

**RECORDS AS FORCE MULTIPLIER:
UNDERSTANDING THE RECORDS CONTINUUM AS A FRAMEWORK FOR
EXAMINING THE ROLE OF RECORDS IN A COMMUNITY**

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University of Pittsburgh, 2015

The central purpose of this dissertation is to examine an archival theory, the records continuum, to understand how the continuum highlights, reveals, or obscures qualities relevant to understanding community co-created records. Previous research related to the records continuum has been largely concerned with understanding the theory and with how records are created, captured, and organized using the continuum.

Relatively few studies have looked at how community records can be understood using the records continuum, or how those records can be read through the dimension of pluralization, when they are shared with a broader societal audience. To address this concern, this research looked at the active behavior of the administrative team for an online forum of active duty military officers in shaping and re-presenting the community using records created and built on the forum. Taking an exploratory case study approach, this research draws connections between thematic threads and forum posts written by members of the community, and later reuse and reactivation of those writings for a different, broader audience. A key finding is that values embedded and inherent in the community records creation process are hidden, or not explicitly measured or made visible by using a continuum approach. This is significant because it could pose a problem for future understanding of the situated context of the records that have been infused with values and shaped by their communities of creation.

TABLE OF CONTENTS

PREFACE.....	XII
1.0 INTRODUCTION.....	1
1.1 THE PROBLEM.....	4
1.2 RESEARCH QUESTION.....	8
1.3 SIGNIFICANCE OF THE STUDY.....	8
1.4 THEORETICAL FRAMEWORKS.....	10
1.4.1 Situating Theory.....	11
1.4.2 The Records Continuum.....	13
1.4.3 Semantic Genealogy.....	15
1.4.4 Communities of Practice and the Social Theory of Learning.....	17
1.5 CASE STUDY: COMPANY COMMAND.....	20
1.5.1 Background of CompanyCommand.....	22
1.5.2 The Career of a Junior Army Officer.....	26
1.6 DESIGN OF THE STUDY.....	30
1.7 STUDY LIMITATIONS.....	32
1.8 DEFINITIONS.....	34
1.9 SUMMARY OF CHAPTERS.....	38
2.0 THEORETICAL FRAMEWORK: THE RECORDS CONTINUUM.....	40

2.1	INTRODUCTION TO THE RECORDS CONTINUUM.....	40
2.2	TRACING THE HERITAGE OF THE RECORDS CONTINUUM	44
2.2.1	Origins of Continuum Thinking.....	44
2.2.2	Anthony Giddens and Structuration Theory in the Continuum.....	48
2.2.3	Generations of Continuum Scholarship	51
3.0	LITERATURE REVIEW.....	55
3.1	WAR, RECORDS, COMMUNITIES, & NEW WAYS OF DOCUMENTING.....	55
3.2	ONLINE COMMUNITIES AND COOPERATIVE WORK.....	60
3.2.1	Building an Online Community of Practice	61
3.2.2	Individual Motivations for Knowledge Sharing	61
3.2.3	Supporting Knowledge Exchange	66
3.2.4	Evolving conversations about online communities.....	71
3.3	MOBILIZATION, MOVEMENT, AND MANAGEMENT OF KNOWLEDGE.....	72
3.3.1	Competing ideas related to knowledge and management.....	73
3.4	CONCLUSION	77
4.0	METHODOLOGY.....	78
4.1	OVERVIEW.....	78
4.2	CASE STUDY AS A RESEARCH FRAMEWORK	78
4.3	OBJECT OF STUDY	82
4.3.1	Embedded Units of Analysis.....	83
4.3.1.1	Embedded Unit A: The CompanyCommand Forum as a System..	83

4.3.1.2	Embedded Unit B: <i>ARMY Magazine</i> Articles.....	84
4.3.1.3	Embedded Unit C: Topical Forum Post Threads	85
4.3.1.4	Embedded Unit D: Interviews	85
4.3.2	Additional Resources.....	87
4.4	DATA SELECTION, COLLECTION, AND CREATION METHODS.....	87
4.4.1	The CompanyCommand Forum as a System	88
4.4.2	<i>ARMY Magazine</i> Articles	88
4.4.3	Topical Forum Post Threads	89
4.4.4	Interviews	90
4.4.5	Ethical Considerations and Institutional Review	90
4.4.6	Protection of Data.....	91
4.5	DATA ANALYSIS.....	92
4.5.1	Qualitative Content Analysis.....	92
4.6	TRUSTWORTHINESS OF THE RESEARCH	94
4.7	POSITIONING/PERSPECTIVE	96
4.8	CONCLUSION	97
5.0	FINDINGS FROM THE COMPANY COMMAND CASE STUDY	98
5.1	CHAPTER OVERVIEW	98
5.2	EMBEDDED UNIT A: COMPANYCOMMAND AS A SYSTEM	99
5.2.1	Describing CompanyCommand as a Recordkeeping System.....	99
5.2.2	History of the technical platform	100
5.2.3	Growing pearls of co-created wisdom	112
5.2.4	Administrative Structure	117

5.2.5	Trust, cohesion, and community as important factors for records co-creation.....	118
5.3	EMBEDDED UNIT B: PUBLISHED ARTICLES.....	121
5.3.1	Coding the ARMY Magazine Articles.....	121
5.3.2	Locating the ‘contextual ambiance’.....	126
5.4	EMBEDDED UNIT C: TOPICAL FORUM THREADS	127
5.4.1	Threads.....	127
5.4.2	Reading Forum Threads Through the Records Continuum.....	131
5.4.3	Representing the Threads.....	132
5.5	CHAPTER CONCLUSION.....	135
6.0	DISCUSSION	137
6.1	CONSIDERING THE CONTINUUM FOR READING THE COMMUNITY AND ITS RECORDS.....	137
6.2	A READING OF THE DIMENSIONS USING THE CASE AS AN EXAMPLE	140
6.3	COMPLEXITIES, PEDAGOGICAL PRACTICE, AND THE MODEL..	142
6.3.1	Challenges of a paper-based graphical model	143
6.4	ALWAYS IN A STATE OF BECOMING: PLURALIZATION AND COMMUNITY RECORDS	145
6.4.1	Participatory community editing, values, and pluralization of the record	146
6.5	SUMMARY	149
7.0	FUTURE WORK.....	151

7.1	OVERLAPPING QUESTIONS IN A ‘STATE OF BECOMING’	151
7.2	UNDERSTANDING THE DIFFUSION OF CONTINUUM SCHOLARSHIP.....	151
7.3	SCAFFOLDING, THE SOCIAL ROOTS OF RECORDS CREATION, AND TRUST	153
7.4	PRESERVATION OF COMMUNITY INFRASTRUCTURAL KNOWLEDGE AND EXTENDING CONTINUUM THINKING AND SCHOLARSHIP.....	154
APPENDIX A		155
APPENDIX B		157
APPENDIX C		158
APPENDIX D		160
BIBLIOGRAPHY		162

LIST OF TABLES

Table 1: Generations of Continuum Thinking	53
Table 2: Platform/Software/Control History	101
Table 3: Open Coding	121
Table 4: Axial Coding.....	124
Table 5: Themes from Thread Coding.....	125

LIST OF FIGURES

Figure 1: Records Continuum (Frank Upward)	42
Figure 2: Partial depiction of milSuite infrastructure	108
Figure 3: Front page of CompanyCommand, 2013	114
Figure 4: Screenshot of co-occurring codes in Dedoose	123

PREFACE

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1.0 INTRODUCTION

In military parlance, a force multiplier is a factor or combination of factors that significantly increase the effectiveness of groups, instruments, or tactics. Used as a tool for learning, identity building, connecting, and knowledge transfer, the records of a community and its work can act as a force multiplier. Seeing community recordkeeping as a force multiplier emphasizes the contextual nature of records as they play a critical role in the strength, effectiveness, and longevity of a community. Records and recordkeeping can be viewed as factors that facilitate shared memory and cohesion and enable members to share experiences and learn how to situate themselves in their community.

One such group where records-making and recordkeeping activities are a core element of the community's shared memory, cohesion, and purpose, is CompanyCommand, an online community of US Army officers who are past, present, or future commanders of company units. A company (sometimes also battery, troop, or detachment) is a basic unit of organization within the US Army. Comprised of 120 or more soldiers and typically led by a captain, "a company is a cohesive tactical sized unit that can perform a battlefield function on its own."¹ A captain with approximately five to eight years of Army service leads this organizational unit for an average of eighteen months as the company commander. This is the first rung of leadership on the US Army

¹ U.S. Army, "Operational Unit Diagrams" (U.S. Army), accessed February 22, 2015, <http://www.army.mil/info/organization/unitsandcommands/oud/>.

command ladder to be granted full command authority, including the responsibility for administering the Uniform Code of Military Justice (UCMJ). Due to the evolving nature of the current operating environment, more responsibility and power continue to be increasingly delegated down the chain of command to the company level.

Believing that the Army's formal education and training program did not sufficiently prepare officers for the challenges that come with commanding an Army company, then-MAJ Tony Burgess and then-MAJ Nate Allen² conceptualized, developed, and implemented CompanyCommand in the early 2000s with a group of like minded colleagues as an online forum for officers to discuss with and learn from each other about leading US Army companies. Now in existence for close to 15 years, the CompanyCommand forum serves as an online community that focuses on creating written accounts, narratives, and discussion to support learning and knowledge exchange.

This dissertation explores the ability of the records continuum to serve as a theoretical lens to analyze the roles that records play in records-intensive communities, such as CompanyCommand. The records continuum, first articulated by Australian archival scholar Frank Upward in the mid-1990s, provides a theory of records and recordkeeping that considers the place of records over space and time, and in multiple, shifting, evolving contexts.³ The records continuum provides a way to make sense of the complexities of recordkeeping, particularly in a digital environment.

² Note: this dissertation will refer to the rank of officers in relationship to relevant context and events. Thus, it will refer to the same officer with different ranks as it examines officers during different junctures of their career.

³ Sue McKemmish, Barbara Reed and Frank Upward. "The Records Continuum." In *Encyclopedia of Library and Information Sciences*, ed. Marcia Bates and Mary Maack (New York: Taylor and Francis, 2009), 4447-4459.

This dissertation carries out an examination of the records continuum by using the theory as the main analytic framework to describe the role of records and recordkeeping in one case, CompanyCommand. Next, I examine the use of the records continuum as a theoretical framework for this case study. Thus, while CompanyCommand is the object of study in this dissertation's case study, the case study serves as a vehicle to examine the records continuum, which is the core focus of this dissertation. In this research project, the records continuum is used in a case study as an analytic tool for describing and exploring United States Army officers' use of CompanyCommand, an online professional forum and community of practice, to share their experiences within a closed, professional community. In turn, this dissertation examines the capabilities and limits of the records continuum to explore and understand the role of records in a community. The results of the case study are primarily presented in Chapter 5 (Results) while my discussion about the records continuum as a theoretical frame for examining community records is primarily discussed in Chapter 6 (Discussion).

There are relatively few case studies in the archival literature that use the records continuum as a framework for understanding records generated by communities and that specifically frame the issue of layered records that have multiple creators over time and space that serve to actively create, shape, and sustain the community. The records continuum provides an analytic structure to tease out the relationships between these records and their evolving and dynamic contexts, creation, management and use. These layered records are always in a state of becoming⁴ as they continue to accrue additional layers of meaning and contextual metadata over time. This study seeks to add to the developing recordkeeping literature related to continuum

⁴ Sue McKemmish, "Are records ever actual?" in *The Records Continuum: Ian Maclean and Australian Archives First Fifty Years*, Sue McKemmish and Michael Piggott, ed. (Clayton: Ancora Press, 1994), 200.

thinking, information culture, and community records that is beginning to coalesce as the next generation of recordkeeping and continuum scholarship.⁵ In doing this, I hope to extend discussions about future directions and possibilities for the records continuum.

1.1 THE PROBLEM

The purpose of this research is to examine and analyze the use of the records continuum model as an approach for broadly understanding the complex records of communities. Almost two decades after the publication of the first fully realized conceptual model by Australian recordkeeping scholar Frank Upward, the records continuum remains an important theoretical construct in the international archival studies canon.⁶ While at least one recent study has applied the records continuum (and continuum thinking) to community archives and others have mentioned its possible utility,⁷ additional work is necessary for understanding how the records continuum may serve as a theoretical lens for examining community records.

⁵ This emerging set of conversations, loosely known as the third generation of continuum scholarship, is further discussed in Chapter 2. This designation as the third generation relates to observations that the evolving discussion is moving from establishing the continuum as a framework, to further understanding its implications as a construct. The work of Gillian Oliver and Fiorella Foscarini related to information cultures, the research of Joanne Evans on metadata and sustainable archival systems designed with continuum thinking, the work of Frank Upward, Barbara Reed and Joanne Evans on recordkeeping informatics and the research of Leisa Gibbons on the cultural heritage continuum are several examples that fit with this discussion.

⁶ Frank Upward, “Structuring the records continuum. Part one: postcustodial principles and properties,” *Archives and Manuscripts* 24, no.2 (1996), 268-285.

⁷ Others have noted recently that the continuum might provide a useful framework for examining community archives, such as Stacy Wood et al., “Mobilizing Records: Re-Framing Archival Description to Support Human Rights,” *Archival Science* 14, no. 3–4 (October 2014): 397–419.

This dissertation has employed the records continuum model as a framework for exploring a set of community records constructed and shaped by multiple creators, and administered and actively moderated by a team of officers within the US Army. For this research, I have used the CompanyCommand case study to critically examine the records continuum model as a framework for understanding the multiple and complex roles of records in community formation. Two definitions from archival scholarship serve to situate this exploration. British archival scholar Andrew Flinn’s definition of community delineates “groups who define themselves on the basis of locality, culture, faith, background, or other shared identity or interest.”⁸ Canadian archival scholar Terry Cook noted that people and groups with shared interests are coming together and “creating records [that] bind their communities together, foster their group identities, and carry out their business.”⁹ While both Flinn and Cook were describing the construction of memory, or of historical records with community archives as the outcome, their definitions are also flexible enough to describe active community recordkeeping systems such as CompanyCommand.

Used in many fields, case studies are a tool of inquiry in which the researcher develops an in-depth analysis of a case, event, activity, process, or one or more individuals.¹⁰ Cases are bound by time and activity, and researchers collect detailed information using a variety of data collection procedures over a period of time. A single case is appropriate when it is critical,

⁸ Andrew Flinn, “Community Histories, Community Archives: Some Opportunities and Challenges,” *Journal of the Society of Archivists* 28, no. 2 (2007): 153.

⁹ Terry Cook, “Evidence, Memory, Identity, and Community: Four Shifting Archival Paradigms,” *Archival Science* 13, no. 2–3 (2013), 95–120.

¹⁰ John W. Creswell, *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (Thousand Oaks: Sage, 2014), 14.

unique, or revelatory.¹¹ A study of a single case enables the researcher to investigate a phenomenon in-depth, enabling a rich description and revealing its deep structure.¹² This case study is a useful prism for examining how layered records and information move through space and time within and outside of a geographically and temporally distributed community and across a complex organization between peers; and how knowledge-generating practices may be shaped and reshaped by the actors, the information infrastructure, and the act of co-creating shared, multilayered records. This community recordkeeping system is useful as a case study because the records are active and the core work of the community is centered on the records. This does limit the direct applicability of this research to how the records continuum serves as a theoretical frame for examining the nature of records in communities where recordkeeping activities, the sharing of knowledge, and the exchange of written texts are at the core of their existence. Many online communities and communities focused on learning, such as CompanyCommand, have these records- and data-intensive characteristics. The central role of records in CompanyCommand provides a fertile ground for exploring the complexity of records and their roles within a community. The findings of this research will contribute to an understanding of the records continuum that can be extended in subsequent research to examine how this theory can be used to investigate the nature and role of records in a broader set of less records-intensive communities where records are only a by-product of other activities.

Using the CompanyCommand forum as a case study, this dissertation explores what the records continuum model exposes about the structure, topography, infrastructure, decision-

¹¹ Graeme Shanks and Nargiza Bekmamedova, “Case study research in information systems,” in *Research Methods: Information, Systems, and Contexts*, eds, Kirsty Williamson and Graeme Johnson (Pahran: Tilde Publishing, 2013), 180.

¹² Norman Blaikie, *Designing Social Research*. (Cambridge: Polity Press, 2010), 188.

making, assumptions, and ecology of a community. This has allowed me to examine the relationship between the community records creation context and the shaping, use, and representation of those records as they move through time and space. Using this case has allowed for extended exploration and critical analysis of the records continuum model through all four of its dimensions (create-capture-organize-pluralize), which are discussed in greater detail in Chapter 2. Themes that involve community building, leadership, social learning, organizational learning, and professional communities of practice will be discussed as factors that contribute to records creation within a community. By using the lens of continuum thinking to examine this case, I aim to unpack these multi-layered and complex narrative records that have different and evolving uses both simultaneously and over time and space.

Understanding the evolving nature of records created in virtual spaces that are not bounded by traditional notions of fixity, physicality, or temporality is essential for archivists, recordkeepers, and other memory workers that are grappling with contemporary digital records. Online community forums provide the place and space for these conversations, and can also be an avenue for examining the nature and visibility of community interaction in the virtual sphere. While the records continuum model is often raised as a possible tool for conceptualizing digital problems, more research is necessary to reveal challenges, opportunities, and issues about the continuum as a theoretical approach for examining community records and recordkeeping systems.

This study has also provided an opportunity to discuss not just knowledge sharing, but also the construction of personal, professional, and collective memory by and about experiences of war from the individual to the societal level. Additionally, the records continuum as a critical lens for examining this case has enabled the exploration of three linked issues contributing to the

construction of the community records: the individual accounts of deployment and activities in Iraq and Afghanistan that become linked through active participation in the forum space; the structure and community of CompanyCommand and how that has developed a culture of active records creation as a community building block; and the process of peer learning, teaching, and support through the acts of records creation, use, reactivation, and dissemination.

1.2 RESEARCH QUESTION

The central question framing this study is:

What can applying the records continuum to the Company Command case study reveal about the nature of the framework as a theory for understanding the role of records in a community?

1.3 SIGNIFICANCE OF THE STUDY

This dissertation outlines a project of study that is, at its core, centered on examining the records continuum as a framework for documenting and understanding records generated by a specific community. The results of this study focus on analysis of the records continuum and discussion of its use for describing complex records created by a multifaceted community. This dissertation examines three central findings raised by using the CompanyCommand case study to examine the records continuum, namely: that the origins and heritage of continuum thinking shape its use and are important to understand; that the complexities of the records continuum model and

continuum theory form a useful starting point for examining community co-created records but merit further research; and that additional work and discussion of the records continuum as a theory for exploring records at a community and societal level forms the next challenge for continuum research.¹³

By using an instrumental case study as a vehicle to examine what is highlighted and what is hidden by the records continuum approach, this dissertation provides a set of viewpoints that evaluate and explore the application of continuum thinking to complex co-created community records.¹⁴ Because the records continuum continues to be an important contribution to the recordkeeping and archival science literature, and particularly because of the possibilities that the theory holds for addressing complex records, organizations, and communities, it deserves additional discussion and much more analysis.

Examination of the structure, work, and records created by the CompanyCommand administrators and members could hold broader implications for many other community-created records, not just those related to the military and armed conflicts. The records and recordkeeping system are central to the ongoing work of the community, and could be described in complex, layered ways using a continuum approach, rather than a records life cycle approach to thinking about community recordkeeping.¹⁵ Because the work of the CompanyCommand community is

¹³ Discussion about records at the societal level is known as “pluralization.” The records continuum and pluralization will be discussed with much more depth in Chapter 2.

¹⁴ Education researcher Robert Stake defines instrumental case studies as studies used to understand something other than the case itself and can be used to study a larger phenomenon or support theory building or testing. In this instance, the case study about CompanyCommand provides an opportunity to explore the records continuum. *The Art of Case Study Research* (Thousand Oaks, CA: SAGE Publications, 1995), 3.

¹⁵ In the Society of American Archivists glossary of terms, archivist and educator Richard Pearce Moses defines the life cycle model as “the distinct phases of a record’s existence, from creation to final disposition.” The glossary also notes archivist Philip Bantin’s extended definition from

centered in the active records and recordkeeping system, essentially the records form the ongoing core of the community, not documentation of the community after the fact. This case study facilitates the opportunity to examine how the records continuum can provide a theoretical framework for examining the role of records in a records-intensive community where its records are in a repeating state of creation, use, and recreation. Most importantly, this study seeks to understand and critically analyze the application of the records continuum model as a useful theoretical approach for understanding sites of layered records that have resulted from collaborative, community work, and that have a variety of overlapping uses, interpretations, creators, and roles.

1.4 THEORETICAL FRAMEWORKS

Within the context of the dissertation's case study about records and recordkeeping in CompanyCommand, the records continuum is used as the main theoretical frame for analyzing and understanding the case. This analysis is supported by the concept of semantic genealogy, which provides an additional intellectual grounding for understanding the use and reuse of

his 1998 *Archival Issues* article, which states: "The life cycle model for managing records, as articulated by Theodore Schellenberg and others, has been the prominent model for North American archivists and records managers since at least the 1960s. . . . This model portrays the life of a record as going through various stages or periods, much like a living organism." Bantin further notes in his article that because the life cycle model tightly defines not just what happens to a record at each stage, but also who holds responsibility for managing the record, this depiction has contributed (particularly in North America) to the strict demarcation of responsibilities between the archives and records management professions.

See Richard Pearce Moses, *A Glossary of Archival and Recordkeeping Terminology*. (Chicago: Society of American Archivists, 2005), 232-233; Philip C. Bantin, "Strategies for Managing Electronic Records: A New Archival Paradigm? An Affirmation of Our Archival Traditions?" *Archival Issues* 23, no.1 (1998), 19.

records across time and space, and the concepts of communities of practice and the social theory of learning, which provide a way to understand CompanyCommand. I recognize that these theories, like all theories, are contested concepts with strengths, weaknesses, permutations, and multiple interpretations. All theories merit examination and questioning. I use the records continuum as a theoretical lens to examine community records and recordkeeping within the CompanyCommand case study. I then examine and question the performance of the records continuum as a theory for understanding community records and recordkeeping. This kind of examination and questioning of semantic genealogy and communities and practice and the social theory of learning is beyond the scope of this dissertation. These theories are used cautiously to help inform and frame the analysis of the CompanyCommand case study.

1.4.1 Situating Theory

Theory defines us. Theory motivates us. Theory explains us. Theory makes for better archives and archivists. But theory is not a monolithic series of “scientific” laws objectively true in all times and places, but rather an on-going, open-ended quest for meaning about our documentary heritage that itself is ever evolving.¹⁶

Professionals and scholars look to theoretical frameworks to help them to make sense of complicated experiences, and to make complex situations manageable, understandable, consistent, and meaningful. Theories, models, and perspectives emerge and evolve from human experiences. A core aspect of the archival profession is to understand, describe, preserve, and provide access to the records of groups, individuals, and institutions in order to contribute to the

¹⁶ Terry Cook, “Forward,” in John Ridener, *From Polders to Postmodernism: A Concise History of Archival Theory* (Duluth, Minnesota: Litwin Books, 2008), xix.

documentary record of our society.¹⁷ One important tool for framing this work is the use of theory.

Theory can be described as a tool that provides a structure for understanding complex situations by connecting elements that appear to be random, and organizing elements that are otherwise chaotic. Theory can be used to describe human behavior—to explain, to predict, and to generate new knowledge and research. In one broadly used metaphor, Paul Leedy compares the use of a theoretical framework to drawing and designing an architectural structure as a foundation prior to the construction of new knowledge.¹⁸

Theory should help scholars and professionals to develop a more comprehensive and precise understanding of institutions and related processes and dynamics in order to inform and transform practice.¹⁹ Models and theories are presented through literature, and informed by both practice and scholarly discourse. While theories and models are sometimes conflated in discussion and practice, models differ from theory in that they are designed to support practical application, discussion, and pedagogy. To extend Leedy's metaphor in the previous paragraph, models often form a practical structure for understanding theory, and in architectural work, sometimes a small-scale physical model is even built to reflect theoretical ideas in an accessible format.

¹⁷ Conversations regarding the development of archival identity, including those that discuss developing institutional practices that demonstrate a commitment to the archival mission (archives in response to administrative needs) or to the historical mission (archives as a response to researcher and historian needs) or to both, generally agree on these core aspects of archival work. For one example, Luke J. Gilliland-Swetland, "The Provenance of a Profession: The Permanence of the Public Archives and Historical Manuscripts Traditions in American Archival History," *American Archivist* 54, no 1 (Spring 1991), 134-135.

¹⁸ Paul Leedy, *Practical Research: Planning and Design* (New York: Macmillan, 1974), 79.

¹⁹ Michael W. Apple, "Constructing the "other": Rightest reconstructions of common sense," in *Race, identity, and representation in education*, Cameron McCarthy and Warren Crichlow, ed. (New York: Routledge, 1993), 25.

Theory development also occurs because of shifts in understanding. In essence, theory can be a description of the intersections and relationships between concepts and constructs. Formal criteria exist in other fields for critically evaluating theory. One initial approach used by many fields including psychology, education, and sociology includes education scholar Cecil Patterson's eight criteria for evaluating a theory: 1) that it should be important, not trivial; 2) precise and understandable; 3) comprehensive; 4) simple and parsimonious but still comprehensive; 5) able to be operationalized; 6) empirically valid or verifiable; 7) able to generate new research, new knowledge, and new thinking and ideas; and 8) useful to practitioners. However, it is likely that many theories will not meet all eight of the criteria.²⁰ The use of theory as a tool may also be reflexive. One way of using and understanding a theory is by evaluating it, both in relationship to new literature and research, and within professional practice, in order to stretch and refine both model and theory over time.²¹

1.4.2 The Records Continuum

This dissertation centers on the records continuum model developed by Australian recordkeeping scholar Frank Upward, an archival practitioner and later an academic who has played a leading role in shaping Australian archival theory in the late-twentieth and early-twentieth centuries and was one of the founders of the critically important Records Continuum Research Group at Monash University. The records continuum model aims to be an all-encompassing framework

²⁰ Cecil H. Patterson, *Theories of Counseling and Psychotherapy* (Oxford: Harper & Row, 1966), ix.

²¹ Marylu K. McEwen, "The Nature and Uses of Theory," in *ASHE Reader on College Student Development Theory*, Maureen E. Wilson and Lisa E. Wolf-Wendel, ed. (Boston, MA: Pearson, 2005), 20.

that casts the organizational recordkeeping process in four dimensions—create, capture, organize, and pluralize—and four axes—evidentiality, transactionality, recordkeeping, and identity. Upward’s articulation builds upon the work of Anthony Giddens, a twentieth-century British sociologist who has written influential works on the nature of sociology and frames for studying and understanding societies. Upward’s development of the records continuum was, in particular, influenced by Giddens’ structuration theory, which is a framework for considering the relationship between systems and individual actors and that recognizes that human activity is mediated by communication and organizational contexts.²² The essence of structuration theory in relationship to continuum thinking, as described by Gillian Oliver and Fiorella Foscarini, is the recognition of duality of agency and structure as constantly affecting and changing each other, which creates a theoretical foundation that recognizes the fluid and changing nature of information.²³ The records continuum suggests a set of concentric circles through which archivists can discuss the ongoing relationship between recordkeeping and the identities of actors involved with records creation, ranging from individuals to societies.²⁴

The case study within this dissertation is framed using the four dimensions of the records continuum (Create, Capture, Organize, Pluralize) as the lens through which to examine the case’s object of study (CompanyCommand). Through this framing, the CompanyCommand forum can be viewed as a recordkeeping system at the micro (documents and acts) level but also seen as

²² Anthony Giddens, *The Constitution of Society: Outline of the Theory of Structuration*. Berkeley: University of California Press, 1984.

²³ Gillian Oliver and Fiorella Foscarini, *Records Management and Information Culture: Tackling the People Problem*. (London: Facet Publishing, 2014), 12.

²⁴ For a diagram of the records continuum with these concentric circles, see Chapter 2. On activity theory in the archival literature, see Frank Upward, “The records continuum.” In Sue McKemmish, Michael Piggott, Barbara Reed, and Frank Upward, ed. *Archives: Recordkeeping in Society*. Wagga Wagga, N.S.W.: Centre for Information Studies, Charles Sturt University (2005), 208.

extending all the way up to the macro, or societal memory level. Using the create-capture-organize-pluralize pattern, the records continuum model can serve as a framework for approaching what Upward and McKemmish describe as “...issues relating to the postmodern condition—a professional landscape filled with people operating in different spacetime universes but drawing on a common professional knowledge base and similar skill sets.”²⁵ By using the records continuum as a theoretical frame to analyze the case study, the forum may be understood not just as an information system that supports the community of Army officers that use CompanyCommand, but also as a system of records that documents this community of Army officers. Using the records continuum as the theoretical tool for this case study provides the opportunity to examine what the records continuum can say and illuminate about community records, particularly those in records-intensive communities.

1.4.3 Semantic Genealogy

While not a core theoretical framework for this research, this study draws inspiration from other archival scholarship, including Eric Ketelaar’s notion of semantic genealogy.²⁶ Ketelaar argues that “each activation leaves fingerprints that are attributes to the archive’s infinite meaning. The archive is therefore not static, but a dynamic, open-ended process. All these activations are acts of cultivation determining the record’s meaning... Each activation is also a (symbolic)

²⁵ Frank Upward and Sue McKemmish, “Teaching Recordkeeping and Archiving Continuum Style,” *Archival Science* 6, no. 2 (June 2006): 230.

²⁶ Eric Ketelaar, “Tacit Narratives: The Meaning of Archives,” *Archival Science* 1, no.1 (2001): 131-141.

appropriation: using the records for one's own purposes and finding one's own meaning in it."²⁷ By considering instances of records creation and context within the CompanyCommand forum and using the records continuum to trace the activations and reuse of these records within a case study about community records, we can think more fully about records that hold multiple purposes and meanings over space and time. This aligns with the fundamental insight (and nascent origins of the records continuum) of Peter Scott, an influential archivist at the Australian Commonwealth Archives, who, in 1966 argued for the consideration and description of multi-relational contexts as an intellectual container.²⁸ Scott's recognition of the importance of context and the interrelated nature of records contributed to the creation of the series as a basic building block of the Commonwealth Archives Office. Through the efforts of Scott and Commonwealth Chief Archives Officer Ian Maclean, the Commonwealth Records Series system (CRS) was implemented in Canberra in 1966, forming the basis for an Australian archival school of thought regarding the management and intellectual control of current records.²⁹ This contextual approach also aligns with archival thinkers such as Terry Cook who use a postmodern perspective to explore the authorial intent and functional context that lies behind the record.³⁰ These archival ideas are useful for considering the recordkeeping implications of systems that structure the

²⁷ Eric Ketelaar, "Tacit Narratives: The Meaning of Archives," *Archival Science* 1, no.1 (2001): 131-141.

²⁸ Peter J. Scott, "The Record Group Concept: A Case for Abandonment," *American Archivist* 29, no.4 (1966): 493-504.

