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TECHNOLOGY ARGUMENT FRAMES: EXAMINING THE IMPACT OF
ARGUMENTATION ON THE DEVELOPMENT OF A HEALTH INFORMATION
EXCHANGE INITIATIVE

A Dissertation

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

in

Interdepartmental Program in Business Administration
(Information Systems and Decision Sciences)

by

David M. Murungi
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August 2013

To my wife, Kemisha, for your love, patience, and unwavering support throughout the course of this dissertation. Now, you have a full time husband!! To my son, Caleb, who served as a major inspiration and a catalyst for the completion of this endeavor. Now, Daddy can come home and take time to play!! To my parents, Jane and Robert Murungi, who have been role model parents that have exemplified the value of the academic enterprise. Now, the doctorate torch has been handed down to the next generation!!

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ABSTRACT

This dissertation applies the Technology Frames of Reference (TFR) theoretical lens to examine the implementation of a health information exchange (HIE) initiative in southeast USA. It extends the TFR lens by developing Toulminian argument maps to depict frame structure and employing the argument theories of Toulmin, Habermas and Perelman Olbrechts-Tyteca to help analyze the role that argumentation plays in the emergence and development of the technology frames that characterized this HIE endeavor. The argument maps developed in this dissertation helped to assess the level of argumentation within frames and to compare argumentation across frame domains. The argument maps were also used to structurally depict changes in frame salience over time and helped to facilitate the discovery of a prominent “perspective blindness” or “perspective indifference” which was the key finding of this dissertation. Previous TFR literature has focused on dysfunctions produced by conflict/alignment issues. This dissertation extends this research by highlighting the role that conflict avoidance or frame apathy may play in producing these dysfunctions. Perelman and Olbrechts-Tyteca’s New Rhetoric was recommended as a boundary spanning discursive framework that could help ameliorate the problems associated with both inter-frame conflict and frame indifference.

CHAPTER 1: INTRODUCTION

RESEARCH MOTIVATION AND OBJECTIVES

Technology Frames of Reference (TFR)

This dissertation seeks to employ the Technology Frames of Reference (TFR) theoretical lens to examine the role that argumentation played in an initiative to create a health information exchange (HIE) between three healthcare organizations located in southeast USA. The TFR theory has its intellectual roots in social construction of technology and organizational cognition literatures (Davidson & Pai, 2004; Gal & Berente, 2008) and its basic premise suggests that organizational member's acceptance, deployment and actions towards information technologies are mediated by their shared interpretations of these technologies (Orlikowski & Gash, 1994). The TFR framework consequently was selected as a suitable basis for this study because its multi-organizational context provided fertile ground for an assortment of shared interpretations that could have manifold impacts on the deployment of the HIE initiative that was the subject of this dissertation. TFR was also selected for this study because of its renown within the academic literature. This widespread significance is indicated by the numerous citations of Orlikowski and Gash's (1994) seminal paper on technology frames. A search of the web of science database in September 2005 revealed 70 citations of this article in peer-reviewed academic journal publications (Davidson, 2006) and a similar search of the Web of Science database in December, 2012 yielded 263 citations for this article. Within the IS field of research the TFR framework has commonly been used to explain shared interpretations of technologies (e.g. McGovern & Hicks, 2004; Yashioka et al, 2002; Lin & Silva, 2005).

Despite the framework's renown in the academic literature and its widespread citation the potential of this lens to generate useful insights has not yet been fully developed. This is evident

from the observation that while the framework has a high citation index, few of these published reports actually conduct a TFR analysis or develop its theoretical framework (Davidson & Pai, 2004; Davidson, 2006). Extant TFR research and research on social cognition general have also been criticized for their focus on frame content or ‘specific knowledge’ at the expense of frame structure or ‘domains of knowledge’ (Walsh, 1995; Davidson & Pai, 2004, Davidson, 2006). This focus has limited the reach of TFR research as frame content is context specific and not easily generalizable or conducive for theory building. Similarly, the key contribution of TFR research, which is the observation that different groups think differently about information technologies and that differences can cause problems, has been challenged in terms of the long term usefulness of this insight (Davidson and Pai, 2006). To be meaningful this research needs to address long term structural issues related to this incongruence or the “how” and “why” of these differences. As Walsh (1995) astutely observed, when socio-cognitive structures matter in *use*, it becomes increasingly important to understand how they *develop* and *change* at individual, group and organizational levels. Extant TFR studies however have not yet satisfactorily addressed this concern. Indeed, most TFR studies are point-in-time snapshots of frames and seek to explain how these static structures influence stakeholder interpretations and actions. There have only been a limited number of longitudinal studies that portray frame development as a dynamic or ongoing interpretive process triggered by organizational circumstances (Davidson, 2006).

These gaps in the literature provide opportunities for further development of the TFR lens by applying it to these under studied areas of inquiry. Therefore, to help advance this theoretical lens this dissertation endeavors to address the scarcity of research on frame structure by focusing its attention on technology frame argument structures. To do so it borrows from Toulmin’s

(1958) theory of argumentation to depict technology frames in terms of distinct argument forms (Berente et al, 2011). This is designed to help improve the generalizability of TFR as the notion of argument structures is not specific to a particular context even though the specific content of these structures will be limited by the unique circumstances of the dissertation. The dissertation also adapts the technique of argument mapping (Fletcher & Huff, 1990; Pawlowski et al, 2008; Hirschheim et al, 2012), which is built on Toulmin's theoretical framework, to provide a diagrammatic form that will facilitate an examination of the relationship between technology frames and argument structures or argumentation. Toulmin's framework improves on the more rigid methods of studying frame structure, such as the multidimensional scaling (MDS) employed by Sahay, Palit and Robey (1994) or repertory grid technique employed by Tan and Hunter (2002), by providing a more flexible tool for examining frame structure. It is not bound to a particular theoretical perspective and permits the coding and representation of rich ideographic frames without requiring preformed assumptions about human rationality (Berente et al, 2011).

The dissertation also expands on Toulmin's model by adapting a rhetorical approach to argumentation that helps explain "inter-frame" discourse or argumentation. Toulmin's model was developed as a critique of the ideas of deductive certainty and universality and proposed that each science or each field had its own rules and warrants. While therefore he argued that the basic argument structure (claims, grounds and warrants) could be applied in many different fields, his model is not amenable to cross domain argumentation. This dissertation applies rhetorical analysis as a means of understanding and depicting discourse between competing frames. The addition of rhetorical analysis to the argument mapping tool allows for a more nuanced depiction of frames that can be used to represent the degree of conflict between frames.

Instead of merely noting that different groups think differently about technologies, rhetorical analysis can show the extent of these differences by portraying them at a greater level of granularity. Additionally this dissertation contributes to the TFR literature by adopting a longitudinal perspective to examine the relationship between argument forms and technology frames and offers a dynamic depiction of the framing process. The adoption of a longitudinal approach allows for the relatively novel depiction of varying frame salience over time. This approach also allows for a vivid portrayal of how different argument structures or argumentation strategies respond and adapt to changing organizational and environmental circumstances.

Health Information Exchanges (HIEs)

The National Alliance for Health Information Technology Report to the Office of the National Coordinator for Health IT on Defining Key Health Information Technology Terms (2008) defines Health Information Exchange (HIE) as “the electronic movement of health-related information among organizations according to nationally recognized standards.” Since self-contained networks such as hospitals linked to affiliated physician practices, would not require national standards, HIE typically refers to the exchange of healthcare information among a diverse group of often competing healthcare system stakeholders (Dixon et al, 2010). The potential of health information exchange (HIE) or the mobilization of health information electronically across organizations and disparate information systems to address the nation’s healthcare crisis of cost, quality and effectiveness was illustrated by the Center for Information Technology Leadership study which found that such systems would result in nationwide savings of \$77.8 billion each year when fully implemented (Walker, et al. 2005). In addition to these financial saving, HIEs have also been associated with potential clinical benefits including: quicker access to valuable clinical information such as patient prescription histories, fewer

medical errors and improved patient safety, reduces orders for tests and duplicate procedures, improved doctor-patient communication and coordination of care among providers.

The potential of HIEs to improve the flow of clinical, financial, and administrative information between the eclectic interests that make up the U.S. health care system, has led to numerous initiatives designed to encourage the adoption of these systems at the federal, state, local and industry levels of enterprise. At the federal level official acknowledgement of the import of HIEs can be traced back to April 27, 2004 when then President George Bush issued an executive order calling for the widespread adoption of electronic health records (EHRs) within a period of ten years and the establishment of the position of National Coordinator for Health Information Technology to oversee this effort (HHS, 2004). This executive order coupled with its aggressive timeline provided both the impetus and overarching umbrella for state, local, and private HIE initiatives. The health information technology (HIT) components of the American Recovery and Reinvestment Act of 2009 (ARRA) – collectively referred to as HITECH – reinforced the government’s commitment to this agenda by dedicating an unparalleled \$19 billion to promote the adoption and use of HIT and especially EHRs (which are a prerequisite for HIE). The passage of the Affordable Care Act in March 23, 2010, which aimed to improve the affordability and rate of health insurance coverage while reducing the overall cost of health care for US citizens and the government, served to further boost this agenda by advancing a move from fee for service reimbursement mechanisms to a more value based reimbursement scheme. This required the development of clinical measures that would incorporate information contained in patient health records in the reimbursement process. It also increased investment and interest in EHR and HIE deployment as these technologies were deemed critical for this function. The HIE market consequently has experienced strong growth in wake of these laws and this

advancement was greatly enhanced by the Supreme Court's upholding of the constitutionality of the Affordable Care Act and the reelection of President Obama who is credited with shepherding the passage of these two Acts.

Although this infusion of federal funds has dramatically changed the market dynamics by substantially increasing the funds for healthcare IT at a time when other industries such as the financial sector were floundering, the vision of an integrated HIE that would significantly reduce healthcare costs and improve quality and effectiveness still faces some daunting challenges. This is evidenced by the fact that historically the number of HIE failures far outnumber successes (Vest & Gamm, 2010). An early 2007 survey conducted by Adler-Milstein et al. (2008) indicated that of 145 surveyed regional health information organizations (RHIOs) nearly one in four were likely defunct. Only twenty of these efforts were of at least modest size and exchanging clinical data. Most early successes involved the exchange of test results. A follow up survey conducted by Adler-Milstein et al. (2009) in 2008 showed that of 197 potential RHIOs only 75 were operational and 50 of the 75 (67%) did not meet criteria for financial viability. There has also been a long history of high profile HIE failures such as the Santa Barbara (CA), Seattle, Cleveland, Long Beach (Miller & Miller, 2007, Conn, 2007) including the relatively recent Minnesota and Carespark, TN failures in 2011 (Tripathi, 2012). In addition to these failures there are also concerns regarding the long term sustainability of these endeavors as there has been no clear roadman on how HIEs will pay for themselves after federal funding is stopped.

There are also legal barriers to coordination of care that impact the long term sustainability of HIEs. An example of these barriers is the Social Security Act Civil Penalties Law (CMP), which prohibits hospitals from knowingly making a payment either directly or indirectly to a physician as an inducement to reduce or limit items or services furnished to

Medicare or Medicaid patients under that physician's direct care (Wilensky et al., 2006). The primary concern of this provision was to prevent hospitals from providing financial incentives to physicians to discharge patients too soon or otherwise compromise care. The federal anti-kickback statute in effect since 1972 is another regulatory obstacle that constrains physician hospital gain sharing arrangements by prohibiting payments in any form made purposefully to induce or reward the referral or generation of federal health care program business (ibid). Similarly, Stark laws, which prevent physicians from referring patients to entities with which they have a financial relationship and Internal Revenue Service (IRS) regulations regarding private inurement are other examples of the arduous regulatory terrain has to be navigated in order to arrive at self-sustaining HIEs.

The highly fragmented nature of the US healthcare system provides another barrier to the successful implementation of HIEs. This fragmentation is illustrated by the fact that critical tasks in the financing and provision of health care are distributed across a variety of distinct, often competing, entities each with its own objectives, obligations and capabilities (Cebul et al, 2008). The majority of physicians are in small single specialty groups that are characterized by the lack of underlying information technology (IT) and by disparate systems, where they do exist, that do not share information across settings (Wilensky et al., 2006). While this fragmentation is not unique to health care, in the health sector this organizational fragmentation has been demonstrated to be a serious and persistent impediment to improving health care quality (Cebul et al., 2008; Shortell et al., 1996). Indeed, the healthcare sector is fraught with unique cultural barriers to coordination, not the least of which is the fiercely guarded professional autonomy that is afforded to physicians (Mintzberg, 1979). The relationship between physicians and the hospitals where they provide their services is unique in the sense that it doesn't follow

the typical management accountability hierarchy (MAH) model of management where authority and accountability are delegated and flow down in tiers through layers of management (Smithson & Baker, 2007). The reason for this distinction is that physicians were able to resist this organizing trend by arguing that their relationship with patients was unique, involving life and death decisions, and that being accountable to a third party constituted a conflict of interest. Only physicians they argued to could judge other physicians performance. To resolve the conflict between physician autonomy and organizational efficiency hospital boards formed a bifurcated governance system which granted hospital administrators with oversight of the physical plant, employees and finances while leaving the control of medical concerns to an “association” of independently practicing physicians called the medical staff. The task of establishing an information system that will help coordinate the actions of members of an association and establish joint accountability, as envisioned in the HIE concept, is fraught with difficulty because of the diffuse authority structure that characterizes physician medical practice.

In addition to the unique challenges posed by the healthcare arena, HIE initiatives are also faced with the same general IT adoption and utilization issues that confront other industries. As Venkatesh & Bala (2008) note, low adoption and underutilization of IT have proved to be perennial concerns that continue to challenge the success of IT implementation endeavors in other (non-healthcare) domains – domains with much higher IT diffusion than the healthcare arena.

The above challenges facing HIE implementation and adoption makes this domain an ideal setting for investigative study. Indeed, the fragmented nature of the healthcare of the healthcare system is a good fit for TFR research which focuses on the impact of divergent technology frames on the adoption and implementation of technological innovations. Previous

TFR studies such as Orlikowski and Gash's (1994) seminal paper have suggested that to the extent that frames differ among relevant stakeholder groups, that is, are incongruent in structure or content, problems such as misaligned expectations, contradictory actions, resistance, skepticism, and poor appropriation of IT may occur. These papers consequently have contributed to practice by proposing that interventions aimed at overcoming frame variance could help improve IS implementation efforts. With its depiction of technology frames as argument structures this dissertation seeks to add to the contribution of this theoretical lens by offering a more granular view of frame incongruence and examining the impact/effectiveness of observed rhetorical interventions that seek to address this incongruence.

There have also been studies that suggest that differences in technology frames may foster a broader spectrum of views and produce diverse interpretations of information and thereby improve group decision making in problem formulation activities (Fiol 1994; Walsh 1995). This dissertation seeks to build on these findings by examining whether or not argument structure could be used to explain why in certain instances divergent frames produce optimal outcomes while in other instances frame differences hinder IS implementation efforts. Indeed, by depicting frames as argument structures and by adopting a longitudinal view of the framing process this dissertation is well positioned to not only observe the outcome of conflicting frames, but to also examine and explain how these outcomes are produced or impacted by argumentation.

Research Question

To achieve this contribution to TFR discourse and HIE implementation practice this dissertation focuses its effort on examining the role that argumentation plays in the emergence and development of technology frames in organizations. In particular the research question for

this dissertation endeavor is: How does argumentation impact the emergence and development of the Technology Frames of Reference that depict a Health Information Exchange (HIE) implementation initiative?

Thesis Structure

To answer this question the dissertation will proceed as follows: Chapter two will be dedicated to providing an extensive review of previous research that employs or reviews the Technology Frames of Reference Framework. After providing a review of existing studies on TFR, chapter three of this dissertation will provide an in-depth introduction to the theoretical lenses that it uses to add insights to the literature. It will explain the discursive roots of the TFR and then provide a historical overview of the argument theory that will be the main source of insights that will be developed in this study. The historical overview will include a review of how argumentation has been defined in the literature as well as introduce the difference and tension between dialectical and rhetorical types of argumentation. It also provides an overview of the two main schools of argument theory (i.e. Formal and Informal Logic Schools of thought) with a particular emphasis on the works of Stephen Toulmin, Jurgen Habermas, and Chaim Perelman. Chapter 4 of this dissertation describes the research methodology used in this dissertation. It provides detailed description of the case that was the subject of this study as well as the methods used to collect data and to construct the technology frames of reference that shaped this endeavor. This chapter also introduces the notion of argument mapping and explains its relationship with Toulmin and Habermas' theories of argumentation. The chapter concludes by demonstrating an extension to the argument mapping that applies the concepts and tools of rhetorical theory. Chapter 5 of this dissertation proceeds to discuss the results of the argument mapping and rhetorical analyses. The dissertation is then concluded in chapter 6 with a

discussion of the key contributions of this work to both the literature and praxis. This final chapter also provides an overview of potential avenues for future research that will further develop the work undertaken in this dissertation.

