:

- Demographic similarities and differences as demonstrated by distributions of age groups, gender, education levels, and organizational roles (habitus);
- Attitudes shown through self-ratings, opinions on non-work and work-related usefulness of SM, enjoyment of SM use, and views on SM's ability to help advance work (position-taking);
- Uses and non-uses of six key SM tools, both non-work and work-related (position-taking);
- Active/passive/non- participation with SM tools, again non-work and work-related (position-taking);
- Age- and education-related user engagement (habitus).

Survey data collected demonstrates cultural and technical capital through education levels and tool adoption. We also see group habitus (through the aggregation and association of individual habituses to the group level) through attitudes and opinions, general SM tool choices, active and passive tool uses and non-uses, and overall engagement with SM.

The available data suggests:

- Age distributions are similar in these two organizations.
- Both groups are well-educated, with nearly half of each population holding advanced degrees.
- The IBM population is predominantly male while the MCADSV population is predominantly female.
- The majority of the IBM group is made up of software developers and the largest subgroup in MCADSV's respondents is management.
- IBMers tend to interact in larger working networks than MCADSV people.

Each of these demographic characteristics—age, gender, education, occupation—has effects on habitus in both individuals and groups. Even though these effects are far from deterministic or predictable, they nevertheless influence the habitus. Bourdieu points out that

> "The habitus integrates into the biographically synthesizing unity of a generative principle the set of effects of the determinations imposed by the

material conditions of existence (whose efficacy is more or less subordinated to the effects of the training previously undergone as one advances in time). It is embodied class (including biological properties that are socially shaped, such as sex or age) and, in all cases of inter- or intra-generational mobility, it is distinguished (in its effects) from class as objectified at a given moment (in the form of property, titles etc.), inasmuch as it perpetuates a different state of the material conditions of existence—those which produced it and which in this case differ to some extent from the conditions of its operation" (1984: 456).

Restated, an individual's embodied attributes help to shape his or her habitus. Education and occupation additionally effect cultural and social capital (Bourdieu, 1984).

Since significant differences exist between the two groups in gender, education, and occupation, differences in habitus may be expected. Also, their respective forms and accumulations of cultural and technical capital certainly differ as a result of education and occupation. Indeed, as Chapter 5 illustrated, since these two fields differ significantly in their uses of technologies as well as their internal uses of capital, these findings, suggestive as they are of habitus and capital differentials, help to confirm differences in SM practices predicted on the basis of those differentials.

As we've seen earlier in Chapter 3, differences in habitus underlie differing approaches to daily practice. So it is not surprising that distinctions in SM use are evident in contrasting position-takings observed in the data:

- IBM respondents are more likely to use SM than their MCADSV counterparts, in both working and non-working contexts.
- MCADSV respondents *regard* SM more useful for work than do IBM respondents, despite making significantly less use of the tools for work.
- IBM respondents show significantly more engagement with SM across all age groups than MCADSV respondents.
- Age appears to influence self-ratings and engagement—younger respondents tend to rate themselves higher and engage with SM more than older respondents.
- Educational accomplishment appears to have small, if any, effect on self-

ratings, but SM engagement seems to be somewhat increased with higher education levels.

Clearly there are multiple influences in play with respect to SM uses. While the quantitative methods used here have been helpful in characterizing the fields and illuminating some aspects of habitus and capital in play, they fall short of explaining the behaviors observed thus far. At this point we're seeing only fragments of the larger picture of E2.0 uptake, uses, and effects. The evidence suggests that there are similarities and differences in SM practices between the two organizations, behaviors that should help to complete our understanding, so I now turn to a closer exploration of these behaviors.

The next chapter will further examine SM uses and meanings at IBM and MCADSV, expanding our understanding of individual and group habitus and position-taking, as well as cultural/technical capital, social capital, and doxic uses—understood as pre-reflexive intuitive knowledge shaped by experience—and non-doxic uses, through analysis of qualitative data collected in these two organizations.

7. Understanding Situated Enterprise 2.0 Practices

7.1 Introduction

We now have an understanding of the fields of the two cases and their capital hierarchies (cf. §5.2.2 and §5.3.2), in addition to a sense of the habitus and position-takings of their members as revealed by field demographics and attitudes. Next we will examine habitus and position-takings further, in addition to uses of capital through SM, and both doxic and non-doxic uses of SM, as demonstrated by my qualitative findings.

This chapter will further analyze E2.0 usage across my two case studies. It will first examine differences between how the two organizations use E2.0 tools and how usage variation may be seen to arise, in part, from field differences. Despite these field differences, research also found similarities of SM uses and meanings between the two organizations. This raises questions about how and why such similarities in practices take place, given the disparities in field, habitus, and capital contests. A second section then will examine these similarities, seeking to understand the apparent tension between dissimilar field/capital/habitus constructs and similar tool uses. My investigation here examines four key analytics: “social uses” such as socializing and information sharing; time and urgency in communication; elective and structural limits to SM uses; and perceptions of a ‘digital divide’ in SM uses; ultimately developing a rationale for the similarities of usages observed. It concludes with an assessment of the importance of these empirical findings. This chapter takes up the two case studies in turn, exploring and explaining the sociotechnical construction of E2.0 uses in the interplay of capital, field, and habitus.

7.2 Differential Uses

The preceding examinations of the organizational fields of IBM DevCentre and MCADSV demonstrate significant field differences between the two case studies. IBM is a technical organization supported by massive technical infrastructure. Its employees (at least the informants in this case) are technically educated, many to a

high degree. Its products and services are predominantly technical, comprising significant technical capital as an element of cultural capital. Yardi's definition of technical capital provides direction for this concept:

> "I define technical capital as the availability of technical resources in a network, and the mobilization of these resources in ways that can positively impact access to information and upward mobility. This definition is drawn from a theory of social capital which is a measure of access an individual may have to resources embedded in relationships with network members. My definition of technical capital builds on Pierre Bourdieu's notion of technical capital as a subset of cultural capital, based on any broad skill or educational level reached, but focuses specifically on capital related to technology attitudes and use" (2010: 1).

MCADSV is a nontechnical organization with limited technical resources by comparison. MCADSV informants have nontechnical backgrounds. Most have degrees in Social Work or Humanities. Its services are primarily social, and uses of computing technologies are ancillary to its core business. The organization is consequently more focused on social capital than technical capital, as its activities build and depend upon trust, obligations, networks of connections, and selective sharing.

Not surprisingly, different SM uses and impacts are reported by informants from these fields. We've seen that they differ significantly with respect to their technological environments and their technical, cultural, and social capital assets, both objectified and embodied. IBM has numerous SM tools that MCADSV does not have, and its employees have years of experience using them. Consequently, IBM employees derive particular advantages from these tools, making multiple uses of SM that MCADSV does not because they lack the tools and the experience.

7.2.1 Enhanced Communication

Several differential uses of SM observed appeared to fit well with E2.0 promoters' projections for tool advantages. These include specific uses supporting innovation, clearer communication, and productivity gains. Although in this instance these benefits are seen to accrue from uses of Sametime at IBM, they are not necessarily tied to the

application itself. They might as easily be observed in similar uses of Microsoft's or Cisco's collaboration suites, to name but two similar SM tools.

Innovation

A notable use of internal SM technologies is their innovative repurposing to respond to emergent needs. Here again, differences in technical capital are seen to shape this difference in practice between the case study organizations.

Ken—IBM—is a software developer in his 20s. He has a doctorate in Computer Science and a year and a half of experience at IBM. He shows very strong engagement with SM, and rates himself 10/10 for proficiency.

Ken's current interest in SM stems from a project he's presently developing in-house:

> "I'm developing an internal social networking site for organizational jobs shadowing, mentoring, buddy schemes, things like that. So it's all about having like a site where people can put up profiles. It accesses lots of other social media stuff that we've got internally like Lotus Connections. Pulls lots of data from APIs and does some interesting things. And basically lets people search and organize sessions with other people. So that's something that which doesn't currently exist. But that's something new which I've been working on."

His descriptions of SM use are largely confined to internal tools and uses. He describes personal and team uses of Lotus Connections, BlueTwit, and Sametime. Unlike most IBM informants, he appears to rely heavily on the internal tools for work purposes, confining his uses of external tools such as Facebook and Twitter to personal uses.

Part of Ken's work involves developing novel uses for the internal SM tools. He describes his team's testing alert system:

> Ken: So, for example, in our team we have this testing process—just before a release comes out where we test our product for how we install it and stuff like this. And essentially every person in my little team is doing the same sort tests on different operating systems. And we needed a way for everyone to be able to know what was going on, what problems were going on and to be immediately flagged if something happened that said stop this testing, we

actually need to rebuild something. So we came up with the idea that instead of… we could have several options. We could have a Twitter feed, so that's BlueTwit, for example, being the internal solution. We could have an internal webpage that is just constantly refreshing and bring something up. Or, alternatively, we could actually have a little Sametime group chat that we constantly have open and then we'd just add stuff to it, and because it has a recording facility for everything that goes on the site, we do have an audit trail of what happened during the test process. So to make that happen we'd need to make a Sametime bot to be able to do invites and do some other things we thought of. And we kind of… we're trying to work with that at the moment so we are seeking like a sort of social media solution, but it's like a nontraditional approach. We did have the opinion that we should use Twitter, but of course Twitter doesn't really flash in your face when something is going wrong. Yet Sametime does. So that was the important thing.

Mark: Sametime will give you a tickle?

Ken: Yes, exactly. It will give you… it will flash, it will shake, it will give you a sound and everything else. So how annoying that is to you…

Mark: It will get your attention if anything has to happen.

Ken: Yeah, exactly. That's the point.

In this instance, the native affordances of the application, particularly its persistent group chat and alert capabilities, were recognized and implemented to solve a real-world communication problem to the users' advantage. The problem in this instance is one of specific communication of a testing issue with urgent requirements to a small group of people. As Ken points out, the problem could have been solved in a variety of ways, but Sametime's affordances—easily managed contact lists, presence reporting, broad distribution and use across multiple platforms, and effective alert mechanisms—allowed implementation of a quick, effective solution. Here, the combination of objectified technical capital in the tool's capabilities and embodied technical capital in Ken's knowledge and skills is constructive of innovative extension of the tool's use.

MCADSV's lack of similar technical capital assets may well explain its dearth of similarly innovative uses of SM.

Clearer Communication with Non-Native English Speakers

IBM has development labs and consequent communication requirements all over the world. Although developers can and do converse in English between these disparate locations, difficulties with accents (arising from differences in cultural capital and habitus) frequently impede efficient communication.

Curt—IBM—is a software developer in his 30s, holds a master's degree in Computer Science, demonstrates very strong engagement with SM, and rates himself 7/10 for SM proficiency. Curt is a well-educated software developer with 13 years of experience since joining IBM.

Curt observed Sametime's usefulness in helping to foster clear communication in a globally distributed enterprise.

> "Indispensable. Particularly useful for a global company because... certainly I think people from the non-native English speakers will find a written form of communication, so it's easier to have a good conversation."

This illuminates a communication issue which often occurs between speakers of the same language in widely disparate locations. Difficulties with understanding spoken language arising from foreign accents are mitigated through the use of IM technologies, allowing real-time conversational communication at only a slightly reduced rate from that of spoken conversation. In this instance, although the field contains members with differing communication skills, the affordances of Sametime help to reduce the 'noise' inherent in such disparity.

MCADSV informants describe supporting non-English-speaking clients by providing bi- or multi-lingual social workers, but the impact of accent differences in English usage is not reported, presumably because their scope is limited to a single state (reducing monolingual variation associated with cultural capital and habitus).

This difference in SM effect also highlights a key difference in the way the two organizations use SM. Where IBMers use SM in a variety of ways, including search, broadcast, and interaction, MCADSV SM users tend primarily to use it as a broadcast medium. This will be discussed further later in this chapter.

Typing and Productivity

Sametime presents its users with several interface affordances including onscreen display windows as well as keyboard, audio, and video input channels. The ability to shift between onscreen text windows and use a keyboard for input helps to maintain consistency of tool use.

Curt pointed out Sametime's productivity gains in terms of maintaining work focus:

> "I think in some cases more productive. I think in some cases it's actually easier. Easier just to click Sametime and type because that's very similar to what you were doing previously. You're typing or coding, you write an email, "Oh, I need to talk to somebody about that." There's less context swapping of the Sametime window rather than go, oh, lock, get up, walk, talk..."

Here, he uses a similar channel—typing in a text window—and thus narrowing the communication and maintaining focus. Such use is productive in the context of work that involves significant keyboard usage, such as programming—a core activity in the field of DevCentre, but not so at MCADSV. This difference between organizational SM uses again highlights differences in technical capital between them: IBM's uses of CMC at DevCentre are frequently centered on development work taking place simultaneously on the CMC devices themselves, while CMC uses are supplemental to MCADSV's main activities which are primarily social in nature.

E2.0 Claims Provisionally Realized

We saw earlier some of the claims put forward by E2.0 promoters regarding benefits to be gained through the use of related tools. These benefits include improvements in knowledge-sharing, productivity, efficiency, staff engagement, reputation, competitive advantage, innovation, expertise identification, and relationship development, as well

as better collaboration with project teams and partners, greater engagement with the customer base, and cost savings.

IBM DevCentre has made extensive uses of SM tools, and for them these benefits have been largely realized. Through uses of internal tools such as Sametime and Connections, as well as internal wikis and blogs and external tools like Facebook and Twitter, they have improved organization-wide performance by the measures listed above. MCADSV, on the other hand, has made very tentative, limited uses of SM by comparison. Their primarily broadcast model of engagement has not produced any of the benefits seen at IBM.

Although these results might appear to support E2.0 evangelists' claims, they don't begin to tell the whole story of implied cause and effect. While IBM DevCentre could pass as the poster child for E2.0, their successes with SM tools derive from their particular structure and mix of field, (primarily technical) capital, and habitus. Their field is structured around uses of technology and they have the technology "in their fingers." As we've seen, technological structures and values, skills and experience, are secondary to the mission and goals of MCADSV. So although they utilize SM tools in their work, their uptake and results are altogether different from those at DevCentre.

Other effects of SM use were noted which do not appear among E2.0 evangelists' claims. This is interesting because they offer evidence of interpretive flexibility and, in the final example following, design flexibility, which are not known to feature in promotional claims. These include information discovery (as opposed to search results), tool requirement lock-in, partial supercession of older technologies, and shifting modality from primarily broadcast to more interactive uses.

Discovery

In contrast to information search, information discovery has to do with serendipitous acquisition of useful knowledge.

Dean—IBM—is a software tester in his 20s, has a bachelor's degree in Computer Science. He shows very strong engagement with SM, and rates himself 10/10 for proficiency. Dean has seven years of experience with the company, including a year in placement while at university.

Dean at IBM illustrates:

> "What has changed is when I'm checking through social network feeds and I'm seeing some information about something which is something I've not heard of or something I want to be involved in or something I want to check out later, and it's helped me to kind of keep up with new changes or recent changes, not just within IBM, although it helps there too, but the wider community. So for example, I may view something tweeted about a certain aspect of software testing or software testing methodology which I wouldn't have known about otherwise and I know of course it's got a link and I click on the link and I will find out more and then try and, you know, put that, you know, see if that applies to what I'm doing within IBM. So it's more even just bringing to my attention things that have gone on new and are advances that I perhaps wouldn't have otherwise been aware of."

Franz—IBM—a software developer in his 20s, recently completed a bachelor's degree in Computer Science and is a new employee at IBM. He shows very strong engagement with SM and rates himself 7/10 for proficiency.

Another DevCentre employee, Franz, describes his experience and use of SM for discovery:

> "But simply checking in every couple of hours in a lull when you're waiting for some tests or anything, then you could discover a useful piece of technology that someone's just linked you to that you wouldn't have found out about otherwise."