²⁹ See Adrian Cunningham, "Archival Institutions." Sue McKemmish, Michael Piggott, Barbara Reed, and Frank Upward, ed. *Archives: Recordkeeping in Society*. Wagga Wagga, N.S.W.: Centre for Information Studies, Charles Sturt University (2005), 36; Mark Waglund and Russell Kelly, "The Series System—A Revolution in Archival Control." In Sue McKemmish and Michael Piggott, ed. *The Records Continuum*. Clayton: Ancora Press (1994), 131.

³⁰ Terry Cook, "What Is Past Is Prologue: A History of Archival Ideas Since 1898, and the Future Paradigm Shift," *Archivaria* 43 (Spring 1997) 17-63.

transfer of human communication and knowledge, and the co-creation and continued activation of narratives, records, and knowledge shared as part of the information system.

1.4.4 Communities of Practice and the Social Theory of Learning

The design of this study has also been supported and supplemented by the use of theoretical frameworks from education, professional military literature, and sociology to understand the context of the CompanyCommand community. Learning as a participatory social practice is the focus of communities of practice, which form the site(s) where collective learning is accumulated. Communities of practice theory was a central part of educational anthropologist Jean Lave and sociologist Etienne Wenger's work, *Situated Learning: Legitimate Peripheral Participation*, where they identified "legitimate peripheral participation" as the way that newcomers learn new practices from other members and are in turn shaped by those practices they have learned.³¹

Wenger went on to expand his theories of social learning in later work. The communities of practice (CoP) concept as stated by Wenger is defined as "groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis."³² Wenger and Lave theorized communities of practice through ethnographic research that included participant observation and

³¹ Jean Lave and Etienne Wenger. *Situated Learning: Legitimate Peripheral Participation* (Cambridge: Cambridge University Press, 1991).

³² Etienne Wenger, Richard A. McDermott, and William M. Snyder. *Cultivating Communities of Practice: A Guide to Managing Knowledge* (Cambridge, MA: Harvard Business Press, 2002), 4.

interviews. In the course of their field research they identified multiple viewpoints within CoPs, which provided the basis for their claim that CoPs are complex and multilayered.³³

The CompanyCommand founders and administrators use the community of practice concept articulated by Wenger and Lave as a way to conceptualize and explain their work. Wegner and Lave provide the framework by which the administrators understand CompanyCommand as a place for peer-led learning and leadership forms. In fact, the forum's founders and administrators have met and collaborated with Wegner on their community of practice work.³⁴ Seeing CompanyCommand as a community of practice is central to the forum's founders and administrators' understanding of the work that they do. While the concept of communities of practice is used and examined in many fields (including education, library/information science, and archival scholarship), the purpose of this dissertation is not to interrogate or uncover new ground related to the communities of practice theory.³⁵ Because of its use by the CompanyCommand administrators, it is described in this dissertation as a framework valued by the forum's founders and administrators. Having the grounding of communities of practice theory as framed by Wegner and Lave helps with understanding the conceptualization, founding, and organization of CompanyCommand.

Related to the purpose of knowledge sharing within a community, Wenger's social theory of learning places social participation as an important process in learning and knowing, and

³³ Elisabeth Davis, "Communities of Practice." in *Theories of Information Behavior*, Karen E. Fisher, Sanda Erdelez, and Lynne McKechnie, ed. (Medford, NJ: American Society for Information Science and Technology, 2006), 106.

³⁴ Nancy Dixon et al. *Company Command: Unleashing the Power of the Army Profession* (West Point, NY: Center for the Advancement of Leader Development & Organizational Learning, 2005), 166-168.

³⁵ For one example of its use in archival science, see Karen F. Gracy, "Documenting Communities of Practice: Making the Case for Archival Ethnography." *Archival Science* 4, no. 3/4 (December 2004): 335-65.

frames this thinking around four linked concepts: 1) meaning, or learning as experience; 2) practice, or learning as doing; 3) community, or learning as belonging, and 4) identity, or learning as becoming.³⁶ Both social learning theory and the communities of practice concepts are used here as secondary, descriptive frameworks that help to explain the intent and structure of CompanyCommand, and in order to shed light on the utility of the records continuum model for explaining the forum.

This connects with the community-based work of British archival scholar Andrew Flinn, who underscores the importance of agency and self-identification when working with the records of a community.³⁷ This also resonates with what Canadian archival scholar Terry Cook outlined in calling “community” the fourth archival mindset or paradigm, which takes as a focus “activist archivists” who foster “participatory archiving, collaborative evidence, and memory making.”³⁸ Cook’s commentary suggests that one increasingly important role for archivists may be as facilitators of community recordkeeping. The decision to use these descriptive frameworks for bounding this research is firmly based in an understanding of the nature and structure of the

³⁶ Etienne Wenger, *Communities of Practice: Learning, Meaning, and Identity* (Cambridge University Press, 1999), 5.

³⁷ Andrew Flinn, “Community Histories, Community Archives: Some Opportunities and Challenges,” *Journal of the Society of Archivists* 28, no.2 (2007): 153. Of course many others in the archival and recordkeeping studies are discussing a wide range of work relevant to communities and their records. A sampling of these includes: Sue McKemmish, Anne Gilliland-Swetland, and Eric Ketelaar, “‘Communities of Memory’: Pluralising Archival Research and Education Agendas,” *Archives and Manuscripts* 33, No. 1 (Spring 2005), 146-175; Jeannette Allis Bastian, *Owning Memory: How a Caribbean Community Lost its Archives and Found its History* (Westport, CT: Libraries Unlimited, 2003); Anne J. Gilliland and Andrew Flinn. “The Wonderful and Frightening World of Community Archives: What Are We Really Talking About?” in *Proceedings of CIRN 2013 Community Informatics Conference: ‘Nexus, Confluence, and Difference: Community Archives meets Community Informatics,’* Prato, Italy, 28-30 October 2013 (CIRN: 2014).

³⁸ Terry Cook, “Evidence, Memory, Identity, and Community: Four Shifting Archival Paradigms,” *Archival Science*, 13, no. 2–3 (2013), 21.

community as constructed and perpetuated by those who shape, administer and use the CompanyCommand site.

1.5 CASE STUDY: COMPANY COMMAND

While the military has specific professional programs and structures to train officers, the establishment and continued growth of the CompanyCommand forum suggests a gap in the leadership and professional training of military officers that was perceived by many junior- and company-grade officers in the 1990s and 2000s. This view that a gap existed in knowledge transfer among officers was tacitly acknowledged by the Army when it officially began to sponsor CompanyCommand in 2003. By voluntary participation (active or peripheral) in this information system and community of practice, junior officers are demonstrating and filling a need for active, ongoing peer discussion that engages with issues that are commonly encountered in their professional lives. These records represent post-action learning and reflection on the part of officers that are responsible for sending men and women into battle.³⁹ The community of practice, as defined for this dissertation, as company-grade officers and commanders informally talking about their profession, existed prior to this space; however, the use of the forum has extended and expanded both the conversations and the ability to continue building and drawing upon the shared knowledge within the community.

³⁹ Post-action learning, exemplified in After Action Review (AAR) is a formalized and common process of post-battle discussion that is generally used in a “lessons learned” capacity for soldier education. The use of the forum for similar, informal conversations suggests that the process of reviewing decisions with peers is a generally helpful exercise and represents a type of learning that is already familiar to members.

The specific use of the community of practice (CoP) concept by forum administrators as a descriptive framework for explaining the work of the site also demonstrates their awareness of knowledge management and other community practices across disciplinary boundaries. Familiarity with the framework that the forum leaders use to describe and support the community is useful for understanding the identity, values, and practices that appear in the records. Careful consideration of the layered purposes of this community is merited for understanding the ways that the co-created content will be used and understood.

Situated within a dynamic and rapidly changing environment, the location of knowledge in the military has, at least partially, evolved from a top-down model to one that learns from the edges of the organization.⁴⁰ Examining the roots, establishment, and continued growth of the CompanyCommand professional forum and the dissemination of the community of practice and knowledge management concepts within the US Army may reveal new directions about organizational shifts that impact knowledge sharing, learning, and the creation of records.

Most importantly, the CompanyCommand case study is useful from a recordkeeping perspective because records are central to the work of this online community. The active records and recordkeeping system form the core of the community's work, and the records are reactivated and multilayered over time and space. This affords an examination of the records continuum as a useful framework for understanding active community recordkeeping systems—

⁴⁰ This set of conversations is reemerging again as the Army again seeks to learn (and relearn) lessons from the wars in Iraq and Afghanistan. One recent look at this is Chad C. Serena, *It Takes More than a Network: The Iraqi Insurgency and Organizational Adaptation* (Stanford, California: Stanford University Press, 2014). The entire book is useful as a starting point, but particularly Chapter 3, "The Iraqi Insurgency—Organizational Outputs, Learning, and the Adaptive Cycle," pages 71-96.

particularly records-intensive communities—and not only community archives that are created for memory or other purposes secondary to the goals of the community.

1.5.1 Background of CompanyCommand

It all started over a beer on the front porch.

Accounts of the beginning of the CompanyCommand begin almost invariably with recollections of informal, front porch conversations after work that included then-MAJ Tony Burgess and then-MAJ Nate Allen.⁴¹ Former West Point classmates stationed in Hawaii from 1998 through 2000 and leading separate US Army units, they spent a lot of time discussing leadership, lessons learned, and new approaches to the professional challenges that they were encountering as company commanders. A large part of these conversations centered on the practice of mentoring the junior officers that they were responsible for nurturing. By 2000 they realized that their conversations had essentially functioned as peer-to-peer informal training: helping each other to become better leaders, mentors, and commanders. Even as their time as company commanders drew to an end, Burgess and Allen continued to think about a core question, “What is the resource we wished that we had when we were learning to be in command?”⁴² The desire to connect with others in the profession that shared a common ethos

⁴¹ The foundations of the forum are recounted by several authors, including: Nancy Dixon et al. *Company Command: Unleashing the Power of the Army Profession* (West Point, NY: Center for the Advancement of Leader Development & Organizational Learning, 2005); Roland Deiser, *Designing the Smart Organization: How Breakthrough Corporate Initiatives Drive Strategic Change and Innovation* (San Francisco: Jossey-Bass, 2009); and “Breakthrough Ideas for 2006 – Harvard Business Review.” *Harvard Business Review*. <http://hbr.org/2006/02/breakthrough-ideas-for-2006/ar/1>. (Accessed February 19, 2013.)

⁴² COL Tony Burgess, conversation with author, MAJ Jason Wayne, and MAJ Jonathan Silk, October 17, 2012.

and a passion for supporting and mentoring soldiers was the driving force behind the creation of their first book in 2001, *Taking the Guidon: Exceptional Leadership at the Company Level*, which was Burgess and Allen’s attempt to document and share the knowledge that they had built through informal conversations with many others during their tenure as commanders.⁴³

The virtual front porch endures as a metaphor that is still used on the CompanyCommand site. What has traditionally been a set of informal conversations that happen offline in backyards and at the officer’s club about negotiating and navigating professional challenges was suddenly able to continue and grow in a new online space through the actions of a few interested and dedicated officers. Conversations that were largely limited between officers who were deployed together on the same base at the same time now longer had the same temporal and geographical constraints. The experiences of Burgess and Allen in connecting informally with past, present, and future company commanders to share knowledge and guide the next generation of officers was the basis for the mindful design of the original forum, which focused on the principle that while the site is important, the “conversation is the core technology.”⁴⁴ The extension of the conversation and community over time and space is at the center of CompanyCommand.

The definition of community that is used by the officers and forum administrators for the site is one that encompasses the voluntary congregation of enthusiastic officers in a particular space to participate and learn from each other in an active, engaged, intentional way. Starting in 2003, as the administrative team continued to refine their ideas about CompanyCommand, they reached out to others in the business, educational, and scholarly communities for discussion.⁴⁵

⁴³ Nate Allen and Tony Burgess, *Taking the Guidon: Exceptional Leadership at the Company Level*. (West Point, NY: Center for Company-Level Command, 2001).

⁴⁴ COL Nate Allen, conversation with author, February 26, 2013.

⁴⁵ LTC Peter Kilner, conversation with author, January 6, 2014.

The deliberate adoption of the community of practice (CoP) concept from academic, education, and business literature by forum leaders as both explanation and guiding path is an entry point for understanding the intentions of the users, creators, and supporters of the forum.

Launched in March 2000, the CompanyCommand professional online forum was supported by a group of 12 officers, volunteering to run the site on nights and weekends. In the first month, the site received 427 unique visits. Initially, the site started with a flat model of dissemination—members would submit contributions once per month, and the webmaster would upload them. This reflected previous practices of one-way knowledge sharing common within army professional circles, such as the longtime Army newsletter *The Mailing List* (now *Infantry* magazine). As word of the site spread, the number of hits soared. In January 2001, the site received 12,000 unique visitors; 24,000 in January 2002, and one year later, 46,000 unique visitors.⁴⁶ The later addition of threaded forums to the site to permit two-way conversation was an extension of the vision statement for Company Command, which is “Every company commander worldwide connected in a vibrant conversation about growing and leading combat-ready units.”⁴⁷

Peer-to-peer informal learning between junior officers, occurring horizontally across the organization was a counter-cultural idea for the Army. While senior leaders above the site

⁴⁶ Peter G. Kilner, “The effects of socially relevant representations in content on members’ identities of participation and willingness to contribute in distributed communities of practice.” (PhD. diss, The Pennsylvania State University, 2006.)

⁴⁷ The site, including threaded forums, was modeled after a hunting and outdoors site that included the lively and conversational exchange of expertise and practice. Because commercial threaded forum software was not available as an easily integrated product in 2000 and not viable for a small personal webhost, forums were not a site component until Company Command was moved to servers at the United States Military Academy in West Point, New York. At that time, forum leaders researched and formed a partnership with one of the leading companies in online community software.

administrators were aware that the site existed as an informal learning space, the hierarchical practices of doctrine creation and training programs have not been predominately open to incorporating learning and feedback from below. As CompanyCommand matured and grew, the volunteer site administrators continued to make a passionate case to their superior officers for what they were doing, and how the site contributed to their professional work as officers and leaders in the US Army. Demonstrating their good intentions and keeping the site sharply focused on professional issues helped them to build a foundation of trust between not just site members, but also between the site and the organizational leaders within the Army, which recognized the benefits of this effort.

The formal custodial transfer of the site to the Army, the move of the CompanyCommand forums in 2002 to a .mil address behind the Army firewall, and the later establishment of the Center for Advancement and Leader Development and Organizational Learning (CALDOL) at the United States Military Academy in 2005 as a “support cell” for the forum, demonstrated that the value of this online community of practice had been recognized by Army leadership. According to CompanyCommand forum leaders, this move from unofficial website to official sponsorship reflects growth and understanding of the value that this peer leadership and education initiative brought to officers.⁴⁸ CompanyCommand and a sister site, PlatoonLeader, have continued to support the advancement of junior officers as a part of the Army training and leadership development infrastructure.

Based on the successful growth and early development of Company Command, other professional military forums quickly emerged. Other official forums, such as NCO-net and S3-XO Net, are part of the Army’s Battle Command Knowledge System (BKCS) initiative, which

⁴⁸ COL Nate Allen, conversation with author, February 26, 2013.

exists under the umbrella of the Army Operational Knowledge Management program, established in 2004. The use of online professional forums as knowledge management tools to support peer-to-peer learning and the transfer of tacit knowledge has been an emerging topic of discussion over the past decade in the related professional military literature.⁴⁹

1.5.2 The Career of a Junior Army Officer

The complex and rapidly shifting ground of the modern battlefield means that company commanders must stay abreast of many changes all at once. Company commanders have the tasks of enacting policy, carrying out tactical implementation, and putting strategy into immediate practice. They are the interface between strategic intent and operational execution. Within the US Army, the company forms the basic unit of organization. Every soldier is assigned to a company, and the company commander holds responsibility for the training and welfare of those soldiers. Company commanders are usually captains, with about 4 to 8 years of experience and are typically responsible for 100 to 200 soldiers. A company is a cohesive tactical unit comprised of three to five platoons, and is capable of performing standalone battlefield operations.⁵⁰ Within the US Army's force of approximately 500,000 soldiers, there are about

⁴⁹ Recent examples in the professional military education literature include a thesis on establishing an online community of practice for naval intelligence officers by Raymond E. Kendall and Kevin J. McHale, "Evolution Advancing Communities of Practice in Naval Intelligence" (Monterey, Calif.: Naval Postgraduate School, 2003) and a report by MAJ Thomas Woodie. *Learning Together: The Role of the Online Community in Army Professional Education* (Fort Leavenworth, KS: US Army Command and General Staff College, 2005).

⁵⁰ This general description of Army organizational units covers the contemporary battles in Afghanistan and Iraq. Additional description and an organizational diagram may be found on the US Army website: <http://www.army.mil/info/organization/unitsandcommands/oud/> (Accessed March 19, 2013).

5,600 current company commanders.⁵¹ Their performance can be the determining factor in any military campaign, and the success of any operation depends on their judgment. While generals might craft a brilliant overarching strategy, it will fail if company commanders and their teams are not able to execute effectively. Success as a company commander is essential to a continued Army career, and most commissioned officers spend one to two years in the position, before rotating on to another assignment.

Strategies for operating in a volatile environment are rarely perfect. This unpredictability can be an opportunity for company commanders and their teams on the ground to figure out a better plan and to share the results with other commanders relatively quickly. The creation and sharing of solutions “on the fly” and rapid movement of information can inform and affect overall strategies that rely on intelligence from the ground. The traditional “schoolhouse” model of sending officers through rounds of various training courses for ongoing leadership development may not adequately meet their educational needs in a dynamic combat environment. One recent report, surveying over 450 officers, found that leader development tends to be informal, personality-driven, and dependent on the abilities, experience, and inclinations of the unit commander, and recommended shared leader development tools over traditional models of hierarchical, top-down education.⁵² Another study, focused on evolving operational demands and structural transformation within the Army, and the effects of those changes on leader development, noted that considerably more should be done to prepare officers

⁵¹ This number was received directly from Army Human Resources Command (HRC), Fort Knox, and was accurate as of March 2013.

⁵² Peter Schirmer, James C. Crowley, Nancy E. Blacker, Rick Brennan, Henry A. Leonard, J. Michael Polich, Jerry M. Sollinger, and Danielle M. Varda. *Leader Development in Army Units: Views from the Field* (Santa Monica, CA: RAND Corporation, 2008).

for a dynamic and challenging operational environment.⁵³ Peer-to-peer leadership development poses a challenge to traditional learning models, but also presents solutions to maintaining relevance in a rapidly changing environment.

American military operations have shifted dramatically over the past decade during the two wars in Iraq and Afghanistan. The challenges posed by engagements in Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF) have forced officers to learn and adapt to using counterinsurgency strategies to defeat highly adaptive foes in extremely complex and ambiguous environments.⁵⁴ The Army's intended transition from a Cold War total force to an organization equipped for nimble warfare as well as operations other than war (OOTW) has not been an easy or smooth one.⁵⁵ However, efforts like CompanyCommand are illustrative of the creative efforts that some members of the Army are using to transform the organization for new information challenges, perhaps foreshadowed in 1995 by what GEN Sullivan (Ret) referred to as a need for "progressive growth."⁵⁶

⁵³ Henry A. Leonard, J. Michael Polich, Jeffrey D. Peterson, Ronald E. Sortor, and S. Craig Moore. *Something Old, Something New: Army Leader Development in a Dynamic Environment* (Santa Monica, CA: RAND Corporation, 2006).

⁵⁴ Grappling with counterinsurgencies has been a continuing challenge for the US military throughout the twentieth and twenty-first centuries. After engaging in counterinsurgency warfare in the Vietnam War, many elements of the US military wanted to avoid such engagements and focus on total force warfare. Thus the US military had to "relearn" counterinsurgency lessons during OIF and OEF. See, for example: David Fitzgerald, *Learning to Forget: US Army counterinsurgency doctrine and practice from Vietnam to Iraq* (Stanford, CA: Stanford University Press, 2013) and Thomas X. Hammes, *The Sling and the Stone: On War in the 21st Century* (St. Paul, MN: Zenith Press, 2004).

⁵⁵ For an account of the tension within the US Army of senior leaders conceiving of the service as primarily a Cold War force geared to fight communist armies in Europe and orienting itself to fight a counterinsurgency in Vietnam, see Andrew Krepinevich, *The Army and Vietnam* (Baltimore: Johns Hopkins University Press, 1986).

⁵⁶ In 1995, GEN Sullivan (Ret.) discussed the need for transformative changes in the face of the information age. Since then, the Army has undergone even more seismic shifts as it has learned to fight different kinds of war. See Gordon R. Sullivan and James M Dubik, *Envisioning Future*

During this time, and driven by the needs of soldiers and leaders, the US Army experienced profound organizational shifts that led to changes in how operations were supported and conducted in Iraq and Afghanistan. In counterinsurgency (COIN) operations, the tactical planning paradigm is upended, meaning that lower-ranking officers on the ground are planning operations and interacting with the local population. This is in contrast with conventional operations traditionally led and directed by senior leaders with years of knowledge and tactical experience. How do junior officers in a complex environment learn to successfully navigate and execute the kinds of decisions that were previously made by senior leadership? Adapting to new operational realities that draw on instant communication and dynamic decision making, the use of peer learning across the organization and professional forums by officers as information systems to navigate and negotiate new landscapes is both catalyst and emblematic of the shifting needs and responses within the organization. Using this informal community forum, the CompanyCommand leaders have attempted to establish structure and discipline within the process of informal knowledge transfer between junior officers. How the officers and the organization have used the community as a tool to adapt and learn from the narratives of others, the understanding of the participants about the community and space that drives the creation and reuse of records, and the role these co-created, co-constructed, multi-layered narrative records play is another key piece of this case study.

Warfare (Fort Leavenworth, Kansas: U.S. Army Command and General Staff College Press, 1995), Chad C. Serena, *A Revolution in Military Adaptation the US Army in the Iraq War* (Washington, D.C.: Georgetown University Press, 2011), and more recently, Chad C. Serena, *It Takes More than a Network: The Iraqi Insurgency and Organizational Adaptation* (Stanford, California: Stanford University Press, 2014).

1.6 DESIGN OF THE STUDY

This dissertation critically examines the records continuum as a theory, exploring how it performs as a theoretical framework in a community records case study. This study uses a qualitative single-case study approach with embedded units of analysis, which is discussed in greater detail as part of the methodology chapter. The design of this study is primarily guided by the methodological approaches described in social scientist Robert K. Yin's *Case Study Research: Design and Methods*, and in educational scholar John W. Creswell's *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*.⁵⁷ The decision to use a qualitative approach for this work is driven by the nature of the research question, which concentrates on using the case study and data sources as a way to critically examine the records continuum as a theory.

As described by educational scholar John W. Creswell, qualitative research is an approach for understanding the meaning that “individuals or groups ascribe to a social or human problem.”⁵⁸ The research process involves emerging, iterative questions and procedures, data collected in the participant setting, analysis of the data that inductively builds from the particular instance to general themes, and the researcher making interpretations based on the data.⁵⁹

⁵⁷ Robert K. Yin, *Case Study Research: Design and Methods* (Thousand Oaks: Sage Publications, 1994); John W. Creswell, *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*, 4th ed. (Thousand Oaks: Sage Publications, 2014).

⁵⁸ John W. Creswell, *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*, 4th ed. (Thousand Oaks: Sage Publications, 2014), 110.

⁵⁹ John W. Creswell, *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*, 4th ed. (Thousand Oaks: Sage Publications, 2014), 184.

Researchers selecting this approach have decided to focus on individual meaning, an inductive style, and the importance of carefully rendering the complexity of a situation.⁶⁰

A qualitative methods approach is appropriate for this study, which focuses on understanding *how* members of a specific community record, share, and reuse their experiences, and *what* those acts of records creation and use highlight and/or reveal about the application of the records continuum model.

To examine this case study from a different angle, a quantitative approach could have revealed different insights about the decisions and practices of forum users. For example, previous action research using the CompanyCommand forums has quantitatively measured viewer activity related to naming and use of “Leader Cast” videos, suggesting the value of active moderation and curation of content within the forum sphere.⁶¹ However, a quantitative approach does not fully address the choices related to understanding community participation and records creation that are significant to knowledge transfer. Therefore, while a quantitative approach to this case study could possibly highlight different factors that are important to studying this forum, the qualitative approach outlined in the study design has been chosen in order to address the research questions in a rich and descriptive manner.

The case study includes four embedded units of analysis. The first unit of analysis is the CompanyCommand forum as a holistic complex system consisting of the underlying technology tool, forum posts, sets of posts that collectively compose forum threads, the rules and processes

⁶⁰ Norman Blaikie, *Designing Social Research*, 2nd ed. (Cambridge: Polity Press, 2010), 191.

⁶¹ Jonathan Silk, “Casting Knowledge: Building an Online Community of Knowledge with Leader Cast” (MA thesis, Pepperdine University, 2012). One central aspect of this quantitative study examined the naming and metadata (mostly titles) created by site administrators and team leaders for leadership videos and interviews, finding that better (and more accurately, creatively named) titles tended to encourage viewing, participation and feedback among members.

that govern the administration and use of the forum, and the users and administrators of the forum. The second embedded unit of analysis is the set of 97 articles in *ARMY Magazine* based on CompanyCommand forum threads that ran from March 2005 through December 2013. The forum administrators constructed these articles from a range of forum discussions centered on particular themes. The third unit of analysis is a set of four purposively sampled forum threads that are traced backwards from the *ARMY Magazine* articles. The fourth unit of analysis is a set of semi-structure interviews of five forum founders and administrators.

This dissertation focuses on the active record. This is not necessarily a study of memory, but one of relationships. It is not necessarily about history, but about active recordkeeping structures and practices, and the why and how of co-recorded human records within community spaces. That said, it does not mean that history or memory are not present in the CompanyCommand community. This dissertation looks at people through active records, and in finding their stories, identities, and experiences as they are folded within shared systems, decisions, and values, we can learn more about how they use records and how active recordkeeping supports their goals. This dissertation is about communities, but the community's purpose is not to create an archive, or even necessarily a record. It is to continue to use the power of relationships and the power of the record as force multipliers to accomplish their professional goals.

1.7 STUDY LIMITATIONS

This dissertation will focus on several specific sets of interrelated records created by and about members and administrators of CompanyCommand in their capacity as American professional

military officers and past, present, and future company commanders. This focus excludes other bodies of records, such as those created in similar Army or other military forums (such as NCO-net or S3-XO Net), other forms of related community recordkeeping, and other accounts of war experiences in Iraq and Afghanistan.

The focus of this study is centered firmly on examining the records continuum as a theoretical frame for understanding the interactions between people and records, and the ways that these interactions shape both people and records. The forum members are using this site during a particular phase in their professional life and interactions with these records is only one small part of the experiences and education shaping their identity as a junior officer. Keeping this transitory nature of the community's membership in mind, as part of discussing the ways that the records shape the administrators and creators, which may limit insights related to individual records and narratives of members.

This dissertation is necessarily based on a limited selection of records due to the constraints of travel, time, and access. For example, I only had full access to the forum while visiting the US Military Academy in West Point, New York for the purposes of data gathering; however, I have included a detailed description and analysis of the site and forum as part of the dissertation in order to situate the reader. The selection of a limited sample of interactions may restrict the potential understanding that could come from a more in-depth observation of participants' record creating behavior within the forum.⁶² Further, the use of selected posts that have been chosen, collected, and published by CALDOL staff members has the function of privileging those accounts over others that were not selected for publication. Due to the

⁶² This is also limited by the constraints of what members decided to post on the site for viewing and as a construction of how they wish to be identified in that space.

contextual nature of the forum as an informal space by and for junior US Army officers at a particular stage in their careers, this study may uncover different results than if examining posts from senior officers in the Air Force, or midshipmen at the U.S. Naval Academy. Because this is an in-depth case study of a single site, the findings are not generalizable to the broader population of online forums, including some military officer sites as NCO.net, or S3-XO.net. This is congruent with qualitative research, in which the goal is usually to allow for the transferability of some findings to other situations.⁶³ Some findings may be transferrable. However, this dissertation uses a case study to make a claim about a theory (the record continuum) and not a population (online communities). A study of this case may highlight and obscure different facets and capabilities of the records continuum model than studies of different possible cases. However, I believe that the characteristics, genesis, evolution, layers, and multiple ways of reading this case outweigh the limitations when considering this case study as a lens for examining the records continuum model.

1.8 DEFINITIONS

These definitions are included to serve as a starting point for discussion throughout the dissertation.

Recordkeeping system: ISO 15489, the international standard on records management, defines a recordkeeping system as “an information system, which captures, manages, and

⁶³ Alison Jane Pickard, *Research Methods in Information*, 2nd ed. (Chicago: Neal-Schuman, 2014), 21.

provides access to records through time.”⁶⁴ This definition, while broad, serves as a useful starting point for discussing community-based recordkeeping.

Information system: The glossary published by the Society of American Archivists defines this as “an organized set of procedures and techniques designed to store, retrieve, manipulate, analyze, and display information.”⁶⁵

Record: For the purposes of this dissertation, I am using Sue McKemmish’s definition of records:

“Recordkeeping and archiving processes fix documents which are created in the context of social and organizational activity, i.e. human interaction of all kinds, and preserve them as evidence of that activity by disembedding them from their immediate context of creation, and providing them with ever broadening layers of contextual metadata. In this way they help to assure the accessibility of meaningful records for as long as they are of value to people, organisations, and societies—whether that be for a nanosecond or millennia.”⁶⁶

Recognizing that there are many definitions of records in the archival literature and that this is a contested concept in the field, I am employing McKemmish’s definition because it is relevant to continuum thinking. In this understanding, records are fixed in the creation moment, but continue to evolve over time and space. When discussing the case study, I am using this definition because it works to describe the complexities of the case. However, in later discussion about the qualities of the continuum as an analytic framework, I will also explore and interrogate the underlying assumptions of this definition.

My use of this definition of records is informed by Terry Cook’s approach for considering the context of records creation as “focusing on the context behind the content; on the

⁶⁴ *Information and Documentation- Records Management- Part 1: General*. ISO 15481-1:2001. Geneva, Switzerland: ISO.

⁶⁵ Richard Pearce-Moses, *A Glossary of Archival and Records Terminology*. Chicago: Society of American Archivists.

⁶⁶ Sue McKemmish, “Placing Records Continuum Theory and Practice,” *Archival Science* 1, no. 4 (December 2001): 333–59.

power relationships that shape the documentary heritage; and on the document structure, its resident and subsequent information systems, and its narrative and business-process conventions as being more important than its informational content.”⁶⁷Cook attempts to consider both the evolving and accruing record and its situating contexts and relationships. Situating the record creation in relationship to its organizational context, its structure, and the systems and infrastructures that shape, store and provide access to the record is important for understanding the record and understanding the record in the context of communities like CompanyCommand.