CHAPTER 2: LITERATURE REVIEW

TECHNOLOGY FRAMES OF REFERENCE (TFR)

Technology Frames of Reference (TFR) theory provides the central theoretical underpinning of this dissertation and the origins of this framework can be traced to the seminal work of Orlikowski and Gash (1994) who drawing from the literature on social cognition defined technology frames as, “that subset of members’ organizational frames that concern the assumptions, expectations, and knowledge they use to understand technology in organizations.” The basic premise underlying technology frames is that organizational member’s acceptance, deployment and actions towards information technologies are mediated by their shared interpretations of these technologies (Orlikowski & Gash, 1994). Orlikowski and Gash built on this premise in their seminal paper and demonstrated that different stakeholder groups are likely to have different perspectives of the usefulness, importance and significance of technological artifacts and that these differences in frames have a notable impact on the outcome of technological innovation in organizations. Since Orlikowski and Gash wrote this article the framework has been cited in numerous scholarly publications across a wide range of disciplines. A search of the Web of Science database in September 2005 revealed 70 citations of this article in peer-reviewed academic journal publications in various disciplines (Davidson, 2006). A similar search of the Web of Science in December, 2012 database yielded 263 citations for this article.

In order to position itself within this large stream of research this dissertation focused its attention on studies that actually employ or extend the TFR framework. A review of TFR related articles indicates that, despite its high citation rate, most TFR studies simply acknowledge the significance of the framework and do not actually employ or contribute directly to its

development (Davidson and Pai, 2004; Davidson, 2006). It conducts this review longitudinally in an attempt to provide a historical narrative of the discursive journey of the TFR concept in the academic literature. It seeks to depict how each successive study has contributed to the discourse in order to demonstrate how this present study could potentially impact the future course of TFR related research.

Early TFR Research (1994 – 2000)

An early article that utilized the TFR concept in its investigation was Sahay et al's (1994) multidimensional scale analysis of frames related to IT expert and user views of a geographic information system. The study conducted around the same time as Orlikowski and Gash's (1994) piece employed a mixed qualitative-quantitative approach that used statistical techniques to compare technology frames. The key contribution of this study was the application of quantitative techniques to help validate the frame concept. This study is also one of the few that attempts to tackle the question of frame structure. Shaw et al (1997) published a study of the effectiveness of computer systems support at an elevator company. The frame domains in this study were Technology in use, Technology Strategy, Ownership of Technology and Nature of Technology. It identified MIS staff, Management, and End Users as the key stakeholder groups. This study corroborated Orlikowski and Gash's paper by finding that the level of frame congruence between functional groups can impact satisfaction with end-user support. It also contributed to the framework by adapting Tyre and Orlikowski's (1994) observation that there are "windows of opportunity" that exist for altering the adaptation of a particular technology to the notion of technology frames. They indicated that the discovery of a dichotomy between users and IS support staff expectations triggered a pending future attempt to realign the support structure.

Barrett (1999) published a longitudinal study of the development, introduction and system use of an EDI service in the London insurance market. Barrett's article provides a snapshot of frames derived from cultural assumptions during the initiation, development and adoption phases of the implementation endeavor. The frame domains of this study were Nature of Technological change, Nature of Business Transactions, and Importance of Market Institutions while the key stakeholder groups were IT professionals, Senior Managers, Brokers and Underwriters (Users). The study corroborated Orlikowski and Gash's piece by finding that that low adoption levels could be attributed to the incongruence of frames across groups. It also contributed to the TFR literature by providing a longitudinal view of the framing process that provided snapshots of technology frames over a four year period.

Lin and Cornford (2000) published a pre-implementation study of the replacement of an e-mail system in a financial institution. The study identified the Office IS Group, User group, and Management Group as the key stakeholder groups. It also used key frame domains identified in the study were the nature of problems, system requirements, implementation images and issues. This study reported a successful implementation despite incongruent frames at the initiation stage of the project. Lin and Cornford attributed this success to the Office IS Groups proactive attempts to reframe alternative frames in way that was compatible to theirs. In the same year McLoughlin et al (2000) published a longitudinal, action research investigation of the implementation of team based cellular manufacturing technology in three companies. The study highlighted the incongruence between the pre-existing dominant frames and the new frames that were being introduced by the action researchers and their allies. The study's unique contribution to the TFR discourse was the notion that 'configurational intrapreneurs' are needed to intervene

and establish the legitimacy of alternative technology frames if the goal of ‘cognitive jail breaking’ (or the breaking out from dominant frames of thinking) is to be achieved.

TFR’s Mid Years (2001 -2005)

Gallivan (2001) published a study of the retraining of IT professionals for client/server technologies at a telecommunications company. The study focused its attention on the implementation stage of the technology and provided a point in time snapshot of the frame domains (i.e. Vision of reskilling and Type of Change). The key stakeholders in this study were change managers, IT professionals and others. Gallivan’s study replicated Orlikowski and Gash’s finding related to implementation problems caused by incongruent frames, but introduced the concept of orders of change magnitude to describe the degree of frame incongruence. Gallivan also suggested ameliorating the problem of frame incongruence by conscious attempts at manipulation, reorientation, or realignment. He also suggested change preparation techniques such as frame bending exercises and identifying thresholds for change through personal resilience profiling and change readiness coaching aimed at enhancing the nimble zone.

In the same year, Khoo (2001) published a study of the design and implementation of peer review policies for the Digital Library for Earth System Education (DLESE). The study used differing definitions of peer reviewers (peer reviewer as editor and peer reviewer as colleague) and alternative definitions of DLESE (DLESE as a library and DLESE as a digital artifact) to serve as the frame domains for his study. He also used the notion of “communities of perception” to classify the key stakeholders in his study. Khoo’s study contributed to the TFR frame discourse by introducing the concept of incommensurate frames to refer to a level of interaction where concepts in one frame cannot be understood in terms of the concepts of the

other frame. It also identifies the use of a rhetorical device (the synecdoche) to function as a boundary object that served to orient discussion between different frames.

Davidson (2002) published a longitudinal study of requirements and pilot implementation of a sales information system at an insurance company. The study utilized IT delivery strategies, IT capabilities and Design, Business Value of IT and IT enabled work practices as its frame domains and identified System Developers, System Constituents (Users) and Executives as its key stakeholder groups. The key contribution of this study to the literature was the observation frame salience may change over time and the interpretive power of a frame is constrained by the resilience of other frames and dependent on the active involvement of dominant individuals or groups. Davidson's study also highlighted the use of metaphors and stories to characterize particular frame domains. In the same year, Iivari and Abrahamsson (2002) published a case study that examined the introduction of user-centered design (UCD) principles and activities in a small software development company. The study utilized the Nature of UCD, Motivation and Criteria for Success, and Use of UCD as the domains for its frames and identified a set of subcultures (Software Engineers, Managers, and Usability) as its key stakeholder groups. The main contribution of this study to the literature was to corroborate Orlikowski's finding on the consequences of frame incongruence and to advocate early identification and interventions such as all-inclusive stakeholder meetings. Also, in the same year Yoshioka et al. (2002) published a longitudinal study of a synchronous meeting system in several geographically dispersed organizational units. The study utilized genre, culture and technology as its frame domains or "community-based interpretive schemes" and identified geographic location, nationality, roles and language as its key stakeholder groups or interpretive communities. The key finding of this study was that differences in interpretive schemes across different sites, nationalities, languages

and roles over time helped explain observed difficulties in the use of the meeting system, the limited development of persistent norms among participants, and the subsequent failure of the system. The main contribution of this study to the literature is the application of the TFR lens to a global setting and the adoption of nationality, site and language as interpretive categories.

The following year, Law and Lee-Partridge (2003) published a study aimed at organizing or making sense of the diverse views and perceptions about knowledge management among differing communities of knowledge workers. They utilized frame based analysis as the second phase of a three phase analysis that comprised of theme based, frame based and lens based analysis. The study defined frame domains in terms of sets of empirical problems associated with knowledge sharing and knowledge acquisition/capture. It also identified very senior executives, managers, consultants and academicians involved in IS or Human Resources (HR) as its key stakeholder groups. The key contribution of this study to the TFR literature was its use of cognitive maps to help assess the structure of frames.

Davidson and Pai (2004) published a review of TFR publications that evaluated the promise of the framework, assessed the theoretical and methodological progress of TFR research and suggested ways of addressing limitations in the extant articles. Their paper recommended adding techniques such MDS and repertory grid analysis to TFR research in order to facilitate theory development related to the structural aspects of incongruence. Davidson and Pai also suggested moving beyond studies that merely identify incongruent frames and stated that, “While incongruence is important, merely noting that different groups think differently about information technologies, and that differences can cause problems, is not very satisfying in the long run.” They suggested that since the importance of frame incongruence had been established

it would be more important to develop understandings of how they develop and change at individual, group and organizational levels.

McGovern and Hicks (2004) published a study of the implementation of an IT system in a small make-to-order company operating in the insulated wire and cable industry. The study characterized Type of Partnership, Nature of Technology, Technology Strategy, Technology in Use as its frame domains and identified the managing director and the research team as its two stakeholder groups. The study demonstrated that incongruent technological frames would present challenges for configurational intrapreneurs and suggested that since this is primarily a political process, outcomes are likely to be determined by the dominant frame. This study served mainly to corroborate previous findings. The following year, Lin and Silva (2005) studied the successful implementation of a new email system at an international bank based in Switzerland. The study identified understanding of the project, understanding of the problem, Solution to the problem and Requirements as its frame domains and identified the Project Team (IT professionals), User Group and Management as its pertinent stakeholder groups. The study's key contribution to the TFR framework was to demonstrate how a successful implementation was achieved after incongruent frames were overcome by the purposive actions of those championing the system. The study indicated that congruence was achieved because the technical team was able to exert the power of its expertise (using jargon and technical lingo) to reframe user frames and suggested that incongruence would have prevailed had the balance of power disadvantaged the proponents of a new system. Lin and Silva consequently recommended adding an assessment and description of user frames to user requirements reports to help facilitate IS implementation efforts.

In the same year, Ovaska et al. (2005) published a study that examined the development of requirements for a large e-commerce platform. The study utilized the Business Value of System Development, System Development Strategy, System Development Capability and System Development Resource Allocation as its frame domains and identified the In-house Software Development Unit (IDU) and the Business Unit (BU) as the pertinent stakeholder groups. Their study builds on previous TFR work by identifying a process of stereotypical tensions that impacted the framing process. The tensions they identified were: Filtering (leaving something out of the scope because of a particular understanding, attitude, expectation or experience); Negotiation (attempts to resolve frame incongruence); and Shifting (frame shifts that produced greater alignment or congruence between the different frames).

TFR's Latter Years (2006-2013)

Bjorn et al (2006) published a study of that examined the technological and social factors that influenced the changes in virtual team members' technological frames towards adopting new groupware. The study adopted the same frame domains as were used in Orlikowski and Gash's (1994) seminal article (i.e. Nature of Technology, Technology Strategies, and Technology-in-Use). The key stakeholder groups identified in the study were Teachers, Students and the Action Researcher. Bjorn et al's research found that visual representation, mediation of social relations and reducing effort of coordination were technological features of the groupware that influenced frame change. They also identified the introductory session, negotiation of goals and plans and a reflective episode as the key social factors that influenced the expansion of participant frames. In the same year, Davidson (2006) published a review of use of TFR in the literature on information technology and organizational change. Her paper makes the case for further theoretical refinement of the TFR framework and suggests the following approaches to help the

framework achieve its potential in academic discourse/literature: focusing analysis on frame structure, investigating framing as a dynamic interpretive process and examining the cultural and institutional basis of organizational frames.

Davis and Hufnagel (2007) used technology frames to explore the effects complex systems have on users' perceptions of their work. They focused their attention on the technology-in-use frame of a single stakeholder group (a group of forensic technicians) with an aim of, "understanding its dimensionality, the historical influences that helped to shape it, and its effect on their perceptions of a system that substantially altered their work practices. Study employed a mixed qualitative/quantitative method – repertory grid plus talkback- approach to generate its insights. The key finding of this research was an observation of internal frame incongruence between occupational and organizational identities (cognitive dissonance produced by perceived contradictions between the dictates of good practice defined by an external credentialing organization and the control logic encoded in the new IS system and endorsed by the vertical hierarchy through which they reported. In the same year, MacLeod and Davidson (2007) proposed integrating narrative analysis with TFR in order to provide a more personal perspective into the framing process. Study illustrates how narrative analysis could augment TFRs insights into understandings about a particular technology by illustrating personal connections, such as how organizational members connect technology innovation with personal identity. Narrative analysis, they argue, could also provide insight into individual views of power, identity and knowledge and allow deeper understanding their influence within a project team. While recognizing that TFR research is typically conducted at the group level of analysis, they argue that a consideration of individual frames could help enrich and inform this stream of research.

Yeow and Sia (2008) employed the TFR framework to examine the process by which diverse groups in an organization arrive at a consensus regarding what constitutes “best practices” in package software. The study utilized History, Motivations, Goal of Technology, and Criteria of Success as its frame domains and identified the Operations Department, Financial Policy Department and Users as its key stakeholder groups. Yeow and Sia highlighted the contestation of “best practices” based on incongruent frames and identified political and discursive strategies as the means used to resolve this incongruence. The study identified escalation and political negotiations as well as the impact of central position and formal authority as the key political strategies used to contest ‘best practices’. Similarly the study identified argument patterns (array vs. focused) and argument content (selective and strategic vs. own frame and setting) as the key discursive strategies used in frame contestation.

Azad and Faraj (2008) performed a longitudinal 10-year study of an e-Government implementation project to describe and analyze the processes of frame evolution that helped translate and reconcile competing frames into what they termed a “truce frame”. They defined these processes as frame differentiation, frame adaptation and frame stabilization. The key stakeholder groups (also referred to as key antagonists) identified in the study were the Project Implementation Unit and employee/middle managers within the land group. Study showed how the employee/manager group started by offering an oppositional technology frame to that championed by the project unit and almost caused the abandonment of the initiative. It then showed how through, “a process of dialogic interactions, negotiation of meanings and specifications, and political interventions” a negotiated truce frame was achieved. The use of the term “truce frame” was used to denote the cessation of conflict even though consensus had not been reached. The key contribution of the study to the literature was a rich depiction of framing

as a dynamic negotiated process. It highlighted the very tentative nature of frame stability as was manifested by the social shaping of an organizational truce to proceed with the project.

Gal and Berente (2008) advocate the use of a social representations approach when studying the socio-cognitive processes involved in information systems implementation initiatives as an alternative to the TFR approach. Citing Boland (2001) they question the notion of very notion of frames stating that the concept of frames imposes cognitive structures to the minds of organizational members *a priori* to any organizational processes. This, they argue, can create a blind spot in the eyes of researchers and cause them to lose sight of the temporal experience of meaning making. Social representations on the other hand, Gal and Berente write, “are not taken as given in the same manner that frames are accepted as ready-made cognitive constructs. Instead, by emphasizing an ongoing and dynamic mode of cognition, the processes that lead to the structuring of representations (i.e. anchoring and objectification) are unpacked in order to understand how their emergence and significance are couched in group’s shared experiences, traditions and identities”. Wainwright and Brooks (2010) employ the TFR framework to illustrate the degree of goal incongruence between clients and IT vendors. The study identified the Strategic Imperatives for the Project, The Nature of the Technologies, and Technology-in-Use as its frame domains. The key contribution of this work to the literature was its novel application of the TFR concept to client and IT vendor relationships.

Table 1 – Summary of Key Contributions of TFR Research

Early TFR Research (1994 – 2000)	
Author(s)	Key Contribution
Orlikowski and Gash (1994)	Seminal paper. Demonstrated that different stakeholder groups are likely to have different perspectives of usefulness, importance and significance of IT artifacts and that these differences have notable impacts on technological innovation outcomes in organizations.