Hale also makes the case that "social tools like Yammer help people to be less busy and more productive" through discovery (2011), but similar uses are not described by MCADSV informants.

Tool Requirement Lock-in

At IBM, SM uses are largely discretionary and applied strategically by product teams.

Amanda—IBM—is a human–computer interaction specialist in her 30s and a doctoral candidate in Psychology. She shows very strong engagement with SM and rates herself 9/10 for proficiency. Amanda is a highly educated specialist with nine years of experience at IBM. She has used computers since childhood and is an enthusiastic user of related technologies.

For example, according to Amanda, wiki use is required in some settings:

> "There's no kind of cloud-based shared authoring and the only thing is wiki which is not the same thing anyway. I work with some acquired company and they're very very dependent on wikis. Absolutely everything has to go into a wiki. And I think that we are starting to find that that kind of… we have to put stuff in wikis or we have to rely on a wiki to keep status information."

This was the only reported example of a SM tool's use being required from among my informants. It appears to be the result of a merger of fields where the rules of the dominated field are allowed by the dominant field to persist in the interest of maintaining objectified capital within a known reliable structure. No such requirement for specific tool use was reported at MCADSV.

Email/Telephone Replacement

Over time, communication technologies in the workplace become normalized in practice. Curt uses Sametime primarily as a business communication tool, in which capacity it effectively competes with older technologies such as email and telephone.

> "I'll use Sametime for business purposes to talk to someone or have a meeting. I suppose it's saved the need for email. You would possibly choose email, when in fact you wanted to have an active conversation. So it's kind, I suppose, of half email, half synchronous communication. It's kind of dropped the need for using the phone."

Email, telephones, and Sametime are ubiquitous within IBM DevCentre. Curt could use any of the three to contact anyone else in the organization, yet finds it more convenient for his purposes to use Sametime. As we'll see below, this stems, at least in part, from the tool's presence feature and the convenience of quick, informal communication.

Broadcast/dialogue

Another usage difference was noted with respect to how informants report different organizational communication approaches through SM. Where IBM informants describe uses of SM, including Twitter and Facebook, as both broadcast and dialoguing channels, both for work and non-work purposes, MCADSV does not support the latter channel. MCADSV uses Twitter and other SM for "getting the word out," but makes no uses for real-time dialogue in the workplace.

Elizabeth—MCADSV—an education coordinator in her 30s, has bachelor's degrees in Social Work and in Women's Studies, and a master's degree in Social Work. She demonstrates weak engagement with SM. Although she uses Facebook daily, she uses other SM infrequently, and primarily as a lurker. She rates herself 5/10 for proficiency. Elizabeth works in the Coalition's central office and has nine years of experience.

Speaking of her SM uses, Elizabeth says,

> "I definitely use it more for how can I find information rather than regularly dialoguing online."

In a work-related sense, broadcast communications are more formal, using controlled channels for disseminating information. Most SM uses at MCADSV fit this model, with communication being centrally directed at the state or agency level. Dialogue, on the other hand, is more often informal. According to Kraut, this kind of exchange of information is "spontaneous, interactive and rich" (2002: 5) by comparison, and a necessary component of collaboration and its resulting contributions to group social capital (Cowan and Arsenault, 2008).

7.2.2 Problematic Aspects of Use

My informants found that SM use is not always helpful. In fact, it is seen as counterproductive in some instances. An example of this is demonstrated by its potential for distraction, although this is subjective to individuals' viewpoints, as shown following.

Interruption/control

Several Sametime users at IBM observed both negative and positive aspects of its use. While some users found the tool to be disruptive in everyday use, others found that its use increased their control of their working communication. Although SM users at IBM articulated this type of impact, their counterparts at MCADSV made no such observations. So there are differences of user experience within the IBM sample and between the two organizations, the former appearing to arise from differences in individual habitus and the latter primarily from differences in technical capital.

Michael—IBM—is a software developer in his 20s, has a bachelor's degree in Computer Science. He shows strong engagement with SM, but did not rate himself for proficiency. Michael has recently joined IBM and has a year and a half of experience with the company, as well as a year in placement while at university.

For example, Michael observed how Sametime can present problems related to timing:

> "Any time that Sametime can become a problem is if it's just terrible timing. So I'm going to be preparing for a… this happened a couple days ago, I was prepared for presentation. I was running through all my slides then four different people Sametimed me within a couple of minutes. And it's just, well I've got to answer this question and that question and that question, I've got to do this as well. And I couldn't just ignore them because they can see my status was I'm available."

Aaron—IBM—is a software support analyst in his 40s and holds a doctorate in Biology. He shows weak engagement with SM, and rates himself 3/10 for proficiency. Aaron is a computing service analyst with 11 years of experience at IBM in a variety of roles. Previously, he was a biologist for ten years—a role that had a strong computing component.

Aaron expressed a similar view,

> "So Sametime is heavily used and has its pros and cons and it can be pretty disruptive. And stressful if several people are trying to Sametime you at the same time! Which does happen."

Amanda pointed out a frequently heard evaluation of Sametime related to its core functionalities as a business communication tool and elaborated on how it serves to blur boundaries in practice, yet also provide communicative control:

> "Sametime, the instant messaging, is invaluable. And it's hard to imagine companies not using that sort of thing—even small companies. Presence–you're aware of people when they're in and available. But you can also contact them without disturbing them almost. If you're in a meeting then you can leave a message. We can now send files sometimes or screenshots, which helps. And it's just a bit less intensive than email–it's a bit less formal. But it's really useful. Even if it's just talking to the person next to you, cause we're in open plan offices. It's quite good for a private conversation, and then just sort of personal conversations with people to keep up with people and stuff. So yeah, that's brilliant."

These differences in view illustrate that the technology itself is neither positive or negative, but rather subjective to the evaluations of its individual users, which will in turn be shaped by their habitus. Depending also on use context, Sametime can be disruptive or constructive in its everyday uses. And the same tool might be either, depending on emergent circumstances and/or the habitus of the individual. For example, Aaron's overall attitude toward SM was generally negative, while Amanda's was generally positive. So he might well find some few SM practices beneficial but most others an annoyance, where she would experience the reverse of these findings.

7.2.3 Differences Summarized

The differences noted in SM usages and impacts between these organizations may be seen to result from: (a) differing sets of available technologies (field, technical capital); (b) differing sets of skills in the workforce (technical capital, habitus); (c) differences in experience with SM (technical capital, habitus); and (d) different elections of SM (position-taking, habitus). Where many IBMers have had over nine years of significant engagement with many SM tools, few MCADSV members have had more than a few years of non-work, personal experience with Facebook and one or two other SM tools. So while MCADSV employees/associates speak in terms of hypothetical risks and benefits of SM, IBM employees speak of specific uses, lessons, and so forth, borne of long experience with using SM. IBM SM users have thus increased their technical capital through these uses over that time, while MCADSV, lacking similar advantages of prior technical capital, has not. Finally, these differences may be seen as non-doxic examples of interpretive flexibility which are influenced by the differences observed in field, capital, and habitus. IBM has the more technical field and habitus and is more influenced by economic and technical capital than social capital, while MCADSV is less technical and more influenced by social capital.

Between the two case study organizations significant differences appear in the organizational fields represented, in their accumulations and uses of various capitals, and in the habitus both of individuals and their wider groups. The organizations have different means and goals, and they have different tools and skills at their disposal. So we would expect to see differences in uses of SM, at least with respect to uses where interpretive flexibility (emerging primarily from group habitus) plays a significant role. More interesting effects are those arising from what might be termed evolutionary practice—unforeseen effects developing over time as users become accustomed to new technologies and their affordances—effects such as discovery, older tool replacement, and so on. Perhaps more surprising, however, are the numerous similarities in uses and effects described in the next section.

7.3 Similar Uses

Despite the significant differences noted between the two case study organizations, a number of similarities in SM uses appear in informants' descriptions. Does this invalidate the theoretic approach taken in this thesis? Not at all. These appear to have mostly to do with generic aspects of the technology: its use as a communication medium, its temporality, factors limiting its use, and apparent age-related differences of use.

This section will argue that these generic aspects of use arise from common interpretations on the part of both organizations. Common uses are not seen to arise from some innate, fixed properties within the tools, but rather they have become sufficiently normalized that most people share similar understandings of their purposes and uses. An example of such broad normalization might be the telephone—although any number of abstruse uses might be imagined for it, such as telephone trees (networks of people organized to quickly spread information via telephone in emergencies), criminal activities, handset location for emergency services, and so on—socializing and seeking or sharing information are broadly normalized uses that appear to transcend field. Indeed, Vanderbilt notes that,

> "First the phone was used for commercial business, then for household business, then, gradually, for social purposes: visiting with relatives, "fond intimate talks," getting "in touch"" (2012: 54).

Similarly, SM tools with many features and innovative uses can also be used for everyday chatting and seeking information, in addition to other mundane uses and interpretations. I argue that these common usages have to do with doxic or implicitly understood interpretations of tool functionality and purpose. *Doxa* here refers to

> "pre-reflexive shared but unquestioned opinions and perceptions mediated by relatively autonomous social microcosms (fields) which determine "natural" practice and attitudes *via* the internalized "sense of limits" and *habitus* of the social agents in the fields" (Deer, 2008: 120).

This section will focus on four key analytics: "social uses" such as socializing and information sharing; time and urgency in communication; structural and elective limits

to SM uses—here presented as *risks* and *non-use*, respectively; perceptions of a "digital divide" in SM uses.

Socializing

Informants from both organizations describe uses of SM that operate across their personal and professional relationships with coworkers. Many reported using SM tools for chatting with friends and colleagues.

Amanda finds that personal SM interactions with coworkers are beneficial in both spheres:

> "I use Twitter and Facebook just for personal stuff really—I've got lots of IBM people I'm friends with on that. And that's quite useful sometimes just to get ahold of somebody. Twitter I use quite a lot and I've actually met an awful lot of IBMers through Twitter. Even people here who I've never met—I know them now better through Twitter than in person just cause I followed them and things. And that's been really useful just for sharing at a kind of technical vitality level—sort of, what cool things people are working on."

Regarding his working social network, Michael says,

> "So I have two work networks that I've got. I've got people that I work with and I've got people that I work with that are my friends as well. So I keep them separate. So people that I work with that are my friends, I'll have them on all my social media devices—mostly Twitter and Google+ these days. I'll have them on those, I'll follow their feeds, I'll talk to them, have entire conversations and discussions in those mediums."

Leo—IBM—a software developer in his 20s with a bachelor's degree in Computer Science, exhibits very strong engagement with SM and rates himself 7/10 for proficiency. A relatively recent hire at IBM with three and a half years of full-time experience, he's an advocate for SM, but espouses a fairly narrow set of preferences among the tools available, at least in the workplace. He uses Sametime and Twitter, as well as an internal blog, but prefers not to use other available internal SM applications for work purposes.

Leo uses Sametime for social purposes with work colleagues:

> "I definitely ping my friends on there and say, "Do you want to go for a beer tonight?" and that kind of thing. Which is the same thing I'd do at home."

Franz makes purely social uses of external SM:

> "Typically I use Facebook for just catching up with friends. Occasionally I might "like" a business' page if they're posting news about the business or an application process or anything."

Yet he uses the same SM for work-related uses—for example, maintaining business contacts:

> "And I have kept in contact with old team members through Facebook, so my old department. Which has been occasionally useful for having to check up on old projects."

Emma—MCADSV—is a marketing director for a large domestic violence (DV) agency in Kansas City in her 40s. She has a bachelor's degree in Marketing, but says, "I have zero technology background." She shows weak overall engagement with SM but is interested in multiple blogs, which she follows on a daily basis. She rates herself 5/10 for proficiency. She makes it clear from the outset that she has little personal contact with MCADSV but does make some use of resources they provide. She is self taught on SM and has introduced the use of Facebook and Twitter into her agency's practice.

Emma describes a joint social/professional approach at her MCADSV agency:

> "I know most of the people I work with use Facebook on a personal basis and we encourage its use for opening events, updates and things like that, on top of our Web page as well."

Carla—MCADSV—is well educated and working as a community educator in a large metropolitan DV agency in St. Louis. She's in her 30s, and holds both bachelor's and master's degrees in Social Work. She shows strong engagement with SM through daily uses of Facebook and Twitter as frequent content contributor. She rates herself 9/10 for proficiency.

Like Emma, Carla also sees a mix of personal and professional uses of SM:

> "I have seen social media... I mean personally, certainly connecting and remaining connected with people who without social media I would have just let go of. So that's a big one for me personally. Professionally I think there are... I get so much information, regular information from activists, activist organizations, locally, nationally, internationally, and so I feel like I'm much more aware of what work is happening in the social justice movement. And I feel connected to that work and see regular opportunities for how I can be part of that."

Informants from both organizations here describe similar approaches to mixing their social and professional uses of SM, both proprietary (e.g. Sametime) and public (e.g. Facebook and Twitter). This is an effect of engagement with individuals' personal social networks that include members of their working community, and is largely normalized across both organizations, according to informants.

Sharing

Information sharing through SM was also noted by informants from both organizations. As this may be understood as constructive of social capital, it is interesting to note that MCADSV informants spoke more to this theme than their counterparts at IBM.

Ken describes Lotus Connections' information sharing and search capabilities:

> "I've been involved in Lotus Connections in a couple of different aspects. My team is actually thinking about moving onto Lotus Connections very shortly. They're thinking, can we use the Lotus Community to transfer our old wiki—which is a horrible thing which doesn't work well in a lot of respects—into a Lotus Community which has a forum and it has wikis and has blogs and other kinds of social things. It's all about trying to convince people that there is a benefit in sharing things… there is a benefit in being able to being able to kind of listen in to people talking about your product and things like this. And also just that there are real benefits in being able to search properly."

Julie—MCADSV—is a communications coordinator in her 20s and holds bachelor's degrees in English and in Women's and Gender Studies. She also has a master's degree in Public Health. She demonstrates strong engagement with SM through daily uses of Facebook, blogs, and Twitter, frequently as a content contributor. She rates herself 9/10 for proficiency. Julie is young, well educated, and working in the Coalition's office in the state capital. She is a self-described geek who has grown up with Instant Messenger. She presently has responsibility for the organization's communication efforts involving SM and works with other members of MCADSV in crafting and publishing their messages through these channels.

Julie recognizes that SM affords the organization a unique opportunity to affect public awareness of DV and MCADSV's work in the field. She says,

> "Kind of how I said that kind of saturate the media with positive messages. Most of the messages through news stories and kind of in the media landscape is really negative about domestic violence, just in terms of reporting. For instance Missouri was named like in the top ten of violent or gun deaths. Men killing women with guns. So that's the kind of message that's out there. So I do think it's really beneficial reaching people in a different way. Meeting people where they're at. If they're on Twitter and Facebook, then that's where we should be also with our messages about resources, new information, positive, healthy, health promotive messages. So I do think it's beneficial. For seemingly low investment, you can have a huge return, if it's being used efficiently."

Emma's approach to SM is practical and utilitarian. She sees its value for promoting the agency's work and, to a limited extent, growing public awareness of its services. A primary use is for fundraising. She points out,

> "We want to reach people that need us—need our services. And yet, we don't really focus on that because we don't have the capacity to bring more people in. So what we really use social media for is to bring awareness to the rest of the world and to create interest in possible solutions. Very seldom do I actually post something that says, "Hey, if you need us, this is what we do." It's much more geared towards donors—let them know what we do, and if you just

happen to need that service, then you'll get that information. But it's not aimed at you."