Records continuum: Records continuum theory as conceived by Australian archival scholar Frank Upward provides a framework for making sense of complex recordkeeping concerns in relationship to societal structures. Upward’s depiction of the records continuum as a model has four dimensions (create, capture, pluralize, and organize) and four axes (recordkeeping, evidential, transactional, identity) that serve as tools for identifying various states, stages, and uses of recordkeeping and the development of the organizations where the records originate and reside. While records continuum theory is often described using a version of the flat Upward paper-based, two-dimensional model, theory and model are not interchangeable terms. This dissertation will discuss both the theory and the depiction of the theory using the Upward visual model. Continuum thinking places emphasis on records as

⁶⁷ Terry Cook, “Fashionable Nonsense or Professional Rebirth: Postmodernism and the Practice of Archives,” *Archivaria* 51 (Spring 2001): 25. This is also relevant to thinking about evolving practices for following connections in evolving records and documentation. One example of this is the use of trace ethnography for revealing “invisible” infrastructures for online interactions at the network level. This method has been used and discussed by researchers seeking to understand the interactions of online vandals in distributed online sociotechnical systems through their documentary traces. For an introduction to trace ethnography, see R. Stuart Geiger and David Ribes, “Trace Ethnography: Following coordination through documentary practices.” In *Proceedings of the 44th Annual Hawaii International Conference on Systems Sciences* (January 2011).

continually accruing additional layers of “ever-broadening metadata,” which resonates with the nature of multilayered contextual records through time and space.⁶⁸ Records do not move through the continuum in a linear fashion, but can (and do) coexist at multiple dimensions and axes through space and time.

Visualization: a visual representation created to describe or depict conceptual or other elements in order to allow users to explore and understand complex structures. This definition has been formed here to incorporate concepts from the fields of information science, sociology and human-computer interaction. American philosophy professor Laura Perini, whose research focuses on the uses of representations by scientists to communicate concepts, notes that visual representations, like written or spoken sentences and numerical formulas, are “external objects that function as symbols.”⁶⁹ Human-computer interaction (HCI) researcher Bernice Rogowitz stated as part of a 2010 IEEE Visualization Week panel that “In visualization, we map data onto visual elements in a way that we hope will help the user to perceive and reason about the structure in the data. We also develop interactive methodologies that we hope will allow the user to explore the data in a way that will help reveal structures that were previously hidden.”⁷⁰ Sociologist and ethnographer Kathryn Henderson, whose early research focused on rich description of art historians and their work practices, placed the mediation space between visual

⁶⁸ Sue McKemmish, “Placing Records Continuum Theory and Practice,” *Archival Science* 1 (2001): 336.

⁶⁹ Laura Perini, “Visual Representation,” in *The Encyclopedia of Philosophy of Science*, ed. Sarker and Pfeifer New York: Routledge (2006), 864.

⁷⁰ Bernice Rogowitz, “Theory of Visualization,” from IEEE Panel “Visualization Theory: Putting the Pieces Together,” October 29, 2010.
<https://sites.google.com/site/bernicerogowitz/theory-of-visualization>

representation and cognitive work as an important information practice.⁷¹ These definitions characterize visualization as a method for rendering complex ideas, data, and concepts as a visual object for the purposes of interpretation and discussion. Throughout this dissertation the term “visualization” will be used to describe various graphical depictions of the records continuum.

1.9 SUMMARY OF CHAPTERS

This chapter introduced the problem, the significance of the study, the significant frameworks, and the case study. In the subsequent chapters, I will discuss relevant strands of literature, the approaches that I used for data collection and analysis, and then discuss the results, outcomes and significance of the dissertation. Chapter Two describes the records continuum and its origins. Chapter Three will discuss literature related to the records continuum, community recordkeeping and archives, social learning and online communities, and knowledge management. Chapter Four sets out the methodological approaches and describes the data collection for this study. Chapter Five provides a description of the data analysis results and reads the case study through the lens of the records continuum. Chapter Six discusses the records continuum as a framework using questions provoked by the case study. Chapter Seven is the conclusion of this dissertation and discusses future work that will emerge from this study. This

⁷¹ Kathryn Henderson, *On Line and On Paper: Visual Representations, Visual Culture and Computer Graphics in Design Engineering*. Cambridge: MIT Press, 1999.

dissertation will show that while the records continuum is a flexible tool for understanding complex records, it may obscure valuable contextual information when reading records generated by communities.

2.0 THEORETICAL FRAMEWORK: THE RECORDS CONTINUUM

This chapter discusses the use of the records continuum as a framework for understanding complex recordkeeping and systems. It provides an overview of the development and growth of the records continuum as a theoretical model and places this discussion and dissertation in the context of evolving generations of continuum scholarship, suggesting new avenues for exploration.

2.1 INTRODUCTION TO THE RECORDS CONTINUUM

The records continuum model as first articulated by Frank Upward in 1996 and 1997 may be understood as a unifying framework for recordkeeping that brings together the work of archivists and records managers, provides a lens for post-custodial discussion, and challenges the life cycle model that still frames much of North American archival and records management practice.⁷²

⁷² The model continued to evolve after its introduction in 1996-1996, including changes to the shading and to the rings that represent the dimensions. For the initial articulation, see Frank Upward, "Structuring the records continuum. Part one: Postcustodial principles and properties," *Archives and Manuscripts* 24, no.2 (1996), 268-285; Frank Upward, "Structuring the Records Continuum, Part Two: Structuration Theory and Recordkeeping," *Archives and Manuscripts* 25, no. 1 (1997), 11-35.

Discussion in the literature of the problems with the life cycle model and realigning the separate roles of archivist and records manager, particularly in respect to custody and electronic records, framed much of the discourse in the early 1990s that provided context for the records continuum

The records continuum is comprised of four dimensions. The create, or act level, is in the center of the diagram, representing the beginning of a record and situating it within its particular context. In the second dimension, “Capture,” the record created in the first dimension is placed into an “organizational unit” or broader group context. The third dimension, “Organize,” brings records created and captured in the first two dimensions together into the same place and, according to Upward, requires “common navigable structures and understandings” for the organization to organize memory.⁷³ The fourth dimension, “Pluralize,” is situated furthest from the act of records creation. “Pluralize” includes the reuse and re-presentation of the record for new and possibly multiple audiences and meanings.⁷⁴ There are four axes that work closely together; those are evidence, recordkeeping, transactionality, and identity.

model. See, for example, Acland’s work from that period, which references the ideas of David Bearman and Jay Atherton; Glenda Acland, “Archivist: keeper, undertaker, or auditor,” *Debates and Discourses: Selected Australian Writings on Archival Theory, 1951-1990*, Peter Biskup, ed. (Canberra: Australian Society of Archivists, 1995): 219-220.

The life cycle model argues that clearly defined stages exist in recordkeeping, from creation to final disposition and that records pass through these stages and are managed in distinct ways in each stage until they are either selected for inclusion in archives or until their destruction.

⁷³ Frank Upward, “Modeling the Continuum as Paradigm Shift in Recordkeeping and Archiving Processes, and Beyond- A Personal Reflection,” *Records Management Journal* 10, no.3 (2000), 115-139.

⁷⁴ See: Verne Harris, “Concerned with the Writings of Others: Archival Canons, Discourses and Voices,” *Journal of the Society of Archivists* 25, no. 2 (2004), 211–220; Sue McKemmish, “Evidence of Me...,” *Archives and Manuscripts* 24, no.1 (May 1996): 28-45.

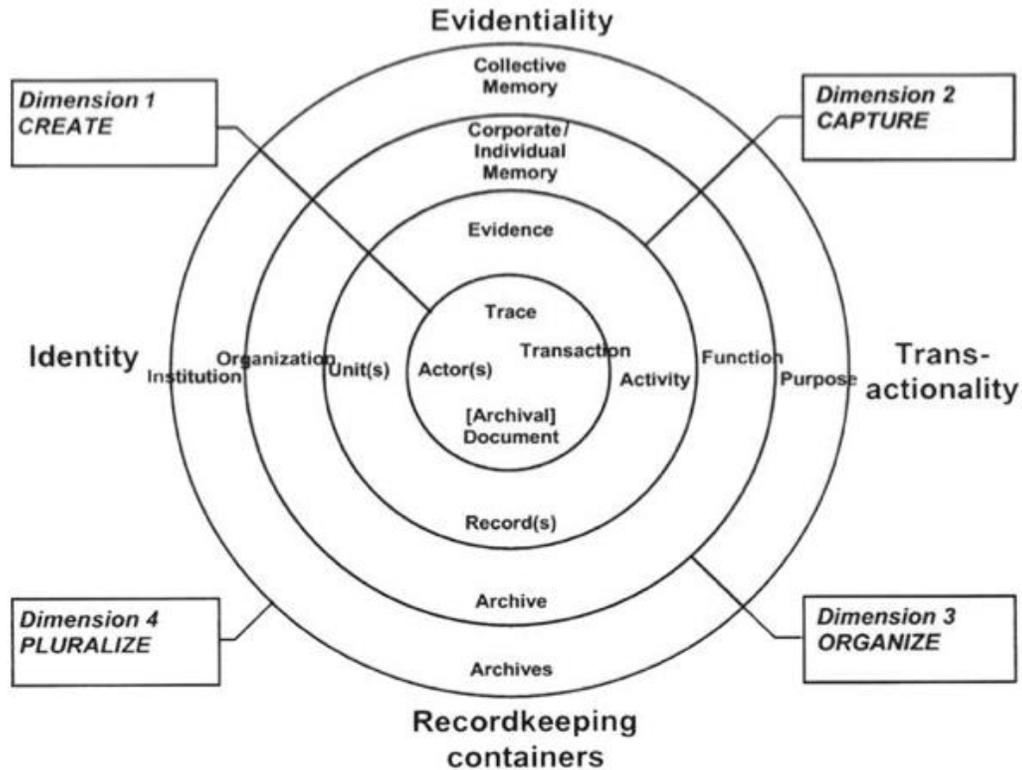


Figure 1: Records Continuum (Frank Upward)

The records continuum model has been called a paradigm shift, and hailed as providing “probably the best extant example of contemporary theory-building” in the field of archival studies.⁷⁵ Other archival scholars such as Brien Brothman, Eric Ketelaar, and Verne Harris have publicly applauded the originality and influential contribution of the records continuum to the international archival discourse. Canadian archival scholar Terry Cook called it “the world’s

⁷⁵ See: Verne Harris review article, ‘Recordkeeping and records continuum thinkers: examining a seminal Australian text (*Archives: Recordkeeping in Society*), *Archives and Manuscripts* 33, no.2 (2005), 161; Anne Gilliland and Sue McKemish, “Building an Infrastructure for Archival Research,” *Archival Science* 4, no. 3-4. (December 2004), 155.

most inclusive model for archives,” but one that is also “misinterpreted by some of its advocates and more of its critics.”⁷⁶

Since the publication of Upward’s first continuum article in November 1996, the records continuum model has provided fertile ground for spirited discussion and debate.⁷⁷ Dynamic discussions wrestling with the records continuum as a conceptual framework have regularly appeared in the literature, including conversation between Verne Harris, Sue McKemmish, and Frank Upward.⁷⁸ As a response to constantly evolving and complex questions of recordkeeping, this reading suggests that considering the origins and development of the records continuum will inform the use and extension of continuum thinking to current and emerging questions in the field.

Some previous continuum thinkers have aimed to position and extend this model as being applicable to supporting a broader view of societal recordkeeping, rather than using it to frame the reading of records within the creating organizational or institutional context.⁷⁹ In particular, this places emphasis on the pluralization function of the fourth dimension, which extends the

⁷⁶ Terry Cook, “Beyond the Screen: The Records Continuum and Archival Cultural Heritage.” Paper delivered at the *Australian Society of Archivists Conference*, Melbourne, August 18, 2000. Accessed September 1, 2013. <http://www.mybestdocs.com/cook-t-beyondthescreen-000818.htm>

⁷⁷ Frank Upward, “Structuring the records continuum. Part one: postcustodial principles and properties,” *Archives and Manuscripts* 24, no.2 (1996), 268-285.

⁷⁸ See Verne Harris, “On the Back of a Tiger: Deconstructive Possibilities in ‘Evidence of Me,’” *Archives & Manuscripts* 29, no. 1 (2001), <http://www.mybestdocs.com/harris-v-tiger-edited0105.htm>; Frank Upward and Sue McKemmish, “In Search of the Lost Tiger, by Way of Sainte-Beuve: Re-Constructing the Possibilities in ‘Evidence of Me...,’” *Archives and Manuscripts* 29, no. 1 (2001), <http://www.mybestdocs.com/mckemmish-s-upward-f-ontiger-w.htm>.

⁷⁹ Sue McKemmish describes the continuum as a paradigm shift and a worldview, in “Placing Records Continuum Theory and Practice,” *Archival Science* 1, no. 1 (2001), 333; other broader societal discussions: Frank Upward, Sue McKemmish, and Barbara Reed, “Archivists and Changing Social and Information Spaces: A Continuum Approach to Recordkeeping and Archiving in Online Cultures,” *Archivaria* 72, no.1 (Fall 2011), 197.

record from “record keeping” at a local level to a broader audience with multiple uses at a societal level. The concentric rings of the continuum model are also carefully described by continuum thinkers as being permeable dimensions that are dynamic and shifting as “ever-broadening” layers of contextual metadata are added to surround the record. In this reading, records are always in a state of becoming, and the relationships between records and their contexts of creation, management, and use are multiple and dynamic.⁸⁰

2.2 TRACING THE HERITAGE OF THE RECORDS CONTINUUM

This section traces the origins, development, and growth of the records continuum as an articulated theoretical model and highlights areas related to locating and situating people and communities within the record.

2.2.1 Origins of Continuum Thinking

The origins of continuum thinking in Australian recordkeeping discourse are generally traced back to the work of government archivist Ian Maclean in the 1950s and later, to the development of the Australian ‘series’ system (also called the context relationships system)⁸¹ by Peter J. Scott

⁸⁰ Sue McKemmish, “Traces: document, record, archive, archives,” in *Archives: Recordkeeping in Society*, ed. Sue McKemmish et al. (Wagga Wagga, NSW: Centre for Information Studies, Charles Sturt University, 2005), 9.

⁸¹ See Chris Hurley, “The Australian (‘Series’) System: An Exposition,” in Sue McKemmish and Michael Piggott, ed., *The Records Continuum: Ian Maclean and Australian Archives - First Fifty Years* (Canberra, Australia: Ancora Press, 1994), 150-172.

in the 1960s.⁸² The development of the CRS was mainly concerned with the imperative to describe a dynamic environment of modern records, one in which the majority of the records existed outside of the formal custodial bounds of the Commonwealth Archives Office control. Barbara Reed notes that, from its inception, the CRS system included the “strongly Jenkinsonian derived emphasis of Maclean on managing the whole—records across the false divide between current records, non- current, and archival records.”⁸³ The postcustodial framework for the CRS was focused on maintaining relationships between records, disregarding their storage location.⁸⁴

The terminology used for this has been somewhat contentious. In general, the Commonwealth Record Series system developed by Peter Scott and implemented at the Australian Commonwealth Archives Office (CAO), was referred to as the CRS. As the concepts behind the system design were disseminated and adopted by others, the preferred term became the ‘series system’ and appears thusly in much of the descriptive literature. Chris Hurley argues that this is a misnomer because the conceptual design is broader and does not dictate control at the series level, and thus calls this the ‘Australian system.’ However, Wendy Duff and Verne Harris argue that this naming is inaccurate because (as Hurley noted) it embraces “far more than

⁸² See Peter J. Scott, “The Record Group Concept: A Case for Abandonment,” *American Archivist* 29 (1966), 493-504; Sue McKemish and Michael Piggott, ed., *The Records Continuum: Ian Maclean and Australian Archives - First Fifty Years* (Canberra, Australia: Ancora Press, 1994); Adrian Cunningham, ed. *The Arrangement and Description of Archives Amid Administrative and Technological Change: Essays and Reflections by and about Peter J. Scott*. (Brisbane: Australian Society of Archivists, 2010).

⁸³ Barbara Reed, “The Australian Context Relationship (CRS or Series): System An Appreciation,” In *The Arrangement and Description of Archives and Administrative and Technological Change: Essays and Reflections By and About Peter Scott*, ed. Adrian Cunningham. (Brisbane: Society of Australian Archivists, 2010), 347.

⁸⁴ This is illustrated in the following article by Peter Scott, where he outlines the value of a registry that maintains relationships, rather than adhering to physical storage for maintaining order. Peter Scott, “The Record Group Concept: A Case for Abandonment,” *American Archivist* 29, no.4 (October 1966), 500.

the series” but also because it has been shaped, used and influenced by many outside of Australia.⁸⁵ Barbara Reed notes these disagreements and has advanced the idea of a new term, the “context relationships” system.⁸⁶

The release of Frank Upward’s conceptual model of the records continuum in 1996-1997 provoked international interest and discussion. It has been said that the foundational article for continuum thinking was likely written in 1959 by Australian archivist Ian Maclean, though it may also been argued that Maclean was using an approach described by archivists Margaret Cross Norton and Philip Brooks in the United States.⁸⁷ Others, such as archivist Jay Atherton in the 1980s had previously discussed the idea of a continuum related to recordkeeping.⁸⁸ However, the publication of Frank Upward’s articulated model and conceptual framework generated a significant wave of discussions and reactions.⁸⁹ This interest in continuum thinking was largely driven by the Records Continuum Research Group,⁹⁰ based at Monash University in Melbourne, which Adrian Cunningham has described as the “spiritual home of records continuum theory.”⁹¹

⁸⁵ See Wendy Duff and Verne Harris, “Stories and Names: Archival Description as Narrating Records and Constructing Meanings.” *Archival Science* 2 (2002), 268.

⁸⁶ Barbara Reed, “Beyond Perceived Boundaries: Imagining the potential of pluralized recordkeeping.” *Archives and Manuscripts* 33, no.1 (2005), 195.

⁸⁷ Ian Maclean, “Australian Experience in Records and Archives Management,” *American Archivist* 22, no. 4 (1959),383-418. The Norton and Brooks discussion can be found in Frank B. Evans, “Archivists and Records Managers, Variations on a Theme,” in *A Modern Archives Reader: Basic Readings on Theory and Practice*, ed. Maygene Daniels and Timothy Walch (Washington DC: National Archives Trust, 1984): 25-37.

⁸⁸ Jay Atherton’s usage of the continuum idea centered on the view of archivists and records managers sharing the same work and not two separate domains.

⁸⁹ Initial core writing on the records continuum from Frank Upward began with: Frank Upward, “Structuring the records continuum. Part one: postcustodial principles and properties,” *Archives and Manuscripts* 24, no.2 (1996), 268-285; Frank Upward, “Structuring the Records Continuum, Part Two: Structuration Theory and Recordkeeping,” *Archives and Manuscripts* 25, no. 1 (1997), 11-35.

⁹⁰ The Records Continuum Research Group (RCRG) is a loosely affiliated group of scholars that has included Frank Upward, Sue McKemmish, Livia Iacovino, Michael Piggott, Barbara Reed,

The intellectual challenges presented by the continuum model encouraged spirited dialogue that included archival scholars such as David Bearman, Terry Cook, Verne Harris, Richard J. Cox, and Margaret Hedstrom.⁹² The practice of bringing archival thinkers to Australia to discuss appraisal and continuum thinking sparked further international conversation and engagement in this area.⁹³ Additionally, the development of national and international recordkeeping standards (AS 4390 and ISO 15489) may be clearly linked to conversations surrounding continuum thinking.⁹⁴ In the North American archival context, interest in this holistic model of recordkeeping could also be understood as a reaction to the more compartmentalized and concrete functions of the life-cycle model, and is often raised in conjunction with conversations about digital records.

Glenda Acland, Joanne Evans, Chris Hurley, and others. Accessed September 12, 2013.
<http://www.infotech.monash.edu.au/research/groups/rcrg/people.html>

⁹¹ Adrian Cunningham, "Digital Curation/Digital Archiving: a view from the National Archives of Australia," originally a paper for the DigCCurr 2007 conference at UNC, later in *American Archivist* 71, no 1 (2008), 536 .

⁹² See: Sue McKemmish, "Placing Records Continuum Theory and Practice," *Archival Science* 1, no.4 (2001), 333-359; and Kate Cumming, "Ways of Seeing: Contextualizing the Continuum," *Records Management Journal* 20, no. 1 (March 30, 2010): 41–52.

⁹³ This included presentations, seminars, and keynotes by Terry Cook, Margaret Hedstrom, Richard Cox, and others that brought the continuum into conversation with other areas of archival scholarship and discussion. Frank Upward and Michael Piggott have said separately that these international visitors played a large role in fostering active archival conversations that led to the further articulation of continuum concepts. One of those sparks, a lecture by Terry Cook on appraisal, is cited by Frank Upward in *Archives: Recordkeeping in Society*. The link to Terry Cook's appraisal address cited in *Archives: Recordkeeping in Society* is no longer working.

⁹⁴ Discussion related to these standards also references the useful linkages between the Pittsburgh Project (David Bearman and Richard J. Cox) and the University of British Columbia project/Luciana Duranti's work on diplomatics as pushing the archival scholarship forward.

2.2.2 Anthony Giddens and Structuration Theory in the Continuum

As conceptualized by Frank Upward, the records continuum model is heavily influenced by sociologist Anthony Giddens' structuration theory, which centers on societal constructs that support and describe human activity.⁹⁵ Upward states that the structure of the continuum (the dimensions and elements) were derived from his reading of Giddens' work, which attempts to identify and impose structure on societal processes and elements.⁹⁶ Upward describes three intertwined domain areas from Giddens (signification, domination, and legitimation) that outline the ways that societies articulate institutions, making apparent how social systems stretch across time and underscoring the institutional underpinnings of both society and continuum thinking.⁹⁷ Giddens also describes these structures as a mode of transmission for memory across time and space.

Memory (or recall) is to be understood not only in relation to the psychological qualities of individual agents but also as inhering in the recursiveness of institutional reproduction. Storage here already presumes modes of time-space control, as well as a phenomenal experience of 'lived time' and the container that stores the authoritative resource is the community itself.

The storage of authoritative and allocative resources may be understood as involving the retention and control of information or knowledge whereby social relations are perpetuated

⁹⁵ Anthony Giddens, *The Constitution of Society: Outline of the Theory of Structuration*. Cambridge: Polity Press, 1984.

⁹⁶ See Frank Upward, "Structuring the Records Continuum - Part One: Postcustodial Principles and Properties," *Archives and Manuscripts* 24, no. 2 (1996), Accessed August 1, 2014. <http://www.infotech.monash.edu.au/research/groups/rcrg/publications/recordscontinuum-fupp1.html>; Frank Upward, "Structuring the Records Continuum, Part Two: Structuration Theory and Recordkeeping," *Archives and Manuscripts* 25, no. 1 (1997), 11-35.

⁹⁷ Frank Upward, "Structuring the Records Continuum, Part Two: Structuration Theory and Recordkeeping," *Archives and Manuscripts* 25, no. 1 (1997), 11-35.

across time-space. Storage presumes media of information representation, modes of information retrieval or recall and, as with all power resources, modes of its dissemination.

According to Upward's reading of Giddens, structures perpetuate relationships in a society through the residue of memory, or as Upward puts it, "the community is the container that stores the authoritative resource."⁹⁸ In society, the container is composed of people, groups, and organizations. Significantly, Upward later notes that as part of a post-custodial mindset, it is incumbent upon archivists to be concerned with all four dimensions of the continuum, including societal interests in the fourth dimension.⁹⁹ Consideration of these relationships is embedded within continuum thinking, and dates back to Peter J. Scott's early fundamental work with multiple contexts of records and relationships as part of the Australian series model.¹⁰⁰

Giddens contrasts what he describes as the "disembeddedness" of modern human interaction and culture as a characteristic that has shifted from a tighter integration of space and time in traditional societies. By this, he observes that in premodern societies, "space and place largely coincide, since the spatial dimensions of social life are, for most of the population, and in most respects, dominated by 'presence'—by localized activities. The advent of modernity increasingly tears space away from place by fostering relations by 'absent' others, locationally distant from any situation of face-to-face interaction."¹⁰¹

⁹⁸ Frank Upward, "Structuring the Records Continuum. Part One: Postcustodial Principles and Properties," *Archives and Manuscripts* 24, no.2 (1996), 268-285.

⁹⁹ Frank Upward, "Structuring the Records Continuum. Part One: Postcustodial Principles and Properties," *Archives and Manuscripts* 24, no.2 (1996), 268-285.

¹⁰⁰ Adrian Cunningham, ed. *The Arrangement and Description of Archives Amid Administrative and Technological Change: Essays and Reflections by and about Peter J. Scott*. (Brisbane: Australian Society of Archivists, 2010).

¹⁰¹ Anthony Giddens, *The Constitution of Society: Outline of the Theory of Structuration*. (Cambridge: Polity Press, 1984), 18.

Giddens' description of disembedding as "the 'lifting out' of social relations from local contexts of interaction and their restructuring across indefinite spans of space-time"¹⁰² takes a wary perspective of technological change as a risk to social practices and human connections.

One mechanism that Giddens describes as facilitating disembeddedness in society is the "expert system," which he describes as "systems of technical accomplishment or professional expertise that organize large areas of the material and social environments in which we live today."¹⁰³ He notes further that systems "remove social relations from the immediacy of context...by providing 'guarantees' across distanced time-space."¹⁰⁴ Giddens suggests that the tension between expert systems and the growth of local interactions is a societal loss. However, Giddens' work implies that he is referencing uni-directional expert systems that deliver knowledge. This does not fully acknowledge the place and space of systems formed by intentional, interactive online community as a beneficial area for further reflexive practice.

The structures that Upward (via Giddens) identifies, adapts, and uses for the records continuum have limitations, and it is important to understand their origins and boundaries, as well as their affordances for reading and understanding records as traces of community and society. The continued development of the records continuum as a framework for understanding reflexive records and community dialogue, while clearly influenced and bounded by structural relationships to Giddens' work, is also used in flexible ways to support multiple readings that go beyond some of these limitations. Understanding that within structuration theory, Giddens seeks

¹⁰² Anthony Giddens, *The Constitution of Society: Outline of the Theory of Structuration*. (Cambridge: Polity Press, 1984), 21.

¹⁰³ Anthony Giddens, *The Constitution of Society: Outline of the Theory of Structuration*. (Cambridge: Polity Press, 1984), 27.

¹⁰⁴ Anthony Giddens, *The Constitution of Society: Outline of the Theory of Structuration*. (Cambridge: Polity Press, 1984), 28.

to primarily describe the “nature of human action, social institutions, and the interrelations between actions and institutions”¹⁰⁵ provides a basis for further exploring what the records continuum highlights and conceals about community recordkeeping.

2.2.3 Generations of Continuum Scholarship

This section considers the evolving continuum discourse and situates what can be referenced as three overlapping generations of records continuum scholarship. The first generation of continuum scholarship could be described as foundational. Largely focused on explaining and elucidating the origins and possible uses of the records continuum, this category includes early articles by Australian archival scholars Frank Upward and Sue McKemmish, and their colleagues from Monash University and the Records Continuum Research Group.¹⁰⁶ This foundational generation includes scholarship seeking to place and explain continuum concepts for use in teaching and scholarship.¹⁰⁷

¹⁰⁵ Anthony Giddens, “Structuration Theory: Past, Present, and Future,” in *Giddens’ Theory of Structuration: A Critical Appreciation*, ed. Christopher Bryant and David Jary. (London: Routledge, 1991), 221.

¹⁰⁶ Key early foundational literature includes: Frank Upward, “Structuring the Records Continuum - Part One: Postcustodial Principles and Properties,” *Archives and Manuscripts* 24, no. 2 (1996),

<http://www.infotech.monash.edu.au/research/groups/rcrg/publications/recordscontinuum-fupp1.html>;

Frank Upward, “Structuring the Records Continuum, Part Two: Structuration Theory and Recordkeeping,” *Archives and Manuscripts* 25, no. 1 (1997),

<http://www.infotech.monash.edu.au/research/groups/rcrg/publications/recordscontinuum-fupp2.html>;

Frank Upward, “Modeling the Continuum as Paradigm Shift in Recordkeeping and Archiving Processes, and beyond: a Personal Reflection,” *Records Management Journal* 10, no. 3 (December 1, 2000): 115–39.

¹⁰⁷ Important literature that explains and expands continuum thinking includes: Sue McKemmish, “Placing Records Continuum Theory and Practice,” *Archival Science* 1, no. 4

Second generation continuum scholarship may be described as focusing on the use of the continuum relative to functional and evidential description, and was/is largely concerned with dimensions one, two and three (create-capture-organize). This generation includes Livia Iacovino's research at the nexus of recordkeeping, evidence, ethics, and legal work,¹⁰⁸ Geoffrey Yeo's concepts of the record,¹⁰⁹ and the development of the Australian Recordkeeping Standard (and then the ISO standard based on the Australian standard).

The third generation of continuum scholarship has continued to evolve with regards to community records and parallel provenance. Terry Cook's call for more work in the fourth dimension at the 2004 conference (*Archives and Collective Memory: Challenges and Issues in a Pluralised Archival Role*) at Monash University, and the related November 2005 special issue of *Archives and Manuscripts* served as encouraging signs of engagement with this dimension, which connects with concepts in community archives, the records multiverse, and discussions of pluralizing the archival record. Also situated here are additional continuum models that are layered atop the original information processing grain, such as the Cultural Heritage

(2001): 333–59; Frank Upward and Sue McKemmish, “Teaching Recordkeeping and Archiving Continuum Style,” *Archival Science* 6, no. 2 (June 1, 2006): 219–30; Sue McKemmish, “Evidence of Me...” *Archives and Manuscripts* 24, no.1 (1996), 28-45; Sue McKemmish, “Yesterday, today, and tomorrow: a continuum of responsibility,” *Proceedings of the Records Management Association of Australia, 15-17 September 1997*, Perth: Records Management Association of Australia, 1997.

¹⁰⁸ Livia Iacovino, “Multi-Method Interdisciplinary Research In Archival Science: The Case of Recordkeeping, Ethics And Law,” *Archival Science* 4, no. 3–4 (December 1, 2004): 267–86.

¹⁰⁹ These articles represent a body of secondary literature that does not directly deploy the continuum as a model, but questions underlying components of continuum thinking. Geoffrey Yeo, “Concepts of Record (1): Evidence, Information, and Persistent Representations,” *American Archivist* 70, no. 2 (Fall 2007): 315–43; Geoffrey Yeo, “Concepts of Record (2): Prototypes and Boundary Objects,” *American Archivist* 71, no. 1 (Spring 2008): 118–43.

continuum.¹¹⁰ Third generation scholarship continues to evolve through projects such as Trust in Technologies, started in 2004 at Monash University and funded by the Australian Research Council, with the aim of directly involving indigenous Australian communities in the formation of collections and to enable shared community control and agency in the record.¹¹¹ Other examples of third generation conversation include Australian archival scholar Leisa Gibbons’ work with YouTube and the Cultural Heritage Continuum and American Andrew Lau’s dissertation in archival studies at UCLA, which used continuum thinking to consider art-based community projects in Los Angeles.

Table 1: Generations of Continuum Thinking

1st Generation	Foundational Explaining and mapping the foundations and contours of the records continuum
2nd Generation	Functional Using for evidential and functional description Focus on create, capture, organize
3rd Generation	Evolving understanding Connects with discussions of pluralization, collective memory, archival multiverse

¹¹⁰ The Cultural Heritage Continuum (CHC) layers a cultural heritage grain atop the familiar four dimensions/information processing rhythm. The axes include: narrative scale, storytelling, time-space distancing, and cultural heritage containers. The CHC model is described more fully in this article: Leisa Gibbons, “Testing the Continuum: User-Generated Cultural Heritage on YouTube,” *Archives and Manuscripts* 37, no. 2 (2009): 89–112.