(Table 1 Continued)

Early TFR Research (1994 – 2000)	
Author(s)	Key Contribution
Sahay et al (1994)	Validated the notion of shared frames of meaning by using multidimensional scaling (MDS). One of first studies to address concept of frame structure (uses content coding to establish frame dimensions)
Shaw et al (1997)	Adapts Tyre and Orlikowski (1994) observation related to “windows of opportunity” for alterations of technology adaptation to the TFR framework. Paper suggests that the identification of frame incongruence could provide a ‘trigger’ for the re-examination and modification of technology adaptation/implementation patterns.
Barrett (1999)	Longitudinal study that provides snapshots of frames over a four year period. Corroborates Orlikowski & Gash’s finding by indicating that incongruent frames impeded technology adoption.
Lin and Cornford (2000)	Reported a successful implementation despite early frame incongruence due to an early “reframing” initiative undertaken by the IS group. Suggest that this reframing can be done by, “reframing the needs, ‘reengineering’ the technology frames’, engaging in social interactions and exercising political power.
McLoughlin et al (2000)	Suggested the need for “configurational intrapreneurs” that could intervene and establish the legitimacy of alternative frames or achieve “cognitive jail breaking” (the breaking out of dominant frames of thought)
TFR’s Mid Years (2001 – 2005)	
Gallivan (2001)	Introduces concept of change magnitude to describe degree of frame incongruence. Also suggested the identification of change thresholds through personal resilience profiling and use of change preparation techniques such as frame bending exercises and change readiness coaching aimed at enhancing the nimble zone.
Khoo (2001)	Introduces the concept of incommensurate frames. Identifies the use of a rhetorical device (the synecdoche) to function as a boundary object that would serve to orient discussion between incommensurate frames.
Davidson (2002)	Introduced the notion of changing frame salience over time. Study indicated that interpretive power of a frame is dependent on resilience of other frames and active involvement dominant individuals or groups. Also highlighted the role of metaphors and stories in characterizing frames.
Iivari and Abrahamsson (2002)	Corroborated Orlikowski and Gash’s finding. Advocated early identification and interventions such as all-inclusive stakeholder meetings
Yoshioka et al. (2002)	Applied the TFR lens to a global setting and adopted nationality, site and language as interpretive categories.
Law and Lee-Partridge (2003)	Used cognitive maps to help assess frame structure

(Table 1 Continued)

TFR's Mid Years (2001 – 2005)	
Author(s)	Key Contribution
Davidson and Pai (2004)	Review of extant TFR. Suggested that the importance of frame incongruence had been established. Recommended studies that would examine frame structure and improve understandings of how frames change and develop.
McGovern and Hicks (2004)	Demonstrated challenges facing configurational intrapreneurs and suggested that since framing is predominantly a political process, outcomes are likely to be determined by the dominant frame.
Lin and Silva (2005)	Demonstrated use of jargon and technical lingo overcome incongruence and to “reframe” user frames. Recommended the addition of user frame in user requirements reports.
Ovaska et al. (2005)	Identified Filtering, Negotiation, and Shifting as key stereotypical tensions that impact the framing process
TFR's Latter Years (2006 – Present)	
Bjorn et al (2006)	Identified the introductory session, negotiation of goals and plans, and a reflective episode as key social factors influencing the expansion of frames
Davidson (2006)	Review of TFR Literature. Identified the analysis of frame structure, the investigation of framing as a dynamic interpretive process and the examination of cultural and institutional basis of organizational frames as gaps in the literature.
Davis and Hufnagel (2007)	Focused on single stakeholder group and demonstrated internal frame incongruence (impact of within frame incongruence)
MacLeod and Davidson (2007)	Proposed integrating narrative analysis with TFR in order to provide a more personal perspective into the framing process.
Yeow and Sia (2008)	Identified political and discursive strategies as a means for resolving frame incongruence. Recognized argument patterns (array vs. focused) and argument content (selective and strategic vs. own frame and setting) as the key discursive strategies used in frame contestation. Also identified escalation as well as the impact of central position and formal authority as key political strategies for resolving frame incongruence.
Azad and Faraj (2008)	Introduces the notion of a negotiated “truce frame” to denote the cessation of conflict even though consensus had not been reached. Depicted framing as a dynamic negotiated process.
Gal and Berente (2008)	Offer a critique of the TFR Lens. Posit that frames impose cognitive structures upon organizational members <i>a priori</i> of organizational processes.
Wainwright and Brooks (2010)	Applied the TFR concept to client and IT vendor relationships.

CHAPTER 3: THEORETICAL FRAMEWORK

THE DISCURSIVE ROOTS OF TFR

Orlikowski and Gash (1994) derived their notion of frames from the social cognition literature which describes frames in terms of, “people’s definitions of organizational reality that serve as vehicles for understanding and action”. TFR as described by Orlikowski and Gash refers to the shared frames that guide technology related interactions in organizations. TFR therefore could be viewed as a framework that was developed to help understand the sensemaking “around information technologies and organizational changes related to technology, particularly the difficulties that arise when the frames of relevant social groups differ” (Davidson and Pai, 2004). The notion of sensemaking can be viewed as an intrinsically discursive enterprise. Berente et al (2011) make the case for this when they cite Weick’s (1979) famous question, “How can I know what I think until I see what I say?” to illustrate the discursive traits of thought. They also cite Billig’s (1996) observation that, “we think to ourselves as if addressing someone else”.

Viewed as sensemaking devices therefore frames in general could also be described as discursive characterizations of reality that serve as vehicles for understanding and action. This depiction of frames as discursive devices is especially fitting for TFR because TFRs are explicitly social constructs. TFR as construed by Orlikowski and Gash refers to group level frames or the shared aspects of individual frames. The sharing of parts of individual frames as described by Berger and Luckman’s (1967) treatise on the social construction of reality is an inescapably discursive process. Indeed, the social and discursive nature of TFR is borne out by the almost exclusively interpretive and hermeneutic approaches employed in TFR studies (Gal and Berente, 2008; Davidson, 2006). Davidson (2002) explains the hermeneutic nature of TFR

research when she cites Orlikowski and Gash's (1994) statement that "technology frames are expressed symbolically through language, visual images, metaphors and stories" and notes Moch and Fields (1985) observation that individuals employ frames when they produce speech or written materials to justify her examination of discourse to identify the frame domains in her study.

In addition to TFR's discursive traits, the emphasis on frame incongruence or the difficulties that arise when the frames of relevant social groups differ (Davidson and Pai, 2004; Davidson, 2006) that is evident in the TFR literature positions TFR squarely in branch of discourse that pertains to argumentation. As Eemeren (2009) observes, "It is a truism recognized from Antiquity onwards that argumentation arises in response to, or in anticipation of, a difference of opinion, whether this difference of opinion is real or merely imaginary." The appropriateness of using an argument approach in analyses of TFR is corroborated by Berente et al (2011) who identify the study of argumentation as an important domain within the discursive sensemaking literature. Yeow and Sia's (2008) study provides further substantiation of this when they describe the discursive strategies used to contest incongruent frames in terms of argument forms. Yeow and Sia used argument pattern (array vs. focused) and argument content (selective and strategic vs. own frame and setting).

While argumentation consequently is 'arguably' intrinsic to any TFR study that examines frame incongruence, few TFR studies (e.g. Yeow and Sia, 2008) make explicit reference to argumentation as an analytical device or lens and none adopt or build on the extant argument frameworks found in the literature on argumentation. This might be explained by the interpretative underpinnings of TFR studies that result in contextually bound depictions of frame domains and content. When arguments are presented or alluded to in the TFR literature they are

typically portrayed solely in terms of a particular stakeholder group's frame domain without reference to the relationship between the particular argument and broader argumentation typologies. When Yeow and Sia (2008), for example, categorize the argument patterns in their study in terms of argument arrays and focused arguments they use these as case specific classifications of frame domains and do not attempt to suggest that these patterns would be found in other TFR studies.

Shifting the focus away from idiographic depictions of argument content to more generalizable depictions of argument constructs that are based on established argument theory would be in keeping with Davidson's (2006) call to improve TFR theorization by moving attention from frame content to the characteristics and consequences of frame structure. To accomplish this goal, this dissertation conducts a review of extant argument theory in an attempt to re-conceptualize technology frames of reference as technology argument frames. Portraying frames as argument structures could help facilitate cross case comparison and foster the building of a cumulative base of empirical findings related to the TFR framework.

HISTORICAL OVERVIEW OF ARGUMENT THEORY

Defining Argumentation

There has been general agreement with the assertion that argumentation arises in response to, or in anticipation of, a difference of opinion (Eemeren, 2009). However, as Blair (2012) notes, a mere difference such as when one says "tomayto" and another says "tomahto" does not engender an argument unless it is translated into a disagreement. The tomayto/tomahto difference only generates an argument if the difference leads to a controversial assertion about which pronunciation is right or correct. Disagreements of this sort produce arguments because they induce or call for some sort of justification or reason-using. There has therefore, in addition to

the general agreement about the source of argument, also been general consensus among argument theorists regarding the view of argumentation as a means of justifying knowledge claims. Rowland (1987) calls this the traditional view of argumentation. This view is corroborated by Blair (2012) who refers to an, “‘illative core’ of argumentation – the ‘this, therefore that’ which is the *sine qua non* of argument and argumentation”.

This “illative core” is evident in several prominent definitions of the term. Aristotle’s syllogism, which is the primogenitor of the formal logic tradition, presents an argument as three categorical propositions, two of them premises and one a conclusion (Kahane, 1990). Toulmin (1958), whose writing represented a critical departure from formal logic and the origins of the informal logic tradition, depicted an argument as the “grounds (backing, data, facts, considerations, features) on which the merits of the assertion are to depend.” Hitchcock (2006) a prominent informal logician defines an argument as, a “claim-reason complex” consisting of (i) an act of concluding, (ii) one or more acts of premising (which assert propositions in favor of a conclusion), and (iii) a stated or implicit inference word that indicates the conclusion follows from the premises. Eemeren et al. (1996), prominent proposers of pragma-dialectics which is a branch of informal logic that emphasizes Popperian deductive-reconstruction and focuses on both the pragmatic and logical aspects of argumentation define an argument as, “a communicative and interactional (speech) act complex aimed at resolving a difference of opinion for a reasonable judge by advancing a constellation of reasons the arguer can be held accountable for as justifying the acceptability of the standpoint(s) at issue”. Perelman and Olbrechts-Tyteca (1988) authors of the *New Rhetoric* defined argumentation as a distinct function from the deductive processes associated with formal logic (or what they termed “demonstration”). Unlike demonstrative reason which provides a chain of premises and conclusions that cannot be

challenged, argumentation allows choice or legitimate disagreement. As Perelman and Olbrechts-Tyteca write, “the use of argumentation implies that one has renounced using force alone, that value is attached by gaining adherence of one’s interlocutor by means of reasoned persuasion, and that one is not regarding him as an object, but appealing to his free judgment”. Willard (1989) whose work gave impetus to multi-modal conceptualization of argumentation defined argument as, “a form of interaction in which two or more people maintain what they construe to be incompatible positions”. He describes the illative process broadly in terms of any and all communication vehicles available to arguers to maintain their position. Habermas (1981) whose writings are widely cited in academic literatures including IS literature (Ross and Chiasson, 2011) depicts an argument as “a mode of communication whereby an individual makes an explicit claim and then supports or thematizes, this claim to persuade others to accept it while anticipating criticism”.

While the above depictions of argumentation represent different traditions or perspectives on argumentation they all contain the basic elements of disagreement or a point of contention and illation. Rowland (1987) extends this consensus to a view of argumentation that depicts it not only as a means of justifying knowledge claims, but also as a vehicle for knowledge discovery or “the epistemological method”. However, apart from the above points of a consensus, and perhaps related to its relationship to the contentious notion of epistemology, there is little agreement among argument theorists, on the defining characteristics of argument form, the appropriate means for evaluation or a suitable theoretical underpinning to guide its exploration (Rowland, 1987). There have, however, been relatively established schools of thought that have helped shape the various conceptualizations of argumentation that have existed from antiquity.

The next section traces these thought traditions in an attempt to situate and provide context to the analytical strategies employed by this dissertation.

Dialectical versus Rhetorical Argumentation

As “the epistemological method” the notion of argumentation could be traced back to Greek conceptualizations of knowledge and its acquisition. As Hirschheim (1995) records it, “The Greeks chose to classify knowledge into two types: *doxa* (that which was believed to be true) and *episteme* (that which was known to be true).” Argumentation from this perspective could be seen as the process of moving from “doxa” to “episteme” with the difference between the two providing the illative motivation for an argument or argumentation. Aristotle referred to argumentation within this epistemic realm of knowledge as demonstrations. Demonstrations moved from necessary premises to necessary conclusions through syllogistic deduction (i.e. “all A’s are B’s, all B’s are C’s, therefore all A’s are C’s”) (Aristotle, 1996). He argued that in order for a syllogism to produce an epistemic conclusion, “demonstrative knowledge must necessarily depend on premises which are true, primary, immediate, and better known than, and prior to and causes of, the conclusion”.

Since demonstrations were dependent on truth claims they gave rise to the dialectic method of argumentation which aimed to resolve disagreements through rational evaluations of truth claims (Pinto, 2001 and Eemeren, 2003). The dialectical method consequently presented argumentation as a highly structured form of propositional logic that tested arguments by applying a set of precisely defined formal rules (Rowland, 1987). As a result of its emphasis on precisely defined rules, dialectical argumentation is intrinsically abstract or theoretical in its approach, focusing on universal principles unencumbered by the details involved in particular circumstances. As Leff (2002) records, “The dialectical thesis – e.g. should a man marry? – is

unencumbered by particulars, and thus dialectical arguments focus upon principles of inference per se.” Unlike the question, “Should Cato marry?” which deals with a particular person the dialectical thesis addresses a prototypical man and is thus not concerned with the plethora of circumstantial details such as who, where, when, by what means, and how Cato should marry. Dialectical argumentation also focuses more on the relationship between propositional alternatives than with the relationship between the propositions and the audience (tends to transcend instead of situate). Dialectic therefore tends to be more associated with “reason” because it only considers the rational appeal of an argument (the *logos*) and can bracket matters of character (*ethos*) or emotion (*pathos*) (Leff, 2002). The language of dialectical argumentation consequently is, “closed, precise, technical and plain” (ibid).

The main proponent of the dialectical method of argumentation in antiquity was Plato. As Foss et al. (1985) note, “Plato was a wealthy Athenian who rejected the ideals of political philosophy after the death of his teacher and mentor, Socrates. At his school, the Academy, he espoused a belief in philosophical thought and knowledge, or dialectic, and rejected any form of relative knowledge or opinions as unreal”. Foss et al. also quote Plato as stating that, “any man who does not know the truth, but has only gone about chasing after opinions, will produce an art of speech which will seem not only ridiculous, but no art at all.”

The ‘episteme’ concept and its related dialectical method were not without its critics in antiquity. The Sophists challenged the idea of absolute knowledge by asking how man could transcend his own language and cultural system (Hirschheim, 1985). Sophists asserted that absolute truth was unknowable and perhaps nonexistent and had to be established in each individual case because as Protagoras of Abdera, who is credited with initiating the Sophist movement, stated, “Man is the measure of all things” (Foss et al. 1985). Similarly, Isocrates, an

early sophist who established a school of rhetoric in Athens, argued that, “the ideal of absolute knowledge (episteme) of useful matters, i.e. those that pertain to making choices in in one’s personal life or as a member of a community, is unattainable. Therefore it is better to have the right opinions (doxa) about them than scientific knowledge of what is in this sense considered useless” (Bons, 2002). Sophistry consequently developed a form of argumentation that was diametrically different from the Aristotelian syllogistic demonstrations. Since Sophistry was concerned with practical insights instead of objective knowledge and its main lens was opinion and not truth, it did not have the same rigid structure as the dialectic. Gorgias, for example, who was the subject of Plato’s disparaging dialogues on the Sophists and their brand of argumentation, founded a school in Athens that favored impromptu speaking (became known as the father of impromptu speaking) and emphasized poetic language (Foss et al, 1985). As Rapp (2010) notes, Aristotle referred to argumentation that did not meet the strictures of syllogistic structure as an enthymeme and he related this argument type to persuasive discourse or rhetoric. Rhetorical argumentation consequently was loosely defined by Aristotle as “the faculty of discovering the possible means of persuasion in reference to any subject whatever” (in Krabbe, 2002). Unlike dialectic argumentation which sought to attain truth, rhetoric was concerned with attaining shared opinions.

Rhetoric consequently, because of its emphasis on persuasion and not truth, involves more than an examination of propositions relative to their alternatives, but focuses on the plausibility of these propositions relative to the audience addressed (Leff, 2002). Indeed, unlike the abstract or theoretical approach of the dialectic that focused on universal principles and disregarded the details of particular circumstances, the rhetorical discipline is heavily vested in the local particulars of an argument. For example, unlike the dialectical thesis – should a man marry? –

which has universal connotations, the rhetorical hypothesis – should Cato marry? – deals with the specific persons and actions that enter into consideration of a social or political situation, and so rhetorical argument must apply principles to actual cases (ibid). While therefore rhetorical argumentation is likely to be less precise than dialectic argumentation it is nevertheless governed by norms of appropriateness or pertinence to a particular setting or context. As Leff (2002) writes, “To speak well rhetorically as a matter of art is to demonstrate a capacity to adapt to changing local circumstances. In other words, the circumstantial and situated character of rhetoric encourages a norm of accommodation and flexibility – a norm connected with *phronesis* (practical wisdom) or *prudentia* (prudence)”. Rhetorical argumentation therefore generates practical insights (not truths) that are geared at managing particular situations and circumstances. As Bons (2002) notes, “it is the experience of these [*rhetorical insights*] and a pragmatic analysis of them which provides one with an empirical stock of knowledge which informs one’s opinion and which enables one to respond effectively to the requirements of any given situation”. Jacobs (2000) sums up this distinctly pragmatic feature of rhetorical argumentation well when he writes, “Dialectic searches for truth; Rhetoric makes it effective”.

Rhetoric’s emphasis on persuasion also engenders it to include and highlight the role of *ethos* and *pathos* in argumentation instead of focusing solely on *logos* or pristine rational thought. As Jacob (2000) writes, “Rhetoric adds motivational appeal and linguistic style in order to animate the inferential forms and propositional content of logic”. This is perhaps the source of pejorative uses of the term in everyday parlance to refer to empty words with no substance or flowery, ornate speech. As Hohmann (2000) observes there is a tendency, “...to conceive of dialectic as a rather pure and theoretically sound method aimed at a cooperative search for cognitive truth, and

of rhetoric as a seriously tainted and practically compromised knack serving a competitive quest for persuasive success”.

While dialectic and rhetorical approaches seem very much opposed to each other with rhetoric criticized as feigned and unreasonable speech addressed to man’s lower instincts, rather than reason, and dialectic described as useless logic chopping, full of sophistry with no practical benefit, both could be construed as complementary sides of the same coin (Krabbe, 2002). Aristotle, whose name is synonymous with the syllogism, identifies rhetoric as the counterpart of dialectic in the beginning of his *Rhetoric* treatise (in Krabbe, 2002). He also identifies the usefulness of rhetoric for the following purposes: 1. To defend proper decisions (you may be right, but you will still need to convince others, otherwise you are to blame); 2. To convince those who cannot follow scientific arguments; 3. To be able to argue both for and against the same proposition; not, indeed, in order to actually do so, but in order (3a) to have a realistic view of an issue and (3b) not to be duped by fallacies (ibid).