She asserts a situation of siloed disconnect between the development and service segments of the agency and hopes that SM can help to mitigate existing communication barriers. She is particularly keen to share human interest stories with potential donors, because, as she says,

"People don't want to give to an institution. They want to give to help other people."

And she observes that,

"Can't keep putting boring stuff, like, "Oh, we have an event on Saturday. Make sure you come." You know, I mean, that needs to be out there too, but that can't be the mainstay because that's boring. No one wants to read that. That's not something anybody's going to share."

Here, she puts her finger on an operational aspect of social capital through SM: users share things that they believe other people will find interesting. As such use is oriented toward recognition, at least part of its purpose is generative of symbolic capital.

Recalling that symbolic capital may be any other form of capital misrecognized as conferring recognition and prestige in the field, information sharing through SM can take on this aspect. For example, SM may be used to impart symbolic capital within the field, as Julie notes:

"It's changed the way I work from the perspective that because we use Facebook to provide information to current or past clients, and also to recognize our volunteers, to recognize donors, I'm very sensitive to the fact that we're constantly needing to keep the organization out front with the public, but also be very sensitive to making sure we don't forget to thank the right people, the right organizations publicly. So we use it that way."

The action of symbolic capital is also seen in the way SM users approach information shared by others whose recommendations are esteemed. Michael observes,

"So you need to have a filter on it, which Twitter does beautifully. Cause people I know and trust and respect say, "Oh, this is a really cool link!" I will click it. If

> [a well-known SM advocate at DevCentre] says, "Check this out. This is really cool." Or "Excellent story about so and so." I'll click it."

Sharing information through SM may thus be understood as constructive of symbolic and social capital through propagation of admired, useful or "interesting" technical information (cultural capital) or social information (social capital). While members of both organizations practice such sharing, MCADSV informants appear to share more socially focused information while their counterparts at IBM appear to share more technical information—behaviors which align well with the organizations' constructions of field and technical/cultural capital. While the content shared appears to vary in accordance with the field, the behavior is common to both.

An additional dimension of sharing crosses field boundaries to include external stakeholders. Informants from both organizations report such engagement, again in line with their field's social/technical nature. IBM software developer Michael describes one of the ways in which DevCentre engineers use E2.0 to work a particular group of external stakeholders to have dialogues and share technical information:

> "We've got external forums which we interact with our customers with now. So our team's one of the newer teams, so we have forums where we engage with the customers to discuss with wants they have for the products and any issues and we can directly interact with them then. Which is one of the breakdowns in formal processes that's kind of been removed by adding these forums."

He explains further:

> Michael: But with having a direct means of communication between the people writing the code and designing the product and the people using it, it feels a lot more natural. It means that I feel that I'm producing something that people really want. Because if we have to go through the service teams, it feels like, well, I don't know if it's customer asking for this feature or the manager who thinks customers are asking for this feature. But speaking directly I know that…
>
> Mark: So the old protocol becomes a level of abstraction apart from what you're actually trying to accomplish.

Michael: Definitely. And there is some information loss there as well. If a customer sends a request through service, then you get a request form that somebody needs to speak to you. If on the forum somebody asks for a feature, they say what they're doing, why they need it, how important it is to them. So we get a much bigger picture and are able to make a much better decision on how to implement it and when we should implement it as well.

Erin—MCADSV—is a well-educated executive director of a small, rural county DV agency. She is in her 30s and holds bachelor's degrees in Political Science and in Sociology, as well as a master's degree in Sociology. Erin shows very weak engagement with SM through monthly non-work use of Facebook, weekly non-work use of Wikipedia, and no work-related use of SM. She rates herself 4/10 for proficiency. Her agency does not use SM at present, but, like others in this case study, she is keen to learn more about it and believes it can help them improve their services to their community.

Erin describes another sharing interaction which ultimately involves two sets of external stakeholders, both constituents and legislators:

"Last year the state of Missouri was proposing a very huge budget cut for domestic/sexual violence funding. And the coalition immediately sent out emails, alerts, everything, and those of us that were working in our programs, you know, just flooded our contact lists. I put it on my personal Facebook account. You know, "Contact your legislators!" All this stuff. And within a week the funding was restored. So I really have to believe that social media and, you know, technology outlets definitely helped that process spread a lot quicker, hit a lot more people."

In this instance social and cultural capital are applied in the form of social connections and specific knowledge of legislation and related processes, in the end restoring a significant threatened source of economic capital.

Time / Urgency

Time- and urgency-related aspects of SM practices were frequently mentioned by users from both organizations. They found that SM helped to accelerate their access to

needed information, attenuated timing problems in a global enterprise, or affected expectations of urgency in practical use.

Curt's experience with Sametime illustrates one such use:

> "For a lot of questions Sametime is our primary channel. Especially for the more remote people. I suppose email is there but mostly for the type of questions that are, "help me now," we would use Sametime."

In this instance, Curt can find a colleague in his contact list, see that she is online, and send her a request for information. In these uses, Sametime helps to save time by maintaining continuity and connecting quickly with needed resources.

In describing her work with globally dispersed teams, Amanda points out the difficulty of working across time zones and her preference for using Twitter in such circumstances:

> "We want people to be aware that there's a time zone difference and we're not available in the evening. But I'd be quite happy if people tweeted me something—because I can ignore it."

Of Sametime, Michael describes how different applications are becoming normalized in user expectations of urgency, with email least urgent, followed by Twitter, and Sametime most urgent.

> "Whereas with Twitter, they might think, well I've tweeted him—I'll give him 20-25 minutes to reply to me. And if he hasn't done, then I'll Sametime him. Whereas if they Sametime me directly, they're expecting a reply much much sooner. Yeah, with me, emails, I normally reply to them within 24 hours. But yes, there is that. There's varying expectations. And so I know if someone emails me, it's not as important as if someone were to direct message me in Twitter or message me in Twitter. And that's not as important as if someone Sametimes me. So I've got a prioritization thing. And I find that if I don't reply to one medium fast enough, then my friends at least will get me in the next one down or just go straight to Sametime."

Dana—MCADSV—is in her 50s and has a bachelor's degree in English Literature. She rejects personal engagement with SM for personal reasons, yet views SM as beneficial to the organization. She is an events manager at a large DV agency in Kansas City whose primary responsibility is fundraising.

Dana points out that SM offers rapid access to her agency's clients:

> "I think that when we run different contests or we have, from a development standpoint, when we're trying to raise money and we're trying to get the word out. I think that it's incredibly beneficial because we can reach so many more people through it… I think that we get a much more immediate response to things. And I think that we see if things are working more quickly. Yeah, we're trying a lot of new things, a lot of younger, fresher things. We're trying to reach a different demographic and I think that we can tell a lot more quickly if things are successful."

Erin echoes Dana's observation of quick communication as a key benefit of SM:

> "I think in my line of work especially it's a quick way to spread the word."

Both organizations report improvements in CMC speed through SM. But while IBM users note specific improvements relative to specific tools, MCADSV users refer more generally to SM's usefulness in this regard as a broadcast channel, as noted earlier. For both organizations, faster communication with colleagues and clients helps overall performance—a common goal.

Risks

Informants from both organizations spoke to a range of risks inherent in E2.0 usage, from employee time-wasting to serious consequences of information spills. Risks of mistaken or intentional misuse of information were acknowledged by all informants in this research. For the IBM group this centered on product information; for MCADSV, client information. Risks for both organizations are real and significant—for IBM, potential economic loss; for MCADSV, potential human tragedy.

IBM employees must be ever mindful of what the say in any public forum, including SM. Michael observes:

> "We have to be careful about what we talk about, because obviously you were not allowed to put anything confidential, even if it's private messages between us because it's going through possibly a competing company."

Leo and others make careful use of Twitter to keep up with teammates and their activities:

> "So, while it's not an internal one, one I use quite a lot in a work sense is Twitter. We do that a lot, the guys in GTS, where I work, on Twitter. And mostly public accounts; some people have private ones. But it's a good way to hear what people are doing. And people do it in a relatively... well they won't name customers or anything, but you can see what they're working on, in terms of technologies."

An active SM promoter within MCADSV, Julie acknowledges the risks involved:

> "I think there's fear about what happens when you put a message out there that's not just to your membership, that anyone in the world can read. In terms of fears around being in compliance with grants and the message getting construed in a misleading way once it gets out of our hands. So I've tried to work pretty hard on creating an environment that is conducive to social media, providing lots of examples of other coalitions and other national agencies that are using it in an effective way."

But Julie also sees its downside, citing safety and privacy concerns while noting the negative effects of trolling and malicious use by, "perpetrators and batterers using it to control." Other anticipated but rarely seen problems include clients disclosing information publicly and employees and associates wasting time on Facebook.

> "So, we are using social media in a limited way at the Coalition right now. Since I came on I've always had a big push towards social media and I've been met with a lot of resistance."

When asked about the SM tools she's using at work, Dana's response was unequivocal and blunt: "I don't use any of them. I hate them." She went on to share a very personal story of being stalked many years ago by a man who was "not right in the head." When management at her agency encouraged everyone to engage through Facebook, she

did so reluctantly, and her stalker contacted her immediately through the medium and resumed a long past cycle of harassment which left her badly shaken and frightened. Her experience provides graphic anecdotal evidence of the sort of SM-related risks encountered by MCADSV's network of service providers and their clients.

Despite her personal aversion to using SM, Dana recognizes its value as a promotional tool for the organization. She admits,

> "I can see that there are benefits to it. I like to think of myself as not an alarmist, not a close-minded person. So I really want to think of myself as understanding the benefits of this wonderful tool because I think it is a wonderful tool. I just had a bad experience with it."

Erin sees the potential for misuse of multiple technologies in concert with SM:

> "My biggest concern would probably be confidentiality when it comes to social media because some things are not as trackable and traceable, some things obviously are. I mean with everything going GPS and again like I said, that electronic fingerprint. That's all well and good, but you know we try to protect the client's identity for a lot of reasons, safety first and foremost. And sometimes I think social media things can travel so quickly before you have the opportunity to respond accordingly, sometimes I think emotional maybe even physical, psychological damage can be done before you're given the chance to, you know, even put in a safety plan, if you will. You know, somebody's safety plan, next thing you know somebody's accessed the GPS in a phone and you've got an abuser heading to your property."

The risks involved in SM uses for these organizations exert influence over their SM implementations. For IBM, this manifests as an addition—the Social Media Guidelines—to a long-standing cultural campaign within the company to protect intellectual property or technical/cultural capital. IBMers work with outside organizations and customers, sometimes using SM as a communication tool, yet still maintain appropriate data protection, partly because they are trained in its observance. For MCADSV, perceived risks appear to hinder development of SM assets and uses, despite interest widely acknowledged across the organization in further

developing organizational depth and experience with these tools. While the subjective risks differ for the two organizations, they're taken quite seriously by both as a more-or-less normalized observance within their SM practices.

Non-use

In addition to the many SM uses described by informants in both case studies, a number of elective and structural limits to uses of SM were also pointed out. While uses of SM help to understand organizational and individual approaches to SM, non-uses are also instructive to these approaches as well. Just as individuals' choices and uses of SM tools are indicative of habitus and position-taking, so too is non-use.

At IBM, Curt limits his work-related SM uses to a very narrow group of tools:

> "Because to my extent, Sametime, emails, and newsgroups have been it. It's the same mix that always has been and nothing else has come in to augment."

Michael has rejected Facebook after using it for some time. He explains,

> "I did take up Facebook before I dropped Facebook. I wasn't happy with the privacy policies that Facebook was implementing. And it isn't really Facebook's fault but I find that once your account reaches a certain number of people on it, that the newsfeed becomes useless. I think there is a big threat with the social media sites where you can get bloated in people that you get your news information from. And if either Twitter or Google+ get to that stage with me, I feel I would have to start ignoring it or drastically cut out friends from it."

While Leo knows about Lotus Connections and its uses, he finds it doesn't repay the effort it requires:

> "There's things like Lotus Connections and that kind of stuff. But I don't really use any of those internally cause I don't really see a benefit for them and there's quite a lot of effort. I think it is kind of like an internal Facebook from what I've seen. Like you can add people as contacts and you can send messages around and stuff. But it seems an unnecessary layer for what I do."

Leo argues that SM has to provide a clear benefit to make participation worthwhile:

"I think there has to be a use or there has to be a benefit. A good example from recently, I signed up for Google+ cause everyone was doing that. And almost just to get my name on there. And I had a little presence to start with, but I haven't really used it."

Aaron voices frustration with the available wikis in particular:

"Wikis are very useful, but there's big problems with them. The technology they use is very clunky. They're hard to edit. It's an in-house wiki—everything's in-house. So it's just ridiculous. You have space limitations on it. Sometimes there's errors when you're editing them—it just says there's an error on this page, it doesn't tell you what! What the problem is."

Aaron goes on to say that, apart from wikis and forums, he has no use for SM.

"I'm not on Twitter! It just doesn't interest me at all. Twitter, Facebook, blogs... to me it's just like people talking to themselves. Yeah, if it's somebody famous or interesting, yeah, I might look at them. But I just don't have the time, really, to look at them much to be honest. I've never really "got it" with those."

Ken helped to create a Lotus Connections solution for information sharing facing external customers, but noted,

"One of the things we have done recently is we have set up a Lotus Community for publicly available kind of service questions. But not many people really use that. So we set it up but it hasn't been widely used."

Franz is aware of Lotus Connections and points out its convergence with Sametime's conference and chat capabilities, but he seems unaware of some of its SM features:

"Connections encompasses the wiki and also allows us to do live meetings to be able to all join in and have a web conference and chat between them. I think it also includes forums as well, but I'm not aware of any inherent social networking media."

Franz later underscores this assessment:

"I'm not aware of any internal equivalents to Facebook or anything within the organization other than just the wikis and Sametime and the forums."

Doug—IBM—is an information architect in his 40s with a doctorate in Computer Science. He shows weak engagement with SM and rates himself 5/10 for proficiency. Doug has 11 years of experience at IBM in several different roles and presently occupies a senior role in the organization.

Doug rejects internal SM tools as not meeting a useful population threshold, saying,

> "I just don't get that. And the reason I don't go there is simply because there's so many of them. I wouldn't know which one to use. The probability that everybody is using that same one is nil. So, bluntly, why go for a BlueTwit when there is the real twit?"

But, for Doug, usefulness must also be supplemented by trust:

> "I will not use Facebook. Because I don't trust it."

At MCADSV, Julie is somewhat frustrated in her efforts to promote SM as there is significant bureaucratic overhead and associated time lag between creating a message and its broadcast through Facebook or Twitter. As she describes it,

> "We have a system right now where I submit a series of potential status updates or tweets and they are approved and then edited. So it's a long process to get a message out, and to be quite honest, sometimes I let it fall by the wayside because I'm often wanting to retweet things quickly, and I know that the barrier of running it up the food chain so to speak will delay it enough that I just won't do it."

Elizabeth is aware of the coalition's uses of Facebook and Twitter, but has little interest in the organizational uses:

> "I know that we have a coalition Twitter and Facebook, but I don't really look at it that much."

She finds SM can be stressful, citing information overload. When asked about being open to exploring new SM, she said,

> "I kind of feel overwhelmed with how much is out there now. And there's times I just don't... I just don't want any more information overload."

Her own uses of SM are largely limited to Facebook for personal purposes, primarily keeping up with friends from outside of work. She says,

> "Like on Facebook, there's a lot of people associated with work that I won't accept as my friends. I mean, I know that there's different group settings and things like that, but I chose when I opened my Facebook—it was about maintaining friendships from high school. It wasn't about work contacts."