¹¹¹ The Trust in Technologies project outcomes can be found here. Accessed September 2, 2014. <http://infotech.monash.edu/research/about/centres/cosi/projects/trust/final-report/>

While the cases and community structures and missions may vary, at the center of discussions about community recordkeeping is a core of understanding the values and structures that shape the records that are generated and form the community space and identity. This dissertation adds to ongoing conversations and fits with the third generation of continuum scholarship.

3.0 LITERATURE REVIEW

This review of the existing literature examines several overlapping conceptual areas related to the dissertation. First this review uses the nature of recordkeeping and shared war narratives to frame a thematic introduction of the archival and recordkeeping literature related to community and memory. Next, this review examines online communities and cooperative work related to motivations for knowledge exchange, leadership, and building trust among members. Finally, this review examines literature from knowledge management related to the construction, culture, and learning of communities.

3.1 WAR, RECORDS, COMMUNITIES, & NEW WAYS OF DOCUMENTING

Archives and conflict have long been intertwined. While war can sometimes be a cause of records destruction, it also can be the catalyst for the creation of new records. In many countries, including the United States, Canada, and Australia, concerns about caring for documents created as a result of war served as one justification for establishing national archives.

Delivering his address in October 1941 to the Society of American Archivists, president Waldo Gifford Leland recounted this quote:

In the Conference of State War History Organizations of December 1919, Arthur Kyle Davis, of the Virginia War History Commission, described the situation with his accustomed eloquence. “There is,” he declared, “a new world of history, in which we have no guide, no

blazed trail, no chart, and no compass. It is a new world of history because it is the history of a world in a new kind of war—a war of embittered nations with every nerve and fibre of the national life, even every filament of civilian life, alive and tingling with the vital currents of war activity.”¹¹²

Leland used this opening to laud what he called the pioneering work of archivists and historians as they figured out how to document the work of the country during the Great War. The collection and organization of war records was a vast set of operations at the national, state, and local levels; and the accumulation of records, surveys and practices as well as the associations helped to set the stage for historical work in this country.¹¹³ Leland notes, however, that perhaps more important than improvements “of a material nature” are “the changes that happened to ourselves.”¹¹⁴ While the improvements in physical archival work are important to note, the intellectual challenges have far more implications for the forward movement of the archival field.

Recordkeeping is an essential activity for any institution and its people. These activities range from the creation and use of records, the organization of records and systems to capture them, and the disposition of records. Within institutions, records explicitly and implicitly support the decisions and behaviors of records creators. Outside of official boundaries, records can also bear witness to actions and intent. Recordkeeping is an activity that can sustain, nurture, and foster growth for institutions, people, and communities. Sometimes recordkeeping infrastructures and systems do not meet the needs of dynamic and constantly changing demands. What happens

¹¹² Waldo Gifford Leland, “The Archivist in Times of Emergency,” *American Archivist* 4, no.1 (January 1941): 1-12.

¹¹³ As just one example, the National Association of State War History Organizations brought together the state based historical organizations to discuss the best ways of carrying out their documentary work and was a precursor to the American Association for State and Local History.

¹¹⁴ Waldo Gifford Leland, “The Archivist in Times of Emergency,” *American Archivist* 4, no.1 (January 1941): 1-12.

when community members perceive that a need is not being met by the institution's normal processes? Calls have emerged in the literature by Canadian archival scholar Tom Nesmith, British archival scholar Andrew Flinn, and others, for archivists to emerge as "agents of change," actively facilitating the creation and new uses of records.¹¹⁵ The flattening of organizational hierarchies and shift away from downward communication is one reason to reexamine archival approaches to documentation of complex environments.¹¹⁶ The evidence of this shift exists already as organizations such as the US Army increasingly find old paradigms unsuitable for contemporary work.

Records serve multiple purposes for society, individuals, and organizations. They can be facilitators of communication, a means of conversation and interaction, vehicles for decision-making, a receptacle for memory and experiences, evidence of rights and obligations, active building blocks of identity, and more. As Sue McKemmish argues, recordkeeping bears witness to our lives by "evidencing, accounting for, and memorializing our interactions and relationships, thus 'placing' us in this world."¹¹⁷ The dynamic structures of communities and the complex

¹¹⁵ See Tom Nesmith, "Re-exploring the continuum, rediscovering archives," *Archives and Manuscripts* 36, no. 2 (November 2008), 47; Andrew Flinn, "Other Ways of Thinking, Other Ways of Being. Documenting the Margins and the Transitory: What to Preserve, How to Collect," in *What Are Archives? Cultural and Theoretical Perspectives: A Reader*, ed. Louise Craven (Burlington, VT: Ashgate, 2008), 110.

¹¹⁶ Yates discusses downward communication: JoAnne Yates. *Control through communication: the rise of system in American management*. (Baltimore: Johns Hopkins University Press, 1989).

¹¹⁷ Sue McKemmish, "Traces: Document, record, archive, archives" in *Archives: Recordkeeping in Society*, ed. Sue McKemmish, Michael Piggott, Barbara Reed, and Frank Upward (Wagga Wagga, N.S.W.: Centre for Information Studies, Charles Sturt University 2005), 15.

nature of participation and expression also serve to challenge us to embrace new ways of seeing and understanding records.¹¹⁸

Historian Wulf Kansteiner argues that “collective memories originate from shared communications about the meaning of the past that are anchored in the life-worlds of individuals who partake in the communal life of the respective collective.”¹¹⁹ Participants in a shared community may be participating in acts of collective memory, or perhaps this is a form of “collected memory,” as French historian Marc Bloch notes that we cannot automatically subsume all of the realities that we label “individual memory” under the name of “collective memory.”¹²⁰ Bloch questions how individuals and groups retain or recover their memories, and notes that within a multi-layered, co-created record, even if the individual stories and memories are retained, the context may affect the content.

Within the archival literature that surrounds examination of independent community archives, there exists an acknowledged lack of consensus about a firm, single definition of community.¹²¹ However, the variety of definitions that have been used in the archival literature may be seen as a strength, and not a weakness. Bridging many different and wide-ranging

¹¹⁸ Jeannette A. Bastian and Ben Alexander, “Introduction: Communities and archives—a symbiotic relationship,” in Jeannette A. Bastian and Ben Alexander, ed. *Community Archives: The Shaping of Memory* (London: Facet Publishing, 2009), xxiii.

¹¹⁹ Wulf Kansteiner, “Finding Meaning in Memory: A Methodological Critique of Collective Memory.” *History and Theory* 41, no.2 (1988): 79-109.

¹²⁰ Marc Bloch, “Collective memory, custom, and tradition: About a recent book,” in *The Collective Memory Reader*, eds. Jeffrey K Olick, Vered Vinitzky-Seroussi, and Daniel Levy. (New York: Oxford University Press 2011),153.

¹²¹ See Andrew Flinn, “Community Histories, Community Archives: Some Opportunities and Challenges,” *Journal of the Society of Archivists* 28, no. 2 (2007): 153; Richard J. Cox, “Conclusion: the archivist and community,” in *Community Archives: The Shaping of Memory*, eds. Jeannette A. Bastian and Ben Alexander. (London: Facet, 2009),251-264.

perspectives, the concept of community records in a diverse, dynamic, and global society may encompass many shifting things.

In a culture that is constantly changing, archival and recordkeeping scholars may sit on the shifting boundaries as the intermediaries between communities and archives. By expanding our understanding of what archives are, we may also discover that we can build a richer contextual meaning and connection to the traces and voices of people and their experiences. New frameworks that can address the interplay of multiple inputs, influences, spaces, and temporal realities that build on past work are necessary for growth and innovation in the archival field.

Trust by members is a central factor in community participation and knowledge sharing, as explored later in this literature review. While we are familiar as archivists with maintaining trustworthy records that are what they purport to be, can the construction of community trust be further explored by archivists as a motivation for records creation by community members? Returning to Leland's presidential address, he states that "Our horizon is no longer bounded by two oceans and the Panama Canal. We look out upon a world that at last we realize is spherical, and while this enlargement of vision had its beginnings long before the World War, the broadening process was tremendously accelerated by our experiences of those years."¹²²

Similarly, our horizons as archivists can and should expand further, drawing from previous work and seeking to expand upon the foundation of frameworks that can help us to grapple with a dynamic, changing world. Using and repurposing conceptual ideas from other disciplines may help us to achieve this goal.¹²³

¹²² Waldo Gifford Leland, "The Archivist in Times of Emergency," *American Archivist* 4, no.1 (January 1941): 1-12.

¹²³ Careful consideration of the multiple ways that war memories are constructed and used has prompted archival scholar Richard Cox to make a compelling argument for frameworks and

3.2 ONLINE COMMUNITIES AND COOPERATIVE WORK

This section of the review examines literature related to the development and growth of online communities, and specifically examines key issues related to motivations for knowledge exchange, leadership, and trust building. First, this section will explore literature related to defining communities of practice. Next, a selection of studies that thematically relate to key areas of community infrastructure will be systematically examined to provide structure for understanding *how* and *why* online professional communities of practice work and develop.

This review draws specifically from education, business and library, and information science literature related to communities for several reasons. Because professional communities of practice (such as the one being studied for this case) are rooted in a common desire to actively deepen their expertise and knowledge in a particular subject through interaction, literature related to learning and social participation is well connected to this inquiry. Examining literature about knowledge management, transfer, and trust is related to the use of communities of practice for knowledge sharing. By surveying literature related to the construction of communities from other disciplines, this review draws together insights about the layers of trust, understanding, and use of these spaces by members and creators in order to gain a foundation for further exploration.

critical methods that can be used to interrogate the power relationships inherent in the creation of these records. Richard J. Cox, "Archives, War, and Memory: Building a Framework." *Library & Archival Security* 25, no. 1 (2012): 21–57.

3.2.1 Building an Online Community of Practice

Studies discussed in this section of the review are drawn primarily from literature in information science and education, and are narrowly focused on professional communities of practice with voluntary participation by member groups. While the purposes of both the communities and the studies vary, most of the research seeks to understand the factors that contribute to successful knowledge exchange and transfer. Key themes that emerged in this review of the literature included motivations for online sharing, trust factors, barriers to participation, the function of moderation, and support of online participants.

3.2.2 Individual Motivations for Knowledge Sharing

What motivates members of an online community to share (or not) with other members? The motivation to share is at the core of knowledge sharing. Drawing from the work of Batson, Ahmad, and Tang,¹²⁴ Hew and Hara¹²⁵ identified four broad classes of motives for community involvement. This may help to explain why individuals are motivated to share within an online community: 1) egoism (increase personal benefit), 2) altruism (increase welfare of others), 3) collectivism (increase the welfare of the community) and 4) principlism (to uphold a moral principle, such as reciprocity or honor). These four classes of community motivations provide a

¹²⁴ C. Daniel Batson, Nadia Ahmad, and Jo–Ann Tsang. “Four Motives for Community Involvement.” *Journal of Social Issues* 58, no.3 (2002): 429–445.

¹²⁵ Khe Foon Hew and Noriko Hara. “Empirical Study of Motivators and Barriers of Teacher Online Knowledge Sharing.” *Educational Technology Research and Development* 55, no. 6 (2007): 573–595.

guideline for exploring the results from studies on knowledge sharing motivations within online communities.

Egoistic motives have emerged from the research as a primary reason for sharing by members of online communities. Duncan-Howell¹²⁶ and Gray¹²⁷ found that members were, at least initially, motivated to participate in an online community of learning as a way to reduce feelings of isolation and disconnection within the work environment. Study participants also noted the immediacy of learning online in an environment that fostered feedback and response was a factor in motivation for participation. Hew and Hara¹²⁸ and Hur and Brush¹²⁹ used interviews and analysis of teachers' online posts to understand the motivations of teachers to participate in knowledge sharing in online learning forums. The findings were consistent with previously mentioned studies in that the exchange of knowledge was provoked by several egoistic motives, such as the need for advice or support from other teachers, the need to share positive and negative feelings, a desire to locate and explore new ideas, and the need for contact to combat isolation in the workplace.

The desire to promote and enhance one's professional reputation can also be included as an egoistic motivating factor, as noted by Ardichvili et al and Wasko and Faraj.¹³⁰ Wasko and

¹²⁶ Jennifer Duncan-Howell, "Teachers Making Connections: Online Communities as a Source of Professional Learning." *British Journal of Educational Technology* 41, no. 2 (2010): 324–340.

¹²⁷ Betty Gray, "Informal Learning in an Online Community of Practice." *Journal of Distance Learning* 19, no.1 (2005), 20-35.

¹²⁸ Khe Foon Hew and Noriko Hara. "Empirical Study of Motivators and Barriers of Teacher Online Knowledge Sharing." *Educational Technology Research and Development* 55, no.6 (2007): 573–595.

¹²⁹ Jung Won Hur and Thomas A. Brush. "Teacher Participation in Online Communities: Why Do Teachers Want to Participate in Self-Generated Online Communities of K-12 Teachers?" *Journal of Research on Technology in Education* 41, no.3 (2009): 279–303.

¹³⁰ Alexander Ardichvili, Vaughn Page, and Tim Wentling. "Motivation and Barriers to Participation in Virtual Knowledge-sharing Communities of Practice." *Journal of Knowledge*

Faraj used content analysis and survey data to understand why individual contributors in a closed online legal forum would choose to help strangers through knowledge exchange even when the contributor received no direct benefit. They found that the primary perception by contributors that participation would enhance their professional standing was one motivation for sharing. The qualitative study of motivation and barriers to employee participation in online communities by Ardichvili et al found similar results. Self-identified reasons for contributing to the community revealed that contributors felt that they needed to raise their professional status by gaining recognition through posting.¹³¹

Altruistic motives for sharing knowledge in online communities include feelings of empathy. In studies of online learning communities of teachers by Hew and Hara,¹³² as well as Gray,¹³³ results showed that members were empathetic to their less-experienced peer teachers, and viewed their own knowledge sharing and support as altruistic methods for giving back to the community. Studying the motives behind sharing within a corporate online community, Chiu, Hsu, and Wang¹³⁴ found that community-related expectations of outcome were important to supporting knowledge sharing, while expectations of personal outcomes had an insignificant

Management 7, no.1 (2003): 64–77 and Molly McLure-Wasko and Samer Faraj. “Why Should I Share? Examining Social Capital and Knowledge Contribution in Electronic Networks of Practice.” *Management Information Systems Quarterly* 29, no.1 (2005), 35-57.

¹³¹ Alexander Ardichvili, Vaughn Page, and Tim Wentling. “Motivation and Barriers to Participation in Virtual Knowledge-sharing Communities of Practice.” *Journal of Knowledge Management* 7, no.1 (2003): 64–77.

¹³² Khe Foon Hew and Noriko Hara. “Empirical Study of Motivators and Barriers of Teacher Online Knowledge Sharing.” *Educational Technology Research and Development* 55, no. 6 (2007): 573–595.

¹³³ Betty Gray, “Informal Learning in an Online Community of Practice.” *Journal of Distance Learning* 19, no.1 (2005), 20-35.

¹³⁴ Chao-Min Chiu, Meng-Hsiang Hsu, and Eric T.G. Wang. “Understanding Knowledge Sharing in Virtual Communities: An Integration of Social Capital and Social Cognitive Theories.” *Decision Support Systems* 42, no.3 (2006): 1872–1888.

effect. The application of community-related outcomes relates to the contributor's understanding or judgment of the likely result of their own knowledge sharing as helping to provide value for other members. This approach suggests both altruistic and collective motivations at work.

Collective motives appearing among teachers participating in an online community of practice can also be found in the studies of Gray and Hew and Hara.¹³⁵ Gray notes that through the telling and retelling of stories, members of the community negotiated meaning in their work, developed a collective knowledge, and formed a group identity¹. In their study, Hew and Hara found that the primary motivator for teachers to contribute and participate was a sense of collectivism within the online learning community. The participants were motivated by the desire to contribute to the field. Evidence of collectivism as a motivating factor for online community participation is also found in the corporate online community as related by Ardichvili et al, whose study revealed that the members viewed their knowledge exchange as being for the public good.¹³⁶ Participants were more likely to exchange knowledge based on their interest in the community rather than in their own self-interest. The research of Yu et al., notes that the presence of a strong culture of knowledge sharing can prompt individuals to contribute to collective knowledge.¹³⁷

¹³⁵ Betty Gray, "Informal Learning in an Online Community of Practice." *Journal of Distance Learning* 19, no.1 (2005), 20-35, and Khe Foon Hew, and Noriko Hara. "Empirical Study of Motivators and Barriers of Teacher Online Knowledge Sharing." *Educational Technology Research and Development* 55, no. 6 (2007): 573–595.

¹³⁶ Alexander Ardichvili, Vaughn Page, and Tim Wentling. "Motivation and Barriers to Participation in Virtual Knowledge-sharing Communities of Practice." *Journal of Knowledge Management* 7, no.1 (2003): 64–77.

¹³⁷ Tai-Kuei, Yu, Long-Chuan Lu, and Tsai-Feng Liu. "Exploring Factors That Influence Knowledge Sharing Behavior via Weblogs." *Computers in Human Behavior* 26, no.1 (2010): 32–41.

Motives for knowledge sharing that relate to upholding moral principles within online communities can be found in more than a few studies.¹³⁸ Often the motive for upholding morals can be revealed through the norm of reciprocity. This refers to the social custom related to a transaction in which one individual's extension of a resource is a later obligation to return that favor. Reciprocal relationships can affect related knowledge sharing attitudes as well as the intention to share knowledge.¹³⁹ In this vein, members of a community can be motivated to contribute due to feeling a professional obligation towards other members of the community,¹⁴⁰ or to feeling that they should give back because they have previously received knowledge from the community. Many participants believe that helping others is a fair reward for assistance that they have received from the community. However, while the previous studies found reciprocity to be a strong driver for knowledge sharing, two other studies demonstrated that knowledge sharing was not significantly influenced by the norm of reciprocity. Lin et al examined the ways that reciprocity affects members' decisions to share knowledge, and found that the norm of reciprocity was insignificant.¹⁴¹ One possible explanation may be that knowledge contributions may be reciprocated in a generalized way (to the community) rather than to an individual. Wasko

¹³⁸ Some examples include Alexander Ardichvili, Vaughn Page, and Tim Wentling. "Motivation and Barriers to Participation in Virtual Knowledge-sharing Communities of Practice." *Journal of Knowledge Management* 7, no. 1 (2003): 64–77; Yu-Hui Fang and Chao-Min Chiu, "In Justice We Trust: Exploring Knowledge-sharing Continuance Intentions in Virtual Communities of Practice." *Computers in Human Behavior* 26, no. 2 (2010): 235–246; and Betty Gray, "Informal Learning in an Online Community of Practice." *Journal of Distance Learning* 19, no.1 (2005), 20-35.

¹³⁹ Chao-Min Chiu, Meng-Hsiang Hsu, and Eric T.G. Wang. "Understanding Knowledge Sharing in Virtual Communities: An Integration of Social Capital and Social Cognitive Theories." *Decision Support Systems* 42, no.3 (2006): 1872–1888.

¹⁴⁰ Betty Gray, "Informal Learning in an Online Community of Practice." *Journal of Distance Learning* 19, no.1 (2005), 20-35.

¹⁴¹ Ming-Ji James Lin, Shiu-Wan Hung, and Chih-Jou Chen. "Fostering the Determinants of Knowledge Sharing in Professional Virtual Communities." *Computers in Human Behavior* 25, no. 4 (July 2009): 929–939.

and Faraj found that members of a closed community of legal professionals were motivated to share knowledge with other members, even though they expected that their help would not be reciprocated.¹⁴² Generalized reciprocity is defined by the act of giving by a third party within the community rather than the original recipient returning the favor.

Members of an online community often want to help others by sharing and experiences, and may have the goal of advancing professional knowledge. This is congruent with Lave and Wenger's community of practices framework and social learning theory. Themes related to four individual motivations discussed (egoism, altruism, collectivism, and principalism) suggest that engagement with online communities can be a highly social learning method that is driven, in part, by the norm of reciprocity. Additional research is needed in this area to examine practices that increase members' individual motivations and reasons for knowledge sharing.

3.2.3 Supporting Knowledge Exchange

Working in concert with motivations for sharing knowledge, researchers from education and library and information science in the area of online communities have identified concepts that support the exchange of knowledge. Themes that emerged from reviewing the related literature included the following factors related to this study: leadership and moderation, trust, shared identity, and the ability to lurk and listen in on the conversation.

Effective leadership and moderation is a key factor in sustaining active online communities and creating opportunities for knowledge sharing. As defined by Gairín- Sallán et

¹⁴² Molly McLure-Wasko and Samer Faraj. "Why Should I Share? Examining Social Capital and Knowledge Contribution in Electronic Networks of Practice." *Management Information Systems Quarterly* 29, no.1 (2005), 35-57.

al.,¹⁴³ there are four specific, core functions usually carried out by moderators: 1) *organizational function*: organizing and coordinating the work of the community or group; 2) *social function*: creating a social and friendly atmosphere that is conducive to member exchange and continued involvement; 3) *intellectual function*: guiding and monitoring the quality of contributions as well as synthesizing and distilling contributions into usable summaries; and 4) *technological function*: providing support for technology and tools that allow members to effectively use the software platform.

Related to this work, Gray discusses the importance of having moderators that are aware of social, cultural, and other factors that allow the community to grow and change over time.¹⁴⁴ A study by Bourhis et al. examined the ways that actions by leaders of online communities influenced the success of the community, which suggested that a central factor of successful communities was very involved leaders who marshaled the ability to build alliances, foster trust, and find creative avenues to encourage member participation.¹⁴⁵ Having moderators that share the vision of the site, increase visibility, and raise trust is at the core of enabling knowledge sharing to occur within a specific online community.¹⁴⁶

¹⁴³ Joaquin Gairin-Sallan et al. "Who exactly is the moderator? A consideration of online knowledge management network moderation in educational organizations." *Computers & Education* 55, no.1 (2010), 304-312.

¹⁴⁴ Betty Gray, "Informal Learning in an Online Community of Practice." *Journal of Distance Learning* 19, no.1 (2005), 20-35.

¹⁴⁵ Anne Bourhis, and Line Dubé. "'Structuring Spontaneity': Investigating the Impact of Management Practices on the Success of Virtual Communities of Practice." *Journal of Information Science* 36, no. 2 (April 1, 2010): 175–193.

¹⁴⁶ Anne Bourhis, Line Dubé, and Réal Jacob. "The Success of Virtual Communities of Practice: The Leadership Factor." *Electronic Journal of Knowledge Management* 3, no.1 (2005): 23–34, Leslie M. Babinski, Brett D. Jones, and Marjorie H. DeWert. "The Roles of Facilitators and Peers in an Online Support Community for First-Year Teachers." *Journal of Educational and Psychological Consultation* 12, no. 2 (2001): 151–169, and Alexander Ardichvili, Vaughn Page,

The Bourhis et al. study also suggested that selecting a leader based on personality, enthusiasm, and skills was important for the success of the community. Key characteristics of effective moderators that emerge from several studies include having sufficient knowledge of the practice to demonstrate credibility, technical competence and the ability to teach members how to effectively use the technology; an understanding of how to foster community and develop social connections, creativity, an orientation toward life-long learning and the ability to build trust and to find innovative ways to encourage participation.¹⁴⁷ Overall, research findings support active moderators as being essential for successful knowledge sharing practices within online communities. However, while the selection of a good moderator emerged as a point of consensus, there is little discussion in the literature on how to train and sustain good moderators, nor on ways that the role of the moderator changes over time in communities that evolve and grow.

Trust emerges repeatedly as a central factor in promoting vibrant online communities and fostering knowledge sharing activities. Related to the community aspect of the communities of practice concept and the application of social learning theory to online communities, Wenger et al. argue that “learning together depends on the quality of relationships of trust and mutual engagement that members develop with each other.”¹⁴⁸ Research findings from studies of online communities have supported the claim that trust and knowledge sharing are reciprocal

and Tim Wentling. “Motivation and Barriers to Participation in Virtual Knowledge-sharing Communities of Practice.” *Journal of Knowledge Management* 7, no.1 (2003): 64–77.

¹⁴⁷ Betty Gray, “Informal Learning in an Online Community of Practice.” *Journal of Distance Learning* 19, no.1 (2005), 20-35, and Joaquin Gairin-Sallan et al. “Who exactly is the moderator? A consideration of online knowledge management network moderation in educational organizations.” *Computers & Education* 55, no.1 (2010), 304-312.

¹⁴⁸ Etienne Wenger, Nancy White, and John D Smith. *Digital Habitats: Stewarding Technology for Communities* (Portland, OR: CPSquare, 2009), 8.

relationships that are influenced by the amount and quality of information shared.¹⁴⁹ Usoro et al found three trust factors that were significant in knowledge sharing within a corporate online community: competence, integrity, and benevolence.¹⁵⁰ This connects with findings from another study, Ridings et al, which found that members' trust in the competence, integrity, and benevolence of other members was significantly predicted by responsiveness and confiding behavior. Higher levels of trust within the community are formed when members respond to messages quickly and often.¹⁵¹

Having a shared vision and identity that embodies goals and a clear purpose is essential for community growth and sustainability. A shared vision supports meaningful, expert conversation and thoughtful responses that are useful to members.¹⁵² One theme emerging from the literature is that a collective identity and shared vision are central to successful sharing of knowledge within a community.¹⁵³ Selective recruitment and bounded communities based on a

¹⁴⁹ Abel Usoro, Mark W Sharratt, Eric Tsui, and Sandhya Shekhar. "Trust as an Antecedent to Knowledge Sharing in Virtual Communities of Practice." *Knowledge Management Research 38; Practice 5*, no.3 (2007): 199–212, and Yu-Hui Fang and Chao-Min Chiu, "In Justice We Trust: Exploring Knowledge-sharing Continuance Intentions in Virtual Communities of Practice." *Computers in Human Behavior 26*, no. 2 (2010): 235–246.

¹⁵⁰ Abel Usoro, Mark W Sharratt, Eric Tsui, and Sandhya Shekhar. "Trust as an Antecedent to Knowledge Sharing in Virtual Communities of Practice." *Knowledge Management Research 38; Practice 5*, no.3 (2007): 199–212.

¹⁵¹ Mei-Lien Young and Fan-Chuan Tseng. "Interplay Between Physical and Virtual Settings for Online Interpersonal Trust Formation in Knowledge-Sharing Practice." *Cyber Psychology & Behavior 11*, no. 1 (February 2008): 55–64.

¹⁵² Alyssa Friend Wise, Poornima Padmanabhan, and Thomas M. Duffy. "Connecting Online Learners with Diverse Local Practices: The Design of Effective Common Reference Points for Conversation." *Distance Education 30*, no. 3 (2009): 317–338.

¹⁵³ See Chao-Min Chiu, Meng-Hsiang Hsu, and Eric T.G. Wang. "Understanding Knowledge Sharing in Virtual Communities: An Integration of Social Capital and Social Cognitive Theories." *Decision Support Systems 42*, no. 3 (December 2006): 1872–1888.

shared practice may assist in the development of collective vision.¹⁵⁴ Gray found that the ongoing participation and sharing of experiences helped to forge collective identity and increased willingness of members to participate and share knowledge.¹⁵⁵

Using a community of practice lens, Lave and Wenger argue that lurking is a form of “legitimate peripheral participation” and a crucial process by which a community can offer opportunities for engagement and learning.¹⁵⁶ Bishop found that one way of encouraging lurkers to participate more in the community is for “regulars, leaders, and elders” to openly nurture newcomers. This facilitates comfort, demonstrating that those who are new to a community are treated well.¹⁵⁷ Preece et al argue that lurking may be a problem if a community is less active.¹⁵⁸ On the other hand, in vibrant, active communities, Preece et al suggest that lurking is not a problem and should not be considered deviant behavior. Within the literature, the conversation about whether lurking is a barrier or a support to knowledge sharing is an open question.

The literature related to online communities has identified mechanisms for supporting knowledge sharing, as well as motivations related to knowledge sharing. Literature in this area has also explored the importance of trust, leadership, and other support factors for facilitating

¹⁵⁴ Ann Jones and Jenny Preece. “Online Communities for Teachers and Lifelong Learners: a Framework for Comparing Similarities and Identifying Differences in Communities of Practice and Communities of Interest.” *International Journal of Learning Technology* 2, no. 2/3 (2006): 112–137.

¹⁵⁵ Betty Gray, “Informal Learning in an Online Community of Practice.” *Journal of Distance Learning* 19, no.1 (2005), 20-35.

¹⁵⁶ Jean Lave and Etienne Wenger, *Situated Learning: Legitimate Peripheral Participation* (Cambridge University Press, 1991), 9.

¹⁵⁷ Jonathan Bishop. “Increasing Participation in Online Communities: A Framework for Human–computer Interaction.” *Computers in Human Behavior* 23, no. 4 (July 2007): 1881–1893.

¹⁵⁸ Jenny Preece, Blair Nonnecke, and Dorine Andrews. “The Top Five Reasons for Lurking: Improving Community Experiences for Everyone.” *Computers in Human Behavior* 20, no.2 (2004), 203.

online professional communities of practice. However, examining how these factors are combined to shape the layers, content and context of the work inside of these communities is less explored. This literature review uses these previous studies to extend this as an area for further exploration.

3.2.4 Evolving conversations about online communities

Explorations of online community have continued to evolve in scholarly conversations across and overlapping many fields, including media studies, science and technology studies, sociology, and information sciences. Coalescing with conversations about community and social informatics, strands of discussion range from crowdsourcing and microblogging to imagined communities, identities, public expression and knowledge sharing.

Community informatics is described and defined by library and information science researchers Williams et al. as “one field that has specifically attended to local community in the digital age, as it adopts information technology or adapts to a technologically transformed society.”¹⁵⁹ This resonates with research concerned with the development of virtual communities and the shaping of identity as described by scholars such as MIT media studies professor Nancy Baym, anthropology and information science researcher danah boyd, and communications/information science researcher Tarleton Gillespie. Baym’s work examines personal relationships and connections within the framework of online communities, including

¹⁵⁹ Kate Williams et al., “Research Note: Measuring the Globalization of Knowledge: The Case of Community Informatics,” *First Monday*; Volume 18, Number 8 - 5 August 2013, 2013, <http://firstmonday.org/ojs/index.php/fm/article/view/4347/3737>.

those established through microblogging conversations between performers and amongst online fan communities.¹⁶⁰ Research about the nature of public and how social media has reconfigured and blurred lines of ‘publicness’ is an overlapping thread identified by Baym and boyd that spans examinations of identity, relationships, and connections.¹⁶¹ Virtual community scholarship has also evolved by considering the relationships between what could be described as mediation and the material structure that supports conversation. Dialogue examining the interplay between infrastructures and message brings many scholars into conversation from the fields of communication, media studies, information sciences, anthropology, and more.¹⁶²

3.3 MOBILIZATION, MOVEMENT, AND MANAGEMENT OF KNOWLEDGE

The framework of communities of practice as a knowledge management tool is a concept that appears in management and business literature. Commonly referenced as a tool for collaborative

¹⁶⁰ Media scholar Nancy Baym’s best known work in this area is perhaps her book, *Personal Connections in the Digital Age* (Cambridge: Polity Press, 2010) which has been reprinted several times, but her recent work extends to understanding relationships between performers and online fan communities. One example: Nancy K. Baym, “Data Not Seen: The Uses and Shortcomings of Social Media Metrics,” *First Monday*; Volume 18, Number 10 - 7 October 2013, 2013, <http://firstmonday.org/ojs/index.php/fm/article/view/4873/3752>.