Leff (2002) makes a similar case for viewing rhetoric and dialectic as complementary types when he observes that dialectic is dependent upon rhetoric to “close and define the situations in which it can operate.” Rhetoric, according to Leff, can help provide provisional, local closure when conclusive agreements are not reached through the inferential sequence. On the other side of the coin, he suggests that after rhetoric needs to be tempered with dialectical rationality if it is to achieve its goal of effective persuasion. Blair (2012a) construes an even tighter relationship between rhetoric and dialectic by challenging the view that logic, rhetoric and dialectic are different argument types with varying degrees of importance. He suggests that logic, dialectic and rhetoric are all essential parts of argumentation with none more important than the others. Blair (2012b) suggests that, “as related to argument, rhetoric is the theory of arguments in

speeches, dialectics the theory of arguments in conversations, and logic the theory of good reasoning in each.”

This dissertation consequently uses its contrast of rhetorics and dialectics more as heuristic device to facilitate insights into the research endeavor than as a reified dichotomy. While, viewed historically, the dialectical and rhetorical perspectives are the two main perspectives that stand out, the two domains have not been univocally or statically defined. As Eemeren and Houtlosser (2002) write, “The perceptions and descriptions of the two perspectives vary considerably over time. The same applies even more strongly to their mutual relationship and the way in which the one perspective may be subordinated to, combined with, or even integrated in, the other.”

Table 2 - Summary Comparison of Rhetorical and Dialectical Argumentation (adapted from Leff (2002) and Jacobs (2000))

Features of Dialectical Argumentation	Features of Rhetorical Argumentation
Adds institutional commitments and deliberative format in order to test inferential forms and propositional content	Adds motivational appeal and linguistic style in order to animate the inferential forms and propositional content of logic
Searches for truth	Makes truth effective
Structure of opposition	Structure of identification
Emphasizes the <i>logos</i> aspect of argumentation and brackets out <i>ethos</i> and <i>pathos</i>	Includes and highlights <i>ethos</i> and <i>pathos</i> in argumentation
Proceeds through question and answer, and the interlocutors seek to convince each other (i.e. win the argument)	Proceeds through uninterrupted discourse, and speakers seek to persuade the audience
Materials of dialectic are symbolic inducements	Materials of rhetoric are pragmatic acts
Tendency in dialectic is to transcend	Tendency in rhetoric is to situate
Intrinsic standards for judging argument quality in terms of procedural implementation	Extrinsic standards for judging argument quality in terms of persuasive outcome
Considers the relationship of propositions to one another and follows norms of logical rationality	Considers the relationship between propositions and situations and follows norms that refer to appropriate social relationships
Critical in Epistemic orientation	Relativistic in epistemic orientation
Viewed as a technical art	Viewed as a practical art
Criticized as an irrelevant, arcane and esoteric technique. Dismissed as peculiar curiosity	Criticized as ornamentation, bombast, seduction. Can lead to cynical sophistry.

Argument Theory Schools of Thought

Formal Logic School

After the dark ages (200 – 1000 AD) Aristotle’s syllogism gave rise to positivism and its constituent or related mathematical (symbolic) logic approach to argumentation. The central tenet of this school of thought was that, “a statement is meaningful if and only if it is directly or indirectly verifiable or certifiable by formal rules of logic” (Fisher, 1987). The origins of formal logic can be traced to Rene Descartes (1596-1650) who when advocating for a mathematical view of the world suggested that the mind and matter were separate substances that could be studied independently (Hirschheim, 1985). Adherents of this school of thought such as Gottfried Leibniz, Gottlob Frege, and Bertrand Russell consequently emphasized a distinction between logic and human mental processes and depicted argumentation solely in terms of abstract processes. Bertrand Russell (in Fisher, 1987) for example, is quoted as asserting that “... the subject matter of logic does not presuppose mental processes and would be equally true if there were no mental processes”.

Johnson (1999) summarized the domain of formal logic as the study of entailment relationships between propositions. It is concerned only with clarifying such relations as logical truth, logical consistency and logical equivalence. He adds that it is formal in the sense that it relies on the abstract notion of logical form. Formal logicians consequently focus their attention on abstract forms of argumentation with a goal of distinguishing between valid and invalid argument forms while filtering out the “noise” that occurs in everyday discourse. As Eemeren et al (1996) write, “The arguments studied by formal logicians are decontextualized sets of sentences or symbols viewed in terms of their syntactic or semantic relationships.” In this

school of thought arguments are generally only considered valid if they deductively proceed from true or certain premises to true or certain conclusions.

Informal Logic School

This highly structured form of propositional logic was the dominant lens through which theorists viewed argumentation until the late nineteenth and early twentieth centuries when textbooks such as George Pierce Baker's, *Principles of Argumentation* (1895), Craven Laycock and Robert L. Scales', *Argumentation and Debate* (1905), and A. Craig Baird's, *Argumentation, Discussion, and Debate* (1950) attempted to juxtapose rhetorical thought with the prevalent formal logic (Fisher, 1987). Indeed, a major impetus for the advent of informal logic as a prominent domain for the study of argumentation was a pedagogical critique of formal deductive logic's usefulness for the evaluation of argumentation as it occurs in ordinary discourse. As Johnson and Blair (2002) noted students were often enrolling in "logic" courses in order to improve their practical logical skills, but learning formal deductive logic was not useful for these ends. Formal logic, however, maintained its dominance as the main lens for the instruction of argumentation until the late 1970's when a drop in post-secondary enrollments pressured philosophy departments into, "sponsoring the new 'applied' or 'practical' logic course that had already been found to be much more popular than the historical introductory formal logic course (ibid). Textbooks such as Kahane's, *Logic and Contemporary Rhetoric* (1971), which is considering a founding text for the informal logic school of thought, became very successful (11th edition 2011) and marked the ascendancy of conceptualizations of argumentation that differed from the formal logic tradition. Indeed, as Scriven (1980) is wittily quoted as asserting, the emergence of informal logic "marks the end of the reign of formal logic. Not by any means

the end of the subject, just its relegation to its proper place in the academic zoo, somewhere over just north of mathematics and west of computer science...” (in Blair, 2012a).

In addition to, and perhaps prior to, the pedagogical forces that challenged the prominence of the formal logic school of thought there were also theoretical critiques that challenged the adequacy of the formal deductive logic as normative theory of argument. Fisher (1987) traces the theoretical opposition back to Wittgenstein’s (whose original treatise, *Tactatus Logico-Philosophicus* (1922), served as a major inspiration for the formal logic school of thought) conversion to a more inter-subjective view of language and as a consequence argumentation. In Wittgenstein’s later writing, *Philosophical Investigations* (1953), he observed that the meaning of words in language is obtained from the language games in which they participate and that all observation statements are theory-dependent and not depictions of ‘reality’. He consequently allowed for a plurality of truths since the truth of observation statements was related to individual or subjective language games (in Hirschheim, 1985). Wittgenstein’s *Philosophical Investigations* resulted in a shift in philosophy that moved it from attempts to regiment logic into mathematics to efforts to dissolve philosophical problems through the analysis of ordinary language (Fisher, 1987).

An important criticism of formal logic that emerged after Wittgenstein’s turn was the criticism of deductivism as an appropriate lens for understanding argumentation. As Johnson and Blair (2002) note, from its early origins in Plato and subsequent enlargements in the Cartesian project, formal logic contains a bias in favor of deductive reasoning that could be represented by the claim that “all inference is either deductive or defective”. According to this standard of argument evaluation, “an argument is a good one if and only if it is ‘sound’, that is, it is valid and its premises are true. It follows that the conclusion of a sound argument must be

true” (ibid). The problem with this approach as a theory of argument, consequently, is that it does not allow for good arguments both for and against a given proposition. The notion that there can be good arguments both for and against a given proposition, especially in the social sphere, is widely accepted and seems necessary or intrinsic to the concept of an argument. As Johnson (1999) observes the history of philosophical argumentation bears witness to the possibility of good, but conflicting or opposing arguments. As he writes, “There are good arguments for idealism [Plato] and against it [Aristotle], for phenomenalism [Berkeley, Ayer] and against it [Hume, Wittgenstein]; for skepticism [Descartes, Montaigne] and against it [Moore, Wittgenstein].” To illustrate this in a modern commonplace social setting, Johnson relates this to argumentation in the US Supreme Court that often results in split 5-4 verdicts as a result of compelling argumentation on both sides of an issue. Indeed, the shift from formal logic to the ascendant informal logic has been referred to as the move from the geometric model of reasoning to the jurisprudential model (Fisher, 1987).

While Wittgenstein’s *Philosophical Investigations* has been credited as being the main catalyst for theoretical opposition to formal logic’s hegemony of the field of argument, it was not, however, until the advent of Toulmin’s, *The Uses of Argument* (1958) and Perelman and Olbrechts-Tyteca’s *La Nouvelle Rhétorique* (1958) that non formal approaches to argumentation began to get widespread traction among argument theorists (Eemeren et al, 1996; Rowland, 1987; Blair, 2012b). Both Toulmin and Perelman/Olbrechts-Tyteca are considered primogenitors of the informal logic school thought even though they offer differing conceptualizations of argument because they both challenged the suitability of formal deductive logic as a theory of argumentation.

Toulmin's Dialectical Argument

Toulmin's book *The Uses of Argument* (1958) was published based on his belief that traditional logic was of limited use to actual practice of argumentation. A fundamental aspect of his critique of formal logic was its assumptions that all aspects of argument are "field invariant" and that mathematics (particularly geometry) was the standard by which arguments in all fields could be judged. Toulmin challenged these assumptions by asserting that practical argument is a tool that is used in a variety of different fields and that aspects of arguments varied from field to field (i.e. "field dependent") (in Foss et al, 1985). Toulmin took issue with the application of the impersonal, highly specialized and abstract principles of mathematics to the intensely personal and inter-subjective practice of real world argumentation. To explain this notion, Toulmin introduces the notion of "logical types". He suggested that if statements that are to be justified are of the same logical type, and if all of the supporting statements are also of one logical type that the argumentation could then belong to the same field of argument (in Eemeren et al, 1996).

Examples of logical types listed by Toulmin are as follows:

1. The ministers handed in their resignations
2. The government is on the way out
3. Early elections will probably be held.
4. The guilty party has behaved improperly
5. It is difficult to make out who is responsible for the crisis
6. Measures will have to be taken to avoid a repetition

Statements of fact relating to the past (1) and the present (2), predictions (3), moral judgments (4) other judgments (5), and opinions regarding a course of action to be followed (6). (Ibid)

Toulmin also objected to formal logic's assumption that concepts do not change with time. He argued that most argument fields in the practical domain cannot accommodate timeless claims to knowledge. As is evident from items 1, 2 and 3 of Toulmin's field types, Toulmin regarded statements relating to the past, present and future as separate argumentation domains. He illustrates by showing how, even in the highly specialized field of astronomy predictions are made based on records that are no more current than the present hour. More data points could be observed in the future and require modifications of previous predictions or knowledge claims (Toulmin, 1958).

While Toulmin objected to the absolutist standards of formal logic, he was also opposed to relativistic standards of argumentation that, he argued constituted no standards at all. Toulmin argued that relativism was as flawed as the absolutism of formal logic because of its tendency to resist the application of viable intellectual concepts from one milieu to another (Golden, 2003). Toulmin attempted to resolve this conflict by developing an argument model that focused on the "justifactory" function of argumentation instead of the inferential model employed in formal logic. In this perspective argumentation is not a way of *arriving at ideas* but rather a way of *testing ideas critically*. It is concerned less with how people think than with how they share their ideas and thoughts in situations that raise the question of whether those ideas are worth sharing (Foss et al., 1985). Based on this perspective of argumentation, Toulmin (1958) defined a sound argument as "one which will stand up to criticism, one for which a case can be presented coming up to the standard required if it is to deserve a favorable verdict."

Using this "justifactory" lens consequently Toulmin developed an argument model that depicted what he asserted to be aspects of argumentation that were "field invariant". His model asserted that the building blocks of any argument regardless of the field of argumentation were

claims, grounds, warrants, backing, qualifiers and rebuttals. Toulmin argued that this model would hold across different fields of argumentation because the justificatory force of qualifying terms (“modalities”) such as *probably* is the same in all fields, even though the specific criteria for determining what counts as a qualification (i.e. what *probably* means) changes from field to field. A diagram and illustration of Toulmin’s model is presented below:

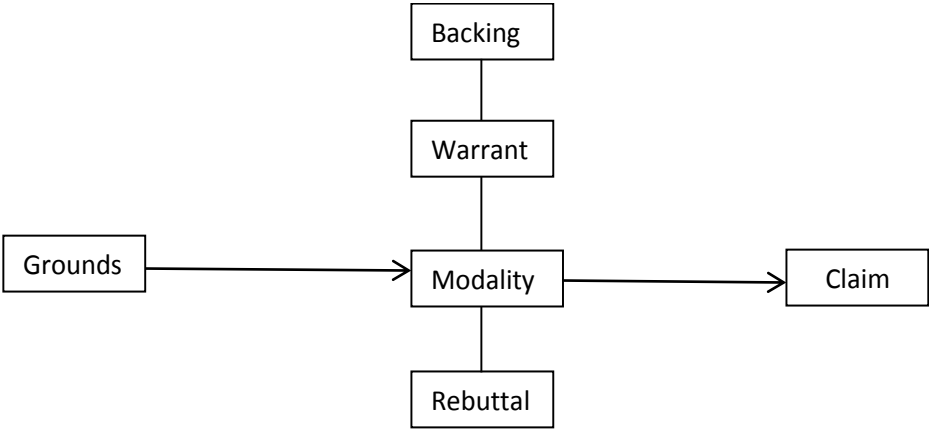


Figure 1 - Complete Diagram of Toulmin’s Argument Model

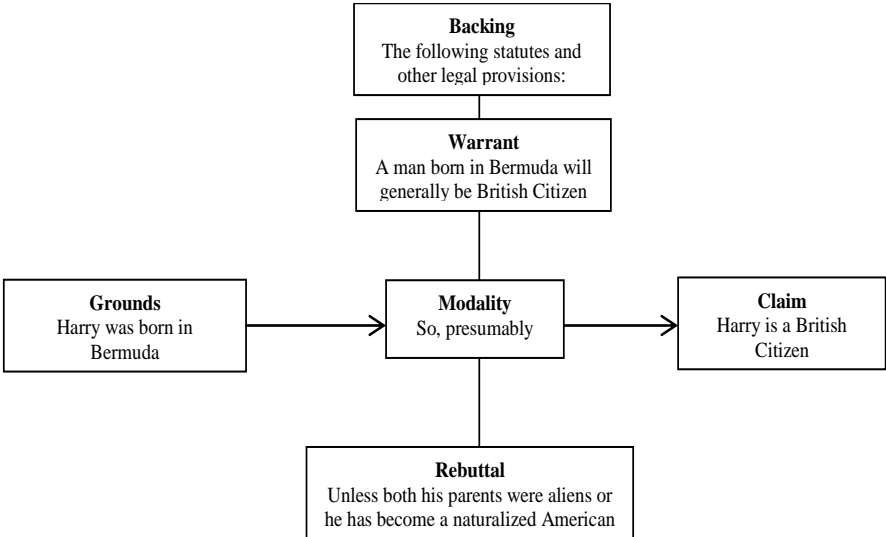


Figure 2 - An Illustration of the Toulmin Argument Model

An IS illustration of the above argument scheme can be found in Klein and Hirschheim's (2001) paper that addressed how to choose between competing design ideals. The above model is central to Toulmin's notion of argument because for Toulmin the soundness of an argument, "is determined by an inspection of the argument's anatomy, the assumption being that the same act of intellection that would tell one what is the major premise, minor premise, and conclusion would serve as well to indicate the merits of any given argument" (Fisher, 1987). While therefore rationality was conceived as field dependent by Toulmin the essential method of its certification or justification was conceived to be universal. Although therefore Toulmin rejected formal logic's definition of an argument his notion of argument still centered on a universal "form" or model. Toulmin also continued the dialectical tradition of assessing argumentation in terms of the relationship between propositions (in his model the relationship between a claim and its grounds) using norms of logical rationality. Toulmin's influential model seems intended for the logical assessment of arguments (with the caveat that this assessment is field specific) and is consequently classified by this dissertation under the broad umbrella of dialectic approaches to argumentation

Habermas' Communicative Rationality

Although Toulmin introduced the notions of "field dependency", "field invariance" and "field types" to argument theory discourse a major criticism of these concepts is that he does not provide an explicit definition of the key terms (i.e. "field" or "logical type"). As Eemeren et al (1996) observe, "An example of vagueness is the term *field of argument*, which he defines by reference to another term, *logical type*. From the examples, one gets the impression that factual statements, moral judgments, and predictions belong to different fields of argument. In his explication of the field dependency of the backing, however, Toulmin gives the impression that

the terms *field of argument*, *topic*, and *discipline* are synonymous. A weather forecast would then belong to a different field of argument (meteorology) than an economic forecast (economics).”