As we've seen in both organizations, SM tool election and use are largely open to individual discretion. Informants' reasons for non-use include:

- absence of appreciable benefit from new tools
- overpopulation of SM sites diluting content value
- frustration with available tools
- customer indifference
- lack of awareness of new/available tools
- underpopulation of available sites
- lack of trust
- bureaucratic obstacles
- information overload
- unwillingness to 'friend' work colleagues.

These are all subjective evaluations indicative of individual preference (position-taking) or habitus—other members of the same group having made differing choices of tools or uses without seeing these particular obstacles.

Age-related SM Practices

Another SM-related similarity was noted with regard to *commonly held perceptions* of differences in the SM practices of differing age groups. Informants from both case studies see an apparent age-related 'digital divide' in SM practices within their organizations. Multiple studies provide evidence of inequalities between individuals' and groups' uses of information and communication technologies (Gardner and Oswald, 2001; Soker, 2005; European Commission, 2012) with relation to age and education. Indeed, O'Hara (2007) suggests the existence of a multiplicity of such divides (with the understanding that this list is by no means exhaustive):

- Young people/older people.
- Males/females.
- Rich/poor.
- White people/nonwhite people.
- Those with a high level of education/those with a lower level of education.
- Those who are trained in computing/those who are untrained.
- Those who create content (writers)/those who consume content (readers).
- Those who have a highly connected, networked existence/those who are relatively isolated.
- Those from the developed world/those from the developing world.
- Those from urban communities/those from rural communities.
- The English-speaking/those who speak 'minority' languages.
- The able-bodied/the disabled.
- Those from families with children/those without children.

This study supports the perception of such stratification anecdotally with respect to age-related uses. I would argue that such differences in SM usage as appear to be age-related are, in fact, the products of individuals' habitus (and, to some degree, cultural/technical capital), of which age is but one of multiple influences.

A number of informants refer to a digital divide in SM practices at IBM DevCentre, noting differences in age-related uses. Franz points out that older members of the community are likely to resist work-related SM engagement because of preconceptions about its potential uses:

> "I still think it's a generational thing. So it's… without using too much of a cliché… it's hard to teach an old dog new tricks. And I think there probably are members of the organization that haven't been involved in web 2.0 or the rise of social networking, but then it's probably not going to be perceived as anything other than chatting with mates. I think it all boils down to case studies and education. If you can prove to someone the advantages of it, then we can probably shift perception of it."

While seeing that younger colleagues embrace SM, Aaron expresses his disillusionment with such tools:

> “So I think it's just the main thing is Sametime and the wiki... I think there's a lot of... it's an age-related thing. You know, a lot of the graduates coming in, they'll have been using Facebook for years—it's important to them to get on that. Some people are keen to sign up on internal social network things. You know, like sort of internal equivalent of LinkedIn, that type thing. Whereas I'm not. It's a... because I've seen several of these things come and go. I think, "Why do I bother?"”

Aaron was keen to offer a dissenting opinion regarding SM through his interview. Alluding to an age-related effect, he remarked,

> “This is partly why I signed up for this, cause I was... I don't know who else you interviewed, but I could imagine. I'm sure it's partly a generational or age thing. But I’m not into this Facebook or Twitter stuff. Wanted to give you a more balanced view.”

Doug offers a more nuanced view, disassociating uses from age groups and associating them with peer groups:

> “I would hazard a guess that every single one of the graduates who've arrived here or arrived within IBM this year will have Facebook accounts... because they've been exposed to it, they've got the technology, it's just standard for them. Conversely, I would say that older people, and I pretty much include my own generation—I'm late 40s now—if they're already into technology then they're probably aware of social networking and may be adopting it. If they're not then they're not. As in not aware, then they're not adopting it. So it's an age thing simply because: are you already exposed to the technology and the technology influences of which social media is one?... social networking? So I don't at all believe that social networking is... has an age barrier. It's just... if your peer group is using it, you will use it.”

For Michael, the different choices in SM usages have generational roots and different cultural meanings:

> "I can speak for people who I speak to most on social media. You get an age group… different age groups using it differently. So the older age groups who are not really in the Internet generation is what I say. They tend to use it for posting news articles and other interesting things and start interesting discussions. Whereas the Internet generation—people around my age—I find we use it more just to talk. We don't speak on the phone or use texts. It's delayed Instant Messenger is how I see Twitter. We seem to use it much more differently."

He argues that older SM users are likely to resist change:

> "So I see that as one of the reasons why, at least in my team, some of the older people in the team use Facebook avidly, but don't go Twitter because they haven't been forced out of Facebook. I don't see them being forced out of Facebook."

Like the informants from IBM, a number of informants at MCADSV also point out age-related differences in SM practices. When asked how she thought others in her agency perceive SM tools, Dana observed:

> "Well, I think that they're skeptical of it. I think that they're... well the people in my demographic anyway. I think they're like, "Oh, crap! One more thing I have to learn." I think the ones that are coming in that are, you know, my daughter's age, I think that they just think of it as everyday. And I don't think that they think anything of it. I think that they probably are wondering why we're not more involved with it. I don't think that they think of it as anything different than just an everyday part of life. So I think you have two different varied schools of thought here."

Carla shared this view:

> "One of the challenges that I see is honestly a generational gap. And that a lot of the directors, who I'm very close with, of different organizations are less familiar with a lot of the more popular forms of social media."

She also considered the relative positions of the people on either side of that divide:

> "I would say the younger, the newer to the organization the person, the more likely they are to use it personally and professionally. The older, the more established, the higher up in power, the less familiar they are or wary about learning something that... and having to feel uncomfortable because they don't know all of it... and maybe seeing less utility of it in their own lives."

Erin also sees age-related differences of SM usage in her organization. In contrasting a neighboring rural agency with her own, she says,

> "But they have a website, Facebook page, you know, they have a younger staff than what I have here and I think age is part of the factor too, is... it's just... just a bit more natural inclination for younger people to... we grew up with technology, if you will, some of us more than others. And it's just kind of just... something you just know how to do."

She also points out how experience, or lack of experience, plays a part in the different approaches:

> "A lot of my staff members are actually older. I'm one of the youngest ones on staff actually. I find... there's probably really only one person in that organization older than me that is receptive to the use of social media. The rest I think are a little apprehensive, more for their fears probably based out of their ignorance of social media or their ignorance of technology. And I mean that in the best possible way. Their lack of knowledge, if you will."

In describing her sense of communication and community within the organization, Elizabeth offers,

> "I think it's such a range. Like there's this whole concept of digital divide and I think that that's true in our membership. Like there's some folks who'll call and like we have an online training and they just can't figure out their computers to do the online training. And so social media perhaps doesn't work for them. But then we have other folks who are younger and more tech-savvy and they want us to be doing more. And then there's other folks who feel like it's too easy to misunderstand people via email. You can never replace a conversation that you have with somebody. So I think the challenge is being able to move

forward recognizing that you're gonna be dealing with such a great range of folks."

Although most informants point to age as a determinant of SM engagement, one differed, pointing out that social experience provides a better way of understanding uptake. Doug observed his own engagement and that of his peers as 'older' SM users as a pattern of usage and approach to new technology not dissimilar from that of his younger colleagues. Certainly a digital divide exists in this sense for both organizations. But at least at IBM, where SM has been in use for more than a decade and despite the perception of age-related effects for some, many older workers are active in SM. It thus seems likely that habitus provides a better explanation of disparate uses among age groups. It's worth noting that IBM DevCentre has formalized practices that bring in new, young workers each year. In addition to annual work/study placements for 12 promising Computer Science students, the organization also hires 12 new graduates each year, thus bringing in "new blood" each season and ultimately skewing group preference (habitus) toward SM adoption.

Most younger informants in these samples have years of experience using SM and are conditioned—they have the habitus—to use the tools on offer in their respective organizations. Some older informants have this predisposition as well—mainly those who embraced CMC tools early on in their careers. We also see older workers who, through their earlier position-taking with respect to computing technology and CMC, struggle with or reject SM tools. Finally, there are outliers—some few younger informants who reject SM and whose presence provides further evidence that age alone is an inadequate explanation for the digital divide observed by many informants in this study.

So here, as in earlier studies, youth and advanced education are associated with greater SM engagement. This is no surprise. Yet age and education are but facets of the habitus and are not by themselves seen as determinants. Habitus, on the other hand, while shaped by age, education, role, field, and other factors, may be seen as a dispositional influence on individuals' choices or position-takings. Habitus thus offers a

more robust explanation of apparent age-related SM behaviors than does the notion of a digital divide.

Similarities Summarized

A number of similarities of SM uses and meanings between the two case study organizations have been noted, including socializing, sharing, time/urgency, risks, non-use, and age-related perspectives. These similarities persist despite the significant differences noted earlier with respect to field, individual and group habitus, and relative uses and mixes of capital within the fields represented. Such similarities are thought to arise from doxic behaviors relating to SM – unquestioned "shared beliefs" across commonly held understandings and constructions of the related technologies and their uses and limits. As Kabeer puts it,

> "One way of conceptualizing this deeper reality is to be found in Bourdieu's idea of "*doxa,*" aspects of tradition and culture that are taken for granted to such an extent that they are "naturalized." *Doxa* refers to traditions and beliefs that exist beyond discourse or argumentation, "undiscussed, unnamed, admitted without argument or scrutiny"" (1999: 441).

Thus, common, conformist SM behaviors across disparate fields may be understood as emerging from interpretations of these tools that "everybody knows" from prior exposure and practice. From this perspective, the similarities of SM usage noted in this research seem natural. SM users in both organizations socialize and share through these tools because everybody understands that these are common uses transparently supported by the tools. Likewise, matters of communication urgency and risk evaluation are common to disparate fields, so uses that highlight them are to be expected. Structural limitations of SM tools also contribute to common usages. O'Hara points out that

> "the habitus generated by the allowed forms of interaction (commenting, rating, trackback, etc) [sic] generates a doxa, or a way of thinking about interaction in that space which makes it seem natural and common sense" (2010: 9).

Finally, while similarities in position-taking and apparent age-related usage behaviors do not appear to relate to commonly held understandings of tool usage, they do appear to suggest some commonality of habitus across these groups.

7.4 Summaries and Conclusion

IBM DevCentre and MCADSV present quite different organizational fields, with differing stores and uses of capital as well as distinct sets of individual and group habitus. Differences in their respective SM uses and meanings are not surprising, given that the organizations have so many dissimilarities. Their SM practices appear to be in alignment in some rather mundane areas of use, such as information sharing and socializing, but these are held to be doxic understandings of communication tools in general and SM in particular. Although DevCentre is seen in many respects to deliver on the promises of E2.0 promoters, I argue that their successes have to do with their field and its structures which value their extensive stores and uses of appropriate technical and cultural capital, and their habitus that allows them to both apprehend and make use of the technologies to their advantage. Stafford and Mearns point out,

> "IBM, being an organisation from the information and communications technology industry, is probably likely to show greater acceptance of new technologies and it is not known how individuals in other industries will grapple and cope with new technologies" (2010: 10).

7.4.1 IBM DevCentre Summary

The most frequently described SM tool for this organization is the multipurpose communications and presence signaling application, Sametime. Every informant in the IBM study uses it, but where some find it essential for their work, others find it intrusive—indeed, it may be both, depending on context of use.

Many informants described Twitter's use, most often as a work-related SM tool. They described using it for social networking, quick communication, project visibility, and information sharing, both internally and with external customers. Others treat it as a social networking tool unrelated to work. One dismissed it as "people talking to themselves," illustrating a disposition negative to SM which was unusual among informants in this study.

SM tools have been in use now for more than nine years at IBM and are widely popular (Watson, 2011). Nonetheless, a common thread in these interviews suggests casual SM use is declining. For example, several informants described either eliminating or significantly limiting their uses of Facebook, either due to overpopulation diluting content value or in preference to newer tools. Now people will use SM tools if they can clearly see advantages to be gained. As Leo put it,

> "I think what I've got already is what I need, and there's not been enough benefit to try out or to really engage with the new ones."

SM use in IBM constitutes (among other things) a channel for product and project promotion constructive of symbolic, social, and cultural capital, position-taking, and the struggle for domination/influence in the internal marketplace. Some subunits within the field are separated from others because products and projects are secret and/or tightly controlled. Knowledge and information in such circumstances becomes powerful.

7.4.2 MCADSV Summary

Employees at MCADSV and its member agencies make generally light and limited uses of SM. Facebook and Twitter are used by a few informants and their agencies for work-related purposes, mostly having to do with community event notifications and fundraising. Many informants use Facebook but only as a means of non-work-related socializing or keeping up with old friends. Although Twitter is mentioned by several informants, no one described specific uses of the tool. One informant implied Twitter use is somehow radical: "I'm toying with Twitter, but I'm not really sure we want to take it that far." Blogs, wikis, and Google+ were mentioned by a few informants, but little was said about their uses.

Informants at MCADSV are mostly enthusiastic supporters of SM in the abstract—although they have limited experience in practice, they like the idea of using SM and believe it can help with their mission. But converting that support into practice has been difficult due to budgetary constraints and concerns about information confidentiality. A few informants have taken action to advance SM uses within individual agencies and one has worked to advance its uses throughout the coalition.

These internal SM advocates share a common view of the organization's audience as being already engaged with SM, particularly with Facebook and Twitter. Hence, these tools present a useful means of connecting with that audience.

At MCADSV, a significant risk and drag on SM engagement is the possibility of information spills leading to physical violence against organizational clients. This unintentional potential effect of SM use constitutes a negative form of social capital, replacing trust with fear (McIlwaine and Moser, 2001).

7.4.3 Back to E2.0 Claims

So we see at last that claims made by E2.0 evangelists are true, but only in a very narrow set of circumstances. E2.0 tools can be relied upon to deliver many benefits to their users—just not *all* their users. If you start out by being IBM, your chances of success with implementing SM tool *X* are much improved. I argue that their mix of highly technical field, capital, and habitus are powerful influences on outcomes of technically rich interventions. But even IBM doesn't always succeed with SM implementations. Context matters with respect to SM tool usages, uptake, and normalization.

We have also seen that doxa underlies similarities of SM practices across disparate fields, while differential SM uses are outgrowths of non-doxic practices which are influenced by differences in field and habitus. And all of this should matter to those who would purchase, implement, design, build, or market SM tools. Not only does the tool need to be crafted to suit the market, the market must be ready for the tool. And it's not only the end users who should be prepared. With multiple stakeholders having interest in successful E2.0 implementations, this thesis offers useful insight into how they might understand and approach their own best interest where E2.0 meets their field of interest. While E2.0 promoters tend to push SM tools in a technologically deterministic way, we see that successful implementations are far from trivial and depend on multiple social factors quite apart from the tools themselves. The technologies might have particular sets of affordances, but actually what they become depends on how and where they're brought into use. And those are affected by the field, capital interactions, and habitus of the actors involved.

8. Conclusions and Further Work

Because things are the way they are, things will not stay the way they are.

— Bertolt Brecht

The sociologists are going to love the next 100 years.

— John C. Dvorak (1996)

8.1 Introduction

This thesis has investigated uses of E2.0 in an effort to improve understanding of the social mechanisms that attend and inform its uptake and related everyday practices. I have tried to show how and why SM gets taken up and used in organizations by exploring beyond the claims of commercial interests and by examining the contexts of use in differentiated social structures with differing goals, stakes, and individuals. My primary conceptual tools for seeking this understanding have been Bourdieu's concepts of field, capital, and habitus, explored in two case study organizations. I have pursued these case studies with mixed qualitative and quantitative methods through the use of Web-based surveys and semi-structured interviews. Through these methods, I have gathered data that demonstrates that E2.0 use and uptake is conditioned by the field, capital, and habitus of its users, and that information uses are heavily structured in a variety of ways by social divisions and organizational contexts. I argued further that, rather than having fixed capabilities, technologies get reinvented in practice, resulting in unanticipated uses and effects.