¹⁶¹ See Nancy K. Baym and danah boyd, “Socially Mediated Publicness: An Introduction,” *Journal of Broadcasting & Electronic Media* 56, no. 3 (July 1, 2012): 320–29, doi:10.1080/08838151.2012.705200. Social construction of virtual identity is a theme in much of danah boyd’s work, including her recent book, *Its Complicated: The Social Life of Networked Teens*. New Haven: Yale University Press, 2014.

¹⁶² For a brief sample, see the recent volume edited by Tarleton Gillespie, Pablo J. Boczkowski, and Kirsten A. Foot, *Media Technologies: Essays on Communication, Materiality, and Society*. Cambridge, MIT Press, 2014. Research into online communities is blossoming in many places, as defined by research groups interested in society and technology in places such as at Stanford, MIT, the Harvard Berkman Center, and more.

work, this review of the related literature sets out some of the concepts and issues related to that use.

3.3.1 Competing ideas related to knowledge and management

There are competing definitions and strands of knowledge management that are pragmatically opposed. By examining and using knowledge management as it stands in popular and business literature as a guiding concept, one must quickly accept that it is related to a mission-driven, business agenda and practice. The term “corporatist,” suggested by Keen and Tan, carefully captures the view of knowledge as organizational asset, the aggressive goals of innovation, and the purposive intention of generating a high return on investment.¹⁶³

An ongoing tension in the area of knowledge management is the difference between information and knowledge. One major limitation to the use of knowledge management as a concept is the view of “knowledge” being separated from the individual, or knowledge as a corporate asset. This points to a separation recognized by Qureshi and Keen (and later, Keen) as key differences between knowledge management and knowledge mobilization.¹⁶⁴ In this view, knowledge management relates to the supply side of information organization, the creation of collaborative environments to leverage intellectual capital, and incentives for shifts in work practices that provide incentives for knowledge sharing that is largely separated from the

¹⁶³ Peter Keen and Margaret Tan. “Knowledge Fusion: A Framework for Extending the Rigor and Relevance of Knowledge Management,” in *Knowledge Management, Organizational Memory, and Transfer Behavior: Global Approaches and Advancements*, ed. Murray E. Jennex. (Hershey, PA: Information Science Reference, 2009.)

¹⁶⁴ Peter G. W. Keen and Ron Mackintosh, *The Freedom Economy: Gaining the M-Commerce Edge in the Era of the Wireless Internet* (Berkeley, Calif., U.S.A.: Osborne/McGraw-Hill, 2001); Sajda Qureshi and Peter Keen. *Organizational Transformation by Activating Knowledge: The Mediating Role of Collaboration Technologies* (Åbo Akademi University, 2005.)

individual context.¹⁶⁵ Accepting this largely corporatist view of knowledge management generates conflict between thinkers in this area, including Ekbia and Hara, Wilson, and Fuller, who do not agree that knowledge should be mainly valued for organizational payoff.¹⁶⁶

Qureshi and Keen note that knowledge mobilization reflects the demand side of information organization, or that knowledge is dominated by the identity and situational context of the individual, and relates to the personal choice of “whether, when, why and with whom” to share knowledge and expertise.¹⁶⁷ This theme and ongoing tension between separating out knowledge as corporate asset, and knowledge as intellectual capital and personal decision, begins to get at the competing definitions and goals in the area of knowledge management.

Keen and Tan point to the need for a shaping framework that encourages a balance between what they term “thought leadership priorities” (often consultant firms and charismatic business leaders) and research and scholarship that derives from intellectuals and academic disciplines. Their proposal to use a framework of knowledge fusion to partition the field of knowledge into four arenas of distinct but overlapping areas: 1) knowledge management (the goal); 2) knowledge mobilization (the enabler); 3) knowledge embodiment (the study of what it means “to know”); and 4) knowledge regimes (the organizational, political, and sociological

¹⁶⁵ Peter Keen and Margaret Tan. “Knowledge Fusion: A Framework for Extending the Rigor and Relevance of Knowledge Management.” in *Knowledge Management, Organizational Memory, and Transfer Behavior: Global Approaches and Advancements*, ed. Murray E. Jennex. (Hershey, PA: Information Science Reference, 2009.)

¹⁶⁶ These scholars take a skeptical view towards some areas of knowledge management. See Hamid R. Ekbia and Noriko Hara. “The Quality of Evidence in Knowledge Management Research: Practitioner Versus Scholarly Literature.” *Journal of Information Science* 34, no. 1 (February 1, 2008): 110–126; T.D. Wilson. “The Nonsense of ‘Knowledge Management’.” *Information Research* 8, no.1 (October 2002); and Steve Fuller, *Knowledge Management Foundations* (Boston: KMCI Press, 2002.)

¹⁶⁷ Sajda Qureshi and Peter Keen. *Organizational Transformation by Activating Knowledge: The Mediating Role of Collaboration Technologies* (Åbo Akademi University, 2005.)

factors that shape how knowledge is focused, authenticated, and legitimized, and validated in the organizational and professional context.¹⁶⁸ This proposal is linked to the need for moving beyond the assertion of a single definition of knowledge that works for all communities. In this vein, they argue that current trends of “thought leadership” that are detached from the scholarly and research communities lack staying power and exist more as “claims leadership” than thought leadership.¹⁶⁹

As a conceptual thread, the idea of ‘tacit knowledge’ emerges as a constant strand of discussion in most explorations of knowledge management, and as a central concept for the study of communities of practice. The idea that tacit knowledge exists in the minds of people and is thus distinguished from knowledge that is not formally recorded is an understanding that persists in some areas of the field, and particularly in the work of “thought leaders.” However, as noted by Day, this is a ‘folk-psychology notion’ that leads to the deduction and expectation that tacit knowledge can easily be transferred by simply having the knowledge holder reflect on and articulate the knowledge.¹⁷⁰ There are competing conversations in the learning and management literature about defining tacit and explicit knowledge, and understanding how and whether tacit

¹⁶⁸ Peter Keen and Margaret Tan. “Knowledge Fusion: A Framework for Extending the Rigor and Relevance of Knowledge Management.” in *Knowledge Management, Organizational Memory, and Transfer Behavior: Global Approaches and Advancements*, ed. Murray E. Jennex. (Hershey, PA: Information Science Reference, 2009.)

¹⁶⁹ Peter Keen and Margaret Tan. “Knowledge Fusion: A Framework for Extending the Rigor and Relevance of Knowledge Management.” in *Knowledge Management, Organizational Memory, and Transfer Behavior: Global Approaches and Advancements*, ed. Murray E. Jennex. (Hershey, PA: Information Science Reference, 2009.)

¹⁷⁰ Ronald E. Day, “Clearing up ‘Implicit Knowledge’: Implications for Knowledge Management, Information Science, Psychology, and Social Epistemology.” *Journal of the American Society for Information Science and Technology* 56, no. 6 (2005): 630–635.

knowledge can, in fact, be captured or articulated.¹⁷¹ The key concern related to tacit knowledge is centered around whether to attempt to capture it, for example as a best practice or “lessons learned” exercise, or whether it is better to foster an informal environment where it may be shared. Literature on management systems addresses the movement of explicit, codified knowledge. However, much tacit knowledge is likely to be difficult to codify in ways that can be transferred by management systems. This discussion is a familiar one to archivists and records professionals. As argued by Malhotra et al, focusing on systems that facilitate collaborative work between knowledge holders and those who need knowledge may be a better avenue for exploration than trying to codify tacit knowledge.¹⁷² In this sense, the community of practice concept is one that naturally fits within this conversation to connect people informally for knowledge exchange.

It should be recognized with any use of the term knowledge management that there is an explicit intent for “knowledge” to be the target of “management.” In that sense, there are real limitations to the use of knowledge management as a term that encompasses anything but understanding it as a field and not a topic. Knowledge management principles and practices are a set of processes and practices that come from other disciplines, including information and library science, business, management, and technology.¹⁷³ Thematically, knowledge management as

¹⁷¹ See Hardimos Tsoukas, “Do we really understand tacit knowledge?” in Mark Easterby-Smith, and Marjorie A. Lyles, eds. *Handbook of Organizational Learning and Knowledge Management* (Malden, MA: Blackwell Publishing, 2003), 410–427.

¹⁷² Arvind Malhotra, Ann Majchrzak, Robert Carman, and Vern Lott. “Radical Innovation Without Collocation: A Case Study at Boeing-Rocketdyne.” *MIS Quarterly* 25, no. 2 (June 2001): 229.

¹⁷³ Maryam Alavi and Dorothy E. Leidner. “Review: Knowledge Management and Knowledge Management Systems: Conceptual Foundations and Research Issues.” *Quarterly* 25, no. 1 (March 2001): 107-136. Several models that have emerged in this area include Nonaka’s knowledge spiral and the 4C model used by the Army.

used in the literature is a management term that is about meeting organizational needs for effective action. Overlapping with organizational learning, the area of knowledge management has a stronger focus on managing knowledge as a corporate asset. It is not about knowledge as an intellectual position in the sense of Foucault, but about actions and corporate, organizationally driven management goals.

3.4 CONCLUSION

This literature review is primarily concerned with the contexts and complexities of peer learning communities and their creation of active records. In order to support that aim, this review opens with a thematic look at collective memory conversations. It next moves to examining literature from library and information science, education, and business regarding cooperative online communities and learning practices. Research that examines the motivations for community members to participate in knowledge exchange, to engage in leadership practices, and that foster a foundation of shared trust in online communities was discussed in this section. These contributions are useful to support inquiry that seeks to further understand the role of records within an online community that is structured around shared learning. Finally, this review examined the use of community knowledge in an organizational context, as a tool for knowledge management. This points to ongoing tensions between knowledge as a corporate asset, and an understanding of knowledge as intellectual capital and sharing as a personal decision. The literature discussed in this review supports a deeper look at communities where active recordmaking is a core piece of self-definition and peer learning. Centrally, it also reveals points of tension and areas for exploration using the continuum as a frame for this case study.

4.0 METHODOLOGY

4.1 OVERVIEW

In this chapter, I describe my methodological approach, research framework, data sources, and methods of data analysis. This study has been designed using a richly layered case study to bring together data and perspectives that allow for exploration of the complex topography of the records continuum model as a framework for understanding the roles and functions of records in a community.

By employing the research strategies discussed in this chapter, the case is then used to address the central research question:

What can applying the records continuum to the CompanyCommand case study reveal about the nature of the framework as a theory for understanding the role of records in a community?

4.2 CASE STUDY AS A RESEARCH FRAMEWORK

The design of a research approach is a decision that is intimately related to the characteristics of the research inquiry and situation. Choosing a qualitative case study approach came directly from considering the relationships and human decisions behind the construction of community. This

approach also made sense for examining the use of the records continuum as an analytic tool for understanding community records creation as a human endeavor.

The core data for this dissertation comes from an instrumental case study, which involves the deep examination of a specific case in order to provide insight into a broader issue or theory.¹⁷⁴ Within this research methodology, the selected case is examined in depth and applied as a secondary tool to facilitate and advance understanding of another phenomenon, issue, or theory. Robert K. Yin notes that the rationale for a single instrumental case study makes sense when the research is designed to “confirm, challenge, or extend the theory.”¹⁷⁵ While one critique of the single case study model could be a limited ability for generalization, Yin notes that it is important to be clear that the intent of the research is to explore and generate theory, or “analytical generalization,” which upholds the scope of the case as an exploratory tool.¹⁷⁶ In this study the case study is used to make claims about a theory and model (records continuum) rather than a population (military online communities).¹⁷⁷

For this dissertation, CompanyCommand serves as the case study’s object of study, which in turn provides a setting to explore the records continuum. This research uses the single case study approach with embedded units of analysis.¹⁷⁸ Within the case study framework, I have examined and will discuss four topical forum threads, themes emerging from *ARMY Magazine*

¹⁷⁴ Robert E. Stake, “Case Studies,” in *Strategies of Qualitative Inquiry*, 2nd ed., ed. Norman K. Denzin and Yvonne S. Lincoln (Thousand Oaks, CA: Sage Publications, 2003), 88.

¹⁷⁵ Robert E. Stake, “Case Studies,” in *Strategies of Qualitative Inquiry*, 2nd ed., ed. Norman K. Denzin and Yvonne S. Lincoln (Thousand Oaks, CA: Sage Publications, 2003), 144.

¹⁷⁶ Robert E. Stake, “Case Studies,” in *Strategies of Qualitative Inquiry*, 2nd ed., ed. Norman K. Denzin and Yvonne S. Lincoln (Thousand Oaks, CA: Sage Publications, 2003), 143.

¹⁷⁷ Robert K. Yin, *Case Study Research: Design and Methods*, 4th ed. (Thousand Oaks, CA: Sage Publications, 2009), 15.

¹⁷⁸ Robert K. Yin, *Case Study Research: Design and Methods*, 4th ed. (Thousand Oaks, CA: Sage Publications, 2009), 2.

articles that were generated from forum posts, and five interviews from forum administrators. I have used close reading and open coding as the methods to extract and analyze the data from the threads and articles. In addition, I have used the interviews to provide a contextual setting for this data. The records continuum serves as the central framework for analyzing the data of the CompanyCommand case study. This has allowed me to discuss how the continuum may serve as a model for exploring and understanding the role of records in a community.

One of the strategies that organization studies scholar Kathleen Eisenhardt lists for analyzing case study data is developing detailed descriptions for the objects of study, explaining that this can be essential for researchers to cope with a large amount of information.¹⁷⁹ I have used this descriptive approach by bringing the sources of data together to create a narrative that is used for contextualizing the analysis of the records continuum.

When selecting a case study for research, there should be a rationale for the choice of the object of study. For the purposes of this dissertation, CompanyCommand is a layered corpus of records that affords a deep examination and discussion of the complex contours of the records continuum as a theory and as a model. An exploration of the work of the CompanyCommand forum using multiple methods of data collection has yielded a rich set of data. The triangulation of various data points, defined by Robert Stake as “a process of using multiple perceptions to clarify meaning,” provides data to support an in-depth investigation of the central research question.¹⁸⁰ By examining the forum structure and system, the forum posts individually and collectively as threads, and published articles, as well as interviewing forum creators and

¹⁷⁹ Kathleen M. Eisenhardt, “Building Theories from Case Study Research,” in *The Qualitative Researcher’s Companion*, eds. A. Michael Huberman and Matthew B. Miles (Thousand Oaks, CA: Sage Publications, 2002), 17.

¹⁸⁰ Robert E. Stake, “Case Studies,” in *Strategies of Qualitative Inquiry*, 2nd ed., eds. Norman K. Denzin and Yvonne S. Lincoln (Thousand Oaks, CA: Sage Publications, 2003), 143.

administrators, data and discussion emerging from this study explores the interactions of the system, records, and actors related to this professional community of practice. By employing case study methods for this research study, collected data was analyzed and triangulated to bring together insights, differences, and common themes from a range of data points to suggest, raise, and provoke areas of discussion related to the central research question.

Careful reading of events, systems, processes and the work of communities, institutions, and people is important for understanding records and recordkeeping. Recent work and discussion of continuum approaches, such as a dissertation by Andrew Lau and an article by Leisa Gibbons, use case studies as a framework for discussing points of tension and debate that surround this theoretical frame. While Lau uses ethnography as a means to illuminate the documentation practices of a particular art community, the data generated from his case study of the Los Angeles-based Machine Project informs his critical analysis of the records continuum and of discussions in the literature related to community archives.¹⁸¹ Gibbons uses three cases to discuss the cultural heritage continuum model (CHCm) and the role of YouTube in the formation of culture, as well as employing the continuum approach as a conceptual lens for exploring assumptions and limitations of Australian cultural heritage institutions that collect YouTube videos as cultural heritage.¹⁸² Both of these recent research projects demonstrate that the case

¹⁸¹ Andrew J. Lau, "Collecting Experiences" (PhD diss., University of California, Los Angeles, 2013).

¹⁸² Leisa Gibbons, "Testing the continuum: user-generated cultural heritage on YouTube," *Archives and Manuscripts* 37, no. 2 (2009): 89-112. This article represents a piece of her forthcoming dissertation research. The cultural heritage continuum model (CHCm) is one of several related models developed by Frank Upward, and is described further in his article, Frank Upward, "Continuum Mechanics and Memory Banks Part 2: The Making of Culture," *Archives and Manuscripts* 33, no. 2 (2005), 21.

study method can be useful in generating data that can frame and inform critical analysis of continuum approaches.

4.3 OBJECT OF STUDY

Data collection for this study involved exploring, describing, and understanding patterns and themes emerging from my examination of the CompanyCommand forum. The examination and description of the forum and the work of the administrative team is a central source of contextual information for this work. To accomplish this exploration, this dissertation uses existing data consisting of forum threads, published member posts and other documents created and used inside and outside of the CompanyCommand forums, as well as primary and secondary sources about the forum's creation, evolution, and impact. Data has also been created as part of the process of interviewing forum creators and administrators about their work with the site. This includes two site visits to CALDOL at West Point, and interviews with site administrators via phone, Skype, and in person.

The CompanyCommand forums comprise a virtual community of practice that has been explicitly designed for the professional development of junior officers (lieutenants and captains) in the United States Army. The CompanyCommand forums reside within the larger MILSPACE community of practice, which also has other restricted access forums for the development of company-grade officers as well as West Point cadets, Reserve Officer Training Corps cadets, and Officer Candidates. These forums are supported by a professional team located in the Center for Advancement of Leadership and Development of Organizational Learning (CALDOL) at the United States Military Academy. This instrumental case study is specifically focused on the

CompanyCommand forum and administrators/creators and does not extend to the full MILSPACE community. Many forum users and site administrators are currently, or have been recently deployed as part of combat operations in Afghanistan or Iraq, or on other military installations around the world.¹⁸³ This online forum community for CompanyCommand sits within an overlapping circle of other communities, including the larger community of company commanders, and the Army as an institution.

4.3.1 Embedded Units of Analysis

The four embedded units of analysis within the CompanyCommand case study are:

- A) The CompanyCommand Forum as a system
- B) Published articles in ARMY Magazine derived from forum threads
- C) Topical forum threads
- D) Interviews of forum administrators

4.3.1.1 Embedded Unit A: The CompanyCommand Forum as a System

The first embedded unit of analysis of this case study is the CompanyCommand forum as holistic complex system involving an underlying technology tool; forum posts, which can be seen as records and documentary acts; sets of posts that collectively compose forum threads; the rules and processes that govern the administration and use of the forum; and the users and administrators of the forum. Examining CompanyCommand as a system provides a frame for

¹⁸³ Official withdrawal of combat troops from Iraq occurred in December 2011, though additional troops remain on the ground for non-combat operations. Many of the posts and interviews will be related to the experiences of officers as part of Operation Iraqi Freedom, 2003-2010, or Operation Enduring Freedom in Afghanistan (2001-ongoing).

understanding the work and interactions of the community members, including users and administrators, through a rich description and coding of selected forum posts, themes, and topics forms. This systems framing also enables the examination and description of the forum and illustrative posts and threads to support analysis of community interactions and how they shape both people and records. It also enables a forum post to be a documentary act that forms the basis for other activities, such as building the community and transferring knowledge.

4.3.1.2 Embedded Unit B: *ARMY Magazine* Articles

The second embedded unit of analysis is the corpus of 97 articles in *ARMY Magazine* based on CompanyCommand forum threads that ran from March 2005 through December 2013. It is important to note that these 97 articles comprise a snapshot of what the CALDOL administrative team found to be the most important or representative topic to highlight in a given month. This is the full run of CompanyCommand-based articles from the start of the monthly series through my research visit to West Point in early January 2014. The *ARMY Magazine* articles were thematically constructed from a range of selected forum discussions that the administrative team at CALDOL chose to highlight on a monthly basis. Looking at this full set of published posts provides insight not only into the forums and narratives written by members, but also a window into the process of mediation and selection by the administrative team as they disseminated information across the Army and the broader military about the conversations on the site.

These *ARMY Magazine* articles have been chosen and organized topically by the administrative team at CALDOL. The articles represent what CALDOL has judged to be the “best” content from that month related to a topic chosen by the CALDOL staff. Each monthly article contains about 15 to 20 sample forum posts compiled from a range of contributions from company commanders. For example, the July 2005 article, “Prepare for Command,” asks for

responses to the question “What was the MOST important thing you did in your preparation for command?” The article contains eighteen replies from company commanders that are grouped by themes such as “Prepare Mentally,” “Know Your Soldiers and the Unit,” “Develop a Command Vision and Philosophy,” and “Prepare Your Family.” Many of the articles have a similar structure and arrangement. Looking at this set of published posts provided insight not only into the forums and narratives written by members, but also a window into the process of mediation and selection by the administrative team as they disseminated information across the Army about the conversations on the site.

4.3.1.3 Embedded Unit C: Topical Forum Post Threads

For this study I have selected four representative topical thread clusters from the CompanyCommand forum. The four threads were chosen as a point of analysis because they represent the reactions and comments made by site members prior to their incorporation and representation as part of the published articles. Reading the forum threads in their original state at the site of creation was a purposeful choice to understand how the records change, overlap, and reference each other within the context of the forum.

4.3.1.4 Embedded Unit D: Interviews

I have used purposeful sampling to select a set of five past and current administrators and forum creators for in-depth interviews about the forum.¹⁸⁴ The leaders selected for interviews served as key informants for this study. The current administrative staffing framework for the site includes a colonel in charge, at least one major actively curating the forums, a technical manager (civilian,

¹⁸⁴ John W Creswell, *Qualitative inquiry & research design: choosing among five approaches*. (Thousand Oaks, CA: Sage Publications, 2007),189.

retired Army), and an administrative assistant (civilian). Because of the nature of this assignment, majors cycle in and out to serve in active support roles, usually on a yearly or bi-yearly basis that usually follows the normal change of duty station timelines for the Army.

For this case study it was important to interview the forum administrators because they are part of a small, selected group of experts that shape the community and hold knowledge about the conception and evolution of the forum over time. Forum founders and administrators that have been critical to the success of the site were identified through initial discussions with the CompanyCommand team.

The interview sample includes current and former site administrators. The interviewees include site creators as well as current administrators who were asked to participate based on their extensive knowledge about the history, culture and evolution of the site. Personally identifiable information (primarily names) have been anonymized in the Findings chapter for the privacy of the respondents. For several respondents, a second interview (for clarification purposes) was necessary.

Research interviews for this study were conducted using a qualitative, semi-structured method. The interviews were used as supporting data for the description of the case study. Interviewing members of the core administrative team presented me with access to the context and mechanics of their decisions about structure and format, and allowed me to gain new understanding into their purpose and intent as active creators and shapers of the community. The intent of the interviews was to gain further understanding about the decisions of the forum administrators and founders. This provided a layer of contextual information about the other data as well as about design and culture of the forum.

4.3.2 Additional Resources

Additional resources, including articles and other publications written by administrators about the development of the forum have been identified as sources for this research. Because much of the information about the creation and evolution of the forum is informal or undocumented, these secondary sources were very helpful in creating a broader contextual picture of the work of the forum. In the course of the interviews and the data collection process, additional sources emerged and were identified by participants and contacts associated with CompanyCommand. This includes reports, PowerPoint slides from presentations about the site, and several articles and dissertations. A full list of additional publications, references and resources may be found in Appendix A.

4.4 DATA SELECTION, COLLECTION, AND CREATION METHODS

Purposeful sampling is based on the premise that the researcher wants to gain understanding and deeper insight about a particular phenomenon. The goal of this process is to create an illustrative sample.¹⁸⁵ The selection of embedded units of analysis, and data within those units, were carefully chosen to understand and illustrate the work of the CompanyCommand forum, the object of study for this this case study. This section describes how I selected, collected, and generated data from the four embedded units of analysis that constitute my case study.

¹⁸⁵ Michael Quinn Patton. *Qualitative Research and Evaluation Methods* (Thousand Oaks, CA: Sage Publications, 2002).

4.4.1 The CompanyCommand Forum as a System

Discussion of the evolution and changes in the forum over time emerged in the administrator interviews, and is also described as part of the site background. I had full access to this restricted forum for the purpose of this study while I was onsite at the United States Military Academy in January 2014. An extended description of the forum is a central piece of the data created and gathered.

4.4.2 *ARMY Magazine* Articles

The full set of 97 published *ARMY Magazine* articles described in section 4.3.1.2 were gathered from the online magazine website at <http://www.ausa.org/publications/armymagazine>. The articles were reviewed using open coding, which identified themes arising across the articles. Articles were coded for themes and topics using content analysis. The coding served as my data from this embedded unit of analysis (Unit B). This study examined the full set of 97 monthly articles published from March 2005 through December 2013. As an important part of the research process, these emergent themes also later influenced my reading of the records continuum model. Themes emerging from this coding process were used to inform the selection of the four topical post clusters (Embedded Unit of Analysis C, see section 4.3.1.3) during my research visit in January 2014 that were used to describe, trace, and analyze through the records continuum model.

4.4.3 Topical Forum Post Threads

As mentioned above, topical thread clusters were drawn from a review of the CompanyCommand forum and themes arising from *ARMY Magazine* articles. Initial selection criteria for a topical thread cluster required that the thread contained enough substantive discussion and diversity of opinions over time to support close reading. The criterion required that threads became part of at least one published article in *ARMY Magazine* and have at least 15 replies, signifying member interest, density, and richness of discussion. The thread reply count was used as a selection factor because it was important to select threads that are substantive enough to support close reading. These threads represent thematic and temporal diversity that allows for critical reading and content analysis, and the topical threads have been mapped and described through the lens of the records continuum. This process allowed for discussion of selection, community editing and co-creation, and other themes that emerged from a reading of the data.

During my January 2014 site visit, I reviewed an eligible list of related published articles with the CompanyCommand administrative team. Based on their knowledge of the forum threads that met my initial criteria, we arrived collaboratively at a set of threads that would provide rich examples for examination and discussion. This process constituted a purposive selection within the eligibility criteria that I had previously established. On the basis of my initial criteria and my work with the forum administrators, I selected the sample of four threads, as described in section 4.3.1.3, to code and describe more closely for the purpose of further analysis and discussion. A sample of the coding may be found in chapter 5. These four threads could be deeply described and traced backwards from their selection by CALDOL staff for compilation

and publication, through their genesis, use, and discussion on the forum. The coding of these threads became the data for this embedded unit of analysis.

4.4.4 Interviews

Participants in the semi-structured interviews were purposely selected because they are a subset of forum creators and administrators with expert knowledge of the site and of the culture of the community. All interview subjects agreed to participate in semi-structured interviews for this study in consultation with the current staff members at CALDOL.

Interviews with administrators and founders were conducted onsite at the United States Military Academy, as well as by telephone and in other locations agreed upon by participant and researcher between December 2013 and June 2014. Due to the possible constraints of telephone/Skype interviews, this study was granted an exemption waiver for participant signatures from the University of Pittsburgh IRB. All of the interviews were captured on a digital recorder and transcripts were generated, as well as notes and memos during and after the completion of the interviews.

4.4.5 Ethical Considerations and Institutional Review

The data collection process for this study involved interviewing human subjects, which carries an obligation to respect the rights, values, and needs of the participants.

For this study, approval was required from the University of Pittsburgh Institutional Review Board. Under the guidelines for research involving human subjects at the University of Pittsburgh, this study falls under the “expedited” category. Approval was granted in February

2013, and renewed in February 2014. The University of Pittsburgh IRB has designated the risk level of this study as minimal. While initially it was thought that two IRB reviews (from the University of Pittsburgh and the United States Military Academy) would be required for the project, the review board officer at the United States Military Academy stated that it would not be necessary for this project. The IRB paperwork can be found in Appendix C.

4.4.6 Protection of Data

In accordance with the guidelines of the University of Pittsburgh Institutional Review Board for expedited studies, a Data Safety Management Plan for protecting the privacy of human subjects was created for this study and has been filed as part of the application in compliance with related university guidelines for the retention of research data.¹⁸⁶

A waiver of written consent for this research study was granted by the University of Pittsburgh IRB. Participants still verbally consented to participation prior to interview. Through informed consent, the interview participants were made aware (1) that participation is voluntary, (2) of any aspects of the research that may affect their well-being, and (3) that they were free to stop participation at any point in the study.

¹⁸⁶ See the University of Pittsburgh Institutional Review Board guidelines for data safety and retention of research data here: <http://www.irb.pitt.edu/pandp/default.aspx> (Accessed February 27, 2013).

4.5 DATA ANALYSIS

This dissertation uses two methods of analysis. The first, qualitative content analysis, is an inductive process of creating analytic categories (coding) that arise from reading and reflect the significance of events and experiences to those in the setting.¹⁸⁷ The second method takes the records continuum as an analytic frame to read the case study, using the generated codes and selected threads developed in the earlier analysis. This framework is then flipped to use the case and findings to examine the records continuum to better understand the framework using the lens of what the tool produces, highlights, and conceals.

4.5.1 Qualitative Content Analysis

Qualitative content analysis is one of many research methods that may be used to analyze textual data. An unobtrusive technique used widely in the humanities and social sciences, content analysis allows researchers to probe the meanings, symbolic qualities, and expressive contents of data and to consider more closely the communicative roles that these meanings play in the lives of the data creators.¹⁸⁸ Research that uses qualitative content analysis is focused on the characteristics that emerge from communication and language. The design of this study was structured to allow categories and themes to emerge from the data using inductive category

¹⁸⁷ Robert M. Emerson, Rachel I. Fretz, and Linda L. Shaw, *Writing Ethnographic Fieldnotes*, 2nd ed. (Chicago: University of Chicago Press, 2011), 175.

¹⁸⁸ Klaus Krippendorff, *Content Analysis: An Introduction to Its Methodology*, 3rd ed. (Thousand Oaks, CA: Sage Publications, 2013), 49.

development.¹⁸⁹ Using themes and categories that flowed from reading the data helped to contextualize the research and ground the coding within the collection process.

In qualitative research, coding is the assignment of abbreviations, schemes and categories for the purpose of seeing patterns in the collected data. This process allows for the identification of information about the data, and for understanding and interpretation relevant to the data analysis. Themes emerging from the data served as the primary codes.

The secondary literature published about military forums, and specifically about CompanyCommand, also served to support codes that emerged from the data gathered through examination of the forum, posts, and published posts. Zhang and Wildemuth note that defining the textual unit of analysis and developing the categories and coding schemes is a process that should occur early in the data collection phase.¹⁹⁰ Preliminary analysis during the proposal stage indicated the need to distinguish between coding the narratives of the CompanyCommand forum posts and the themes of the posts. For example, a post describing tactics for avoiding roadside bombs in Iraq may be topically about roadside bombs but thematically about demonstrating leadership in combat situations. My coding of published forum posts prior to the onsite data gathering visits at West Point suggested additional topics and questions for the semi-structured interviews and forum examination.