Habermas’ theory of communicative rationality addresses this weakness in Toulmin’s model by providing an alternative model that provides more clearly defined domains of argumentation. According to Habermas (1991), the process of argumentation or how claims are determined to be valid or reasonable varies depends on three ontological relations of actors and the corresponding concepts of the objective, social, and subjective world (O’Donnell and Henriksen, 2002). He bases this argument on Searle’s (1969) speech act theory which describes speech acts as units of human communication that express human intent, such as asking a question or making a request. As Hirschheim et al (1997) observe “To understand the meaning of a speech act the social situation in which it occurs (its context) must be taken into account. This typically [consists] of the speaker, the hearer, time, and place of the communication. The context also includes the set of possible worlds covering all features of speakers, hearers, times, and other aspects.” In keeping with this Habermas asserts that arguments pertaining to claims of fact, propositional truth or efficacy (what he refers to as *Constantives*) are reasonably made with regard to objective/physical phenomena. In this realm claims can be verified by multiple observers using procedures that render social values and individual idiosyncrasies irrelevant. Similarly, arguments pertaining to the rightness or appropriateness of claims (or “*Regulatives*”), are reasonably made with reference to social phenomena. Claims in this domain, unlike the objective world, are only verifiable by testing the level of agreement or conflict that the claims have with principles that govern relations between, and the rights of individuals within a society. Habermas also suggests that arguments that relate to truthfulness or sincerity (“*Avowals*”) are

properly or reasonably made with reference to subjective phenomenon. Avowals pertain to the internal world of the speaker and are therefore not easily checked or inspected for a shared consensus making validation difficult.

Table 3 - Habermas' Argument Domains

Argument Domain	Types of Speech Act	Theme	Thematic Validity Claim
Objective World	Constantives	Propositional Content	Truth
Social World	Regulatives	Interpersonal Relation	Rightness or Appropriateness
Subjective World	Avowals	Speaker's Intention	Truthfulness or Sincerity

Habermas (in Foss et al., 1985) uses these three argument domains to different levels or typologies of argumentation. Habermas' first level of argumentation is what he terms "communicative action" or speech that is oriented towards "consensual norms", which define mutual expectations about how the actors in a given situation should behave in terms of communication. Argumentation at this level presupposes the existence of a shared pool of background assumptions and beliefs (in Lyytinen and Hirschheim, 1988). Communicative action consequently is the type of argumentation that is appropriate for resolving or addressing arguments in the subjective world where questions of truthfulness or sincerity would be salient (Foss et al., 1985).

When, however, an agreement between a group of actors about a shared background can no longer be taken for granted, Habermas asserts that a different level of argumentation called *discourse* is warranted. In discursive argumentation the participants suspend the usual assumptions about communication and move towards the examination, clarification and testing of claims. According to Habermas, Discursive argumentation applies to questions of truth

(objective world) and appropriateness (social world). As he writes, truth and appropriateness “are claims of validity which can be proven only in discourse. The factual recognition of these claims bases itself in every case, even that of error, on the possibility of the discursive validation of the claims made. Discourses are performances, in which we seek to show the grounds for cognitive utterances” (in Foss et al., 1985). Habermas terms argumentation related to truth claims (objective world) as *theoretic discourse* and argumentation related to appropriateness as *practical discourse*. In addition to the communicative and discursive levels of argumentation Habermas also introduces notions of “meta-theoretical” discourse (discourse which challenges the system or context in which data and warrants are selected) and “meta-ethical discourse” which raises epistemological/ontological questions of knowledge itself.

Table 4 - Habermas’ Levels of Communication

Level of Communication	Validity Claim	Example
Communicative Action	Sincerity questioned	Can (s)he be trusted?
Theoretic discourse	Truth questioned	Is the grass green?
Practical discourse	Rightness and appropriateness questioned	Should we purchase the armchair?
Meta-theoretical discourse	Conceptual field questioned?	Paradigm shifting (e.g. Copernicus’ heliocentric theory)
Meta-ethical discourse	Knowledge per se questioned	Intuitive vs. empirical knowledge

While Habermas provides a more detailed depiction of distinct argument domains than Toulmin’s argument model, Habermas nevertheless relies heavily on Toulmin’s model to depict argumentation within his discursive domains of communication. In both practical and theoretic discourse consensus is only valid if it can be justified using the structure of Toulmin’s argument model. As he writes, “the meaning of truth is not in the fact that a consensus has been reached,

but rather that at all times and places, if only we enter into discourse, a consensus can be arrived at under conditions which show the consensus to be warranted. Truth means ‘*warranted assertability*’” {emphasis mine} (in Foss et al, 1985).

In addition to contributing a more distinct depiction of Argument fields or domains to argument theory, Habermas also introduced a field invariant notion called ‘*the ideal speech situation*’ that could be used to evaluate argumentation across his argument domains. The ideal speech situation is a hypothetical situation which is characterized by: (a) an open agenda and free access in which all claims and counterclaims can be freely examined; (b) no asymmetries of knowledge or power (a community of peers) so that all have an equal chance to be heard and no one can be intimidated; and (c) a social atmosphere that encourages everyone to express their feelings, to question and examine those feelings so as to minimize the chances of self-delusion and insincerity (people saying things that they do not really mean) (Klein &Hirschheim, 1991). While this “ideal” is never actually realized in everyday communication, it does provide a lens by which rational discourse could be examined because the closer the communication is to the ideal type the more rational it could be deemed to be and vice-versa.

To elaborate on this notion of ideal speech Habermas (1984) divides social action into two orientations: an orientation to succeed (*instrumental action* when this orientation is related to objects and *strategic action* when it is related to subjects) and an orientation to reach an understanding (*communicative action*). Instrumental and strategic actions consequently can be assessed along a singular dimension of rationality. Instrumental actions can be evaluated by measuring the efficiency with which objects are manipulated to achieve particular goals while strategic actions can be “appraised from the standpoint of the efficiency of influencing the decisions of rational opponents” (Habermas, 1982). In communicative action however the goal

is the achievement of understanding where “to reach understanding means here that the partners in interaction set out, and manage to convince, each other, so that their action is coordinated on the basis of motivation through reason” (Brand, 1990). The coordination mechanism of communicative action differs from that of strategic action in that the latter is based on egocentric calculations and is coordinated on the basis of a communion of interests (as is exemplified in market economies) whereas the former is based on the pure force of the better argument. Not that communicative action nullifies individualistic motivations, but in communicative action these ends are subjugated to the use of language in a manner that is oriented towards achieving understanding. The essential difference is that in strategic action, ego influences the choice decisions not through criticisable claims couched in language but by sanctions, or gratifications, force or money. In communicative action, agreement “cannot be imposed by either party, whether instrumentally through intervention in the situation directly or strategically though influencing the decisions of opponents... what comes to pass manifestly through outside influence... cannot count subjectively as agreement. Agreement rests on common convictions” (Habermas, 1984).

Habermas like Toulmin could be classified under the dialectical tradition of argument because of his emphasis on logical rationality howbeit within the constraints of his argument domains. Indeed, as recorded in Eemeren et al (1996), “Habermas’ work belongs to a stream of philosophy often referred to as *Diskurstheorie*. It takes a stance against all kinds of relativism.”

Perelman and Olbrechts-Tyteca’s New Rhetoric

While Habermas extends Toulmin’s model to provide more clarity or definition to what Toulmin referred to as fields of argumentation, both Habermas and Toulmin do not address how argumentation could take place between fields or argument domains. Indeed, although

Habermas acknowledges that each of his validity claim types (i.e. sincerity, truth and appropriateness) are implicit in each speech act (he writes, “they [validity claims] are universal, that is they must be raised *simultaneously*, even when they cannot all be focalized at the same time” (in Foss et al, 1985)) he nevertheless suggests that with each claim there is an emphatic or dominant thematic type. Habermas does not explain how a dispute between legitimate world views (i.e. subjective vs objective or social) could be resolved in order to adopt the appropriate discursive evaluative lens. Indeed, Habermas suggests that when agreement between a group of actors can no longer be taken for granted this would serve as a trigger for *discursive action*. It could however be argued that the opposite is true and that basic subjective (communicative) agreement is necessary to proceed with discursive action. Indeed, as Foss et al write, a “serious criticism of Habermas’ work is the circularity of his justifications. Habermas argues that an ideal speech situation presupposes universal norms of rationality. Any attempt at refutation, however, presupposes rationality, because rationality means constructing a rationally compelling argument. Thus, we can only argue from the very presupposition we set out to question. Habermas begs the question, then; no real recourse to argue or arbitrate is available. One is forced into circular argumentation once the inherent rationality of speech is accepted.”

An alternate conceptualization that circumvents some of the criticisms leveled against the Habermas-Toulmin argument models is Perelman and Olbrechts-Tyteca’s (1958) rhetorical approach to argumentation. Unlike Toulmin and Habermas’ argument models whose main point of departure from the formal logic tradition was the notion of separate argument domains, Perelman and Olbrechts-Tyteca’s *New Rhetoric* fundamental criticism of the Cartesian concept of reason was its suggestion that whenever two persons arrive at opposite decisions about the same matter, at least one of them must be wrong (Corvellac, 2011). Indeed, to make a sharp

distinction between formal logic’s Cartesian ideal of reasoning and everyday reasoning the New Rhetoric refers to the former as ‘demonstrations’ and the latter as “argumentation”. (See Table 5 below)

Table 5 - New Rhetoric’s Distinction between Demonstration and Argumentation

Demonstration	Argumentation
Moves irremediably from premises to conclusions	Refers to a mix of opinions, justifications and criticisms
Reasons on truth	Reasons on values
Belongs to rational domain	Belongs to the domain of the reasonable
Is eternally valid, irreversible	Evolves over time
Impersonal, begins with axioms that are assumed to be true apart from audience	Personal, begins with premises that the audience accepts
Conclusion of demonstration is certain (self-evident)	Conclusion of argument is based on audience adherence (more or less strong, more or less convincing)
Rule bound and focuses on single claim (Argument restricted to logical link to initial claim)	Seeks audience approval through progressive repetitions and modifications (produces multiple alternatives)
Disciplined process	Creative process
order of steps guided by internal logic, meets demands of rational consistency	Open ended, embedded in timely contingency of individual, social conditions
Aims to calculate	Aims to seek adherence to a thesis
Logically coercive (outcome based on definitive proof)	Persuasive approach (outcome based on choice and free will)

Demonstrations, as depicted by the New Rhetoric, move from clearly stated premises to a conclusion that cannot be challenged if one accepts the premises and the rules of the logic in use. These demonstrations do not constitute arguments in the eyes of the New Rhetoric because they are based on the coercive notion of self-evidence. As Perelman and Olbrechts-Tyteca write, “All proof would be reduction to the self-evident, and what is self-evident would have no need of proof”. Argumentation on the other hand, as conceived by the New Rhetoric, is not a calculation that is made in accordance with pre-existent rules, but rather is a discursive endeavor designed to, “induce or increase the mind’s *adherence* [emphasis mine] to the theses presented for its

assent.” This notion of adherence (from the French term *adhésion*) is pivotal to New Rhetoric and is considered its main contribution to argument theory (Corvellac, 2011). Adherence does not involve a binary knowledge outcome (such as “no/yes” or “do not know/know for sure”) but is a matter of the degree of audience acceptance on a continuum that ranges from strong to weak. Adherence consequently, unlike formal approaches that emphasize logic or argument structure, is an audience centric view of argumentation. While the more formal approaches may look at the argument itself and tend to discount or overlook the audience, the New Rhetoric does the converse and treats the audience as primary and minimizes the import of argument structures and logic.

To illustrate this consider Toulmin’s (1958) characterization of his argument model. Someone asks whether Harry is a British citizen. Toulmin does not indicate who this person is, neither does he indicate who the question is addressed to nor does he mention the relationship between the two. As Crosswhite (2008) writes, “Toulmin’s model has no agents and no social relations, aside from the ghosts who prompt with questions and activate the model. It has no account of what arguers must know or what deep skill or virtues they must have”. From the perspective of the New Rhetoric, however, all argumentation must occur in relation to a particular audience. A speech requires hearers and a book entails readers. Indeed, the New Rhetoric contends with the notion that scientists merely report facts and do not necessarily address a specific audience, by arguing that facts do not “speak”. “Facts” only become facts when an audience consents to call them facts (Foss et al, 1985).

Indeed, while the New Rhetoric adopts many of the features of Habermas’ ideal speech (See table listing New Rhetoric’s Requirements for argumentation) situation by requiring conditions such as rules that govern the beginning, the conduct, and the ending of arguments; the absence of

violence, bribery or any other form of coercion (requiring exclusively discursive argumentation); it would nevertheless disagree with Habermas' notion of '*den zwanglosen Zwang des besseren Argument*' ("the unforced force of the better argument") (in Kock, 2007) because it imbues rational power to the argument itself, separate and apart from the audience. Despite its idealized setting, the paradoxical 'unforced force' would be anathema to the New Rhetoric because it retains and imposes the coercive power of rational thought upon the audience. In the New Rhetoric, however, power is derived from the audience and the audience has (or should have) an independent prerogative to determine how much credence or force it will bestow upon a given argument.

Table 6 - New Rhetoric's Minimal Conditions for Argumentation

New Rhetoric's Minimal Conditions for Argumentation	
1.	<p><u><i>Contact des spirit</i></u> ("Meeting of the Mind") Requirements</p> <ul style="list-style-type: none"> • A common language • A reason to argue (goal that can be plausibly achieved through argumentation) • Conflict about which parties are willing to change their minds (receptivity to arguments) • Rules that govern beginning, conduct and ending of argumentation • Interlocutors that are able and willing to argue with one another (who respect each other enough for reasonable prospects of persuasion) • Interlocutors with sufficient and accurate enough knowledge of other party to permit appeals to what is held in common and the use of appropriate argument forms (e.g. eristic; <i>ad hominem</i> forms are disqualified from this model) ; • No violence, bribery or any other form of coercion
2.	<p><u>Speaker and Audience</u></p> <ul style="list-style-type: none"> • Particular Audience and/or Universal Audience

The audience consequently is central to the New Rhetoric and is defined by Perlman and Olbrechts-Tyteca (1958) as, "the ensemble of those whom the speaker wishes to influence by his argumentation". Audience as portrayed in the New Rhetoric is a mental construct in the

speaker's mind rather than a physical presence of people assembled to hear the speech. To make a sound or effective argument therefore the speaker must have a suitable perception of his/her audience. Attaining an adequate perspective of the audience however is fraught with difficulty because of the abstract and ephemeral nature of the concept. "In oral argumentation," for example, "the speaker's construction of the audience will often be subject to change during the argumentation (e.g., under the influence of reactions) (Eemeren et al., 1996)."

The notion of an audience also introduces the requirement of a degree of rapport between the arguer and the audience. There must be what Perelman and Olbrechts-Tyteca call *contact des esprits* ("a meeting of the minds") in order for argument to proceed. This is not automatic or spontaneous, and often requires the speaker to first gain the audience's interest and attention so that it can attend seriously to the argument. As Eemeren et al. (1996) note, "As a rule it is an illusion to suppose that argumentation will speak for itself, and convince the audience by its own merits. With the help of anecdotes, examples, and stylistic devices, the speaker must interest the audience and maintain this interest throughout the argumentation. This can be difficult to achieve, particularly when the speaker has no clear picture of the audience's composition".

The New Rhetoric also distinguishes between a *particular* audience and a *universal* audience. The *particular* audience is comprised of any person or group of persons that the speaker is addressing whether or not they are considered competent or reasonable whereas the *universal* audience consists of the universe of all reasonable and competent people as conceived by the speaker. The universal audience can coincide with the particular audience if the speaker's conceptualization of the particular audience stands for rationality. As Eemeren et al. (1996) observe, "For a person living in the Middle Ages, a particular ecclesiastical elite may have been the embodiment of reasonable thinking; a particular group of colleagues may be the universal

(“ideal”) audience to a modern philosopher; people writing a letter to a newspaper, may perhaps count on its readers being the universal audience ready to concur.”

The concept of the universal audience serves two main purposes for an arguer. First, since the universal audience represents a norm that transcends all specific parties it provides a standard for evaluating the relative merits of an argument. As Foss et al (1985) write, “The concept of the universal audience implies that the quality of argument depends on the quality of the audience that accepts the thesis of the speaker. While the adherence of a particular audience may not be indicative of a strong argument, adherence of the universal audience is the ultimate in rationality in Perelman’s theory.” In the New Rhetoric, it is the credibility of the audience that bestows credence to an argument and a universal audience has more credibility than a particular audience. To illustrate the normative function of the universal audience, the New Rhetoric refers to arguments that are assumed to be acceptable to any reasonable being as *convincing* and arguments directed to a particular group or person as *persuasive*.

In addition to its normative function, the concept of a universal audience helps demarcate the boundaries of reason within which a speaker can select appropriate arguments and appeals for the speech act. Since, when looking at argumentation through the New Rhetoric lens speech does not exist without a hearer, the process of choosing an appeal or making an argument can also be seen to be equivalent to selecting the audience, universal or particular, toward whom the argumentation is directed. Using this lens an argument could be evaluated subjectively and by third parties by examining the level of correspondence that exists between its appeals and the intended audience. An article submission to an academic peer reviewed journal, for example, could reasonably be judged to be unsound if its authors narrowly construed the universal audience to consist only of practitioners and conceived of its arguments solely in terms of praxis.