In Chapter 2 I showed how the Web's evolution as well as that of E2.0 has been contingent on many different technological and social factors and influences. The chapter went on to characterize the nature of E2.0 and the technologies underlying it, in addition to its broad promotion and the tenuous nature of claims made for its affordances by its promoters. In Chapter 3 I described earlier market, tool, and social research in the domain, concluding that existing results fail to adequately explain E2.0 uptake and outcomes. I also critiqued what appear to be technologically deterministic claims of E2.0 promoters and went on to propose a more theoretically sophisticated approach to understanding E2.0 uses and practices through the use of Bourdieu's

conceptual framework. In Chapter 4 I presented my methodology for exploring my case studies as noted above, demonstrating the linkages between my methods and my theoretic framework. In Chapter 5 I assessed the fields of my case studies, examining their organizational characteristics, their uses of capital, and their SM environments. In Chapter 6 I presented and analyzed the results of my Web-based surveys in the two organizations, further elucidating and contrasting their fields as well as individual and group habitus and position-taking therein. In Chapter 7 I discussed my semi-structured interviews with informants at IBM and MCADSV and my analyses of similarities and differences of their respective E2.0 uses and practices, offering understandings of how tool uses and practices may be seen to arise from uses of capital, individual and group habitus, and both doxic and non-doxic approaches to technology.

This chapter now takes up a summary of the empirical evidence produced by my research, followed by a review of recent literature which critiques E2.0 evangelists' claims. It then discusses how my research can help various E2.0 stakeholders to understand and include a social perspective in their preparations for and uses of SM. Finally, it considers the wider social impact of SM technologies on organizations and society, and concludes with some recommendations for further research in this domain.

8.2 Pulling the Evidence Together

This study set out to answer a number of research questions arising from my key question: What shapes the uptake, uses, and effects of E2.0 in everyday practice? I've earlier described the need for such research, not least because the claims by E2.0 proponents have been made largely free of supporting evidence. Indeed, as some have labeled E2.0 a marketing term (Lynch, 2009; Miller, 2007), the lack of evidence for claims made by evangelists is not surprising. The larger phenomenon of SM use in organizations—a widespread, emergent practice about which current knowledge is fragmentary—provides additional motivation for holistic social study.

As articulated in Chapter 4, I set out to find evidence of social and organizational influences and outcomes of uses of E2.0 in everyday practice. I also wanted to investigate emergent group behaviors resulting from uses of E2.0. Finally, I sought

understanding of E2.0 uses from a Bourdieusian perspective: how does E2.0 usage affect individual and group habitus, uses of capital, and fields of play (and vice versa)? The following subsection relates my initial exploration in the domain through my pilot study and how it informed my subsequent research. Then the latter three subsections below summarize how my research has addressed and answered these questions.

8.2.1 DE Group Pilot Study

As I mentioned earlier in Chapter 4, I prepared for my case studies by running a pilot study in the DE group at the University of Southampton. This was helpful in that I was able to develop and practice with an online survey and a semi-structured interview. I also learned to transcribe and analyze my verbal content through this initial project.

As the DE group was loosely affiliated and largely communicated through email, and in the interest of providing a SM intervention for group use and to gather usage data, I made an attempt at introducing a Web application for group networking. Building from the Joomla platform, a free open-source content management system, I created a social networking system with a limited feature set (user login/profile/maintenance, community, symposium notes, news feed—start page shown in Appendix B). The Web site saw little interest or use in the group, despite having been announced in several broadcast emails to the group, and was shortly abandoned. Despite the initiative's failure, it was nonetheless instructive as it provided an immediate instance of specific SM rejection by the group under study.

Although the response rate was only 21%, my online survey appeared to show the group's solid awareness of SM, moderate engagement with respect to content creation with most available tools, and significant work-related usage in most applications. Further, demographic cross tabulations demonstrated:

- some distinctions in gendered uses, females being approximately twice as likely as males to create status updates, offer recommendations, vote in polls, sign petitions, create social bookmarks, create tags/folksonomies, and share or forward content; males being approximately twice as likely as females to contribute content to wikis.

- greater use of SM among younger members of the group (20-39) than older members (40+).
- generally greater frequency of use and engagement with SM among ECS members than members of other schools.

Semi-structured interviews were performed with 17 members of the DE group over several weeks in May and June 2010. The resulting 12 hours of audio recordings were transcribed and loaded into NVivo. Coding and tagging were performed on this data, but analysis was interrupted and ultimately abandoned because of higher-priority full case study work. One interesting outcome, however, had to do with the DE social network site's non-use. Informants spoke of not wanting to use a SM application for DE use only when they use other tools like Facebook and Google+ for most of their social networking – similar to IBM SM users' rationales for not using some company-internal SM applications.

These results appear to support earlier reasons offered in this thesis (see Section 7.3, *Similar Uses – Non-use*) for failure to engage with SM tools. The pilot study nonetheless helped me prepare my quantitative and qualitative tools and skills for my subsequent full case studies.

8.2.2 Social And Organizational Influences And Outcomes

Evidence from Chapters 5, 6, and 7 show how E2.0 implementations are shaped by field/capital/habitus and organizational attributes, both with regard to uptake and to practices over time.

Chapter 5 demonstrated significant differences in dominating capital within the fields of the two case studies, with IBM favoring cultural/technical capital, as well as its symbolic analog, over social capital. In contrast, MCADSV's field favors social capital, and its symbolic counterpart, over cultural/technical capital. These differences in capital valuations and uses suggest likely differences in uses of SM in the sense of what is being communicated and the purpose behind the communication. For IBM this was hence more likely to be technical information than social, in line with the relative valuations of the associated capitals. In contrast, for MCADSV, the reverse was likely true, with social communication superposing technical communication, again in line

with how associated capitals are valued within the field.

Organizational influences on SM uptake and use were also seen. IBM's for-profit, technical business orientation and hierarchical structure require a high degree of state-of-the-art IT infrastructure, both as line-of-business development platforms and as communication tools. SM development and use fits into their organizational culture. MCADSV, on the other hand, has very different organizational structure, priorities, and culture, one result of which is their paucity of SM capabilities which limits uptake and normalization.

In Chapter 6 the fields of the two organizations were further illuminated by the data gathered, again showing significant differences in both individual and group habitus and as well as cultural and technical capital. For MCADSV, cultural capital in the form of education was more socially oriented than at IBM, where the educational—hence, cultural capital focus—was more technical. Habitus for both groups was shown by position-takings to be similarly polarized around social and technical dispositions.

Chapter 7 presented evidence of similar and dissimilar SM practices between the two organizations, arguing that similarities of use were doxic in nature while dissimilarities arise from differences in the fields and their respective configurations and valuations of capital, individual and group habitus, and resulting interpretive flexibility.

8.2.3 Emergent Group Behaviors

We saw, particularly in Chapter 7, the technological "haves" at IBM making significantly more sophisticated uses of the related technologies than did the "have-nots" at MCADSV. The former showed greater affinity and understanding of the tools, in addition to using them as channels for dialogue. The latter, on the other hand, were notably timid in their approach to the tools. Uptake and daily practices appear to correspond to the nature of the workforce, again reflective of each field's capital focus and group habitus. These attributes may be seen to be tightly bound to the nature of the work performed in each case organization—highly technical in the former case contrasting with highly social in the latter.

My research has thus compared a technologically advanced and savvy population's use

of emergent technology with that of a relatively (technologically) uneducated, inexperienced organization. It seems an unfair comparison. But that's exactly the point when exploring uses of E2.0: organizations, their members, and their backgrounds are *different*. In such circumstances, expecting similar experiences with technology adoption seems unreasonable. To suggest that organizational actors with little experience and depth in SM will readily adopt and make effective uses of them seems unlikely. Yet E2.0 promoters commonly make such claims. This research has provided contrasting evidence that group behaviors around SM remain linked to cultural/technical capital in the form of tools and capabilities, as well as group habitus in the form of disposition to engage with and normalize the tools.

8.2.4 E2.0 Effects On Habitus, Uses Of Capital, And Fields Of Play (and Vice Versa)

My case studies have demonstrated significant differences between the represented organizational fields, their individual and group habitus, and their stores, uses, and valuations of capital. These differences in turn could be seen to have effects on the organizational uses and traction with SM, as noted earlier. Yet the reverse—E2.0's effects on habitus/capital/field—has been less evident. Nonetheless, in Chapter 7 we saw evidence of SM being used as a vehicle for raising symbolic capital. Papacharissi and Easton describe how such uses lead to shifts in habitus and capital, ultimately affecting the field itself:

> "Much (if not all) of this capital is not literal, but symbolic, accorded special meaning larger than itself by those exchanging the capital. A vast collection of rare vintages or patchwork quilts may offer holders in the right field an advantage over their peers, but not because anyone is thirsty or chilly; the field and its members assign higher symbolic capital to certain objects and practices, regardless of the physical or actual benefits that might arise from possession. Unintentionally, every agent in the field will try to extract the maximum amount of profit (or, additional capital) from every symbolic exchange. As symbolic capital is exchanged and maximized, agents gain status in the field and adjust their dispositions, in relation to peers, field and those outside, along with a revised social standing. The value of capital thus shifts one's habitus, while the field adjusts to the individual changes as well, along with the value of the

capital; fields, symbolic capital and habitus are all interconnected and fluid" (2013: 174).

By this means—symbolic exchange, rather than dramatic struggle—capital positions are adjusted and winners and losers emerge in continually unfolding positions within the field. SM is thus a vehicle for position-taking, as well as expressions and transactions of symbolic, cultural, technical, and social capital.

8.3 Emerging E2.0 Dissent

Recent literature—mainly blog posts written by promoters and journalists—suggest that E2.0 is not the 'sure thing' for organizational productivity and communication that many earlier claims maintained. These recent critiques cast doubt on the predominantly upbeat promotional literature earlier described, mainly addressing two categories:

- adopters' misconceptions about E2.0
- tipping point failures.

To date, these critiques tend to regard implementation failures in business and management terms. This section will offer an alternative, social theoretic perspective on such outcomes. Note that recent blog posts and articles in this realm sometimes use the term "social business" in place of "Enterprise 2.0"—an indication that the domain is in flux and that there is some debate among practitioners as to its direction (Boyd, 2010).

E2.0 industry insider and Broadvision CEO, Pehong Chen, recently pointed out a surprising rate of failure for E2.0 initiatives:

> "Many enterprises have been experimenting with platforms of engagement for the past couple of years, although most have experienced a fairly high failure rate. Some reports even suggest that as much as 90% of enterprise social networking projects either falter or die on the vine within the first 3-6 months" (2011).

This observation closely matches a result from a recent InformationWeek study that found just 13% of IT professionals believe that their E2.0 projects have been a success (Healey, 2011). At the same time as these efforts are failing, large numbers of E2.0

projects are coming online. Forrester Research reported in May 2009 that almost 50% of companies in the U.S. use some sort of social software, and

> "a July 2009 Prescient digital media survey revealed that 47% of respondents were using wikis, 45% of respondents were using wikis, 45% blogs, and 46% internal discussion forums" (McAfee, 2011).

Indeed, earlier organizational restrictions on SM use are in broad decline.

> "According to the research firm Gartner, the number of global organizations blocking social media is declining 10 percent annually. By 2014, fewer than 30 percent of all large organizations are expected to be blocking employee access to social media. As other traditionally strait-laced industries like consulting and law increasingly incorporate social media in the workplace, the financial services are lagging" (Kaplan, 2012).

Given the reported rates of usage, if this rate of failure is accurate it raises the importance of this (and any other) research which seeks to understand and explain how and why such initiatives succeed or fail on a more fundamental level than that of real or perceived business imperatives. In a recent blog post, SM practitioner Buczek observed, "The big failure of social business is a lack of integration of social tools into the collaborative workflow" (2011). While this may be useful insight at a management level, it offers little understanding of why such integration is failing. I believe this can be answered by looking to the reasons for agents' individual elections within the field which are driven by the struggle for capital and mediated by habitus.

The next two sections explore two kinds of dissenting views on E2.0's earlier rosy promotion and analyzes them with reference to my Bourdieusian social theoretic approach.

8.3.1 Misconceptions About E2.0 Tools And Practices

Several industry insiders have suggested that many E2.0 adopters misunderstand the tools they are trying to implement. This in turn suggests an assumption that the tools have fixed properties, a position I've argued against in this thesis.

In a recent MIT Center for Digital Business research briefing, McAfee described five "myths" which contribute to E2.0 initiative failure, including:

- E2.0's risks greatly outweigh the rewards.
- The ROI [return on investment] of E2.0 must be calculated in monetary terms.
- If we build it, they will come.
- E2.0 delivers value mainly by helping close colleagues work better.
- E2.0 should be judged by the information it generates (2011).

He argues that these beliefs are misunderstandings of E2.0's actual risks and potentialities, and that more nuanced approaches help to raise effectiveness of initiatives. While he counsels businesslike approaches to remediating these misconceptions, further help may be found in recognizing and responding to the sociological influences which underpin them.

Similarly, SM blogger and consultant Marc Strohlein offers ten reasons for E2.0 initiative failure in a recent post (his fifth reason neatly coinciding with McAfee's middle myth):

1. "Business purpose, we don't need no stinkin' business purpose."
2. Your company culture is "Enterprise 1.0."
3. Employees don't socialize, in fact they don't like each other.
4. Management thinks social networking is for kids.
5. "If we build it, they will come."
6. "What a great tool, what should we do with it?"
7. Senior managers have their secretaries print out their e-mails.
8. "Why ROI? I don't have an ROI figure for our phone system."
9. "We don't need content—the users will generate it."
10. Employees are afraid to speak up in meetings (2011).

Strohlein admits to being somewhat playful but completely serious with his list, and argues for more pragmatic approaches to these issues (in two instances urging readers who would endeavor to remedy them to, "Proceed with great caution and an updated resume [sic]")(2011).

In a somewhat more socially focused analysis, Booz Allen Hamilton's recent Webcast promotion (2011) suggested,

> "Watch your local Pee-wee football team's practice sometime and you'll see a lot of dropped passes, missed tackles, and other mistakes. But…what would

> happen if you put that team on Heinz Field and they had all the same amenities as the Pittsburgh Steelers? Yep, they still wouldn't be able to complete a pass, kick a field goal or hold onto the ball. Clearly, just because they were put on a better field and given the latest equipment doesn't mean they will suddenly learn to play football.
>
> Similarly, simply adding the latest Enterprise 2.0 platform behind your firewall doesn't mean your employees will suddenly learn to collaborate with one another. Collaboration doesn't happen because you install the latest Enterprise 2.0 or Social Business software. It happens because they have a reason to collaborate. It happens when they are rewarded for sharing information. It happens when they like working with the people around them. In this webcast, learn the secrets to getting your employees to share and collaborate with one another. Here's a hint — it's not about the technology, it's about your people!"

The promotion implicitly describes the counterproductive impacts of the lack of suitable technical capital and habitus to achieve the desired result in an E2.0 implementation. They stress that technological artifacts are not as important to E2.0 initiatives as are people—a shift from the earlier claims described in Chapter 3 which appeared to support a technologically determinist viewpoint. While such promoter acknowledgement of a social behavioral approach (albeit one couched in business terms) is a welcome shift away from technological determinism, it doesn't begin to address the larger social structure/agency approach articulated in this thesis.

8.3.2 Failure to Reach Tipping Points

Other examples of initiative failure have been ascribed to insufficient organizational subscription. Buczek points out that "enterprises with several years of Enterprise 2.0 efforts under their belt have failed to reach the tipping point and cross into mainstream adoption of social collaboration" (2011). Similarly, Gaskell observes,

> "In addition to a lack of purpose, many social business projects fail due to a lack of sustained interest, due in large part in a failure of senior managers to ensure that social media becomes a part of the company culture" (2012).