¹⁸⁹ Using inductive category development has been described as being appropriate for a qualitative approach to content analysis by Hsiu-Fang Hsieh and Sarah E. Shannon in “Three Approaches to Qualitative Content Analysis.” in *Qualitative Health Research* 15, no. 9 (November 1, 2005): 1277–1288.

¹⁹⁰ Yan Zhang and Barbara Wildemuth. “Qualitative Analysis of Content,” in *Applications of Social Research Methods to Questions in Information and Library Science*, ed. Barbara M Wildemuth (Westport, Conn.: Libraries Unlimited, 2009), 308-319.

The open coding for this project was initially based on background knowledge, my review of the literature, and my reading of secondary sources related to the military and to CompanyCommand. Based on my central research question, I decided that the coding of the articles would reflect themes about the community. This is a small, but critical point: reading the themes of the community's work through the lens of the records continuum allows for additional findings, discussion and interpretation, as well as for the possibility of raising concerns that fall outside of the records continuum model.

4.6 TRUSTWORTHINESS OF THE RESEARCH

Transferability, dependability, and confirmability are criteria developed by social scientists Yvonna S. Lincoln and Egon G. Guba¹⁹¹ for understanding and measuring the trustworthiness of qualitative research. Using these measures addresses concerns that the positivist criteria used for assessing quantitative research (such as internal and external validity, reliability, and objectivity) are not appropriate measures for qualitative research approaches.

Transferability relates to the possibility that the findings of the researcher will be useful to others with similar situations or research questions. Catherine Marshall and Gretchen Rossman note that the “burden of demonstrating applicability of one set of findings to another context rests more with the researcher who would make that transfer than the original researcher.”¹⁹² However, rich contextual description and detail about the process and case afford

¹⁹¹ Yvonna S. Lincoln and Egon G. Guba. *Naturalistic Inquiry*. Beverly Hills, CA: Sage, 1985.

¹⁹² Catherine Marshall and Gretchen B. Rossman, *Designing Qualitative Research* (Thousand Oaks, California: Sage Publications, 1999), 193.

future researchers the ability to make that determination of transferability. I have worked to address this by including rich description and background discussion of the forum, the founders, and the circumstances of the work that serves as the case study as well as situating the central theoretical framework. Dependability as a measurement criteria is demonstrated when others can review the process and understand the procedures, research, and conclusions flowing from the data. Framing qualitative research as socially constructed knowledge¹⁹³ where discourse is interpreted by the researcher allows for understanding that this researcher is the instrument, and that the research process may itself cause change in both the researcher and participants. While qualitative research is not repeatable in the same way as quantitative research, dependability can be the result of a transparent and well-described process. Attempting to construct a process that can be clearly understood and reviewed by others is one way in which I have tried to meet this measurement.

Confirmability, as Lincoln and Guba note, is the extent to which the “data and interpretations of the study are grounded in events other than the inquirer’s personal constructions.”¹⁹⁴ Qualitative research meets this measurement when findings are clearly grounded in the data and conclusions flow logically from the process. I have worked to address the challenge of confirmability by clearly describing and situating the case study and frameworks within multiple, related contexts that are separated from my personal observations.

¹⁹³ Peter L. Berger and Thomas Luckmann. *The Social Construction of Reality: A Treatise in the Sociology of Knowledge*. (New York: Anchor Books, 1966), 2.

¹⁹⁴ Yvonna S. Lincoln and Egon G. Guba. *Naturalistic Inquiry*. (Beverly Hills, CA: Sage, 1985), 324.

4.7 POSITIONING/PERSPECTIVE

This study is influenced by my own position and perspective as a scholar in the area of recordkeeping. In October 2012, I met with several members of the CALDOL administrative team, and expressed my interest in writing and talking further with them about their work.

I am an outsider writing about the CompanyCommand community through a recordkeeping lens, and based on the interviews, forums, conversations, and background data about the community. I am also trying to write in a way that members and the administrative team would recognize and identify as how they use and engage with CompanyCommand. This study uses both emic and etic approaches to understanding the cultural context of the community and its records creation by combining observation and interviews with an exploration of records generated by and shaped within that culture.

Understanding how participants describe and use their own community is important to gaining insights about the structure, function and evolution of the forum and posts over time. The action of including thick description of the forum, the background, and the interactions affords the opportunity to bring in the voices of the CompanyCommand team and community. Deeply describing the particulars of the case and the context of the records creators and community allows for the possibility of a richer analysis of the records continuum model and what it may highlight or obscure.

4.8 CONCLUSION

This dissertation has been designed to use a complex, layered case of the CompanyCommand forum as an object of study to bring together data and perspectives that allow for examining the records continuum model as a framework for understanding the multiple roles and functions of records in a community. For this dissertation, I have used an instrumental case study with embedded units of analysis. Data from the case study is in the form of published articles, forum posts, and contextual interviews with site administrators. The articles and posts were coded using qualitative content analysis, as well as “read” through the four dimensions of the records continuum. The findings of this dissertation focus on an examination of the records continuum and what has been revealed about the model as it is applied to the case study.

5.0 FINDINGS FROM THE COMPANY COMMAND CASE STUDY

5.1 CHAPTER OVERVIEW

As described in Chapters 1 and 4, this dissertation uses two methods of analysis. Using the first method, qualitative content analysis, I have generated codes and themes from close readings of published articles and forum posts, and memos from the semi-structured interviews. This case has four embedded units of analysis, which are: understanding the CompanyCommand forum as a system, published articles from *ARMY Magazine* derived from forum threads, topical forum threads, and interviews with forum administrators. The interviews serve as contextualizing information to inform the other embedded units, and are not presented as a separate section. Findings of this work have highlighted useful aspects of the records continuum as well as revealing key concerns that are hidden or missing when reading through the records continuum lens.

In this findings chapter, I discuss the situated context of CompanyCommand, and describe the forum as a system. Then I discuss the published articles, and their codes and themes. Next, I explore the topical forum threads. Finally, I discuss a reading of these threads and themes through the lens of the records continuum. Additional exploration of the records continuum will occur in Chapter 6.

5.2 EMBEDDED UNIT A: COMPANYCOMMAND AS A SYSTEM

This section describes CompanyCommand as a system. It looks at the CompanyCommand forum as a recordkeeping system. Then it addresses the history of the administrative team and changes to the technical platform between 2001-2013.

5.2.1 Describing CompanyCommand as a Recordkeeping System

Describing CompanyCommand as a recordkeeping system requires first starting with a basic definition of a recordkeeping system. The definition initially raised in the first chapter of this dissertation is from ISO 15489, which defines a recordkeeping system as “an information system, which captures, manages, and provides access to records through time.”¹⁹⁵ As noted, this definition is broad but serves as a useful starting point for discussing informal community-based recordkeeping. Some similar definitions, such as from InterPARES and SAA, are rules-based and institution-centric, reflecting concerns about evidence and business purposes that do not fully fit informal community records.

Using the ISO definition also makes sense when considering its lineage and perspective. ISO 15489 draws upon AS 4390-1996, the Australian records management standard, which is based on continuum thinking. This is visible even in the definitional ISO language of “captures, manages, and provides access” which closely works with the three outermost continuum dimensions of “capture, organize, pluralize.” Perhaps as the emerging archives scholarship has signaled shifts in the authority and purposes of archivists, this set of overlapping conversations

¹⁹⁵ *Information and Documentation- Records Management- Part 1: General*. ISO 15481-1:2001. Geneva, Switzerland: ISO.

may lead to the emergence of changing, and perhaps more inclusive definitions and understandings of what comprises a recordkeeping system, and who and what they serve.

Within this distributed online community, members are able to create forum posts, which can be read as records. By establishing that CompanyCommand is a recordkeeping system, this means understanding that the content (posts and other documents) generated and captured there are records. The records accumulate layers of context, in a process of ‘becoming.’¹⁹⁶ These records, created as part of the community, contain content, and have context and a particular structure.¹⁹⁷ These records are captured by the CompanyCommand forum acting as a recordkeeping system, and other members can contribute to the records, adding layers of information. CompanyCommand situates the records and interactions within a structure that provides organization and management, and provides access over time and space.

5.2.2 History of the technical platform

To describe the structures that support the CompanyCommand forums, it is useful to think about layers. One foundational layer that is important for understanding the community is the changing and iterative nature of the supporting technologies over time. The forum’s technological past has shaped the site and the community, and changes in technology have an effect on the members, particularly at the moment of moves to different platforms and software versions. This

¹⁹⁶ As defined by Australian archival scholar Sue McKemmish, records are always in a state of ‘becoming.’ See Sue McKemmish, “Are Records Ever Actual,” in Sue McKemmish and Michael Piggott (eds.), *The Records Continuum: Ian Maclean and Australian Archives First Fifty Years* (Clayton: Ancora Press, 1994), 200.

¹⁹⁷ This connects with US archivist Richard Pearce Moses’ definition of records in the SAA glossary as having fixity, containing content, having context, and maintaining structure.

description is drawn from semi-structured and unstructured interviews, as well as from published and unpublished sources about and related to the forums.

The timeline of the CompanyCommand forum presented in Table 2 is used to situate the description of the forum as a technology.

Table 2: Platform/Software/Control History

Platform/Software/Control History	
March 2000-2003	HTML-based (Windows) Commercial servers, locally controlled
May 2003-December 2006	Tomoye Simplify (Windows and PHP) USMA servers, locally controlled
January 2007-August 2008	Tomoye Ecco (Windows and .NET) USMA servers, locally controlled
September 2008-February 2013	Tomoye Ecco (Windows and .NET) MilSpace USMA servers, locally controlled
March 2013- present	milSuite (Jive/Java) DISA servers, remote control/access

In 2000, the first instance of the site was hand-coded in HTML, as a set of static pages (with manual updates that a member of the team was initially running out of his home), and hosted on a commercial server.

INTERVIEWEE 1:

“It was totally flat. It all went through us. It was just stories, one after the other, on a page. We did monthly updates through our web guy, and some months when he was busy, it would take a few extra days. We were all doing this on the side, when we had time. It didn’t scale well, and it was a psychological block, that their [members] messages had to be approved before posting.”

INTERVIEWEE 2:

“Getting content sent in, at first, we were pulling from our own existing relationships across the Army. We worked on building trust. Initially, we had trust because we all knew each other, and had a common ethos, a passion about our profession.”

The grassroots site continued to build momentum among junior officers. In 2002, the administrative team decided to make the move to a hosted solution that would allow for bulletin boards, mainly in order to facilitate and encourage member conversation and a sense of stewardship about the site.

INTERVIEWEE 2:

“In 2001-2002 we did get some significant pushback, along the lines of ‘What are you doing and how does it connect with your job?’ I remember a senior leader up the command chain directly asking me, ‘How do you know if you are adding any value?’ While it is clear now that the forums were creating value, back then it was a big cultural shift.”

INTERVIEWEE 1:

“*The Cluetrain Manifesto* was a huge influence... we wanted to make room for the best conversation in a bar you’ve ever had. We wanted members to talk about their experiences, the things you discuss in your backyard over a beer, or across the Humvee hood. We wanted to guide that, make that conversation happen. That was a challenge, that central voice for members to check in with each other.”

Initially, the move from the HTML, static site to the Tomoye Simplify platform in 2003 did not provide a central meeting point, the “front porch” that the administrative team had envisioned. Their impetus behind creating a central place was to set the conversational tone, and to allow members to have a chance to see/speak to the most relevant things going on.

INTERVIEWEE 1:

“We quickly hacked out a front porch, a place for the member voices to shine through. We always want to have that, to design in our guiding goal of ‘for them/by them.’ It was a challenge to get that in there. We ended up adding a local hack on our server with some homegrown code in order to make it work.”

INTERVIEWEE 2:

“We talked about the concept of the ‘point man,’ and mindful design to help people decide to take the risk of jumping in.¹⁹⁸ The DNA of the site is professional conversation. How do we make that conversation happen?”

INTERVIEWEE 3:

“One example of using our own local hack to the source code was the status update, the SITREP. We added a ‘like’ button, and eventually a dropdown feature so that community members could give more input. When someone says “I broke my ankle,” you don’t want to hit ‘like.’ We wanted to be able to say, “Hey man, I feel your pain.””

The Tomoye Simplify platform was a commercial software architecture that was marketed for the purposes of facilitating organizational knowledge transfer between employees. In 2002, Tomoye counted the Smithsonian Institution and the World Bank as customers of their community discussion board software architecture and products.¹⁹⁹ After the successful migration of CompanyCommand to the Tomoye platform in 2003, other Department of Defense communities were created on the platform, including an online community of practice set up by the US Navy to share knowledge between senior acquisitions managers and their junior colleagues.²⁰⁰ More significantly for the CompanyCommand community, the move to Tomoye Simplify was part of a larger shift: the founders transferred ownership of the site to the United

¹⁹⁸ To be a “point man” or to “take point,” is a military term that describes taking the most exposed forward position in a combat advance, leading a group into hostile territory. The person “walking point” is the most likely to encounter the enemy first. This term has been adopted into some business cultures to simply mean leading, or being at the forefront of a new challenge.

¹⁹⁹ “Tomoye Corp- Fast 50 2003,” Accessed on February 19, 2015.

<http://www.fastcompany.com/1537834/tomoye-corp-fast-50-2003>

²⁰⁰ David W. DeLong, *Lost Knowledge: Confronting the Threat of an Aging Workforce*. (Cambridge: Oxford University Press, 2004),124.

States Military Academy. This meant the establishment of an official office space at West Point, and more legitimacy, both officially and with the members of the community.

INTERVIEWEE 3:

“I’m not sure that we were rogue, but people saw our good intentions. The command structure was aware of our site. The team members were already established as a trusted part of the organization. But the idea of peers learning from each other was counter-cultural at the time. The initial response from leadership was, leave it alone. Don’t mess it up if it’s good, if it’s bad, it will die.”

Moving to Tomoye and to West Point in 2003 helped to usher in an era of growth for the CompanyCommand forums, and for the overall umbrella/administrative team at CALDOL.²⁰¹ Having local control over the site meant that the administrative team could be nimble and responsive to the needs of members.

INTERVIEWEE 3:

“The model evolved to full time staff, with the role of supporting the real heroes. The topic leads, that was the secret sauce. The core team was essential to keeping the processes moving. Each generation needed to step up and take ownership of the space.”

INTERVIEWEE 1:

“Perceptions. In the early days, it was about trust. Moving behind the Army firewall was good for that. Knowing who was there was important. A challenge, as you grow to ten thousand members, the body of work starts to have sensitivity.”

INTERVIEWEE 3:

“The [member] dog tag during this [Tomoye] period was so important. It featured a mandatory question for every member, “What do you love about leading soldiers?” When you scrolled over a thread or a knowledge object, the dog tag popped up. You could get to know people and their background.”

²⁰¹ CALDOL, the Center for the Advancement of Leader Development and Organizational Learning at the United States Military Academy, grew out of the CompanyCommand project and was established in 2005. Besides CompanyCommand, CALDOL is responsible for the PlatoonLeader forums, as well as other leader development and organizational learning programs.

The dog tag included user-created information about the member's name, current duty, past experience, and professional interests. Building this and other locally controlled code into the system helped the CALDOL team to be connected with what their members wanted and needed from the community. The administrative team believes that responsive nature of the forums and leadership reinforced its reputation as a place to go for professional peer learning.

INTERVIEWEE 2:

“The boundaries reinforce the values of the community itself. You are not going to be called stupid for asking a question. But you also have the ability to trust that you are speaking to someone who has been there in those shoes. You can have confidence in their response.”

INTERVIEWEE 2:

“Building in the dog tags was a huge trust building piece. It removed rank from the conversation. The intent was to promote the sense that “we are here to collaborate” and exude that persona in the forums. Rank can be a hindrance to learning, and removing it also removes concern about *how* to answer versus *what* to answer. We're all here to learn.”

INTERVIEWEE 4:

“Other Army sites don't have the same level of response [that we do]. They may have contractors who are in charge of moving knowledge objects around. But they don't have the same kind of caring and relationship building. And personal relationships have gotten people to contribute. The face to face meetings have also helped to build relationships, pushed people to see the potential in the forums.”

The migration within the Tomoye architecture from the Simplify platform to Ecco also happened at a time when CompanyCommand was rapidly rising in awareness and membership. Meanwhile, the CALDOL team was also engaged with several face-to-face initiatives that were related to their mission of peer leadership and teaching. This included workshops and leadership exercises using topics that had been raised and refined in the forums. One such exercise, a set of workshops conducted in August 2003 that included around 70 company-level leaders preparing

to deploy to Iraq, helped the administrative team to think even further about the structure and delivery that would help them to facilitate conversation.²⁰²

INTERVIEWEE 1:

“Doing this stuff helped us to zero in on ownership. When we asked participants to engage with each other and talk about what they had learned, or an experience they had, conversations happened. Our focus as a team went from the role of expert to being facilitators, participants, co-learners. I’m not sure whether they [the participants] got more out of it or if we did.”

From September 2008 until February 2013, the “MilSpace Era” is the period that the administrative team recalled most fondly when interviewed.²⁰³ During this time, the forums reached peak membership levels (21,000 members), and more importantly, increased traffic and participation. They had a much larger administrative team and staff (9 people in 2012) to handle the traffic. The administrative team had local ownership and technical privileges to update and customize the site. Members could access the community forums from home, from their smartphones, and from all over the world.

However, according to the CALDOL team, assistance and new features were becoming more difficult to get from Tomoye in 2011-2013.

²⁰² This set of small-group workshops took place at the US Army Europe Land Combat Expo in Germany in August 2003. It was led by members of the CALDOL administrative team, along with a current CPT that came to the workshops directly from the fighting at “Thunder Run” in Fallujah while he was on block leave, just days after his tour ended. The lessons learned from this set of training workshops were eventually distilled into the Land Combat workbook, and parts of this are still used for training exercises.

²⁰³ One note about two confusing names. “MilSpace” was the name for the umbrella of locally controlled CALDOL forums on the Tomoye Ecco platform from 2008-2013. “milSuite” is the umbrella (styled deliberately by the Army with a lowercase m and uppercase S) for the suite of social media products behind the Army firewall and administered by BCKS. This is described later in this chapter in more detail.

INTERVIEWEE 3:

“Tomoye was just dead in the water. All of the feature requests were coming from us. We were coming up with all of the ideas. We were their dev [development]. They were bought out, and we needed to move on.”

INTERVIEWEE 1:

“Big Army said ‘we need a bigger scale platform.’ What happened was that DoD stopped paying for the license because they wanted to consolidate everyone on BCKS [Battle Command Knowledge System].”²⁰⁴

Because of how CALDOL is structured and administratively located, which is outside of the traditional command structure and not attached to an academic department, they are their own self-contained unit within the US Military Academy. Team members describe this as “a weird little private company” because, as active duty military members, they are not permitted to solicit funds or grants. When the larger Army organization decided that they were moving to BCKS, the other options were limited.

INTERVIEWEE 3:

“We hold bake sales and stuff. If we became part of a department, we become beholden to them. We want to serve our members. So we pay the bills in the summer by holding workshops.”

INTERVIEWEE 1:

“We tried to see the silver lining, that we could share and help learning across the Army organization. We were doing a lot of local, nimble stuff and BCKS could see it but not do it. We thought that we could help. Unfortunately we don’t have server access. But we’re just another untrusted customer to BCKS.”

Since the official migration in 2013, CompanyCommand has been part of milSuite. (which falls under the BCKS umbrella and is described in more detail below). The move meant being, for the first time in CompanyCommand history, unable to control the website or make

²⁰⁴ DoD= Department of Defense. BCKS is the Battle Command Knowledge System.

local changes. The milSuite system sits behind the Army firewall, only accessible from CAC (Command and Access Control) card machines, usually at work.

INTERVIEWEE 4:

“People are afraid because milSuite is Army green²⁰⁵. Rank gets in the way of conversation, and people are afraid to get caught playing at their desks, similar to Facebook.”

INTERVIEWEE 1:

“The move [to milSuite] cut off our conversation with future leaders. It cut off 90% of ROTC and reserve participation, because they don’t have access.”

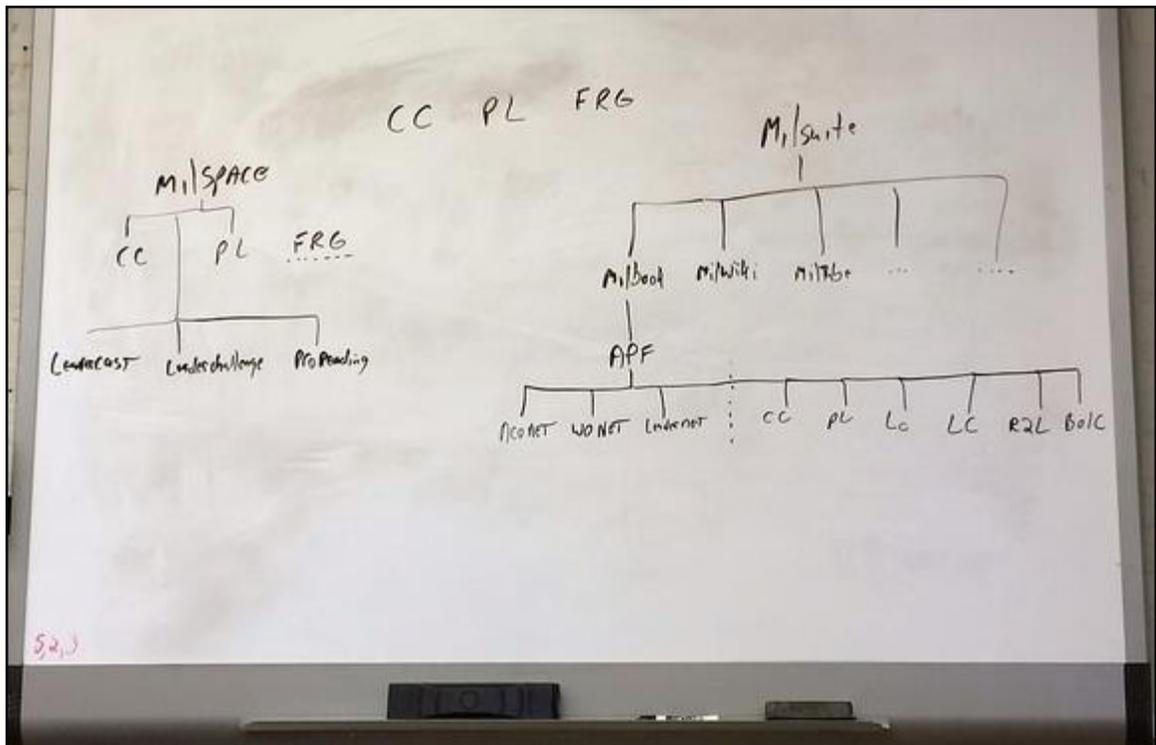


Figure 2: Partial depiction of milSuite infrastructure

²⁰⁵ This suggestion of being “Army green” reflects the idea and tension that when the site is perceived to be official by members, members may not feel as though they can ask difficult questions or be so open on the boards.

The image above depicts the situation for the past two moves. Sketched by a member of the CALDOL administrative team, the drawing on the left shows the 2008 to early 2013 MilSpace structure while CompanyCommand was still using Tomoye Ecco. The MilSpace umbrella held CompanyCommand, as well as sister sites PlatoonLeader and FRGLeader. Other locally controlled initiatives included LeaderCast, Leader Challenge, and Pro Reading. On the left is the milSuite structure, and CompanyCommand's place in that space.

As described above, CompanyCommand has gone through a number of moves and organizational changes. Updates to the front end user interface and back end platform have resulted in changes to the site and how it functions, while the core goals of CompanyCommand have remained the same over the lifetime of the forum. However, some shifts at the institutional level of the Army have altered the ways that members locate, enter, and use the forums. When the CompanyCommand team moved from their locally hosted site (at CALDOL) to milSuite, hosted under the auspices of BCKS, they were forced to change platforms, and their locally grown and developed structure was transitioned to milSuite, the military version of Facebook.²⁰⁶ The CALDOL team lost much of their flexibility and autonomy when they moved from local hosting to offsite remote hosting that was part of a much larger (and less responsive to technical issues) administrative structure. But, perhaps even more importantly, the administrative, intra-

²⁰⁶ An official description of milSuite, in part: "milSuite is a Department of Defense-wide, secure suite of four collaboration tools that mirror existing social media platforms such as Facebook, Wikipedia and YouTube, but are located behind the DoD online firewall. milSuite is currently comprised of four tools: milWiki, a living knowledge bank of military encyclopedia entries; milBook, a professional networking tool and collaborative space with communities of practice; milWire, a micro-blogging application for sharing content across milSuite and external sites; and milTube, a video-sharing capability. The tools are integrated through a common user profile and linked by a Google search appliance." US Army Program Executive Operations Command and Control Communications- Tactical website. Accessed August 2014. <http://peoc3t.army.mil/miltech/milsuite.php>

Army move to consolidate social media using an enterprise-wide system hosted at BCKS in 2013 also placed the forums behind the Department of Defense (DoD) firewall. This had a range of effects, but one crucial factor was that members now had to log in from a CAC-enabled (Common Access Card) machine. Instead of being able to log in and participate from a personal computer, tablet or smartphone after hours, all forum access was now only available through Army-owned or approved equipment. This also meant that a stern DoD warning appeared now at each login:

YOU ARE ACCESSING A U.S. GOVERNMENT (USG) INFORMATION SYSTEM (IS) THAT IS PROVIDED FOR USG-AUTHORIZED USE ONLY.²⁰⁷

By using this IS (which includes any device attached to this IS), you consent to the following conditions:

- The USG routinely intercepts and monitors communications on this IS for purposes including, but not limited to, penetration testing, COMSEC monitoring, network operations and defense, personnel misconduct (PM), law enforcement (LE), and counterintelligence (CI) investigations.
- At any time, the USG may inspect and seize data stored on this IS.
- Communications using, or data stored on, this IS are not private, are subject to routine monitoring, interception, and search, and may be disclosed or used for any USG-authorized purpose.
- This IS includes security measures (e.g., authentication and access controls) to protect USG interests—not for your personal benefit or privacy.

Another effect of moving the forums inside of the milSuite area was the persistent official identifier/login. Member account information was now attached to their official Army/DoD login name and rank, whereas previously members had a “dog tag” that allowed them to personalize their own profile and story in a way that matched the site and its culture. The shift to using official identifiers on milSuite also placed additional, visual emphasis on rank and title, which had been purposely deemphasized on the forums to allow for a peer-to-peer feeling of informal discussion and exchange. Even though the CompanyCommand forums remained a closed,

²⁰⁷<https://login.milsuite.mil/>

purposeful area for company commanders, the location/platform change meant that members now traveled through the official DoD gateway to access the site, and the feeling of a trusted, private community outside of official Army reach was challenged.

While the site changes over time are not the main focus of this dissertation, these shifts have cast a chill on the previously more grassroots, community learning culture of the site. As demonstrated by comments in the interviews, the CALDOL administrative team certainly feels that the MilSpace/Tomoye setup was better in a number of ways. Clearly the administrative team holds the perspective that their community was better served when the CALDOL team had more autonomy to make responsive and nimble changes. This is a tension that is likely also reflective of the somewhat uncertain space that the CALDOL unit holds within their hierarchical organization.

The numbers appear to support concerns about drops in forum membership, with approximately 21,000 members in 2012 on MilSpace, which dropped to 6,633 members in January 2014 after the move to the BCKS-hosted milSuite.²⁰⁸ These interrelated changes may have also altered the likelihood of members trusting that the forum was a safe place to ask questions, deciding to create new records about their personal experiences or to even participate in the forum community. This provokes questions about how records are situated and can be understood and read through different contexts over time, and will be discussed further in chapter six.

The volume of new posts and responses was visibly smaller and slower after the forum move. Because so much of the work of this community of practice relies on the dynamic participation and personal storytelling of members through the creation of posts, the combined

²⁰⁸ This was the number of members during my site visit on 8 January 2014.

effects of these seemingly small changes to the infrastructure had a substantial impact. The CALDOL team that manages CompanyCommand is in the process now (in 2014) of trying to transition the forums back to a locally hosted, non-CAC server, hoping to regain autonomy and reinvigorate conversation and community.

5.2.3 Growing pearls of co-created wisdom

Replying to a forum post can bring more answers, questions and knowledge into the thread. This constitutes a reactivation of the record and, much like an oyster with a pearl, the responses add an additional layer of co-created information, complexity, value, and context to the record. The continued activity between the original record and the responses means that the ‘pearls’ continue to accrue knowledge and value as members use and contribute to the record.

To extend the metaphor even further, these ‘pearls’ can also be recombined and used in different ways. By compiling a targeted, themed article each month from forum posts, the administrative team is not only reactivating the records but adding different dimensions and highlighting other uses for these gems, and doing so with a different, more public audience in mind. The *ARMY Magazine* articles published by the administrative team and using forum content are a purposeful retelling of the work of the site. By thematically organizing, situating, and editing posts around a coherent narrative, the administrative team is not just reactivating the record, but also creating an entirely new record for a different audience and different purpose.

Part of the forum development and construction relates to placing content and lessons learned within contextual layers: essentially the concept of storytelling. By embedding knowledge within rich, detailed description and personal stories, the contextual elements such as an interesting story, outcome, timeline, and location serve to make the forum posts more

relevant, timely, memorable and useful to others. Viewed through a lens of social learning theory, these evocative and personal descriptive posts situate the context of the knowledge, but also enable other members to evaluate the content and perhaps modify and reuse the lesson in their own current and future professional practice.

The development of multi-layered, co-created threads (stories) to situate learning and sharing is explicitly facilitated by the structure of the forums as a shared, active recordkeeping system. Not only does the site provide a space to tell stories, but it actively allows for the creation, capture, organization, and sharing (pluralization) of those stories. Told over time, and by many authors/records creators/members, these stories form the heart of the site and are the vibrant manifestation of the original founders' mission for this professional community of practice. Indeed, the use of forum members' stories every month as building blocks for the *ARMY Magazine* articles demonstrates that the shared, co-created records about personal experiences take pride of place for this community. Learning, leadership, training: all of these relate to the center of the community mission, which is formed by trust and relationships between people who have the best interests of the community and their profession in mind.