Indeed, to illustrate the distinction between this concept and Toulmin’s notion of argument fields, the arguments in the paper could be reasonably judged ineffectual even if they were drawn from a mutually acceptable universal domain (e.g. IS theory), if they nevertheless failed to relate and respond to the views of the particular audience (reviewers).

From the perspective of the New Rhetoric an argument can be successfully articulated only if it is attuned to the premises of the evaluating audience. An argument in this view starts with agreement about some premises that a speaker (or writer) would like to transfer to some conclusion. As Perelman writes, “the aim of argumentation is not, like demonstration, to prove the truth of the conclusion from premises, but to transfer to the conclusion the *adherence* afforded to the premises” (in Foss et al, 1985). To aid in the identification of potential starting points for argumentation, the New Rhetoric distinguishes between starting points that deal with *the real* (facts, truth, and presumptions) and those that deal with *the preferable* (values, value hierarchies, and the loci of the preferable).

Table 7 - The Starting Points of Argumentation

Domain	Premise Type	Examples
The Real	Facts	Paris is the capital of France Earth is flat (prior to Columbus)
	Truths	Archimedes principle of buoyancy Ptolemaic solar system (prior to Copernicus)
	Presumptions	A good person will commit good deeds Innocence (U.S. legal system)
The Preferable	Values (Abstract) (Concrete)	Justice U.S. Supreme Court Decision
	Value hierarchies (Abstract) (Concrete) (homogenous) (heterogenous)	Freedom superior to security humans superior to animals mild illness vs. severe illness honesty vs. kindness
	Loci	long term relationship (stability); fleeting relationship (romance) majority rule (quantity); rule of the wise (quality)

Facts, truths and presumptions are premises that deal with concepts of reality. Facts and truths are premises that are treated as non-controversial or subject to discussion. As Foss et al. (1985) note, “A fact is a fact due to the agreement accorded it by the universal audience. While its ‘actual’ correspondence to the structures of reality is not the issue, universal agreement is achieved when persons perceive data to be rooted in those structures of reality.” The above also applies to truths, but Perelman uses truth to refer to broader system of interconnected facts such as scientific theory or religious belief complex. Facts and truths only retain this privileged status if they remain unquestioned. If a justification is sought or if it is questioned it ceases to be a reasonable starting point for argumentation and another point of universal acceptance must be sought. Agreement consequently defines truths and facts. Presumptions, like truths and facts, are predicated on universal agreement, but unlike facts and truth, “it is expected, perhaps even assumed, that the supposition involved will at some stage be confirmed” (Eemeren et al., 1996). Its advantage in argumentation is that like in the U.S. legal system it imposes the burden of proof on those who would oppose its application. Presumptions are not afforded the same status as truths and facts because they require reinforcement in the eyes of the audience while truths and facts do not entail any justifications.

Premises of the real (facts, truths, presumptions) hold the adherence or are pertinent to the universal audience. Premises of the preferable (values, hierarchies, loci), on the other hand pertain only to the adherence of a particular audience. While it could be argued that some values such as honesty and justice might secure the adherence of a universal audience, Perelman contends that this adherence disappears whenever the content of this value is specified. While truth, for example, could be considered a universal value not all reasonable people would not expect someone to tell a thief where the family jewels are hidden (Foss et al., 1985). The New

Rhetoric consequently divides values and value hierarchies into concrete and abstract forms. Values become concrete when they are attached to persons, institutions or objects (e.g. justice – abstract; respect afforded to Supreme Court as the embodiment of U.S. Justice – concrete). Perelman suggests that individuals arguing for the status quo are more likely to begin their arguments with concrete values because concrete values are more persuasive when trying to preserve than when attempting to renovate (and vice-versa).

Value hierarchies are of more import to argumentation than the values themselves because they help clarify the relationship between the values and serve as starting points for dealing with the preferable. As Perelman and Olbrechts-Tyteca (1958) observe, “Most values are indeed shared by a great number of audiences, and a particular audience is characterized less by which values it accepts than by the way it grades them. Values may be admitted by many different audiences, but the degree of their acceptance will vary from one audience to another.” The New Rhetoric also classifies hierarchies in terms of homogenous or ones expressing similar values (e.g. mild illness vs. severe illness) and heterogeneous hierarchies (e.g. honesty and kindness). While these values and value hierarchies are largely implicit and sometimes incompatible (in the case of heterogeneous value hierarchies) staking out common ground with an audience in terms of its preferences is important if the arguer is to succeed in his/her persuasive endeavor. *Loci* provide a useful mechanism for establishing this starting point agreement on values and value hierarchies because they refer to the “preferences of a particular audience which are of an extremely general nature and can, without any difficulty, serve as justification for statements made in argumentation” (Eemeren et al., 1996). *Loci* express a preference for one abstraction over another and are generally expressed in terms of arguments that are incompatible with one another. If, for example, a *locus* for a particular audience is that

permanence is preferable to the transient this *locus* could be used to justify the value hierarchy in which friendship is placed above romance because friendship is more enduring (ibid).

The key consideration for the above starting points of argumentation (facts, truths, presumptions, values, value hierarchies, *loci*) is the preeminence of the audience. As indicated in the New Rhetoric, “the orator must know the opinion of his audience on all the questions he intends to deal with, the type of arguments and reasons which seem relevant with regard to both subject and audience, what they are likely to consider as a strong or weak argument, and what might arouse them, as well as what might leave them indifferent” (Perelman and Olbrechts-Tyteca, 1958).

The New Rhetoric also provides an analytical framework related to argument forms or techniques of argumentation that could be used to increase adherence to particular ideas or theses. These techniques, “are not necessarily truth-preserving, like the formed proofs of logical systems, but they are supposed to preserve adherence as the argument moves from the starting points to the claim” (Crosswhite, 2008). The New Rhetoric classifies argument techniques into two categories: schemes of association (techniques that bring together elements that are usually kept apart) and schemes of dissociation (techniques that separate elements that are commonly considered connected or part of a whole). While both techniques are co-existent and complementary, Perelman and Olbrecht-Tyteca assert that the argumentation process typically emphasizes a particular association or dissociation while minimizing the complementary aspect of the argument. The New Rhetoric further classifies association schemes into three categories: quasi-logical arguments; arguments based on the structure of reality; and arguments establishing the structure of reality.

Table 8 - New Rhetoric's Typology of Argument Schemes

Argument Scheme	Argument Category	Examples
Arguments by Association	quasi-logical arguments	Adam's friends are my friends, and you are a friend of Adam's, so you are a friend of mine (<i>Transitivity</i>) If Adam does a better job he will meet our expectations. Adam is doing a better job, so he meets our expectations (<i>Reciprocity</i>) Adam says he is opposed to higher taxes. Adam voted for a Democratic President. Adam cannot be opposed to higher taxes. (<i>Incompatibility</i>)
	arguments based on the structure of reality	Sequential: Causal (means/end; Cause Effect), Pragmatic Coexistence: Person-Person's actions; group-constituents; authority; a thing - its attributes
	arguments establishing the structure of reality	By Example: American Hospital Supply case study Analogy: Friends and family (metaphor relating intimate personal relationship to inter-organizational units)
Arguments by Dissociation		“ Appearance-reality ” – The choice of IT vendor looked good on paper, but in reality it was a disastrous choice

Quasi-logical arguments are arguments that attain persuasive power by virtue of their semblance to formal logic, but do not abide by the same strictures or serve the same purposes as formal logic demonstrations. Formal demonstrations are isolated, precisely defined logic systems that seek to attain abstract truths. Quasi-logical arguments, on the other hand, attempt to translate this format into everyday language in order to obtain audience adherence. Applying the reasoning of formal logic to everyday language without its strictures, however encounters validity problems related to the equivocal nature of ordinary language. This is illustrated in the following argument that seeks to apply the formal rules of contradiction to a setting that involves

issues of incompatibility: *Don says he supports gun rights, but he voted against the right to carry concealed weapons in public universities.* Expressed as a syllogism:

- No supporters of gun rights vote for restrictions of gun rights
- Don voted against gun rights
- Therefore, Don cannot be a supporter of gun rights

Unlike contradictions, which are unmistakably invalidated in the sanitized world of formal logic, incompatible positions remain tenable in ordinary language because in ordinary language the meaning of terms is rarely defined unambiguously. This ambiguity engenders the inclusion of varying interpretations, unstable contexts, and allows for multiple, even conflicting values that make room for free choice in the decision making process. In the example above Don could have supported a narrower concept of gun rights than implied in the above argument or he could have voted based on a consideration of a confluence of other values that also came to bear on that decision. While quasi-logical arguments do not produce irrefutable truth they do nevertheless serve an important purpose in increasing or decreasing audience adherence to a particular thesis. Other examples of quasi-logical argument types include: arguments of transitivity, reciprocity, relations of division, and arguments of probability.

Arguments based on the structure of reality are arguments that attempt to justify a thesis by linking it to the audience's perception of reality. The New Rhetoric suggests that this is done through associations of succession (or sequential relations) and associations of coexistence. Arguments based on an association of succession are based on the order in which the elements occur. One example of an association of succession is a causal relation. Causal relations include events or actions that could be ordered in terms of a "*means*" and "*ends*" (e.g. "They have achieved their aim: Their criticism has made it impossible for me to write another word")

(Eemeren et al., 1996)) or “*cause*” and “*effect*” (“Now that they are allowed to have a say it has become total chaos” (ibid)). Another example of an association of succession is the “pragmatic argument” which presumes that the value of an act can be determined by its consequences. An example of this is the argument that the invasion of Iraq was justified by the capture of Saddam Hussein.

Arguments based on associations of coexistence involve relationships between phenomena or elements on different levels and one level is used to explain the other (or given more explanatory power). An example can be found in the claim, “She must be studious because she wears glasses,” where wearing glasses is used to bestow or explain studiousness. Another example is when a thought is deemed brilliant because it comes from a Harvard professor. “In sequential relations it is the order of elements that is of primary significance, in coexistential relations it is the way in which they are inherently structured” (Eemeren et al., 1996). Examples of coexistential types include: links between a person and that person’s actions, a group and its constituents, a thing and its attributes, and arguments based on authority.

Arguments that establish the structure of reality attempt to justify a claim by linking this claim to a depiction of reality that has been specially devised to support the claim. These arguments fall into two types: Argumentation by example, illustration and model; and (2) argumentation by analogy. Argumentation by example includes the telling of success stories (e.g. American Hospital Supply’s IT success story), generalizing from a particular case to a theory or from one particular case to another. Argumentation by example is generally used to make a prediction or establish a rule. Illustrations on the other hand are used to clarify or increase the salience of a rule that has been established by example. Models refer to ideal descriptions that are features as indicative of a norm that one should follow or imitate, such as an

ideal person, society or organization (Corvellac, 2011). Examples of possible models include Bill Gates (philanthropy), Toyota (Industrial organization) or Adolf Hitler (as an anti-model – not to be imitated).

Argumentation by analogy is the second broad category of arguments designed to establish the structure of reality. “It is an operation of transfer based on alleged resemblance in structure, the most general of which is: A is to B as C is to D. A and B together is the *theme* of the analogy, and C and D is its *phoros*, the point of the analogy being that the theme and its phoros belong to different spheres” (Corvellac, 2011). Metaphors also fall in this category as they are condensed analogies in which the phoros and theme are fused. The New Rhetoric asserts that the relationships between the phoros and its theme are unstable (not based on a fixed or absolute reality) making this technique particularly well suited for the ambiguities of rhetorical argumentation.

Argument by dissociation is defined by the New Rhetoric as “techniques of separation which have the purpose of dissociating, separating, disuniting elements which are regarded as forming a whole or at least a unified group within some system of thought: dissociation modifies such a system by modifying certain concepts which make up its central parts” (Perelman and Olbrechts-Tyteca, 1958). The New Rhetoric suggests that the archetype for the dissociative argument scheme is the use of the “appearance-reality” pair or an attempt to distinguish between reality as it is presented and reality as it is. This appearance-reality dichotomy could be invoked to both support (and question) appearances as well support (question) reality. A choice of a particular IT vendor, for example, could be criticized as being good on paper (appearance), but a disaster in practice (reality). A positive outcome (e.g. reduced costs) however could be used that what appeared to be a poor decision in practice was really a good decision. As Corvellac (2011)

notes, “generally the rationale of dissociative schemes is to introduce a hierarchy between two terms that values the one term and depreciates the other term and uses the valued term to “explain the devaluated one.” To illustrate Corvellac includes the following example: “Global is presented as superior to local to justify the delocalization of a head-office or defend a campaign that utilizes the same ads in several countries”. He then illustrates the context sensitivity of the above argument by showing how the dichotomy could be reversed with similar effect: “Global is inferior to local, which is a standard argument of economic nationalists, but even the argument of those who mean that a logic of proximity is part of the solution to climate change related problems”.

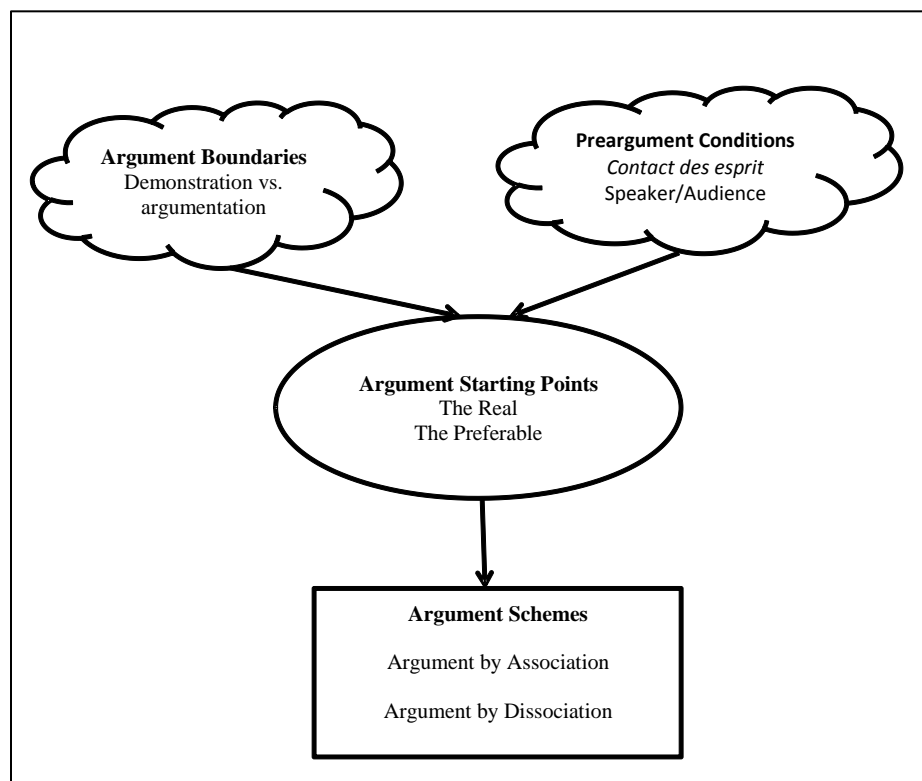


Figure 3 - Schematic Depiction of New Rhetoric

As is evident in the above depiction of its argument framework, the New Rhetoric, unlike Toulmin’s and Habermas’ argument models, is field independent and allows for argumentation

between different fields or for purposes of this dissertation (different frames of reference). Indeed, the New Rhetoric's notion of different or varying levels of audience adherence allows for (and may even imply) argument outcomes that result in "legitimate dissensus" (Kock, 2007). This framework consequently could expand on findings such as Azad and Faraj's (2008), which showed an IS implementation project as proceeding under "truce frames" instead of overall consensus. Azad and Faraj suggested that achieving a workable system need not require a priori consensus or agreement between competing groups, but that an operational solution could reflect a "fragile equilibrium" among competing frames, rather than acceptance of dominant frame. They developed the notion of "truce frames" to illustrate this fragile equilibrium and supported this by citing Feldman and Pentland's (2008) depiction of stabilized routines as localized cessations of "procedural warfare" among organizational groups. The New Rhetoric could expand on these findings by shedding light on argumentation that takes place between incongruent frames that might not be captured by more dialectical approaches. As Crosswhite (2008) observes one of the key contributions of the New Rhetoric is its highlighting of forms of argument ("e.g." argument by example) or reasoning that occur in conditions of uncertainty and that, although neglected in modernity, have been successfully used across a broad range of cultures and occasions.

While, however, the New Rhetoric framework may provide insights into argumentation based on its departure from or contrast with the dialectic approach to argumentation, the framework remains susceptible to most of the criticisms that have been leveled against rhetorical approaches to argumentation. Its main innovation or the concept of a "universal audience" for example, has been criticized as being too relativistic to be meaningful. As Eemeren et al (1996) argue, "The consequence of Perelman and Olbrechts-Tyteca's soundness criterion is that the

norms of rationality that prevail are relative to a more or less arbitrary group of people. Ultimately, there can be as many rationality concepts as there are audiences – or even more, in view of the fact that audiences can change their norms in the course of time. The introduction of the universal audience does not result in any fundamental limitation...” Indeed, because the New Rhetoric attempts to mirror argumentation as it occurs in practice instead of providing a simplified model of the complex phenomenon it seeks to depict, the framework has been criticized as being too loose and inadequate for theoretical reflection. As Eemeren et al. (1996) critically object, “Clear definitions are nowhere to be found, and the explanations that are given are not always lucid....Concise summaries of the main points are lacking and the examples that are given sometimes require careful analysis. In other words, any account of the new rhetoric is based on interpretation.”