Still other organizations experience mixed results with their SM initiatives. While 90%

of IBMers sampled in a South African study make use of BluePages (IBM's online personnel directory), email, and Sametime, only 60% make use of four other available SM tools, and fewer than 30% make use of 24 other SM tools provided (Stafford and Mearns, 2010: 5). Even at IBM, where technical capital and habitus are preeminent, some tools reach their tipping points while others are sparsely used. This raises further questions for future research into why some SM applications succeed and others fail in such an environment.

E2.0 promoter Chen suggests that the underlying reasons for these failures are fundamentally rooted in social causation:

> "So why is adopting a platform of engagement such a tough challenge? The answer is surprisingly obvious: old habits die hard. We all prefer to do things the familiar way — having relied on systems of record throughout our professional careers, adding yet another element into the mix can be disruptive and annoying for most people. Furthermore, any successful adoption requires a cultural, behavioral and habitual transformation for the entire organization" (2011).

This is consistent with my analysis which suggests that successful implementations depend on conducive field/capital/habitus configurations.

8.4 How This Can Help

Organizations have been pursuing SM tools without clear understanding of how best to make effective strategic uses of them and many fail as a result. It seems E2.0 isn't working in quite the way that people expected. Building upon the evidence and analysis presented, what I'm going to offer now is a much more refined account of how my research can help various E2.0 stakeholders to understand and include a social perspective in their preparations for and uses of SM.

The research I'm presenting here can help these various stakeholders by improving outcomes of E2.0 implementations as a result of deeper, more nuanced understandings of social factors underlying uptake and uses of SM tools. Although organizations favorably disposed to technological interventions by reason of well-established technical capital, focus, and habitus appear to be more likely to

successfully engage with the tools, these factors by themselves are no guarantee of SM traction and success. We've seen, in the recent example, that IBM South Africa's results show few of the tools on offer enjoying solid, population-wide engagement. Yet this is likely to be an organization not unlike IBM DevCentre in its configurations and applications of capital, its highly technical habitus, and its field.

For employees and managers in the instant field, awareness of these factors offers a beginning point for organizing SM practices. This may mean the organization devotes more time and resources to increasing its cultural/technical capital as part of its E2.0 efforts. Methods may include:

- Identifying specific goals for SM initiatives.
- Providing of adequate hardware and software to meet goals.
- Bootstrapping the deployment team with best practices from successful implementations.
- Specific training with SM tools.
- Providing time for experimentation.

All of these methods may be seen to be constructive of cultural/technical capital, which, in turn, produces changes in habitus. As Chen reflected, such a change is key in successful E2.0 implementations.

For E2.0 vendors and suppliers, awareness of the social drivers inherent in uses of their products offers insights that may be used to guide and refine product design. Also, since technologies may be seen to be the result of the habitus of their creators, off-the-shelf SM 'solutions' are thus the sedimented habituses of external fields—those of the E2.0 providers. Sterne points out that,

> "A technology is always, at any given moment, socially located. It is always implicated in social struggle. A particular 'practical sense' organized through a series of technologies is always conditioned by its social location and by forms of capital available for use and under contest in any given field. The 'practical sense' of technologies, while experienced at an individual and (dare I say it?) phenomenological level, carries with it the sedimented social history of relations in which that technology was once embedded, and the relations in which the experiencing individual is embedded. The 'techniques of the body'

> and the mechanized, sedimented and related techniques that make up technologies are thus, in Geertz's phrase, social 'all the way down'" (2003: 383).

E2.0 tools—whether purpose-built for market, such as Atlassian or Worklight, or opportunistically pressed into service, such as Facebook or Twitter—are products of particular fields with capital contests and habituses of their own. So although broad spectrum SM providers don't need to pay particular attention to organizational social drivers, E2.0 vendors might well improve their products through an awareness of and attention to how their products reflect their own habitus and mesh with those of their clients.

8.4.1 Social Media Participation Habitus

As we've seen previously in Section 7.3, *Similar Uses*, both internal *and* external stakeholders may also be participants in E2.0 implementations in the instant field. This potential interaction adds a further dimension to the social dynamics in play and presents an additional opportunity for influencing SM uptake and use. According to the Council of Public Relations Firms (CPRF),

> "People fall into different profiles or personas based on their online activity. Perhaps the best known example of such an analysis is Forrester's Groundswell methodology, which identifies and quantifies seven distinct social media personas, including "creators," "critics," "collectors," "joiners" and "spectators." Mobilizing these personas, companies can add new sophistication to stakeholder interaction, thus achieving superior results" (2010: 1).

Similar to Forrester's "social technographics" (Li, 2007), O'Hara's Edelman typology (2010), and Aimia's SM personas (Askalani, 2012), CPRF describes five SM profiles as follows:

- **Innovators/Creators** – Audience members who enjoy putting something new – something of themselves – out on the web for others to consume. This is social media as self-expression, potentially in defense or in opposition to a company or brand.
- **Critics/Commentators** – Audience members who enjoy critiquing and commenting on the self-expression of others. These audience members tend to

supplement or refine content, rating, ranking, and categorizing it for the benefit of themselves and others.

- **Connectors/Communicators** – Audience members who enjoy spreading word of mouth about content created by others. These individuals are content syndicators. They often are storytellers who spin narratives about other content in the process of telling others about it.
- **Collectors/Curators** – Audience members who enjoy organizing content created by others. These individuals are content aggregators. Like Critics, Collectors/Curators form judgments about companies and brands, although these judgments tend to be implicit, reflected in the particular categories Collectors/Curators use to organize content.
- **Spectators** – Audience members who enjoy viewing, reading, or listening to content created by others, but who do not engage in more active content creation, refinement, syndication, or aggregation. The majority of online stakeholders fall into this category (Council of Public Relations Firms, 2010: 3).

These SM profiles may be seen to be reflective of a communication habitus in the individual. Those higher up the list show greater engagement and commitment to the SM project. To the extent that people can be encouraged or incentivized to advance up this hierarchy, communication and thus both social and cultural capital are raised within the organization. This should also increase successful uptake and normalization of tool usage.

8.4.2 E2.0's Social ROI

As has been recently noted, E2.0 advocates have pointed out the strategic error of evaluating initiatives in terms of economic ROI, an approach that many businesses have insisted upon. Yet for most organizations, quantifying economic ROI has been very difficult. Some observers have recently taken up the alternative approach of assessing the *social ROI*—non-financial measures of value, such as social or informational values (social and cultural capital)—of E2.0 projects (Venkatachari, 2012; Qualman, 2011; Blanchard, 2011). Not to be confused with activities and efforts by The SROI Network and similar practitioners whose work focuses on measuring effectiveness and developing tools for "social enterprises" (social and environmental

improvement organizations not driven by profit motivations) (Nicholls, Lawlor, Neitzert and Goodspeed, 2012), numerous methods have been recently advanced in the trade press for measuring SM's social ROI. These are prescriptively discussed in business and E2.0-centric terms (Cohn, 2013; Miltenberg, 2013; Petouhoff, 2012). While some research has explored the impacts of SM uses on social capital in organizations (Steinfield, Ellison and Lampe, 2008; Ferron, et al., 2010), there appears to be a dearth of research into social ROI for E2.0. And while social capital improvement may be seen to represent a component of social ROI, the two concepts are not synonymous. In highlighting uses of Bourdieusian concepts for exploring organizational SM uses, this thesis may help to inform future examinations of social ROI in this domain by expanding the view of possible returns to include cultural and symbolic capitals.

8.4.3 Further Contributions

My research also helps to provide a novel perspective on E2.0 practices—one that includes a holistic view of the organizational locus of SM tool usage and takes into account the importance of capital and habitus in the practices that manifest over time (or not). This helps advance E2.0 implementations by:

- Making stakeholders aware of social influences on their projects.
- Raising likelihood of E2.0 initiative success.
- Improving organizational SM practices.
- Improving both social and economic ROI.
- Mitigating costs of implementation failure.
- Pointing out further opportunities for research in the domain.

This thesis does not pretend to offer a prescriptive "secret sauce" for successful E2.0 initiatives. "Use this method, arrange your field/capital/habitus thus and so, and you're guaranteed successful results!" I'm presenting some findings and analysis that suggest ways to improve tool uses by paying attention to social aspects of their implementation.

8.4.4 Measures for E2.0 Adopters

While guaranteed successful interventions are unattainable, a socially informed approach can help organizations looking to adopt E2.0 solutions. In addition to the methods described at the beginning of this section, such an approach includes:

1. Assessment of organizational preparedness for E2.0 adoption;
2. Steps to be taken to support adoption;
3. Determination of the most useful E2.0 offerings for the instant organization/field.

The following three subsections address each of these methods in turn from the perspective of a hypothetical E2.0 implementation team.

Assessment of E2.0 Readiness

The initial assessment of preparedness phase takes in the organization's field, capital, and habitus attributes as described in §4.4 and §4.5, as well as evaluating its SM participation habitus as described in §8.4.1. Through the use of the survey, the implementation team may develop a high level view of the organization's SM preparedness as a function of organizational cultural/technical capital and supporting habitus. The survey shown in Appendix C may be used or adapted to suit a prospective E2.0 implementation, and engagement score analysis performed as described in §6.3.5. As was shown in Figures 10 and 11, IBM Devcentre showed significantly greater engagement than MCADSV across all age groups. Similarly, Figures 12 and 13 show greater engagement at IBM than MCADSV across education levels. This research has shown that solid SM engagement appears to be related to conducive capitals and habitus. Ideally, the implementation team would find similar results to IBM's from the initial assessment, but this is unlikely in most organizations. Using the survey as an assessment tool nonetheless provides a baseline for understanding the instant organization's readiness (or lack thereof) for engaging with SM. It should also provide clear evidence of the organization's SM participation habitus, also as a baseline for future reference as the SM support actions described in the following subsection are undertaken.

Steps to Support E2.0 Adoption

Improvements in E2.0 uptake may be expected through application of the social concepts offered by this thesis. Recent developments in the realms of technological innovation promotion and workforce capabilities enhancement are useful here, as they offer strategies for technology engagement and institutional advancement which have the effect of improving organizational cultural/technical capital and habitus. These include tools and techniques from Normalization Process Theory (NPT) and the People Capability Maturity Model® (People CMM®), both of which will be described in turn.

NPT

Developed in the United Kingdom by Professor Carl May and Dr. Tracy Finch in collaboration with a host of national and international colleagues (RESTORE, 2011), NPT offers an explanation for how and why technological innovations and interventions become embedded (or not) in healthcare and other institutional settings. It focuses on the work that must take place to bring about normalization of technological interventions in practice.

There are four components in the NPT:

- Coherence – Does the new innovation make sense to those involved in the implementation work?
- Cognitive Participation – Is there 'buy-in' from key stakeholders for the implementation work?
- Collective Action – What is the work that needs to happen for implementation to occur?
- Reflexive Monitoring – How is the implementation work evaluated by those involved? (RESTORE, 2011)

According to NPT, these four generative mechanisms contribute to embedding of material practices in social contexts through the actions of individuals. This is brought

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about through “continuous investment by agents in ensembles of action that continue in time and space” (May and Finch, 2009: 540). Applied to an E2.0 implementation effort, this approach would necessarily try to answer the following questions:

- Do the participants in the effort to implement SM in the organization understand the tools and the purposes of the initiative?
- Have key stakeholders bought in to the initiative and are they willing to work to support it?
- What specific actions are necessary to support the initiative?
- How shall the initiative’s activities and products be evaluated?

If the initiative is well-understood and commitment is solid, attention centers on specification, action over a span of time, and periodic evaluation of results, including reflexive evaluation of coherence and cognitive participation. It will require significant organizational focus on the initiative. As Linton notes,

> “Implementation involves all activities that occur between making an adoption commitment and the time that an innovation either becomes part of the organizational routine, ceases to be new, or is abandoned (…) [and the] behavior of organizational members over time evolves from avoidance or non-use, through unenthusiastic or compliant use, to skilled or consistent use” (2002: 66).

The focus with NPT is on the technical dimension of workplace intervention—what is the new tool to be used and how can the organization best arrive at its uses? Although the focus here is technical, its usefulness nonetheless turns on the organization’s embodiment of cultural/technical capital and the degree to which organizational technical habitus exists. NPT’s application may be seen to advance such capabilities in organizations where these attributes are limited by focusing attention on the technologies themselves and the technical skills and predispositions required for their effective use. Another more socially focused approach is engaged through attention to the People CMM.

People CMM

The People CMM is a maturity framework that seeks to improve the management of members in an organization and contribute to their development. It takes an evolutionary approach to continuous improvement from ad hoc, inconsistent organizational practices to mature and disciplined action, improving organizational knowledge, skills, and motivation, which in turn contributes to improved organizational performance. Developed by the Software Engineering Institute at Carnegie Mellon University in 1995, it is in broad distribution at companies large and small worldwide, including IBM, Boeing, BAESystems, Tata Consultancy Services, Ericsson, Lockheed Martin, and QAI (India) Ltd. (Curtis, Hefley and Miller, 2001). According to its developers,

> "The People CMM guides organizations to improve their ability to attract, develop, motivate, organize, and retain the talent needed to steadily improve their organizational capability. It describes an evolutionary improvement path from ad hoc, inconsistently performed workforce practices, to a mature, disciplined development of the knowledge, skills, and motivation of the workforce. The People CMM guides an organization in implementing a series of increasingly sophisticated practices and activities for developing and motivating its workforce. These practices have been chosen from industrial experience as those that have significant impact on individual, team, unit, and organizational performance" (Hefley and Curtis, 1998).

Not surprisingly, the People CMM's methodology involves a complex, rigorous set of actions that are here reduced to essentials for this adaptation. At a high level, it involves an initial assessment cycle undertaken by professionals trained in the methodology, an activity which typically takes approximately five months. This provides an understanding of the organization's current state of capability maturity. This is followed by a cycle of improvement programs which typically proceeds from an initial, relatively loosely-structured organizational state characterized by inconsistent management and workforce practices. By focusing actions and energies at progressive levels of improvement, the organization builds and refines its capabilities as shown in Figure 14.