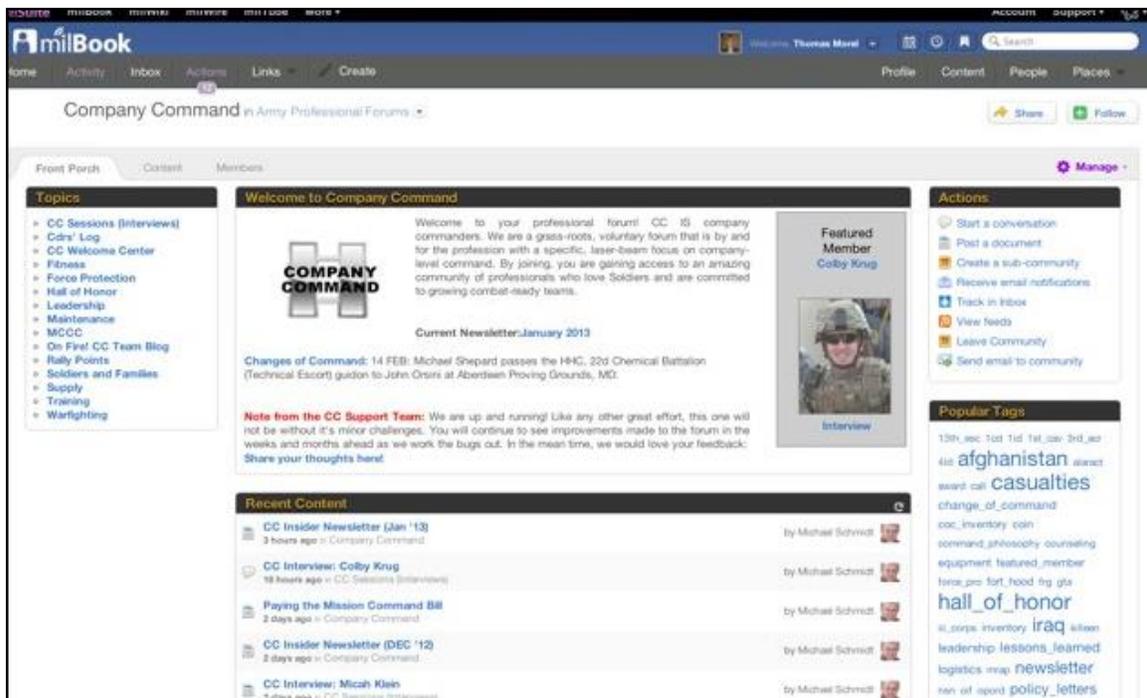


Figure 3: Front page of CompanyCommand, 2013

On the late-2013 (and current, in 2014) milSuite homepage of CompanyCommand, the upper left column, or “Front Porch,” lists the topic areas. These are, in alphabetical order: CC Sessions (Interviews), Cdr’s [Commander’s] Log, CC Welcome Center, Fitness, Force Protection, Hall of Honor, Leadership, Maintenance, MCCC, On Fire! CC Team Blog, Rally Points, Soldiers and Families, Supply, Training, and Warfighting. At the top center of the page is a welcome center which contains a greeting, a link to the latest newsletter, announcements about command changes, and notes from the CC Support Team, as well as a photo and link to a rotating set of featured member interviews. The remainder of the center column displays recent content posted on the forums. The right column has an action area and a cloud of popular tags for content on the site.

The organizational structure of the site has changed over the years, showing changes in technology (as described earlier in this chapter) as well as growing understanding by the administrative team of how the site is used by members. Because the navigation and organization of the site directly influences the experiences of the forum user, the administrative team used feedback and responses from members to better understand and form a concrete list of the site priorities that aligned with the community goals. Asking the question “What does a company-level unit need to be able to do in order to be effective?” guided the team in determining main topic categories for the forums that they aimed to make intuitive and mesh with the mission of the community of practice.²⁰⁹

Developing a simple taxonomy (top level categories) for the site allows members to quickly move through the forum and identify the area and relevant information that they need. By breaking the forums into main topic areas, this organizational structure also allowed the CompanyCommand administrative team to assign topic leaders to each section. The administrative team chooses engaged and energetic members to become topic leaders based on their contributions, expertise, experience and participation. Having members move into topic leader roles extends the engagement of the administrative team with members, and allows for more responsive and in-depth conversation. The careful deployment of topic leaders is an effort to make conversations more productive, engaged, and dynamic.

The use of topic leaders for facilitating conversation on the forums is also strategic. While many threads and questions originate from the CompanyCommand membership, topic leads are informal peer guides that play a role in keeping the conversation on track by clarifying

²⁰⁹ The CompanyCommand administrative team solicited feedback from company commanders (members and non-members) about this question, and used the compiled feedback to make these decisions. This was raised in conversation with the author in January 2014.

and asking questions, as well as responding when they have relevant expertise. Recognizing the importance of this role, the forum team created several documents to guide new topic leaders, including the “Topic Lead Rucksack” and the “Online Facilitation Handbook” to build upon the shared community knowledge about online teaching and learning. These handbooks begin with the underlying premise that questions are the catalyst for dynamic conversation, and provide a simple set of guidelines, tips, and suggestions for effective, productive engagement. The guidelines are similar in tone and practice to military assessment strategies that are already familiar to members. In a general sense, any assessment will address areas of concern: current situation and operational environment (*where we are*), the meaning and significance of data (*so what and why*), and next steps (*what’s next*).²¹⁰ Effective assessment practices should consider answers to the first two concerns in order to develop an answer to the third.

The CompanyCommand leader documents echo the general assessment guidelines in a way that is modified to reflect the intent, values and goals of this particular online professional community. For example, the first area in the “Online Facilitation Handbook,” Initial Assessment, asks: “Is the question aligned with what CC is about, is it clearly stated with enough detail, and is it urgent?” Being clear about whether the question fits with the purpose of CompanyCommand is at the top of the assessment, signaling the importance of maintaining focus on the mission and culture of the site. Assessing whether the question has been effectively communicated gives the topic lead some responsibility for clarifying or rephrasing so that responses meet the needs of the member. The third aspect of the initial assessment is related to understanding how significant and immediate the member’s need may be. This allows team

²¹⁰ These basic assessment strategies are found in many places, including the *Commander’s Handbook for Assessment Planning and Execution*. Suffolk, Virginia: Joint and Coalition Warfighting, J-7. September 2011.

members to decode the impact of the question, and to flag urgent questions that merit a quick, detailed response.

Thinking about these intertwined processes and patterns suggests the unlikely possibility that this forum could fully exist outside of the cultural reach of the Army. Values from related, overlapping communities are embedded within the culture of the CompanyCommand forum and within the records and relationships fostered there. So then if the values are tightly woven into the fabric of the Army community and the records, can these values be fully unpacked, described, and understood using the records continuum?

5.2.4 Administrative Structure

The structure of the forum as a recordkeeping and information system is important to the overall outcomes. Having the framework of the recordkeeping structure in place has allowed the conversations to continue and the records to be co-created and evolve over time and space. The structure of the informal discussion threads allows officers to ask questions in a professional, supportive environment. The informal zone gives them the ability to talk about their knowledge and interpretations of events and situations as individual and community actors in ways that allowed their personal experiences to maintain context and relevance over time for both themselves and for a wider audience.

In this case, the records and the action of co-creating the records also work to help the members and administrators think about how to understand, view, and reuse these experiences for shared and personal learning, growth, and leadership development. In turn, viewing and building these conversations and sharing this knowledge contributes to shaping the community and individual experiential memories together, as well as separately. The documentary act in this

case is not only writing down one's own experiences, but in reacting to the initial posts with further explanation and stories, and then, additionally shaping the published work to reflect the multi-layered, co-created narrative that could not have been fully realized without the assistance of many voices. The records of this community continue to evolve, with the published articles reflecting a snapshot of various iterations over time and space.

A key role in providing, prescribing, and maintaining the community structure is the major support provided by the administrators at CALDOL and the team leads. Often encouraging members to respond, both in the forums and by private message, the administrative team forms the backbone of positive, supportive fellowship for this community. In a sense, the community is both peer-driven and clearly mediated by the CALDOL team, which lends both positive energy and a cohesive, streamlined strategy for eliciting relevant responses from members.²¹¹ This mediation, while deliberately working to avoid breaches of operational security (OPSEC) or disclosure that could harm a member, also may serve to shape the contributions and member decisions about participation and records creation.

5.2.5 Trust, cohesion, and community as important factors for records co-creation

The presence of a collaborative tool does not guarantee communication, collaboration, or community use. While trust in an evidential sense and the creation/maintenance/use of trusted

²¹¹ Other research that has centered around co-productive labor for online communities, such as the work of media studies scholar Hector Postigo on AOL, is relevant and related in a broad sense, but doesn't fully address the addition of a dedicated leadership team or structures for disseminating co-produced work that emanates from the community.

Peer-driven communities are not unique to this particular case. However consideration of the combination of a paid leadership team with control over the design and dedicated to the site, which resides both inside and outside of professional work, is relevant for thinking about the ways that the community input and published output is mediated and understood.

records are discussed frequently in archival discourse, one key theme that arose from this case was the importance of trust between people as the underlying impetus to create and co-create records. Embedded within the ethos, the structure, and the culture of CompanyCommand is the idea of trusting each other and sharing knowledge and information with the intention of helping another person reach his or her goals. Whether that goal is learning how to counsel and guide units that have suffered casualties in the field, working with your first sergeant (1SG), or designing a physical training (PT) program, the central concept behind CompanyCommand is to share hard-earned knowledge with a trusted community. Posts contain stories and anecdotes that are usually personal in nature, can be revealing, and are tailored in message and pitched for this specific professional community of practice.

Trusting the other members of your group is critical for success and survival in the battle space, and it is important for cohesion and community. As part of the forum experience, trusting each other is an integral part of the records creation act, and the re-activation and use of that record, both inside and outside of the community. Members create records and share them because they trust other members, and because they want to participate in that community building and knowledge sharing. Without the basis of trust in the other members of the community, these records would likely be different, and some might not be created at all. Even a quick look at other military forums that were established formally by the organization of the Army for the purpose of knowledge management shows that few of these have enjoyed the collaborative community sense or success of CompanyCommand. Created under the umbrella of Battle Command Knowledge Systems (BCKS), the other professional forums (such as NCO.net) were built after the successful adoption in 2002 of CompanyCommand and PlatoonLeader by the Army, but without a central community-based administrative team to foster trust, discussion, and

a sense of ownership within the membership. These and other Army-owned forums, such as the Brigade Combat Team Warfighters Forum (BCT WfF) are described as “command directed, high-priority tools that provide knowledge management capabilities to deployed and deploying soldiers to ensure they have access to all the knowledge and information necessary to complete their wartime mission.”²¹² However, these forums did not build a sense of trusted community or strongly shared purpose. As of December 2013, several of these official forums were under review and on the verge of being shut down due to lack of traffic or use by members.

Trust between members is a vital component of the decision to create and re-activate records within this community. Cultivating a community of respect and fostering desire to share hard-won knowledge with trusted others are central ingredients in the success of this community and perhaps in other community recordkeeping. Understanding how this component of trust can be understood and visible through the lens of the continuum became an emerging question as part of this dissertation. How are values expressed in the continuum, and how does knowledge of community values support an understanding of the record and recordkeeping system?²¹³ These questions continue to reemerge throughout this chapter and the next.

²¹² U.S. Army Combined Arms Center, Army Operational Knowledge Management, “BCKS History.” Accessed July 1, 2014. <http://usacac.army.mil/cac2/AOKM/History.asp>

²¹³ In this dissertation, I am using “values” in the sense of concepts that are important to the community, CompanyCommand, that is being examined in this case study. These values include notions of trust, morality, and others that will be further described later in this document.

I am aware that there are many related fields that are examining value-sensitive design (VSD) and connected issues of morality and ethics in technology. This includes the National Science Foundation funded Future Internet Architectures project (2010-2014) and Values in Design council, as well as related scholarship by researchers such as Helen Nissenbaum, Geoffrey Bowker, Cory Knobel and others. There are certainly connections between the values explored in the case study and this related scholarship that could be explored in future work.

5.3 EMBEDDED UNIT B: PUBLISHED ARTICLES

This section describes the process of open and axial coding, and emergent themes that came from the categories.

5.3.1 Coding the ARMY Magazine Articles

During my initial reading of the 97 published articles, I used open coding to assist my sorting and understanding. Open coding allowed me to begin to identify categories from the data. This has been defined by sociologists Strauss and Corbin as a key analytic process that allows concepts to be identified, and their properties and dimensions to be uncovered in the data.²¹⁴ The open coding took place in the online qualitative software platform Dedoose, and was in the form of memos, notes and the assignment of thematic codes that attempted to capture what was being discussed throughout each article.

Table 3: Open Coding

<i>Open coding</i>	
Articles	97
Excerpts	1,082
Initial codes	45
Code applications	3,884

²¹⁴ Anselm Strauss and Juliette Corbin, *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory*. (London: Sage, 1998), 101.

The initial codes came from a line-by-line reading of the 97 *ARMY Magazine* articles from 2003-2013. The codes that emerged from the initial round of reading informed some of the questions for the semi-structured interviews. The main purpose of the open coding was to establish and consider themes that would lead to the selection of the four forum threads for deeper discussion and reading. The 97 articles were broken down into 1,082 excerpts using 45 initial codes from reading the data. This involved 3, 884 codes applied to the 97 articles, meaning that each article was assigned an average of approximately 40 codes each. Intracoder reliability testing, evaluated by checking consistency in the application of open coding and categories over time, was performed three months apart.²¹⁵

After the initial reading and coding, I returned to the literature review and the secondary literature about CompanyCommand to better understand some of the underlying discussions. This allowed me to also iteratively update and revise the questions for the semi-structured interviews, and to think about the forums and threads before my research visit to USMA.

One useful capability of using Dedoose for the qualitative coding process was the ability to generate a report of co-occurring codes. This provided a visual guide not only to which codes were used most often, but also to which codes tended to overlap with other, perhaps related codes. This was very useful as I moved to the next stage of analysis, axial coding.

²¹⁵ Described as a method for establishing reliability in qualitative content analysis, I coded one set of data twice. I used the unit of one calendar year, and recoded the data for for 2010 (11 articles), first in December 2013 and then again in March 2014. For further information about this method of establishing reliability, see Kirsty Williamson, Lisa M. Given, and Paul Scifleet, “Qualitative Data Analysis,” in *Research Methods: Information, Systems, and Contexts*, ed. Kirsty Williamson and Graeme Johnson (Pahran: Tilde Publishing, 2014), 429.

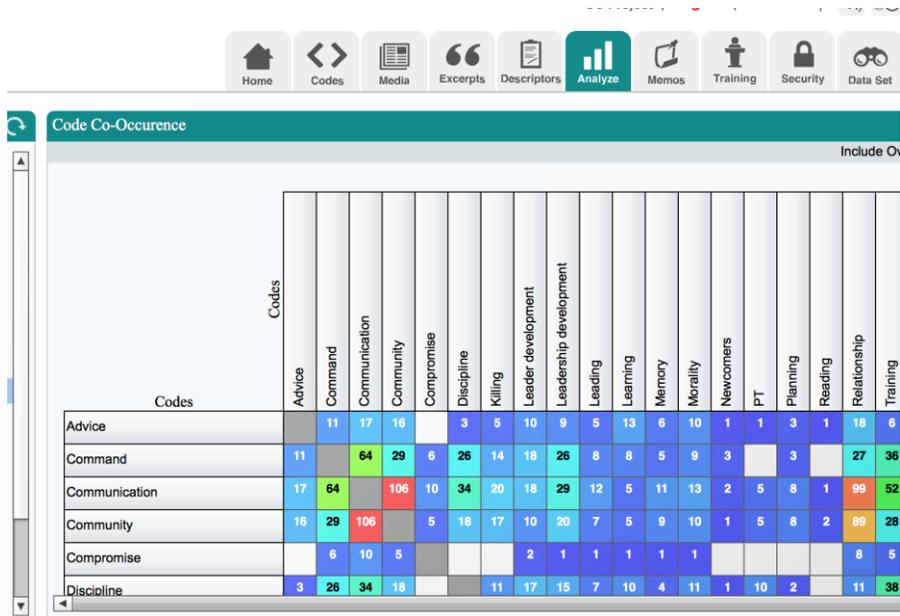


Figure 4: Screenshot of co-occurring codes in Dedoose

Axial coding occurs around the process of relating categories and subcategories, described by Strauss and Corbin as ‘linking categories to their dimensions.’²¹⁶ During this stage of analysis, patterns and themes started to emerge from the data. This helped with thinking further about how some categories, which were overlapping, would be best represented. The linkages suggested relationships for further exploration. This led to reassessing and further combining some of the initial codes into central categories.

After the first round of axial coding and combining open codes into central categories, 22 categories remained. After further thought about the co-occurring codes, and after doing another round of axial coding to retest the categories, I narrowed these categories down to the top 12.

²¹⁶ Anselm Strauss and Juliette Corbin, *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory*. (London: Sage, 1998),123.

Table 4: Axial Coding

Axial coding

Advice	Discipline	Memory	Training
Communication	Leadership	Morality	Transfer of knowledge
Community	Learning	Relationship	Trust

This was interesting because while it did collapse some categories, it also revealed some new patterns. One of those was related to leadership and leader development.²¹⁷ While these terms could be more granularly described here, ultimately both terms were drowned out by other patterns in the data. It made sense to combine them both under leadership, with the understanding that they might still be pulled apart for further analysis if a closer examination of leadership themes was warranted.

²¹⁷ There is a granular distinction within Army practice regarding the use of the terms leader development and leadership development. Leader development refers to the development of individuals and their capabilities. Leadership development refers to the development of organizational leadership. Both terms appear repeatedly in the data, but they are not necessarily interchangeable terms for members of this community.

For a closer look at the open coding, here are themes that emerged from the four threads:

Table 5: Themes from Thread Coding

<i>Article One: Do you follow a stupid order?</i>
Themes: leadership, memory, morality, training, trust
<i>Article Two: Soldiers Making Sense of Killing</i>
Themes: discipline, leadership, morality, training, trust
<i>Article Three: How do you train for Mission Command?</i>
Themes: advice, communication, community, training, transfer of knowledge
<i>Article Four: Designing your World-Class Physical Fitness Program</i>
Themes: discipline, leadership, learning, training

Perhaps unsurprisingly, I found that the themes that I was seeing in the data also emerged within the conversations and interviews during my research visit. The themes described here roughly correspond with many of the core interests and goals of the larger Army community, as well as the mission and purpose of the smaller CompanyCommand community of practice. After all of the data was gathered, I continued to reread and refine the coding to reflect initial, ongoing, and deeper analysis and understanding of the community and the process of records creation, co-creation, use, and reuse.

5.3.2 Locating the ‘contextual ambiance’

Considering and using the key themes emerging from coding to support a critical reading of the case was helpful in thinking conceptually about the records continuum as an analytical framework. As key themes emerged during the iterative data collection and analysis phases of this project, it became clear that particular values exist as part of and are embedded in the CompanyCommand system. Because some of these values may be understood as core concepts to the community, this exercise raises the question of how community values that serve to shape the record and its use can be revealed or hidden by continuum thinking. Because each reading is framed by the perspective used by the reader, it is important to situate the lens through which interpretation is made. This is a process that Australian archival scholar Chris Hurley refers to as locating the contextual “ambiance” surrounding the record.²¹⁸

The themes represent values that are woven throughout the records and deeply held by the community, and a reading of the records is in some ways, incomplete without considering the core community values. However, the records continuum model does not explicitly provoke or promote a reading or conscious retelling of community values as an essential part of describing the records, though the values certainly shape community records and memory. Thinking about communities, and particularly Eric Ketelaar’s comments on the memory function of a community highlights a need for further understanding in the area of community recordkeeping concerns.

Collective identity is based on the elective processes of memory, so that a given group recognizes itself through its memory of a common past. A community is a ‘community of memory’. That common past is not merely genealogical or traditional, something which one can

²¹⁸ Chris Hurley, “Parallel Provenance: What, if anything, is archival description?” *Archives and Manuscripts* 33, no.1 (May 2005), 110-145.

take or leave. It is more: a moral imperative for one's belonging to a community. The common past, sustained through time into the present, is what gives continuity, cohesion, and coherence to a community. To be a community, family, a religious community, a profession involves an embeddedness in its past, and consequently, in the memory texts (in any form, written, oral, as well as physical) through which that past is mediated.²¹⁹

To this conversation of identity and mediating a common past, the need to incorporate and understand the values and common mission of the community as an essential part of reading the record is a way to bring additional awareness and clarity to reading community records. Reading and describing the inherent intent and beliefs of the community as a core value of records creation gives structure and nuance to complex and layered records over time and space.

5.4 EMBEDDED UNIT C: TOPICAL FORUM THREADS

This section describes the forum threads, their functions and their reading through the lens of the records continuum.

5.4.1 Threads

On a practical note, threads generally always start with a question.²²⁰ Questions can be asked by administrators or topic leads, although many threads are started by members. As described earlier, a topic lead or administrative team member does often take an active role in guiding the

²¹⁹ Eric Ketelaar, "Sharing: Collected Memories in Communities of Records," *Archives and Manuscripts* 33, no.1 (May 2005), 45.

²²⁰ There is no way to fully ascertain this other than looking at every thread since 2005. But based on conversation with the administrative team during my research visit in January 2014, they thought it was safe to say that all threads begin with a question or request.

thread, asking clarifying questions, raising awareness of related resources, and maintaining focus on the topic at hand. This can include featuring a thread on the main page for more visibility, as well as sending private messages to alert other members that might have expertise or contributions to add to the conversation. Sometimes threads are accompanied by a yes/no poll, when appropriate. There is no typical length for a thread, though all threads tend to have at least several responses.²²¹

The forum organizers work closely each month to pull together thematic topics and threads from the forums and compile those into articles that are then published in *ARMY Magazine* for a broader audience outside of the closed forum community. Editing and organizing the posts thematically gives the comments a structure and flow that is generally easy to follow and digest. In many later articles, each post or response is given a three to five word descriptive subhead/title that provides a quick overview of the six to ten sentence edited paragraph that was selected for the article. While the articles reflect some of the conversation that happens in the closed forum, the editing process is completed collaboratively by the CALDOL team with the permission of the member/author of each post. This is congruent with the ongoing sense of care and trust building within the community, and reflects a collaborative process of sharing, reuse, and learning by building upon previous records.

Thread/Article One: Do you follow a stupid order?

This thread, initiated by a CC Team Lead on December 8, 2009, leads off with a short introduction that situates the question.

²²¹ This is not entirely confirmable with a simple search of the site, but due to the construction of the community, the administrators that I spoke with about this question thought that no thread on the forum would go completely unanswered.

“Last month, I was sitting with a group of future platoon leaders, listening to a division commander talk about leadership challenges in combat. At one point, he paused and said, ‘OK, what about when you get a stupid order. What do you do? Do you follow a stupid order?’ Most of us can probably think of a not-so-bright order that we’ve issued ourselves so this isn’t about pointing the finger. But this is a legitimate question and one that we think would be valuable to discuss as a profession. Have you been in a situation when an order didn’t seem to make sense? What were your options? What was at stake? What did you do?”

Understanding that this could be a sensitive topic, the Team Lead also stated as an option at the top of the thread: “If you prefer to post your comments anonymously, we can help you do that. Just send me an email with “anonymous” in the subject line, and I’ll take care of the rest.” The thread quickly gathered steam, with 53 posts in less than two months. Most member responses were lengthy, using extensive personal stories to discuss not just orders that they had received, but those that they had heard or given themselves, and weighing in with resources, as well as insights gleaned from discussions in other settings that ranged from official classrooms to in the field. The corresponding article in *ARMY Magazine* was published in March 2010, with edited responses from 11 members, as well as a “tip of the hat” to comments about the topic from Army Ranger COL Ralph Puckett (author of *Words for Warriors*)²²² and selected comments from GEN Matthew Ridgeway about orders for missions that he considered to be suicidal as commander of the 82nd Airborne.

Thread/Article Two: Soldiers Making Sense of Killing

Posted by a CC Team Lead on August 16, 2005, this forum thread started with a single question and yes/no quiz: “Do you have the responsibility to equip your Soldiers for making sense of killing in combat?” Over the course of slightly more than a month, the thread received

²²² Ralph Puckett, *Words for Warriors: A Professional Soldier’s Notebook* (Tucson, AZ: Wheatmark, 2007).

16+ replies, and the poll received 126 yes responses, 9 responses of no. The associated article, published in November 2005, sorted 15 member responses into three categories (derived from an early post in the thread): making sense before, during, and after killing. The article included resource information for deploying Combat Stress Teams and techniques for integrating the use of Critical Event Debriefing (CED) within a unit, as well as related topical comments from LTC (Ret) Dave Grossman, author of *On Killing* and *On Combat*.²²³

Thread/Article Three: How do you train for Mission Command?

Initiated by a CC Team Lead in September 2012, this thread began with a quote on envisioning future combat from Chairman of the Joint Chiefs of Staff GEN Dempsey's May 2012 white paper on Mission Command, and asked members to agree/disagree, then discuss what they planned to do in their unit. In less than a month, the thread received 40+ responses commenting on the white paper and the related Army doctrine (ADP 6-0). The associated article, published in January 2013, contained 16 edited member responses, as well as quotes from GEN Dempsey's white paper and related points about skills from ADP 6-0.

Thread/Article Four: Designing Your World-Class Physical Fitness Program

This thread, started March 25, 2013 by a CC Team Lead, began as two brief sentences. "This is a quick fire exercise. If you were starting from scratch, and you had total control with no constraints, what would your world-class company PT [physical training] program look like?" The thread received a rush of responses within the first week after the initial post, but continued

²²³ Dave Grossman, *On Killing: The Psychological Cost of Learning to Kill in War and Society*. Boston: Little, Brown, 1995; and Dave Grossman, *On Combat: The Psychology and Physiology of Deadly Conflict in War and Peace*. Illinois: Warrior Science Pub, 2008.

to accrue additional responses even six months later, garnering 80+ posts to the thread as of January 2014. While some replies were short, others situated their responses with personal stories, links to regulations and official programs, observations about building programs and implementing them in and out of theatre, and personal and institutional philosophies about training and fitness. The corresponding article, published in July 2013, incorporated 15 edited responses from the forum, as well as excerpts and links to official Army resources such as Field Manual 7-22, which describes Army Physical Readiness Training, and the Army's seven core principles of fitness.

5.4.2 Reading Forum Threads Through the Records Continuum

The most common depiction of the records continuum theory is a model that uses an axis and concentric rings to represent complexities in the recordkeeping environment. In order to describe the records continuum model, usually one either starts from the outer ring, or from the center circle. Both of those approaches tend to suggest a linear reading of the continuum, although in truth, one could start anywhere on the continuum. For this discussion, it seems most logical to proceed either towards the center from the outer ring, exploring the circles as emanating inward from the social and cultural dimensions of the outer circle, or from an action or instance at the innermost ring, working outwards from creation in the first dimension. For my examination of CompanyCommand forum threads, I have decided to begin from the outside and work inward. At a broader level this decision is also reflected in the research design for this study, which moves from the published articles inward towards examining forum posts and contextually situating the documentary act.

In the fourth dimension, or outermost ring of the model, ‘Pluralize’ includes the reuse and re-presentation of the record for new uses, audiences, and meanings. As part of the third dimension, ‘Organize,’ records are brought together into the same place, and, according to Frank Upward’s definition, then require “common navigable structures and understandings” for the organization of memory. Within the second dimension, ‘Capture,’ a record is placed into a broader group context or organizational unit. The innermost circle is the first dimension, ‘Create’ or ‘Act.’ At the center of the diagram, this represents the center of action and is where the formation or document creation occurs. This includes records in the process of formation, as well as representations of actions in documents, versions, and partial expressions. The axes of the continuum (evidence, recordkeeping, transactionality, and identity) work together and have close reciprocal relationships by design.

It is important to note that each of the dimensions and axes are dependent upon the others. A record may exist at the same time in all dimensions, making it difficult to represent in an essentially flat two-dimensional reading. However, records continuum theory is an expansive starting point for expressing the concepts of constantly evolving records that exist through time and space, which attempts to put to rest the idea of records moving in a linear way through concrete stages in the life cycle.

5.4.3 Representing the Threads

These threads were selected as representatives of a wide range of topics, conversations, and comments in the forums. A difficult choice in qualitative research is the reality that not all data can be displayed in detail as part of the findings or discussion, and so these particular narrative threads were chosen in accordance with the selection process detailed earlier in the methodology

chapter. However, it is also important to keep in mind that because of the nature of how the continuum “reads” records such as these threads, even if many more were viewed through the records continuum, the results of those readings would be roughly similar due to their same process of create, capture, organize, and pluralize. One key finding that is highlighted here by this reading of the threads is that the records continuum highlights the *process* and the *capture* and the *organization* of records in ways that are useful for organizational understanding. This can be less helpful when all of the records have come from similar processes, because the distinguishing comments or traits may be concealed when reading a record through the dimensions.

Similarities are clear across the four selected threads/articles. All four were started with an initial question posted by CC Team Leads, and all of the threads (by design) received more than 15 replies. In general, responses to the initial post tend to be between 250-500 words, and engage directly with both the initial question and with other responses earlier in the thread. Of interest is that threads approaching difficult or controversial topics, such as the first thread, “Do you follow a stupid order?” appear to have more responses from members that self-identify as usually not responding. In that thread, more than one member stated that they often lurk, but they were drawn to reply in this instance by the quality and depth of the conversation, as well as its relevance to their concerns. The four selected threads can only, of course, give a small window into the community. However, the themes emerging from the articles can offer a broader view of the culture and values through the records generated and constructed by, for, and about the community.

Considering the threads and corresponding article through the records continuum model, one approach is to understand this discussion’s movement through the dimensions (create-

capture-organize-pluralize). The four representative articles described earlier in this section were shared with the broader Army community (fourth dimension, pluralize) but moved back and forth through the spectrum of the other three dimensions. The same could be said of other articles in the full corpus of writings that spans 2003-2013, the time since CompanyCommand was moved into the Army sphere. Between creation and capture into the recordkeeping system, then accruing additional posts as layers that added to the record, each article was constantly moving between (or coexisting in the first three dimensions at once) as an evolving record. Reading this record along the archival grain argues that it could appear in the evidential and identity axes as traces of institutional or organizational action, but also as organizational/individual/collective memory and representational trace.

These axes also portray a distinctly archival mindset and rightly so, as they do form an integral part of Upward's "archival grain." Reading against that archival grain in the records continuum suggests, however, that the elements and axes do not help the reader to fully identify or express, at least explicitly, important elements of active community recordkeeping. In this example, members are creating records that tell their stories and assist their learning (and the learning of others) as well as supporting goals of leadership and leader development. The values inherent in the records creation process are, however, not explicitly measured here by the categories or approach of continuum thinking, which is a loss to context and understanding the situated nature of the records. The records could be described through the transactional axis, which situates function, activity, and purpose; however, these elements do have a prescribed institutional perspective that underpins and limits their descriptive reach.

Multiple stories that are framed by the threads serve to highlight the importance of the perspective selected for the process of interpretation. Situating the case is a crucial first step

towards applying analysis. What is revealed by these stories (and others that could be told if the perspective shifted) is the flexible, dynamic, non-linear nature of the traces and representations present in these records. The records continuum is a framework for thinking about records that suggests multiple, simultaneous interpretations and challenges the recordkeeping and archival community to engage with the evolving record.

5.5 CHAPTER CONCLUSION

In this chapter, I have described findings from the CompanyCommand case study. Additional discussion of the records continuum will continue in the next chapter. This chapter has outlined the situated context of CompanyCommand, and discussed the forum as a recordkeeping system. These results were triangulated from a range of sources that included published articles, forum posts, descriptive memos about the forums and website, site visits, semi-structured interviews, and other primary and secondary resources.

One key finding that emerged in this chapter is that the values from related, overlapping communities are embedded within the culture of the CompanyCommand forum and within the records and relationships fostered in the forum. If the values of Army and military culture are tightly woven into the fabric of the records, can these values be fully unpacked, described, and understood using the records continuum? When the records are abstracted by reading them through the lens of the records continuum, they are disconnected from their cultural context.