CHAPTER 4: RESEARCH METHODOLOGY AND DATA COLLECTION

METHODOLOGY

In keeping with the interpretive roots of its theoretical lens (TFR) this dissertation is designed as an interpretive case study. It also adopts argument mapping and rhetorical analysis as its two main research methods. Although both methods could be classified under the broad interpretive umbrella, in terms of their respective philosophical underpinnings, argument mapping could be categorized within the hermeneutic tradition while rhetorical analysis could be classified within the phenomenological school of philosophy. Boland (1985) identified both hermeneutics and phenomenology as the philosophical base of interpretive research. Argument mapping is deemed hermeneutical because it views or interprets argumentation in terms of a representative formal structure. Rhetorical analysis (in the New Rhetoric tradition), on the other hand, eschews formal abstractions of argumentation in an attempt to depict argumentation in its more detailed and rich essence. Rhetorical analysis consequently could be viewed as a phenomenological approach using Patton's (1990) definition which depicts a phenomenological study as "one that is focused on descriptions of what people experience and how it is that they experience what they experience." Indeed, while hermeneutical approaches like argument mapping are context sensitive in their approach to argument analysis, in New Rhetoric's phenomenological approach argument 'context' is equivalent to argument 'content' and does not serve solely as background information to aid the analysis.

While therefore both argument mapping and rhetorical analysis could be construed within the interpretive domain of qualitative research, they could offer distinctly different insights or interpretations of argumentation. This is appropriate for an interpretive study since the interpretive view of the world disallows attainment of a singular objective reality and asserts that

knowledge is attained through shared subjective understandings. Accordingly, the dual method approach adopted in this dissertation assists in the process of knowledge creation by providing the “rigorous subjectivity” (Wolcott, 1994) afforded by differently nuanced representations of socially constructed reality. To generate a setting that would be conducive to this type of interpretive rigor, the dissertation provides a “thick description” (Geertz, 1973) of the case that is intended to vicariously transport both the reader and the researcher (through reconstruction) to the research scene that served as a stage for its subsequent analysis. As Ponterotto (2006) notes, “‘Thick description’ of social actions promotes ‘thick interpretation’ of these actions, which leads to ‘thick meaning’ of the findings that resonate with readers. Thick description also helps meet the criteria of authenticity, plausibility and criticality established by Golden-Biddle and Locke (1993) for evaluating interpretive research (or convincing texts).

CASE DESCRIPTION

The research study reported in this dissertation examined an initiative to create a health information exchange (HIE) between Southeast Health System (SHS)*, Southern Hematology and Oncology Associates (SOHOA)*, and Eagle Cancer Center (ECC)*. SHS is a religiously affiliated private health system comprised of four acute care hospitals. Each of the four hospitals operates in a separate market and has a distinct group of affiliated physicians and clinics associated with its respective facility. While each of the hospitals has a group of employed physicians, most of the members of their respective medical staffs are non-employed physicians who admit patients to the hospital, but maintain or participate in autonomous private practices. SHS also has a federated governance structure with each hospital’s CEO and Senior Management Team (SMT) having significant latitude to improvise and develop strategic imperatives for their specific markets. Each hospital consequently historically had its own CIO

* Pseudonym

and developed its own market specific IS strategy and operations function. Around 2006-2007, in an attempt to produce greater alignment across SHS, IS strategy was consolidated to a system level role and the hospital CIO positions were replaced with a single system-wide CIO. IS staff were also physically relocated to a central location leaving only a skeletal staff, including a hospital specific director of IT operations, to handle hospital specific operational tasks.

The basic business model however remained market specific with each hospital retaining its own senior management functions including CEO, CFO, CMO (Chief Medical officer) and Chief Medical Information Officer (CMIO). The CMIO position was not centralized because, as indicated in the preceding paragraph, the medical staff at each hospital was predominantly comprised of independent community practice physicians whose only tie to the health system was through their “arms-length” relationship with the local hospital. Indeed, each of SHS’ four hospitals have a bifurcated system of governance where the hospital administrators have oversight of the physical plant, employees and finances while control of medical concerns is left to the association of independently practicing physicians called the medical staff. Any IS decision consequently that had a direct impact on patient care or the practice of medicine would require the approval of the both the hospital and its medical staff prior to its implementation. The CMIO and CMO are hospital employees who serve as clinical liaisons between the hospital and its medical staff.

As would be expected from the arms-length relationship between the hospitals and their medical staffs, members of the medical staff often had IS strategies and systems that were very different from the ones employed by SHS hospitals. Indeed, the HIE endeavor that is the subject of this dissertation originated from an attempt to share clinical data between the disparate systems of Lakefront Regional Center* (LRC) (SHS’ flagship hospital), a group of independent

medical oncologists (SOHOA) and a community cancer center (ECC) that has close ties to the hospital and is contiguously located next to LRC's physical facility. The early impulse for the HIE initiative was a June 2007 grant provided by the National Cancer Institute (NCI) through its National Cancer Institute Community Cancer Center Program (NCCCP) to the LRC-ECC cancer programs. The NCCCP initiative was developed with the aim of extending the reach of NCI research beyond its network of 63 NCI designated Cancer Centers principally based at large research universities to include community based treatment centers. A key objective of the grant, which started as a 3 year pilot program, consequently was the development of a means of electronically linking or sharing data collected in the community centers to the NCI database to increase the scope and impact of cancer research.

While the NCCCP grant jointly accredited and funded LRC and ECC as a single program of cancer care because they provide services along a single continuum of care (ECC provides outpatient care and LRC provides inpatient cancer care), the two entities are autonomous with separate and distinct electronic medical record systems (EMRs). LRC's EMRs were housed in a CERNER product called PowerChart while ECC's EMR was an Elekta product called MOSAIQ that was particularly developed for managing medical records in radiation oncology settings. SOHOA physicians similarly used separate software known as IMPAC (later updated to a separate version of MOSAIQ) in their office setting. A single cancer patient therefore would typically have three different medical records for each level of treatment and the only means of sharing information across the settings was through facsimile upon request. The concept of using federal dollars to look into reducing redundancies and developing a more seamless flow of clinical information across the continuum had broad appeal from the senior management at all three organizations.

Early attempts to operationalize the grand goals of the NCCCP initiative however were stuttered by obstacles that stood in the way of its early progress. The reorganization of SHS' IS department, for example, presented a major challenge as IT requests that would have been handled through a direct call to a local LRC representative now had to be funneled through SHS' centralized portfolio management office (PMO). Indeed, due to the absence of a dedicated IS resource at SHS for this endeavor, LRC and ECC used grant funds to hire an IT coordinator (an employee of LRC, but paid by both parties) to help spearhead this initiative and work with SHS' PMO. The project also faced early resistance from SOHOA physicians who while appearing to acquiesce to the overall concept did not place it high on their list of priorities. The physicians also retained their traditionally strong (even when latent) resistance to any attempts to reconfigure their existing workflows. Despite these obstacles, however, and as a result of having a dedicated IT coordinator in place, the project was able to accomplish the development of a shared imaging archive that could be used in both LRC and ECC settings.

With the passage of the \$787 billion American Recovery and Reinvestment Act of 2009 (ARRA) on February 17, 2009 and its constituent \$22 billion Health Information Technology for Economic and Clinic Health Act (HITECH Act), which allocated funds to promote the adoption and use of Health Information Technology (HIT), the project was placed on a backburner and did not proceed to its implementation stage. Instead of completing a simple interface between LRC and ECC as had been previously envisioned, the parties opted to reconfigure the initiative as a health information exchange in order to meet one of the "meaningful use" requirements stipulated by the HITECH Act for receipt of its incentive payments. Meaningful use is the set of criteria established by the Centers for Medicare and Medicaid Services (CMS) to govern the use of electronic health records and to grant eligible providers and hospitals the opportunity to earn

incentive payments if they met specific objectives. One of the fourteen core objectives (see Table below) that constituted meaningful use of technology under the act was a capability to exchange key clinical information (e.g. problem lists, medication lists, medication allergies, diagnostic test results) among providers of care and patient-authorized entities electronically. This capacity was to be demonstrated in stages with the first stage requiring the performance of at least one test of an exchange of clinical information using certified electronic health record (EHR) technology.

Table 9 – Stage 1 Meaningful Use Core Objectives (CMS, 2010)

Hospitals - 14 Core Objectives	
1	Computerized provider order entry (CPOE)
2	Drug-drug and drug-allergy interaction checks
3	Record demographics
4	Implement one clinical decision support rule
5	Maintain up-to-date problem list of current and active diagnoses
6	Maintain active medication list
7	Maintain active medication allergy list
8	Record and chart changes in vital signs
9	Record smoking status for patients 13 years or older
10	Report hospital clinical quality measures to CMS or States
11	Provide patients with an electronic copy of their health information, upon request
12	Provide patients with an electronic copy of their discharge instructions at time of discharge, upon request
13	Capability to exchange key clinical information among providers of care and patient-authorized entities electronically
14	Protect electronic health information

The project consequently morphed from a relatively routine interface project to a health information exchange (HIE) initiative that would be a critical part of a \$10 million initiative that was tied to about \$30 million in incentive payments from the federal government. It was also to be used as a pilot for a larger exchange between LRC and the state university’s outpatient clinics after a deal to transfer the university healthcare system’s academic training programs and

inpatient care services was signed in early 2010. Additionally, the pilot initiative was conceived in light of a potential future connection to a parallel, but separate statewide HIE initiative that was ongoing within the same time period as well as future linkages with its broad network of associated health care entities. Due to the project's expanded scope and its compressed timeframe for implementation (all fourteen projects within the stimulus program had a July 3, 2011 deadline as this was the last day for eligible hospitals to begin their 90 day reporting period to demonstrate meaningful use) the project was re-designed as an outsourced or remotely hosted solution in order to achieve the scalability, expertise, cost efficiencies and time savings necessary for this initiative. SHS also convened a Meaningful Use steering committee comprised of senior representatives from each of its four facilities to help spearhead the initiative. Additionally, SHS hired a new project manager in March 2010 to manage the program of projects related to the federal stimulus package including the HIE initiative.

One of project manager's first tasks as it pertained to the HIE initiative consequently was to initiate conversations with potential vendors that were identified based on KLAS' vendor ratings. KLAS collects, aggregates and publishes satisfaction data provided by Health Information Technology (HIT) product users and pays for this service through subscription fees that it charges for its publications. Based on the KLAS report the project manager initiated conversations with about 12-14 potential vendors and garnered basic information such as product features, vendor experience, cost, implementation timelines, labor and scalability to help with the vendor selection process. The information sought was predominantly technical in nature as the initiative was initially conceived as a 'plug-and-play' endeavor that involved back end connections between the respective EMRs without entailing substantial changes to existing workflows. The vendor selection process therefore did not involve much outreach to users and

was initially considered to be a relatively routine IS project. Initial progress on the project however was slow and given the July 1, 2011 implementation deadline for all fourteen initiatives associated with the meaningful use stimulus funds, the PMO office soon determined that the management of meaningful use projects would be more than a single project manager could handle. In June 2011, therefore, a new project manager was hired by SHS to handle the HIE and two other initiatives (Patient Portal and Patient Health Record (PHR)) within the meaningful use program.

The hiring of a new project manager dedicated solely to HIE initiative reinvigorated the vendor selection process and the prospective vendor field was quickly whittled down to four top contenders. Axolotyl, Medicity, CareFx, and GE's HIE solutions were selected predominantly based on the proven and robust interoperability of their offerings. While several of the other vendors had demonstrable capacity to exchange data between ambulatory and hospital settings, most of them handled these exchanges within their own proprietary systems and did not promote interoperability as one of their core competencies. The revamped vendor selection process also introduced a significant adjustment in the course of the project when it was discovered that HIE vendors didn't just provide HIE pipes or connections between entities, but also offered portal solutions as parts of their composite HIE offerings. Although, therefore, the HIE initiative as it was initially chartered - a basic replacement strategy for SHS interfaces - was a significant undertaking that grew the linkages from the 15 to 20 data elements associated with basic interfaces to a potential community of linkages involving thousands of data elements, with the inclusion of portal solutions it became an even more fundamental strategy (termed "HIE+") that could impact the hospital system's essential patient growth and physician engagement strategies.

The heightened significance of the project notwithstanding the project remained true to its initial charter and retained its technical focus with the understanding that the establishment of a robust technical foundation would not encumber, but rather only enhance business strategy. Stakeholder involvement consequently remained limited during the early vendor selection process as this was viewed to be a primarily technical process. Indeed, it was not until the steering committee selected a vendor on November 3, 2011 that non-technical stakeholders, most notably LRC's marketing/corporate communication department began to seek involvement or input into the vendor decision making process. The marketing department got interested in the vendor selection process when they realized that the HIE vendor of choice, CareFx, would not only be providing a data exchange mechanism, but that they would also be providing a patient portal solution. The marketing department had a pre-existing relationship with a patient portal vendor, MEDSEEK, who had worked with LRC's leadership to develop a strategic four year eHealth plan that included recommendations for a patient portal solution. MEDSEEK was also the provider of LRC's existing portal which was developed in MEDSEEK's SiteMaker Content Management System (CMS) platform. Additionally, LRC had contracted with MEDSEEK in 2010 to redesign its consumer site (which included the patient and MD portals). The Meaningful Use committee's announcement that it was recommending CareFX as both an HIE and patient portal solution therefore encountered unanticipated and ardent opposition from the marketing group that delayed execution of an agreement with the HIE vendor for several months.

SHS's project management office was able to circumvent LRC's objections to the selection of CareFX as the vendor of choice when it determined that it didn't need a full blown portal solution to meet the requirements of Meaningful Use established by the HITECH Act. For purposes of attaining meaningful use SHS' PMO suggested implemented a "skinny" version of

the patient portal that would only allow patients to check discharge summaries, lab results, medication lists and medication allergies. In order to meet the firm deadline associated with the Meaningful Use stimulus payments and to assuage the concerns of LRC's marketing department, the steering committee approved purchase of the HIE with the "skinny" portal and postponed the selection of a fully functional patient portal solution, which would include features such as bill management, appointment scheduling, and secure messaging, to a later time.

Even with this workaround, however, execution of a contract with CareFX was not attained promptly because of a major cost overrun associated with the chosen HIE solution when contrasted with initial budget that had been approved by SHS' budget committee. The initial budget priced the initiative at around \$300,000 while the price of the actual HIE that they had selected was \$3.2 million. When explaining the price discrepancy the project manager for the initiative explained that the criteria for Meaningful use changed from when the project initiated in November 2009 to when the government promulgated its final ruling on Stage 1 of the program in June/July 2010. The initial quote was based on the idea that providing a collective view of the data without transferring the data back and forth would meet meaningful use. The final ruling however required an exchange of data (not just the ability to pull it up). The \$3.2 million dollar amount also included the total operational costs for a 5 year period that was not included in the initial figures. It also combined three of the previously separate initiatives (due the inclusion of portal solutions with HIE) that were previously estimated to cost \$1.1 million. The 1.1 million dollar estimate was still an underestimate, but it helped explain some of the cost escalation. Apparently the PMO was not the only one to undervalue the HIE initiative. According to the project manager the \$3.2 million actually represented a cost savings for HIE because even the vendor underestimated the value of the solution when they quoted the prices to

SHS', but decided to stick to their initial price in order to meet their initial commitment. The standard rate for the HIE alone (without the portals) was \$2.5 to \$5 million and a low end patient portal solution was \$2.6 million.

Given these figures and with the understanding that this was part of the larger Meaningful Use initiative that had a minimum of \$30 million in terms of an immediate return on the investment, the Meaningful Use committee recommended proceeding with purchase of the CareFX solution. Since however the new price represented an extreme departure from the original budget the purchase required further approval from the SHS budget committee which is comprised of system hospital CFOs, CEOs and other senior executives several of whom did not have firsthand information of the project details. The first attempt to get this committee to approve the revised figures for the HIE endeavor failed due to the sticker shock associated with a \$3 million price escalation. Some of members of the Meaningful Use steering committee who were also on the budget committee were unable to attend the meeting making it difficult to convey the rationale for the rate hike to the rest of the committee. Indeed, there was not enough quorum at this meeting to vote on the matter (quorums are rarely attained so votes are typically conducted via proxy) and there was too much information to conduct a proxy vote via email. The PMO office, therefore, conducted a question and answers teleconference call and engaged in what they termed extensive politicking before asking for a proxy approval February 4, 2011. Indeed, to illustrate the political nature of the campaign the project indicated that there had been, "about 30 something odd versions" of the executive summary prepared to help explain the events that transpired from the initial charter to the current situation. The politicking campaign was successful as the proxy vote approved the new budget by a majority vote. According to the project manager the vote passed because different entities saw different aspects of the HIE that

appealed to them. Two of the facilities saw value in the physician portal; LRC valued the linkage to ECC while the other facility saw value in a potential linkage with its emergency physician group.