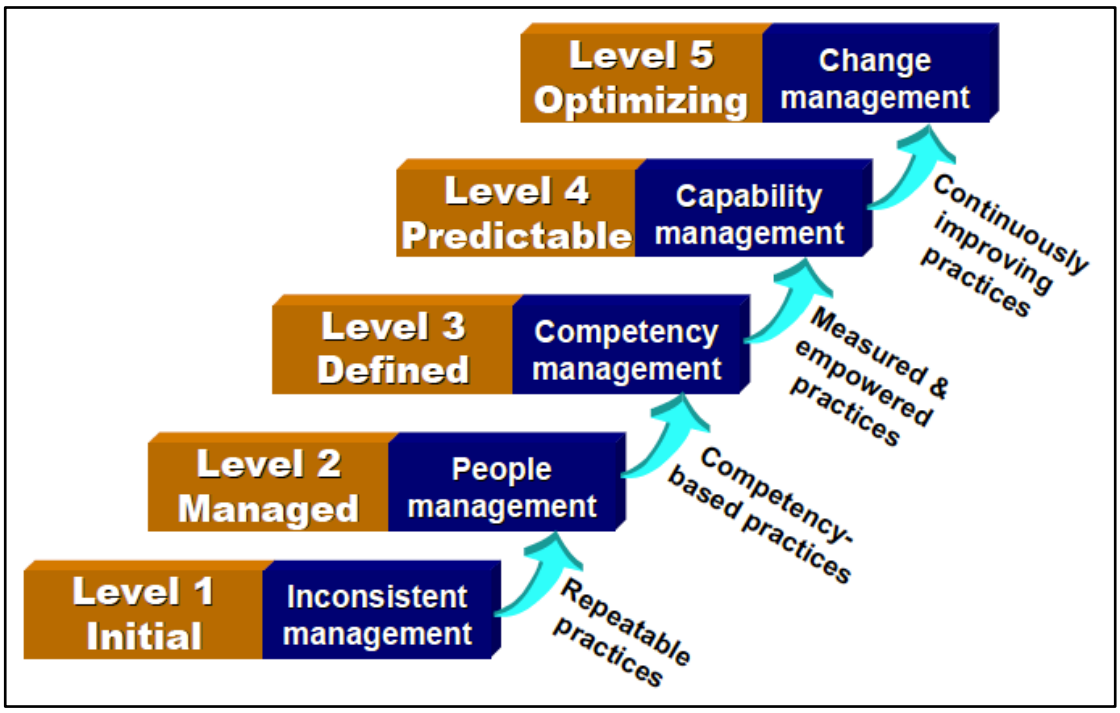


Figure 14: The five maturity levels of the People CMM (Curtis, Hefley and Miller, 2001:18; by permission – CMMI Institute)

Of course, implementing the People CMM is far beyond the scope of this thesis, yet it illustrates a constructive approach to enhancing organizational capabilities. Certainly an effect of this kind of progressive capability improvement is in advancing collective cultural/technical capital and related habitus.

The People CMM also bears functional similarities to NPT—commitment, action, and evaluation—which are noticeable in Wemyss' cautions regarding its use:

> Practice performance will decay if not institutionalized.
>
> If no commitment → Failed efforts
>
> If no ability → Ineffective performance
>
> If no measurement → No improvement
>
> If no verification → Declining compliance (2009: 5).

Where NPT engages primarily on the technical dimension of workplace technological intervention, the focus with the People CMM is on the social dimension. Although considerations of capital and habitus are absent from the model's conceptualization, they may be seen to be effective outcomes of its uses and subsequently advantageous to E2.0 implementations.

Selection of Appropriate Tools

This thesis has earlier pointed out the uniqueness of all organizations and illustrated the range of tools available under the rubric of E2.0. With organizational variability in makeup, current capabilities, and goals, different tools—like those described in §2.6.2, Table 1—will have greater or lesser fit with the instant organization. An organization with limited technical capital and a primarily broadcast approach to its immediate SM goals will find tools such as blogs or Facebook helpful.

The question is, "What is the purpose of the SM to be used?" Blogs and wikis are often useful for capturing information (cultural/technical capital). Facebook and Twitter can be helpful for broadcast and/or dialogue, both inside and outside the organization. Sametime is useful for a range of purposes, including synchronous and/or asynchronous dialoguing.

As an initial stage in E2.0 implementation, the range of possible tools should be considered against the instant organization's existing practices and goals, and a flexible timeline for tool implementation developed. This should take into consideration those SM tools with which the workforce is already engaged, either in work or non-work practices, as E2.0 launch candidates. Further uses and associated tools might then be planned for subsequent implementation as skills and practices improve over time.

Crafting an Approach to E2.0

In summary, successful implementations of E2.0 cannot be assured, but implementers' chances can be improved through the approach sketched above.

As a practical 'package' of procedures for implementation, this remains roughly defined. I've described how the surveys and analytic methods in this thesis can be used to make a baseline assessment of SM awareness and capabilities within an organization. These may be subsequently used to assess improvements (or degradation) over time. Lessons and practices from NPT and the People CMM may also be leveraged to improve technical traction and enhance organizational cultural/technical capital and habitus. Finally, identification and progressive implementation of SM tools best suited to the organization and "the work" help to

build on existing capabilities and predispositions. Given firm commitment and follow-through, the organization's E2.0 efforts can reach their tipping point and elevate organizational SM participation habitus.

Wesch describes institutional uses of Web 2.0 in terms of moving users from being 'knowledgeable' to being 'knowledge-able':

> "Technologically, it's "ridiculously easy" to connect, organize, share, collect, collaborate, and publish. But it's actually really hard to do these things. To really connect with people, to really collaborate, to really publish something of worth. If we're going to move [from] being knowledgeable to be knowledge able we're gonna have to recognize that knowledge ability is a practice. It's not a list of things that you can just tell somebody this is what you need to do to be knowledge-able. Those are actually really hard things to do. … [To become] knowledge-able is a hard thing to do and it takes practice (2010).

He recommends a three-part approach to this activity: *embrace real problems* - work to solve the organization's real-world problems; *harness and leverage the relevant tools whenever possible*; and connect, organize, share, collect, collaborate, and publish *together* (Wesch, 2010, emphasis added).

Drawing on concepts and practices from this thesis, as well as from NPT and the People CMM, the approach offered here seeks to understand and leverage the organization's existing social computing capabilities and cyclically expand and refine them along with its social, cultural, and technical capital and habitus. As these methods have not been tested, they are considered a work in progress and subject to revision and refinement.

8.5 Further Research

This research might be improved and extended in a number of interesting ways. Beyond mitigating the limitations I encountered, these could be derivative, expanded methods applied to the work presented here or studies undertaken in additional social aspects of Web uses in organizational settings.

8.5.1 Limitations

First, a number of important limitations in my study need to be considered. Although I had hoped to use at least three case studies, only two were accomplished. Prospective case studies at the U.S. Centers for Disease Control, Boeing, Microsoft, and Aviva Investors were discussed with contacts in each case, but none of these were able to progress to a study due to insufficient buy-in from senior management. Additional case studies using similar types of organizations would help to determine whether such similarities produce similar results. Also, such expansion would ideally include one or more public sector organizations, providing possible variations in findings from the private sector and third sector organizational results gained here.

Understanding E2.0 practices' impacts on differing organizational structures was a research goal in this study that was unfulfilled due to insufficient data. Again, additional case studies might help to produce results in this regard.

This research was also limited by marginal quantitative samples. In my case studies, response rates were low despite multiple reminders and requests for engagement from the organizational populations. A form of individual incentive for participation may help to increase the response rates.

Another limitation was the use of cross-sectional study rather than longitudinal study. The latter may be expected to show unfolding social effects surrounding uptake and uses of SM tools. For example, changes in habitus may be observed as technologies are normalized. And since the technologies involved in this domain and their uses and apprehensions (and indeed, the domain and its actors) are understood to be constantly evolving, studies involving multiple temporal observations are recommended. As Sterne points out,

> "Technologies are socially shaped along with their meanings, functions, and domains and use. Thus, they cannot come into existence simply to fill a pre-existing role, since the role itself is co-created with the technology by its makers and users. More importantly, this role is not a static function but something that can change over time for groups of people" (2003: 373).

This research has been helpful in providing both a theoretic framework and some of the necessary methodology for pursuing a longitudinal study.

8.5.2 Improvements

My study used as examples of E2.0 tools those available to my case populations. A refined approach might include additional focus on organizational uses of E2.0 "market" tools, such as Worklight, Atlassian, Jive, Automattic—that is to say, commercially available E2.0 tools. In the case of IBM, many of the tools in broad use are in fact widely marketed by the company as E2.0 "solutions." MCADSV, on the other hand, makes no use of commercial tools, instead primarily leveraging freely available tools such as Facebook and Twitter. As we've seen, IBMers also use these and other free tools in addition to in-house commercial products. Although it's not clear what differences might be observed with organizational uses of such products, it would be interesting to see what, if any, alternate practices may occur with purpose-built tools.

Other avenues for further research might include deeper examination of theoretic aspects of practice, such as,

- Additional explorations of capital uses and habitus influences on SM practices. Further operationalization of habitus may include greater attention to informants' backgrounds including parents' occupations.
- Examination of the role and effects of *hysteresis*—the disconnection of traditional ways of doing things (habitus) brought about by influx of new technologies (changes in the field).

A question of tipping points was mooted in Section 8.3, *Emerging E2.0 Dissent*, about why some SM applications succeed and others fail. It would be very interesting to examine multiple projects on both sides of this divide with respect to their configurations and types of field/capital/habitus and what effects might be observed in the resulting evidence.

It would also be quite interesting to explore the SM profiles of case study broad indicators of habitus and related changes over time. This may provide deeper insight into the effects of changes in the relative populations of creators, critics, connectors,

and so on. Also needing further study is the degree to which differing SM profile mixes influence outcomes.

Future study might attempt to resolve whether E2.0 has significant effects on organizational power relationships. In noting widespread organizational effects of collaboration technology, Andriessen observed that:

> "organizations may become less bureaucratized and more flexible, which is reflected in phenomena such as "border crossing", changes in interaction and decision making, and in power redistribution" (2003: 32).

Similarly, Brass and Burkhardt (1992) noted that changes in both communication network patterns and in power occur when new technologies are introduced. While my research found anecdotal evidence of border crossing—disappearance or lessening of traditional departmental boundaries—specific confirmation of this and similar phenomena appear to be lacking. Solid evidence of such changes and impacts would doubtless be interesting to many in organizational leadership.

Finally, subsequent PhD research might take these concepts and results and apply them in a more disciplined fashion in organizational contexts. For example, E2.0's organizational contribution in terms of social ROI might be explored through a closer examination of social, cultural, and symbolic capitals in play in an organization as field, perhaps including uses of social network analysis and a longitudinal approach. Another line of research might leverage this study toward finding specific reusable methods for assisting E2.0 initiatives and improving their chances of success.

8.6 A Web of Contingency

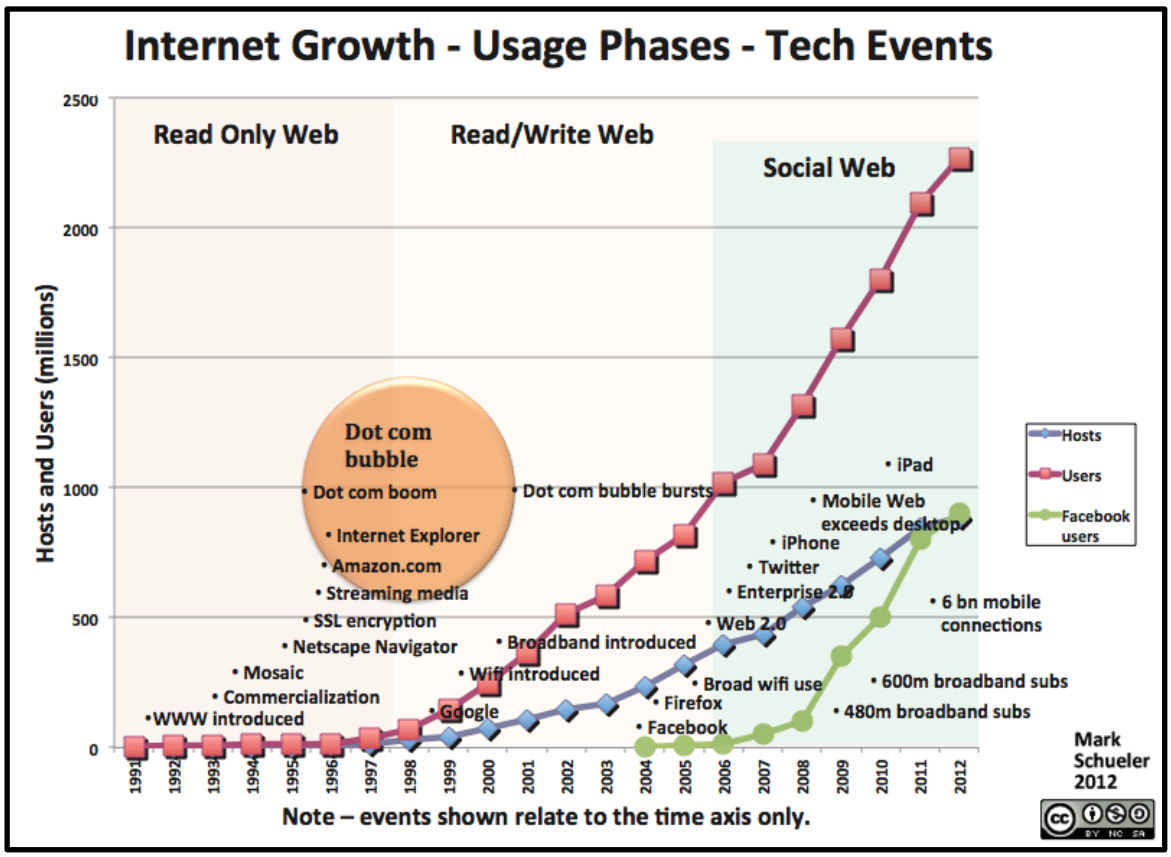
Despite the limitations described above, my research has shown that the simplistic promotion of E2.0 offered in its marketplace is insufficient to the interests of organizations and their stakeholders. Perhaps the marketing hype attending the domain has been allowed to pass without deeper questioning due to the novelty of the domain. However, this and other research (bin Husin and Swatman, 2010; Passant, Laublete, Breslin and Decker, 2009; Ramírez-Medina, 2009; Williams and Schubert, 2011) is beginning to focus on E2.0 specifically, seeking clear understanding of social and technical issues in the domain.

My contribution has been the application of a Bourdieusian perspective to this research, by which I have shown that organizational SM use and uptake is conditioned by the field, capital, and habitus of its users. And since organizational configurations of field, capital, and habitus may be understood to be similar yet nonetheless unique in each instance, there are no foolproof, can't-miss solutions for E2.0 implementations. All are contingent on these social factors in play within the organization.

I see this work not as an end but rather as a beginning to further study in this domain. Hopefully others will expand on this research and push it further to unravel and explain more of the contingencies which complicate uses of E2.0.