While trust in an evidential sense and the creation/maintenance/use of trusted records are discussed frequently in archival discourse, another central finding which suggests future work, was that the continued mention of the importance of trust between people as the underlying

impetus to create and co-create records. Embedded within the ethos, the structure, and the culture of CompanyCommand is the idea of trusting each other and sharing knowledge and information with the intention of helping another person reach his or her goals.

These two observations highlight the overall findings of the CompanyCommand case study. The values inherent in the records creation process are hidden, or not explicitly measured by the categories or approach of continuum thinking, which is a loss to context and understanding the situated nature of the records.

6.0 DISCUSSION

6.1 CONSIDERING THE CONTINUUM FOR READING THE COMMUNITY AND ITS RECORDS

A central question raised by this case study is whether the records continuum is a useful frame for understanding and reading community records, and particularly for reading active, multi-layered, co-created records that are reused and re-presented over space and time.

Broadly speaking, there is a natural tendency to want to take theory and distill it into a set of useful procedures instead of using it at a conceptual level. This urge is connected with the desire to form new insights and approaches into tools for applied use. However, the records continuum is a complex theory that facilitates and encourages the embrace of complexities and multiplicity in records and recordkeeping. The theory provides a framework for recordkeepers to think about records in different and concurrent spaces, uses, and times. Ultimately, the complexities of this theory cannot be completely distilled into a single model or fully explained as an applied tool. This is not a shortcoming of the theory, indeed, this is the source of its richness and strength. This does point, however, to the need to carefully understand the model, appreciate what it can and what it cannot do, and understand the complexity of using the theory for applied ends.

There are benefits, challenges, and some drawbacks to using the records continuum theory as a lens for understanding records created within communities. First, here are some of the benefits. The structure of the model—the graphical representation of the theory shown in Chapter 2, with concentric rings emanating from an X-Y axis—provides not only a spectrum of stages for records in different (and possibly concurrent) dimensions, but also encompasses a range of records-focused concerns along the archival grain. By introducing not just the dimensions (or, as variously described, the information processing rhythm), the viewer or archivist also is provoked to think about the records-related concerns that overlap on the four X-Y axes (broadly grouped under identity, recordkeeping, transactional, and evidential). Because of the construction of the model, it is easy to see and describe (even on paper) that records exist not just in their dimensional state, but also on the X and Y axes. Teaching students about records as holding various properties at, or concurrent, with different places on the dimensional spectrum, makes more sense when using the model as a framework for description. Infusing discussion with the sense that recordkeepers must understand the various values held by records and the fluidity and nuance associated with their movement or concurrent placement is made visually easier to comprehend with the records continuum diagram. Understanding that the dimensions and axes are related to, and depend on each other, and that a record exists in all dimensions and axes at the same time, is made clear by having the model as a reference.

However, the diagram/model as it currently exists may also be challenging to use and teach to archival graduate students, particularly in a short lesson. This may also not be entirely the fault of the model, which is just a representation, but the challenge is perhaps made more visible by its complexities. Understanding the relationships between the axes (identity, transactionality, recordkeeping, and evidence) and recalling that these, too, work in concert with

each other, as well as with the records creation process and properties, may not always be emphasized when discussing records. The removal of solid lines representing the axes was a first step towards expressing the fluid nature of these boundaries, and other visual expressions (grey? dotted lines?) could perhaps serve the same purpose for demonstrating those porous properties for the dimensions as well.²²⁴ Certainly any model will have some limitations, as it serves as shorthand for expressing and facilitating the questions and conversations that surround more complex theory.

Despite the flexibility of the records continuum, some layers of ambiguity were raised while trying to read complex community records through its lens for the CompanyCommand case study. First of all, the records continuum, as described earlier in this chapter, has an institutional heritage born of its lineage as an approach for government and institutional recordkeeping (Peter Scott), then as a tool for understanding the relationships between records (Upward, initially), and then next for exploring concerns of evidence. Only relatively recently has the conversation turned to the fourth dimension, which encompasses society and pluralization.

Second of all, the records continuum disembeds the record from its situated context in order to understand its position within time and space. However, these co-created, multi-layered records form the building blocks of the community *together*. They are infused with the values, and shaped by the infrastructure. Disembedding the record from these other considerations is a

²²⁴ Barbara Reed states that Upward stopped using solid lines “some time ago.” See “Reading the Records Continuum: Interpretations and Explorations,” *Archives & Manuscripts* 33, no. 1 (May 2005), 22.

significant loss to contextual understanding. But understanding this complexity is also a great boon to conversation about complex records—using the CompanyCommand case study to examine the records continuum demonstrates the value of making these tangled and often silent structures, contexts, and infrastructures visible. Looking at the records continuum can underscore the need to express and document not just the records, but that identifying the other scaffolding that shapes and buttresses and is woven throughout the records themselves is an important step towards recognizing the nature of the layered co-documentary act that builds and rebuilds both record and community in concert.

6.2 A READING OF THE DIMENSIONS USING THE CASE AS AN EXAMPLE

Understanding the case study through the continuum model suggests the need for an examination of each of the four dimensions, beginning with the inner-most dimension on the diagram first. In this first dimension, “create,” otherwise known as the “act” dimension, is in the center of the diagram, representing the beginning of a record and situating it within its particular context of creation. Using the case study as an example, the dimension of “create” includes discussion of the infrastructure and culture of CompanyCommand that encourages and causes creation, along with the collaborative nature of the action.

In the second dimension, “capture,” the record created in the first dimension is placed into an “organizational unit” or broader group context. This continues discussion about the nature of the community, the purpose of the formalized administrative work that is performed by the administrative team, and the intent and stated work of the community of practice. “Capture” assumes a particular institutional and organizational structure that may exist culturally and as a

byproduct of the community association with the Army and the military as a whole, but may not be representative of the community in its entirety. Describing this dimension involved unpacking the nature of the community record and trying to discern the boundaries and connections between the organization and the community.

The third dimension, “organize,” brings records created and captured in the first two dimensions together into the same place and, according to Upward, requires “common navigable structures and understandings within systems” for the organization to organize memory.²²⁵ This is facilitated in part by the fact that CompanyCommand is an information system and the records created as part of participation in that forum are already situated in that context. However, it does not address the shifting underpinnings of the community itself, including changes in leadership or purpose, which can be challenging to discern outside of a formal organization or bureaucracy.

The fourth dimension, “Pluralize,” is situated furthest from the act of records creation. “Pluralize” includes the reuse and re-presentation of the record for new and possibly multiple audiences and meanings.²²⁶ Discussion of the pluralize function is related to the *ARMY Magazine* published versions of the forum posts. This includes the reading of forum posts as several kinds of records with multiple purposes, at multiple levels of society to understand how they perform as pluralized records.

²²⁵ Frank Upward, “Modeling the Continuum as Paradigm Shift in Recordkeeping and Archiving Processes, and Beyond- A Personal Reflection,” *Records Management Journal* 10, no.3 (2000), 122.

²²⁶ See: Verne Harris, “Concerned with the Writings of Others: Archival Canons, Discourses and Voices,” *Journal of the Society of Archivists* 25, no. 2 (2004), 211–220; Sue McKemmish, “Evidence of Me...,” *Archives and Manuscripts* 24, no.1 (May 1996): 28-45.

6.3 COMPLEXITIES, PEDAGOGICAL PRACTICE, AND THE MODEL

Continuum thinking is often raised by archival scholars as being useful for situating complex conversations about recordkeeping and archival activities. However, the center of gravity for publications that directly engage with continuum thinking has also been largely located only in Australia, at least over the first two generations of scholarship. But recent publications indicate that this area of inquiry appears to be spreading and growing, and researchers outside of Australia are engaging with this theory in the literature, including this dissertation.²²⁷ These are encouraging signs for the continued growth and future of continuum scholarship, and for recordkeeping scholarship.

Unfortunately, there seems to also be a continued lack of engagement with continuum concepts in the literature by many practitioners in the recordkeeping and archival fields. Despite the flexibility and broad grain of this conceptual framework for understanding complex records through time and space, the records continuum is often discussed as a possible approach, but relatively unused (or at least undocumented in the literature or conference proceedings) as a working solution by practitioners in North America.

A limitation of the records continuum as it currently exists is the model that is most often used to aid explanation and teaching. The paper-based, two-dimensional model has limitations that have been discussed and described by other scholars, including Barbara Reed and Michael Piggott.²²⁸ The model is, as McKemmish, Upward, and Reed noted in 2010, “representative of a

²²⁷ Direct engagement with the continuum has included Canadian archival scholars Terry Cook and Tom Nesmith, South African archivist Verne Harris, Dutch archival scholar Eric Ketelaar, and Brien Brothman and Andrew Lau in the United States.

²²⁸ Michael Piggott, *Archives and Societal Provenance: Australian essays* (Oxford: Chandos, 2012), 183.

more complex body of thought which came before it and has continued to develop since its publication.”²²⁹ While the renderings have changed somewhat over time since Upward’s first depiction, grasping the complexities and mapping records through the records continuum model is not necessarily an intuitive endeavor, nor a particularly practice-based solution.²³⁰ The nuance and complexity afforded by using continuum thinking may also be its downfall when related to adoption and use. Untangling the underlying theory from the now-familiar Upward depiction is difficult to do, but the development of additional or complementary visual models that use the same underlying scaffolding and theoretical frame could be one way to reintroduce or invigorate interest in the records continuum.

6.3.1 Challenges of a paper-based graphical model

The limitations and frustrations of trying to depict the records continuum as a visual model in a two-dimensional space (traditional paper literature) have often been discussed by many continuum thinkers, and in almost every continuum-centered publication.²³¹

Barbara Reed describes one intriguing approach that she says particularly represents the notion of reciprocity—a children’s fortune-telling game that involves folded paper flaps that can touch in different places and patterns. By moving the paper into various configurations, different

²²⁹ Sue McKemmish, Barbara Reed and Frank Upward. “The Records Continuum.” In *Encyclopedia of Library and Information Sciences*, ed. Marcia Bates and Mary Maack (New York: Taylor and Francis, 2009), 4450.

²³⁰ Michael Piggott notes that, similar to the evolving textual explanations for the continuum, the graphical model has also changed. See Michael Piggott, *Archives and Societal Provenance: Australian Essays*. (Oxford: Chandos Publishing, 2012), 183.

²³¹ For example, see Barbara Reed, “Reading the Records Continuum: Interpretations and Explorations. (English),” *Archives & Manuscripts* 33, no. 1 (May 2005): 18–43.

areas of the page are brought together or move apart. Reed describes this as a dynamic approach that enables the revelation of different viewpoints and opportunities at particular points in time and space.²³² Terry Cook referred to the continuum topologically, as a plastic sheet through which one can think across the dimensions of space and time, as well as across the axes.²³³ The general consensus is that the complexities of continuum thinking cannot be fully addressed by a two-dimensional model, but that the visual model affords more flexibility for discussion than a written explanation can easily or readily provide.

A strength of the continuum model as an aid for teaching and learning is what it offers when reinforcing and illuminating the complexities inherent in records and recordkeeping. Coming to grips with the reality of networked records using continuum thinking serves to push memory workers to continue to state that these are complex representations—not the whole record, but necessarily snapshots in time. Using the records continuum necessarily provokes conversation about what is revealed and what is hidden through various readings of the same records in the snapshots, through a particularly archival lens (Upward’s archival grain). The continuum’s embrace of inclusivity and multiple interpretations makes it a useful step as part of a longer process of describing and placing records on a spectrum of understanding. This raises the possibility of future work that could develop another closely related grain that more fully embraces community concepts and co-created records.

²³² Barbara Reed, “Reading the Records Continuum: Interpretations and Explorations.” *Archives and Manuscripts* 33, no.1 (2005), 21.

²³³ Terry Cook, “Final Commentary Session of the Appraisal Seminar,” Monash University, Melbourne (16 March 1999), 2. Terry Cook’s presentation to this effect is described by Frank Upward in a footnote on page 203 of *Archives: Recordkeeping in Society*, and was apparently part of the appraisal seminar presentations at Monash in March 1999. Unfortunately the cited link to this presentation is dead.

6.4 ALWAYS IN A STATE OF BECOMING: PLURALIZATION AND COMMUNITY RECORDS

One continuum thinker, Terry Cook, commented in 2001 that the vast majority of the work in the archival literature was concerned with the first and second dimensions of the model, and that the fourth dimension, “concerning societal or collective memory, is almost absent in the literature.”²³⁴ An editorial comment by Glenda Acland in a 2005 special issue of *Archives and Manuscripts* that was devoted to papers on the fourth dimension (all delivered at the 2004 Monash University conference *Archives and Collective Memory: Challenges and Issues in a Pluralised Archival Role*) noted the relative lack of engagement with continuum thinking in the field. Tom Nesmith agreed, noting that the Monash conference and related proceedings were an “exciting development in continuum thinking,”²³⁵ and Barbara Reed concurred, stating that engaging with comparatively underdeveloped aspects of the continuum means that “we must open our professional practice to challenge, questioning, and exploration.”²³⁶ Expanded discussion of the fourth dimension, which is centered on societal pluralization beyond the creating entity is particularly useful not just for this case study, but for framing and understanding a range of developing concerns about plurality and multiple perspectives in archival and recordkeeping scholarship.

²³⁴ Terry Cook, “Beyond the Screen: The Records Continuum and Archival Cultural Heritage.” Paper delivered at the *Australian Society of Archivists Conference*, Melbourne, August 18, 2000. Accessed September 1, 2013. <http://www.mybestdocs.com/cook-t-beyondthescreen-000818.htm>

²³⁵ Tom Nesmith, “Re-exploring the continuum, rediscovering archives.” *Archives and Manuscripts* 33, no.1 (May 2005), 37.

²³⁶ Barbara Reed, “Beyond Perceived Boundaries: Imagining the Potential of Pluralised Recordkeeping,” *Archives and Manuscripts* 33, no.1 (May 2005), 193.

Some recent additions to the archival and recordkeeping literature have started to consider community work through continuum thinking. Leisa Gibbons, using three cases of community-created YouTube videos, has discussed social media as co-produced cultural heritage.²³⁷ Outside of Australia, Andrew Lau uses continuum thinking as a framework for exploring the Los Angeles-based community arts group Machine Project.²³⁸ While almost 15 years old, Cook's statement that there is a need to examine how the records continuum (and archival and recordkeeping activity) describes and situates records in a variety of settings, including communities, across all four of the model's dimensions still resonates. This dissertation partially fills that gap as a dynamic extension and exploration of what the records continuum reveals and conceals about active communities and their complex and evolving records across the continuum.

6.4.1 Participatory community editing, values, and pluralization of the record

The exploration of communities that are connecting, growing, and sustaining through a central action of active recordkeeping is an area with many possible points of departure, and this work has overlapping connections with community archives discourse. Understanding online communities that are using social media as a central hub, to take one example, is a fruitful and large area of research that intersects with other academic and professional avenues of exploration. The key difference is that unlike community archives, in the case of CompanyCommand community recordkeeping is not taking a retrospective look at documenting

²³⁷ Leisa Gibbons, "Testing the continuum: user-generated cultural heritage on YouTube." *Archives and Manuscripts* 37, no.2 (2009), 89-112.

²³⁸ Andrew J. Lau, "Collecting Experiences." (2013) Ph.D. diss, University of California, Los Angeles.

past activities for historical purposes. Instead recordkeeping (and sometimes, yes, retrospection) serves a central, active purpose in forming functional building blocks of an active community with a forward-looking purpose. Understanding these contemporary, active communities through studying their active records and recordkeeping decisions is of interest for a range of knowledge workers as well as for business, organizational, and historical purposes.

However, this also introduces complexities. For example, in the CompanyCommand case study, the community, or at least the administrative team, is actively aware of shaping their story for the purposes of teaching and learning, not for the purposes of historical documentation. This storytelling occurs with elements that occasionally borrow from techniques familiar to knowledge and memory workers, such as participatory microhistory, oral histories, and documentary editing. While these approaches may be familiar, the intent of the storyteller is usually quite different from the goals and concerns of a project conceived with the intent of historical description or archival deposit.

Situating the record within a temporal and geographic context, as well as grounding it with information about the values and intent that structured its creation, enhances what is known about the record. As discussed in the previous chapter, examining the CompanyCommand records revealed strong themes and values that were woven throughout the records and the forum space. However, the framework of continuum thinking does not frame or automatically spark discussion about the values or the guidance, provocation, reasoning, or benefits of records creation or co-creation within the boundaries of the community. These are essential elements that do frame the experiences and decisions by members to participate by creating records, but they are invisible when looking at a single record, disembedded from contextual understanding about the community, its practices, and its framing. Because recordkeeping processes and culture are

so intimately intertwined, much can be gathered from how these processes, structures and values shape the records using a flexible, conceptual base that allows these questions to emerge.

When records contain layered contextuality, the complexities can be overwhelming. The complexities of the online community record are not necessarily or completely new, but they are rendered (more) visible by the infrastructures and values that govern and shape the records creation, use, and reactivation. Seeing records as vibrant community building blocks also gets closer to considering *how* and *why* records can serve that active role within communities. The usefulness of thinking about the records continuum through the CompanyCommand case is revealed by being able to clearly uncover and discuss values and structures that shape and are embedded within the records and their context of creation.

Another, related piece of this puzzle is the movement of records within the fourth dimension, pluralization. In this case study, when records (threads from the forum) were represented as articles in *ARMY Magazine*, they went through a process of editing. Moving from a single post, to a longer thread with at least fifteen responses, and then through a facilitated editing and revision process by the CompanyCommand administrative team, these records, were then, in the sense of continuum thinking, in the fourth dimension, pluralization. These threads still exist (and continue to) in the other three dimensions on the forums. But following this process, arguably, these published, pluralized records also became an entirely *new* record once they were published. This suggests the possibility that other records that move into the fourth dimension, once pluralized and republished for a new societal audience or community, also become new records in their own right, albeit records that still hold and maintain a relationship to the prior records. Revealed by this case study, understanding more clearly the links and

relationships between records in the first three dimensions, and the connection to pluralized records in the fourth dimension, merits further discussion.

Understanding why continuum thinking can be a powerful and inclusive method is important to helping archival and recordkeeping scholars interrogate it as a useful approach. However, examining its limitations through the CompanyCommand case study reveals limitations for the understanding of online, co-created community records and their situated nature as shaped by key values, infrastructures, and actions.

6.5 SUMMARY

Returning to the concept introduced in the first paragraph of Chapter 1, in this case, records serve as a force multiplier for the CompanyCommand community of practice. Records serve as dynamic, evolving building blocks that help the community and administrators reach their goals. Examining complex community records as a way to open up, examine, and extend theoretical tools and descriptive models can also be a force multiplier for recordkeeping and archival scholarship that continues to seek multiplicity and plurality in the record.

Exploring the records continuum in conjunction with this case study has highlighted questions about active records, cultures, and communities that are worthy of further investigation and discussion. Understanding the situation of the record, the circumstances and values of its creation, and infrastructure and choices that shape its making—these are key concerns when examining the records co-created by a community.

This chapter described the origins of the records continuum, which highlighted its institutional and structural heritage. These structural underpinnings, in part, explain why the

records continuum does not fully address all aspects of community records. Next, this chapter looked at the records continuum model as a pedagogical and learning tool that combines both affordances and limitations for use in description and discussion. This raises questions for future research and understanding of how and why theories and model travel and are disseminated, adopted, and accepted within the overlapping archival communities. Finally, this chapter explored the fourth dimension of the continuum, and its evolving role related to community records.

One benefit of using a discrete, complex case study to examine the records continuum as a theory and model is the ability to reveal new approaches and ways of thinking. As a flexible framework for complex records, the records continuum allows for readings of various viewpoints, through a wide range of lenses, stories, and understandings. This makes the records continuum a valuable tool for teaching, learning, and writing about communities, records and their fluidity. While records continuum theory is able to act as a scaffolding for understanding and reading the records, ultimately it cannot capture the totality of community memory through any one lens. This case study demonstrates several challenges where, related to situating community records, the continuum highlights and conceals (or fails to capture) important information, and suggests that there are many potential avenues for future study.

7.0 FUTURE WORK

7.1 OVERLAPPING QUESTIONS IN A ‘STATE OF BECOMING’

During the course of this study, many overlapping questions emerged that were outside of the boundaries of this dissertation. Of those, I have identified three future areas of research for discussion here. The three areas are: gaining a deeper and broader understanding of the diffusion of continuum scholarship, using social learning and trust to dig more deeply into social and personal relationship reasons that provoke records creation by community members, and extending the preservation of infrastructures and values using continuum thinking for situating and reading the records of online communities. These three areas of inquiry further build upon the flexibility of continuum thinking and the richness of related open questions about recordkeeping at the heart of active communities.

7.2 UNDERSTANDING THE DIFFUSION OF CONTINUUM SCHOLARSHIP

Considering the generations of records continuum scholarship in this dissertation also suggests the possibility of examining the spread of the theory over time and space. Additional in-depth exploration of the dissemination of continuum thinking, and of recordkeeping concepts in

general, using a framework of Everett Rogers' diffusion of innovation theory could provide more in-depth context for further scholarship.

Rogers' theory argues that diffusion is a social process of transmitting a concept or practice through particular channels to participants in a social group or system. Diffusion researchers have identified four main elements for examination: innovation, communication channels, time, and social systems. Exploring these elements in greater depth while considering the spread of continuum thinking could yield new insights.

Having a greater understanding of the influences, decisions, and reasons that archival educators, for example, might decide to teach the records continuum could then inform discussions about different ways to update or describe the model for more clarity in pedagogy. Studying mentions and uses of the records continuum in practice could inform efforts to develop further working groups or discussion nodes. Having a clearer picture of how and why theoretical concepts catch on and spread within archival and recordkeeping scholars and practitioners can also help to build a broader infrastructural foundation and reasoning for education, discussion, and practice.²³⁹

Addressing in further depth how, where, and why the records continuum theory, and continuum thinking has been used or not used has implications not just for archivists and recordkeepers, but for the broader library and information science field as well.

²³⁹ Recent examples of studies examining the diffusion of knowledge in the archival and digital preservation fields include Christopher A. Lee, "Defining Digital Preservation Work: A Case Study of the Development of the Reference Model for an Open Archival Information System" (PhD dissertation, University of Michigan, 2005) and Patricia Condon, "Digital Curation Through the Lens of Disciplinarity: The development of an emerging field" (PhD dissertation, Simmons College, 2014).

Telling this story by mapping the intellectual history and transfer can help to articulate gaps and opportunities, as well as assisting in identifying new research directions.

Having a greater understanding of the conditions, reasoning, and attributes that lead to the adoption and use of conceptual models in the field is useful for theory-building and future innovative thinking in teaching and practice.

7.3 SCAFFOLDING, THE SOCIAL ROOTS OF RECORDS CREATION, AND TRUST

The scaffolding of social learning theory, introduced earlier in this dissertation, could be used to dig more deeply into understanding how and why community records are created and reused in communities of practice. While this dissertation did not focus on learning aspects or motivations for users to create records and participate in the community, social learning theory suggests further discussion about underlying values for records creation. This establishes a foundation for an examination of the role that trust plays in community recordkeeping.

The discussion on trust and records in recordkeeping and archival scholarship largely relates to evidentiary and legal concerns. Making sure that a record is “what it purports to be” plays a prominent role in the literature. But this dissertation raises questions of how we understand the trust *between* people as an impetus and reason for initial and ongoing records creation. How does having a trusted community or an environment of trust, lead to the creation of records? What can we learn from the ways in which community members choose to actively create and add to records in order to further the learning and active knowledge building of

others? Can this lead to further understanding of the conditions that foster an environment and space where records will be created?

7.4 PRESERVATION OF COMMUNITY INFRASTRUCTURAL KNOWLEDGE AND EXTENDING CONTINUUM THINKING AND SCHOLARSHIP

During the course of working on this dissertation, I have become increasingly convinced that additional exploration of how to describe, situate, and make invisible knowledge available about records co-creation and pluralization is necessary for the continuum to remain a flexible tool for understanding, and particularly for understanding and incorporating active community records and recordkeeping systems. Developing an overlapping grain that holds an awareness of infrastructures and values, and builds on the intellectual work and underpinnings of the records continuum and related work, such as the information continuum, would contribute to the inclusive nature of continuum thinking.²⁴⁰ This dissertation has taken an initial step in this direction by highlighting the problems, affordances, and ways that infrastructures and values shape the records and experiences at different points in the active creation and life of the record. However, much scope for imagination and future work remains in this exciting and fluid space.

²⁴⁰ The information continuum was developed originally at Monash University as a tool for teaching by Donald Schauder, Barbara Reed, and Frank Upward. The information continuum model articulates different purposes for which librarians and recordkeeping professionals manage information. See Gillian Oliver and Fiorella Foscarini, *Records Management and Information Culture: Tackling the People Problem* (London: Facet, 2014), 12-13.

APPENDIX A

SECONDARY SOURCES USED AS PRIMARY DATA SOURCES

This is a bibliography of relevant literature published about Company Command by members of the forum administration team that was used as primary source material.

Afghan Commander AAR Book. U.S. Army Center for Company-Level Leaders (CCL) and 3rd Brigade, 10th Mountain Division, March 2007.

Allen, Nate, and Tony Burgess. *Taking the Guidon : Exceptional Leadership at the Company Level*. Delaware: The Center for Co.-Level Leadership, 2001.

Burgess, Anthony P. "Understanding the Core Group in a Distributed Community of Practice." PhD Diss, George Washington University, 2006.

Burgess, Tony. "One Achievable Step for Army Leader Development." *Army Magazine* 61, no.2 (2011): 48–52.

Dixon, Nancy M. et al. *Company Command : Unleashing the Power of the Army Profession*. West Point, NY: Center for the Advancement of Leader Development & Organizational Learning, 2005.

Hoadley, Christopher M., and Peter G. Kilner. "Using Technology to Transform Communities of Practice into Knowledge-building Communities." *SIGGROUP Bull.* 25, no.1 (2005):31–40. doi: 10.1145/1067699.1067705.

Iraq and Kuwait Commander AAR Book (1st Armored Brigade Combat Team, 1st Cavalry Division). U.S. Army Center for Company-Level Leaders (CCL) and 3rd Brigade, 10th Mountain Division, September 2012.

Kilner, Peter G. "The effects of socially relevant representations in content on members' identities of participation and willingness to contribute in distributed communities of practice." Ph.D. diss, The Pennsylvania State University, 2006.

Kilner, Peter and Tony Burgess. "Training for War—What We're Learning." *Army Magazine* 55, no. 4 (2005): 19–24.

Silk, Jonathan. "Casting Knowledge: Building an Online Community of Knowledge with Leader Cast." Thesis, Pepperdine University, 2012.

APPENDIX B

ACRONYMS AND ABBREVIATIONS

AAR	After Action Report After Action Review
BCKS	Battle Command Knowledge System
CALDOL	Center for Army Leadership and Development of Organizational Learning
CALL	Center for Army Lessons Learned
COIN	counterinsurgency
COL	colonel
CoP	community of practice
CPT	captain
DOD	Department of Defense
FM	Field Manual
GEN	general
GWOT	Global War on Terror
MAJ	major
MOOTW	military operations other than war
NCO	non-commissioned officer
OEF	Operation Enduring Freedom
OIF	Operation Iraqi Freedom
OOTW	operations other than war

APPENDIX C

INSTITUTIONAL REVIEW BOARD, UNIVERSITY OF PITTSBURGH

The principles outlined in the *Belmont Report* govern the welfare and protection of human subjects involved in research. This project required the completion of the following training modules:

- Research Integrity (Formerly RPF1) for Internet-Based Studies
- Human Studies Research in Social and Behavioral Sciences (Formerly RPF2B)
- CITI for Social and Behavioral Sciences, Human Subjects
- CITI for Social and Behavioral Conduct of Research

This study required a review of research protocols by the Institutional Review Board at the University of Pittsburgh. Under the guidelines for research involving human subjects at the University of Pittsburgh, this study falls under the “expedited” category, and was approved on 2/13/2013 and renewed on 2/26/2014. The University of Pittsburgh IRB has designated the risk level of this study as minimal.



University of Pittsburgh
Institutional Review Board

3500 Fifth Avenue
Pittsburgh, PA 15213
(412) 383-1480
(412) 383-1508 (fax)
<http://www.irit.pitt.edu>

Memorandum

To: [Heather Soyka](#)
From: [Christopher Ryan](#), Vice Chair
Date: 2/26/2014
IRB#: [REN14020250](#) / PRO13020011
Subject: Recordkeeping and Communities of Practice

Your renewal for the above referenced research study has received expedited review and approval from the Institutional Review Board under:
45 CFR 46.110.(6) data/research
45 CFR 46.110.(7) characteristics/behaviors

Please note the following information:

Approval Date: 2/26/2014
Expiration Date: 2/17/2015

Please note that it is the investigator's responsibility to report to the IRB any unanticipated problems involving risks to subjects or others [see 45 CFR 46.103(b)(5) and 21 CFR 56.108(b)]. Refer to the IRB Policy and Procedure Manual regarding the reporting requirements for unanticipated problems which include, but are not limited to, adverse events. If you have any questions about this process, please contact the Adverse Events Coordinator at 412-383-1480.

The protocol and consent forms, along with a brief progress report must be resubmitted at least **one month** prior to the renewal date noted above as required by FWA00006790 (University of Pittsburgh), FWA00006735 (University of Pittsburgh Medical Center), FWA00000600 (Children's Hospital of Pittsburgh), FWA00003567 (Magee-Womens Health Corporation), FWA00003338 (University of Pittsburgh Medical Center Cancer Institute).

Please be advised that your research study may be audited periodically by the University of Pittsburgh Research Conduct and Compliance Office.

APPENDIX D

SEMI-STRUCTURED INTERVIEW QUESTIONS

These semi-structured questions were used to initially guide the interviews.

Structure of the community

1. Why was this community created?
2. When you were setting up the community, how did you think about structuring it for conversation and sharing of knowledge?
3. How has the structure of the community evolved or changed over time?
4. What are the written (or unwritten) rules or norms for knowledge sharing in this community? How are these conveyed to the members?
5. How is the content of the forum currently saved, organized and made accessible for future use? What do you see as current and future challenges for the contents of the forum?

Community maintenance

6. What information do you gather about the activities and workings of the community to make sure it stays healthy?
7. What specific strategies do you use to encourage members to participate in the community? Which strategies have been most successful? Why?
8. How do you determine the “right” level of facilitation? In what ways are different levels of participation supported and facilitated (e.g from lurkers to active members)?
9. What methods do you use to build trust in the community?
10. How do you encourage knowledge sharing? How do members become aware of each others’ knowledge?

Trust

11. What do members risk by sharing knowledge or expertise in this community?
12. What practices increase the confidence of members that their well-being or reputation will not be harmed by participating?
13. What practices increase members’ confidence that they can rely on the forum or on each

other?

14. Are there formal mechanisms in place to ensure trustworthy behavior from individuals? If so, what are they?

15. Are you aware of any incidents where trust was broken? If so, how was it repaired?

16. How do you deal with potential OPSEC (operational security) issues?

Publication & Dissemination

17. What is the process for the published articles from forum posts?

18. How do you work with members to edit and compile the articles?

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