Appendices

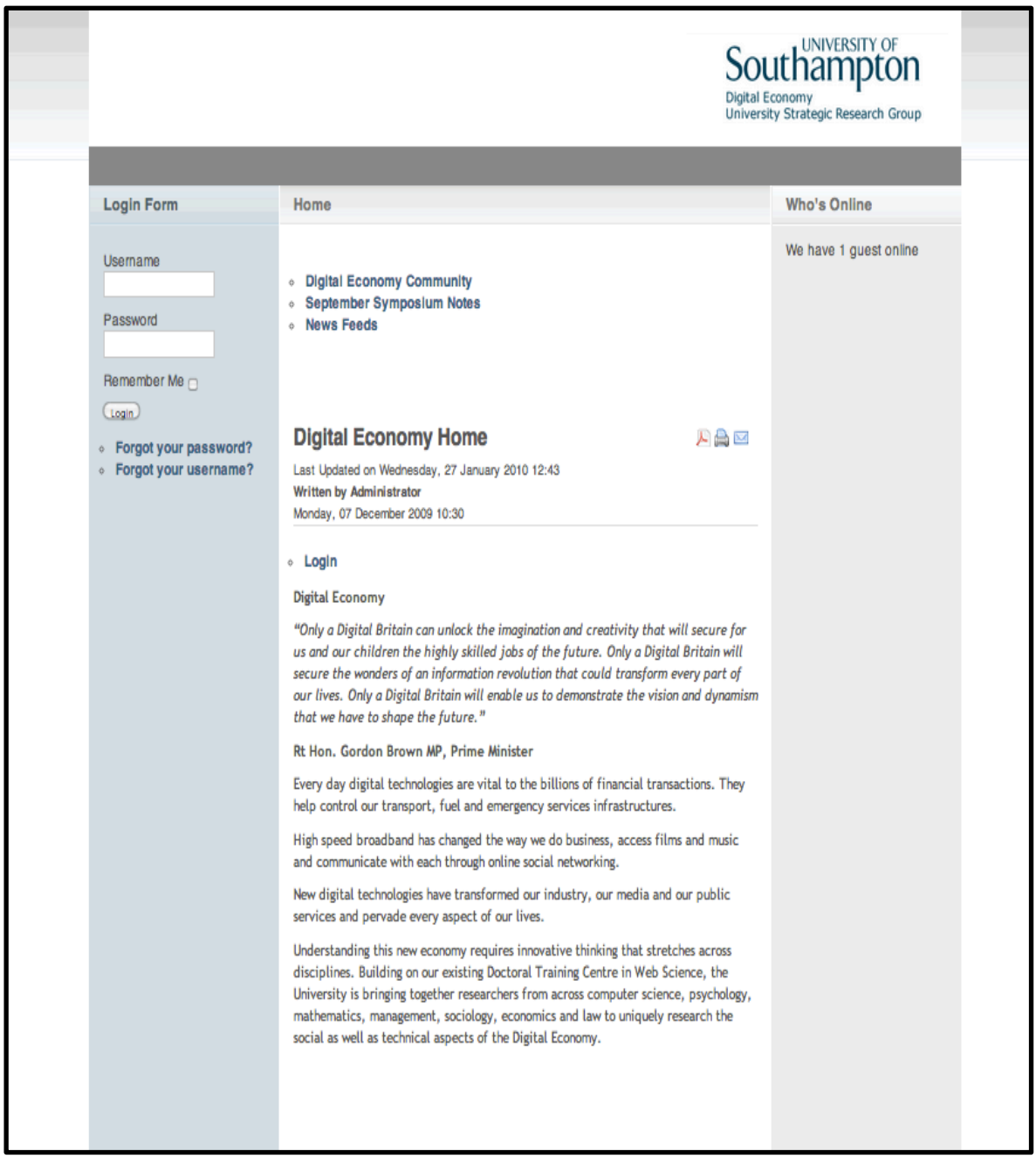
Appendix A – Internet Growth Chart and Sources



Internet hosts	Nov-11	http://ftp.isc.org/www/survey/reports/current/
Internet users	Nov-11	http://www.internetworldstats.com/stats.htm
Facebook users	Nov-11	http://www.sec.gov/Archives/edgar/data/1326801/000119312512175673/d287954ds1a.htm
WWW introduced	Mar-91	http://www.w3.org/History.html
Commercialization	Mar-93	http://www.w3.org/History.html
Mosaic	Sep-93	http://www.w3.org/History.html
Netscape Navigator	Dec-94	http://en.wikipedia.org/wiki/Netscape_Navigator
SSL encryption	Feb-95	http://en.wikipedia.org/wiki/Transport_Layer_Security
Streaming media	Jun-95	http://www.ccs.neu.edu/home/imperium/timeline.html
Dot com boom	Jun-95	http://en.wikipedia.org/wiki/Dot-com_bubble
Amazon.com	Jul-95	http://en.wikipedia.org/wiki/Amazon.com
Internet Explorer	Aug-95	http://en.wikipedia.org/wiki/Internet_Explorer_1
Google	Sep-98	http://en.wikipedia.org/wiki/Google

Wifi introduced	Oct-99	http://ezinearticles.com/?The-History-of-WiFi&id=2946475
Dot com bubble bursts	Mar-00	http://en.wikipedia.org/wiki/Dot-com_bubble
Broadband introduced	Jun-00	http://ezinearticles.com/?A-Brief-History-of-Broadband&id=2755754
Facebook	Feb-04	http://en.wikipedia.org/wiki/Facebook
Firefox	Nov-04	http://en.wikipedia.org/wiki/Mozilla_Firefox
Broad Wifi use	Jul-05	http://en.wikipedia.org/wiki/Wi-Fi
Web 2.0	Sep-05	http://oreilly.com/web2/archive/what-is-web-20.html
Enterprise 2.0	Apr-06	http://sloanreview.mit.edu/the-magazine/articles/2006/spring/47306/enterprise-the-dawn-of-emergent-collaboration/
Twitter	Jul-06	http://en.wikipedia.org/wiki/Twitter
iPhone	Jan-07	http://en.wikipedia.org/wiki/Iphone
Mobile Web exceeds desktop	2008	http://www.itu.int/ITU-D/ict/material/Telecom09_flyer.pdf
480m broadband subs	Sep-09	http://www.telecoms.com/17513/fixed-broadband-subs-approach-500-mil/
iPad	Apr-10	http://en.wikipedia.org/wiki/Ipad
600m broadband subs	Jan-12	http://gigaom.com/broadband/global-broadband-subscribers-inch-up-to-600-million/
6.8 bn mobile users	2013	http://www.itu.int/en/ITU-D/Statistics/Documents/facts/ICTFactsFigures2013.pdf

Appendix B – Digital Economy USRG Social Network Site



Appendix C – MCADSV Survey

"Social media" refers to an assortment of Web and Internet based applications that allow users to create and share content, turning online communication into an interactive dialogue and fostering communities of interest. Examples of social media tools include social network sites such as Facebook, forums/bulletin boards, social bookmarking sites like reddit, blogs, microblogs like twitter, and wikis such as Wikipedia.

This survey is intended to determine the level of social media use at MCADSV and its membership's interest and engagement with social media tools in their work. This will contribute to my PhD research into uses and impacts of social media in organizations.

The survey starts with a few questions about your general use of social media, and then asks about your use and opinions of social media in a work-related context. A few demographic questions complete the survey.

Data used in dissemination of research findings will not be attributed to particular individuals and, where necessary, identifying details will be altered to protect the confidentiality of the participants, unless express permission is given to use specifically identified data. All electronic data will be password protected and stored within the University of Southampton firewall. Paper based data will be kept in locked filing cabinets at the University.

Thank you for your participation!

Mark Schueler
University of Southampton
Electronics and Computer Science
Social Sciences
School Ethics Committee reference number Enn/nn/nnn

I have read and understood the above information.

I understand that I have the right to unconditionally withdraw at any time and for any reason.

I agree to take part in this research project and agree for my data to be used for this purpose.

MCADSV Social Media Survey

1. General uses

To start, please answer a few questions about your general uses and opinions of social media.

Question 1.

How frequently do you use the following social media applications for non-work-related purposes?

	Never	< Monthly	~Monthly	~Weekly	~Daily
Social network sites (e.g. Facebook, LinkedIn)	○	○	○	○	○
Forum / bulletin board	○	○	○	○	○
Social bookmarking/tagging (e.g. reddit, delicious)	○	○	○	○	○
Blog	○	○	○	○	○
Microblog (e.g. Twitter)	○	○	○	○	○
Wiki (e.g. Wikipedia)	○	○	○	○	○

Question 2.

What non-work-related uses do you make of these social media applications?

	None	Read/view only	Contribute content
Social network sites (e.g. Facebook, LinkedIn)	○	○	○
Forum / bulletin board	○	○	○
Social bookmarking/tagging (e.g. reddit, delicious)	○	○	○
Blog	○	○	○
Microblog (e.g. Twitter)	○	○	○
Wiki (e.g. Wikipedia)	○	○	○

Question 3.

In general, how would you rate the non-work-related usefulness of social media?

Waste of time	Negative	Neutral	Positive	Indispensible
○	○	○	○	○

Question 4.

Do you create content in any of the following ways?

	Never	< Monthly	~Monthly	~Weekly	~Daily
Status updates and "Wall" posts	○	○	○	○	○
Commenting (on a blog, video, review, photograph, etc.)	○	○	○	○	○
Discussing via message boards (a.k.a. forums)	○	○	○	○	○
Reviewing or	○	○	○	○	○

recommending (e.g. a book, movie, travel destination, etc.)					
Making lists to share (e.g. playlists, favorites, books on Amazon)	○	○	○	○	○
Voting (e.g. Digg, site polls, or via "Was this helpful" feature)	○	○	○	○	○
Adding name to online petition	○	○	○	○	○
Rating (e.g. assigning a score to a film, book or review, etc.)	○	○	○	○	○
Social bookmarking	○	○	○	○	○
Tagging/folksonomies	○	○	○	○	○
Creating and uploading videos	○	○	○	○	○
Creating and uploading podcasts or online audio	○	○	○	○	○
Contributing to a wiki	○	○	○	○	○
Friending	○	○	○	○	○
Reporting abuse (e.g. self-policing features on sites)	○	○	○	○	○

Question 5.

Have you begun using any social media applications during the past year that you did not use before? Please describe.

Question 6.

How would you rate your social media skills? (1=unskilled 10=highly skilled)

1	2	3	4	5	6	7	8	9	10
○	○	○	○	○	○	○	○	○	○

Question 7.

I enjoy using online social media and frequently try out new tools and Web applications.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
○	○	○	○	○

2. Work-related uses

Next, please respond to a few questions about your uses and opinions of social media related to your work at MCADSV.

Question 1.

How frequently do you use the following social media applications for work-related purposes?

	Never	< Monthly	~Monthly	~Weekly	~Daily
Social network sites (e.g. Facebook, LinkedIn)	○	○	○	○	○
Forum / bulletin board	○	○	○	○	○

Social bookmarking/tagging (e.g. reddit, delicious)	○	○	○	○	○
Blog	○	○	○	○	○
Microblog (e.g. Twitter)	○	○	○	○	○
Wiki (e.g. Wikipedia)	○	○	○	○	○

Question 2.

What work-related uses do you make of these social media applications?

	None	Read/view only	Contribute content
Social network sites (e.g. Facebook, LinkedIn)	○	○	○
Forum / bulletin board	○	○	○
Social bookmarking/tagging (e.g. reddit, delicious)	○	○	○
Blog	○	○	○
Microblog (e.g. Twitter)	○	○	○
Wiki (e.g. Wikipedia)	○	○	○

Question 3.

Web-based social media tools can help advance the work of the MCADSV community.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
○	○	○	○	○

Question 4.

In general, how would you rate the work-related usefulness of social media?

Waste of time	Negative	Neutral	Positive	Indispensible
○	○	○	○	○

Question 5.

How many members of MCADSV do you have work-related interactions with in the course of any given month.

< 5	5 - 9	10 - 24	25 - 49	50 - 99	> 100
○	○	○	○	○	○

Question 6.

How many hours do you work?

< 20	20 - 40	> 40
○	○	○

Question 7.

In which MCADSV region do you work?

Central	Kansas City	Northeast	Northwest	Southeast	Southwest	St. Louis
○	○	○	○	○	○	○

Question 8.

Which of the following best fits your role in MCADSV?

Director	Manager	Counselor	Advocate	Coordinator	Other
○	○	○	○	○	○

3. Demographics

Finally, I have a few demographic questions to help with my analysis.

Question 1.

What is your gender?

Female	Male

○	○

Question 2.

What is your age group?

< 20	20 -29	30 - 39	40 - 49	50 - 59	> 59
○	○	○	○	○	○

Question 3.

What is your highest level of education?

Some high school	Completed high school	Some college/Associate's degree	Bachelor's degree	Master's degree	PhD
○	○	○	○	○	○

Question 4.

Based on 2010 census categories, what do you identify as your ethnicity? Check one or more boxes. (Optional)

- ☐ White
- ☐ Black, African American, or Negro
- ☐ American Indian or Alaska Native
- ☐ Asian Indian
- ☐ Chinese
- ☐ Filipino
- ☐ Other Asian
- ☐ Japanese
- ☐ Korean
- ☐ Vietnamese
- ☐ Native Hawaiian
- ☐ Pacific Islander

☐ Other

Question 5.

What is your religious affiliation? (optional)

Protestant	Catholic	Other Christian	Jewish	Muslim	Buddhist	Hindu	Sikh	Other religion	No religion
○	○	○	○	○	○	○	○	○	○

Question 6.

If you would like to volunteer to be interviewed about your interests in and understanding of social media, please provide your name and email address. This will take about half an hour, to be conducted by telephone at a time to be scheduled to suit your convenience.

Save and Finish

Once this button is pressed you will not be able edit your responses

Appendix D – Semi-structured Interviews

Study Title: **Assessment of Uses of Social Software Using Mixed Methods**

Semi-structured interview questions

1. Introduce myself and describe of the aims of the study and how the interview will help my research. Cover my definition of social media, nature of the case study, ethics matters, and recording request.
2. Can you tell me a little about your education and technological background?
3. Tell me about your work here at [organization].
4. Please tell me about the E2.0 tools you have here at [organization]?
5. Were you here when those were first introduced? How much have you used them? What kinds of things do you use them for? Have they changed the way you work?
6. Can you tell me a little about your work network?
7. Has your work network grown as a result of social media uses?
8. What is your sense of communication and community within [organization]?
9. Do you feel that social media is beneficial? Are there times when it interferes with your work?
10. Have you seen changes as a result of social media use at [organization]? Socially or organizationally disruptive? Constructive?
11. Do you have concerns about social media use in your organization?
12. Is social media use required at [organization]? Encouraged?
13. Are there policies regarding social media use at [organization]?
14. Are the available tools easy to understand and use?
15. Have you received training in the use of social media?
16. Are you open to exploring/trying new social media? Do you explore new tools as they become available? What kinds of social media interest you?
17. Are there any social media tools that you see as having work-only or leisure-only uses?
18. Do you use social media every day? Are you comfortable using social media?

Appendix E – Participant Information Sheet

Participant Information Sheet

Study Title: **Assessment of Uses of Social Software Using Mixed Methods**

Researcher: Mark Schueler

Ethics number: E/11/07/002

Please read this information carefully before deciding to take part in this research. If you are happy to participate you will be asked to sign a consent form.

What is the research about?

The purpose of this study is to determine the level of interest, the amount of use, the work-related uses, and the effects of uses of web-based social software in your organization.

This study is being conducted as a part of an education qualification (e.g., PhD), under the supervision of Professor Dame Wendy Hall of Electronics and Computer Science (ECS) and Professor Susan Halford of Social Sciences at the University of Southampton, UK.

Why have I been chosen?

Members of your organization were invited to participate via the earlier web-based survey.

What will happen to me if I take part?

You'll be asked to describe various aspects of your uses of social media and your involvement with your organization. The interview should take about half an hour. There will be an optional follow-up interview after one year.

Are there any benefits in my taking part?

You'll be helping to advance research in the social and organizational effects of social media used in organizations.

Are there any risks involved?

There are no known risks involved.

Will my participation be confidential?

Data used in dissemination of research findings will not be attributed to particular individuals and, where necessary, identifying details will be altered to protect the confidentiality of the participants, unless express permission is given to use specifically identified data.

The data collected at the interview will be stored in a locked cabinet at ECS. Only the investigator and the project supervisor will have access to the data. After the project is completed the paper documents and audio files will be destroyed.

Only the anonymous statistical data will be retained.

What happens if I change my mind?

All participants have the right to unconditionally withdraw at any time and for any reason without their legal rights being affected.

Where can I get more information?

Mark Schueler

Email: mcs08r@ecs.soton.ac.uk

Mobile: +44 7927 174 528

Appendix F – Consent Form

CONSENT FORM

Study title: **Assessment of Uses of Social Software Using Mixed Methods**

Researcher name: Mark Schueler

Study reference: **Semi-structured Social Interviews of [MCADSV/IBM] Community**

Ethics reference: E/11/07/002

Please initial the box(es) if you agree with the statement(s):

I have read and understood the information sheet (date/version no.) and have had the opportunity to ask questions about the study.	☐
I agree to take part in this research project and agree for my data to be used for the purpose of this study.	☐
I agree to the interview being audio recorded.	☐
I understand my participation is voluntary and I may withdraw at any time without my legal rights being affected.	☐

Name of participant (print name)…….

Signature of participant……

Name of Researcher (print name) ……

Signature of Researcher……

Date…….

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