The successful passage of the proposal by the budget committee notwithstanding, the HIE contract was still not ready for execution because it required the additional signature and approval of SHS' Chief Financial Officer who withheld signature due to concerns with the cost of the overall Meaningful Use endeavor and concerns with whether or not there was a guarantee of refund for the expenditure. LRC had also recently embarked on a separate multi-million dollar outpatient electronic medical record venture with EPIC so he was concerned with timing of the request (it put additional strain on a budget that was already being stretched by IT initiatives) as well as its fit with overall SHS strategic imperatives. This delay produced quite a bit of consternation in the project management office because of the increasingly compressed timeframe for execution of the project. It was also impossible to get the vendor in to look "under the hood" and work out the nuts and bolts of the implementation until the contract was signed. Vendors were reluctant to come in and offer what would be a free consultation with a written commitment from the other party. CareFX consequently only knew summary information about the SHS systems since providing details would have required time and money that neither side was willing to spend without a binding agreement. A previous test run involving a potential future partner (State University Hospital) and CERNER (SHS' hospital provider) had also revealed a potential hiccup that could derail or delay the project. CERNER had been unable to deliver the Millennium Object required to facilitate the transfer of data from CERNER to CareFX. The Millennium Object is an object oriented toolkit that exposes Java and XML/Web Services to a set of open, object-oriented service Application Programming Interfaces (API) for

client developers. It creates new workflows across applications by leveraging the capabilities of third party built extensions. This Millennium Object was required in June 2010 to conduct a test or “proof of concept” between LRC and the State University hospital, but by the middle of August or early September CERNER had not delivered this box resulting in the vender CareFX loaning the hospital a box for test purposes. The delay was produced by CERNER’s procurement cycle which made it possible for up to several months in delivery delays depending on the time of order. The administrative delay consequently produced a lot of heart burn for the project manager who was increasingly apprehensive about the prospects of completing the project for the July deadline.

SHS’ CFO, however, finally gave approval for the project toward the latter part of February 2011. The reason for the approval was the strong assurances that he was given with regards to obtaining the refund on the investment and the fact that some incentive payments from the state were already trickling in as a result of a separate and previously conducted electronic health record implementation. The PMO consequently officially started the process of implementing the HIE after SHS signed the contract with CareFX on February 25, 2011. With the contract signed the focus again turned to the nuts and bolts of the implementation with the goal of establishing the governance infrastructure after the goal of attaining meaningful use had been attained. Indeed, based on the difficulties and time delays that were encountered during the vendor selection phase the project manager indicated a desire to minimize stakeholder involvement until the platform had been set up and required their input in order to become fully functional. Moreover, the implementation stage had its own set of conundrums that would beset the project manager as he sought to bring it to completion.

One of the immediate challenges was the need proceed with the planning and implementation processes simultaneously. This made the project very atypical for the PMO department considering its usually fastidious adherence to Project Management Body of Knowledge (PMBOK) protocols. Indeed, because the project was part of a broad Meaningful Use initiative it did not have a clear business owner assigned, which made it difficult to address concerns that were raised by SHS' IS Security department or "FISO" (Facility Information Security Office). The project also faced difficulties with resource allocation considering the fact that SHS' IT resources were involved in facilitating the relocation of one of their hospitals to a new physical location. In addition to both ECC and SHS platforms (MOSAIQ and CERNER respectively) were undergoing upgrades to the Certification Commission for Health Information Technology (CCHIT) certified systems and it was unclear how this upgrade would impact the implementation of the HIE. There was also the aforementioned Millennium Objects concern related to CERNER and the unknown impact of the announcement by Harris Corporation on February 22, 2011 that it would be purchasing CareFX (about the same time that SHS' executes its agreement with CareFX).

The project's kick off and resource planning meeting with CareFX took place on March 24, 2011 and was designed to resolve some of the above concerns and provide additional details regarding the execution process. The kick off meeting however introduced new concerns and revealed internal rifts or disconnects within SHS' IS department. A major concern introduced at the kick off related to the construction of the Continuity of Care Document (CCD) which was necessary for the exchange of data between CERNER and CareFX. CCD specification is an XML-based markup standard that specifies the encoding, structure, and semantics of a patient summary clinical document for exchange. Prior to the kick off meeting SHS' project manager

assumed that CareFX would generate the CCD based on core information and deposit it in both MOSAIQ and CERNER systems, but at the kick off meeting they learned that SHS was to develop the CCD internally. The responsibility for developing the CCD would rest on SHS' Clinical Information Systems (CIS) department which had not been involved in the project until the kick off meeting. The revelation that they were required to build the CCD within the short timeframe was disconcerting for the CIS department who expressed concern with being notified so late in the game and being presented with a task of this magnitude within a very short timeframe. CERNER expressed similar reservations about the late order for the \$1,000 Millennium Object. CERNER was perturbed that the PMO had waited so late to order the hardware.

CERNER however helped alleviate some of the pressure associated with the short timeframe for implementation by offering SHS a backup HIE plan involving a CCD exchange between SHS and another CERNER client. CERNER had developed its own HIE, but it was not interoperable (had no "peer play") and was offering to help its clients exchange clinical data using what SHS' PMO department referred to as a "match.com" linkage. The parties involved might not have had any prior relationship, but could use the CERNER to CERNER linkage to meet the criteria for stage 1 meaningful use. This still involved CCD construction and required coordination between the PMO and CIS departments. Facilitating this process proved to be significant challenge for the project manager whose reflections on the project indicated a gulf between project imperatives and CIS priorities.

The HIE project however made slow progress and by the end of April had settled on the main mechanism for the CCD exchange which involved a common server with CERNER with a https connection and a xml document for the CCD (still under construction). Also, around this

time the project manager had helped establish a virtual private network (VPN) connection between SHS and CareFX's data center located in Canada to facilitate the CCD data exchange. Despite this positive movement SHS' IS leadership was not satisfied with the pace of the progress and in early May replaced the project manager who had been handling the HIE implementation with a more seasoned project manager who had experience working with CIS (had worked as a CIS programmer prior to moving to the PMO). SHS's director of special projects also assumed direct oversight of the project in order to help jump start what was seen to be a stalled initiative. The previous project manager remained on staff, but was assigned other less critical endeavors. He also helped bring the new project manager up to speed with the HIE initiative.

The new project manager was more adept at managing the relationship with CIS and facilitating the creation of the CCD that was needed for the exchange. The new project manager however experienced difficulties managing the relationship with the vendor and indicated that she had communication challenges with CareFX, which as a result of the Harris purchase, now had some resources in Canada (data storage) and some in China (engineering build support). The eight hour time differential between SHS and CareFX resources produced communication delays that were difficult to surmount. CareFX had also experienced some turnover in their project management team related to the initial slow progress. This transition, while corrective, also introduced new delays related to the establishment of new channels of communication. Indeed, one of the concerns that the director of special projects noted when she took over the initiative was the absence of clearly defined timelines and deliverables in the contract even though it was a high profile project with important commitments to system executives. The relationship between SHS' PMO and CareFX was also complicated by the fact that CareFX used

a SCRUM approach to project management while SHS' maintained a standard PMBOK approach to projects. SCRUM, unlike PMBOK's sequential approach to project management, adopts an iterative and incremental approach to project management. The basic unit for the SCRUM approach is a sprint which is conceptually contained in a track.

The new project manager also encountered technical challenges related to the authentication mechanism that would be used for the exchange. CareFX indicated that since SHS had opted to go with the "skinny" portal and not the full blown solution they would only be able to implement a static passcode for patients who would be accessing the portal. This would not pass FISO standards. She also encountered concerns related to the construction of an active directory for patients. SHS' had never established an active directory for patients before and there were concerns about incorporating the new patient directory into the existing active directory. Establishing the rules for linking patients into the directory also proved to be a little thorny given that linkage was to be based on discharges from the hospital and that there were multiple ways that a patient could be discharged in the CERNER system leading to the problem of multiple entries. The patient identification issue was exacerbated by SHS' failure (linked to the decision to purchase a "skinny" solution) to purchase CareFX's \$1 million Enterprise Master Person Index (EMPI) which used an advanced algorithm to verify or match patients across disparate systems. Exchanges consequently would have to be linked to entities that had identical patient registries as existed in CERNER. This would not have been a problem for the exchange with ECC because it utilized the CERNER registration system, but it prevented expansion of the HIE to other organizations that did not have the same linkage or relationship with SHS' CERNER registration system. Indeed, the HIE initiative suffered a minor setback when ECC

indicated that their transition to a CCHIT approved version of MOSAIQ would not be completed until late September (which was the closing date for Meaningful Attestation).

SHS' PMO office circumvented the above concerns by using Cerner's "match.com" service to complete the CCD exchange on July 1. It still however strove to complete the HIE project using the CareFX exchange as this would be the platform for the actual exchange. After attaining the CCD exchange on July 1, therefore the project manager proceeded to "re-projectize" the endeavor to address the challenges that had encumbered the project from its inception. Among the steps taken to restructure the project was the reclassification of the project into a program comprised of separate projects or "tracks" (using SCRUM terminology) that had clearly defined scopes, project sequencing and project sponsors. The projects or tracks still focused on establishing the technical foundation for the HIE that could later be adapted to particular tactics or strategic imperatives adopted by the business stakeholders. One of the tracks in this program was the controversial selection and implementation of a full portal solution. This project took a back burner to projects related to Meaningful Use, but a decision on this was reached in 2012 with LRC opting for the MEDSEEK solution. This result was supported by the IS department after the strategic importance of the solution was made clear and after evaluations of alternate vendor solutions revealed that CareFX had no experience in the patient portal arena. CareFX could provide the basic wireframe, but not the complete solution envisioned by LRC. MEDSEEK was also a PMBOK shop which made for an easier working relationship with the SHS PMO than existed with CareFX's SCRUM protocol. LRC was also willing to foot the extra cost for this solution, which greatly simplified the budget approval process.

Table 10 - HIE Key Events Timeline

<i>Significant Primordial Events</i>	
1998-1999	LRC partners with Cerner to attain vision of an integrated patient record within the hospital
2002	Early attempt to establish integrated electronic patient record for both inpatient and ambulatory setting through joint venture between hospital and independent physicians fails. JV out priced by Cerner which was making its first foray into the ambulatory arena.
Jun-07	NCI offers NCCCP grant to LRC-ECC cancer program funds initiative to that would electronically link data from the two sites and the NCI database to facilitate cancer research.
Sep-07	SHS' consolidates IS departments to its central corporate office.
Oct-07	NCCCP IT coordinator hired to facilitate interactions with centralized IS office
<i>Advent of HITECH ACT</i>	
17-Feb-09	Congress passes \$787 billion ARRA Act with constituent \$22 billion HITECH Act
5-Feb-10	LRC signs Cooperative Endeavor Agreement with State University Health System which aimed to transfer Graduate Medical Education services to LRC
March, 2010	SHS hires project manager to implement meaningful use (MU) provisions of HITECH Act
12-Apr-10	MU projects chartered (high level cost estimations) and approved by PMO
Jun-10	SHS hires new project manager to handle HIE, patient portal and patient health record aspects of Meaningful Use initiative
16-Aug-10	Ingenix, a division of United Health Group, announces purchase of HIE vendor Axolotl
3-Nov-10	Meaningful Use Steering Committee announces CareFx as vendor of choice
9-Nov-10	First Interview conducted with project manager handling HIE initiative
7-Dec-10	Aetna health plan purchases HIE vendor Medicity
4-Jan-11	SHS budget committee fails to approve revised budget proposal for HIE (Project chartered at \$300K revised cost is \$3.2 million)
4-Feb-11	Budget committee approves budget, but CFO withholds approval
22-Feb-11	Harris announces a definitive agreement to acquire Carefx for \$155 million and SHS CFO approves budget around this time
25-Feb-11	Contract between SHS and CareFx is signed
<i>HIE Implementation (Nuts and Bolts)</i>	
24-Mar-11	HIE and Portal Initiatives Kick Off and Resource Planning Meeting with CareFX
4-Apr-11	Harris completes acquisition of Carefx
Apr-11	Back-up plan for HIE developed using Cerner's "match.com" offering.
May-11	New Project Manager assigned to HIE project
1-Jun-11	Scheduled completion date for HIE project
25-Jun-11	One of SHS' four facilities moves into new physical plant
1-Jul-11	Last date to start reporting period for MU attestation. (HITECH Act required 90 day demonstration of MU as a pre-requisite for meaningful use payment)
12-Oct-11	Last formal interview conducted (informal interactions still ongoing)

DATA COLLECTION

The data used in this dissertation was collected through a series of 40 semi-structured interviews that were conducted between November 9, 2010 and October 12, 2011. Interview length varied, but a typical interview lasted about 1 hour. Most interviewees were interviewed only once, but interviews with the project manager were recurrent to obtain updates on the project's progress. An interview guide (See Appendix A) was used to help give structure to the interview, but the interviews rarely followed the structure outlined in the guide as interviewees were encouraged to speak expansively about the project from their particular points of views. All the interviews were tape recorded and note taking during the interviews was deliberately sparse with a goal of making the interview feel more conversational than interrogative. Indeed, the researcher did not refrain from offering an opinion when it was requested and often since the line of questioning would typically follow areas of cognitive dissonance between the interviewer's expectations/understanding and interviewee responses, the questions themselves could be viewed as insertions into the project. The CIO, for example, remarked in one instance that the questioning prompted new action plans. The conversational style of questioning consequently may have compromised the ideal of researcher independence, but it was beneficial in helping establish a rapport with the interviewee and soliciting subsequent interviews. The research was also based on the belief that a conversational approach would help alleviate some of the inhibitions that participants might have felt knowing that the interview was being recorded. Note taking and reflection was conducted shortly after the interview to help solidify the insights derived from the interview. Interview transcription was conducted through a transcription service located on freelancer.com and then edited by the interviewer.

In addition to the interviews, other data sources included system demonstrations and conference calls, archival data in the form of reports, news clippings, and filed documents, as well as informal contacts with personnel. Follow up emails were sent to the interviewees to clarify questions that may have come up during the course of the research. Informal contacts were made possible because the researcher had previously worked at LRC' at a non-IS related department and continued to maintain his contacts with his former co-workers. Indeed, research access was negotiated through the researcher's former director (Divisional Director of LRC's Payor Relations Department) who introduced him to SHS' Chief Medical Information Officer who actually recommended the HIE initiative for his dissertation endeavor. The researcher had indicated an interest in examining the role IS would play in the creation of a new inter-organizational entity in healthcare known as Accountable Care Organizations (ACOs). The researcher's interest in ACO's centered on determining how organizations with different cultures and strategic imperatives would go about resolving these differences to create a cohesive governance structure and examining what role IS would play in this process. After the researcher had explained these research interests and the timeline for the research to the CMIO, he recommended the HIE initiative, which at the time was a small proof of concept initiative that SHS was using as a launch pad for future ACO type initiatives. He indicated that this was uncharted water for the health system and expressed an interest in any insights into the process that could be garnered from the dissertation. The CMIO sent an introductory e-mail that recommended the dissertation to project participants and encouraged them to participate freely in the interviews. His enthusiasm for the research greatly aided the study and facilitated the interview process. Interviewees were selected based on the CMIO's introductory e-mail which was addressed to the Meaningful Use committee members and the project manager. After these

initial interviews, each interviewee was asked to recommend other potential respondents who might be able to offer a pertinent perspective to the project. This “snowballing” technique is commonly used in cultural anthropology (Bernard, 1988) and was used to identify the key influencers of project outcomes during the course of the initiative.

Table 11 - Summary of Interviews Conducted by Entity

Entity	# of Interviewees	# of Interviews
SHS	13	30
ECC	4	4
LRC	3	3
SHS Affiliate (Non LRC)	3	3
Totals	23	40

Table 12 - Summary of Interviews Conducted by Department Group

Department	# of Interviewees	# of Interviews	Titles of Interviewees*
Project Management	3	19	Project Mgr 1(1), Project Mgr 2 (14) Project Mgr 3 (4)
Sr. IS Leadership	7	8	VP Clinical IS, Chief Nursing Info Officer (2), ECC IT Director, CIO, Dir. Proj. Mgt, Chief Info Security Officer
IS Technologists	5	5	ECC IT Coordinator 1, ECC IT Coordinator 2, IS Engineer, IS System Admin, Business Intelligence Specialist
Clinical Leadership	4	4	LRC Chief Medical Officer, Chief Medical Officer**, Chief Nursing Officer**, ECC Medical Director
Business Leadership	4	4	CFO, LRC VP Communications, CFO**, LRC Marketing Manager
Totals	23	40	

* # of interviews in brackets, All interviewees interviewed once unless specified. ** SHS Affiliate

MODES OF ANALYSIS

Construction of Technology Frames of Reference

The first step in analyzing the data from the recorded interviews was the identification of the cognitive frame domains that shaped the HIE initiative. In keeping with Orlikowski and Gash's (1994) observation that frames are time and context specific this dissertation did not apply frame domains *a priori*, but rather used a grounded approach to extract the frames from the rich interview data. Frame extraction was accomplished by first iteratively reading the interview transcripts and then adopting the line by line open coding of these documents as recommended by Charmaz (2006) and Strauss and Corbin (1998). This process was conducted using *QSR Nvivo* and generated approximately 5,500 initial codes. To reduce this data into manageable categories the dissertation then proceeded to an axial coding approach that looked for ways that the interviewees grouped or categorized the thinking around the project. This approach was adopted in order to avoid or minimize the imposition of the researcher's frames or categories on the transcripts, but to unearth these frames as they were constructed by the interview respondents. The dissertation accomplished this by looking inductively for "framing" words such as "perspective", "view", "belief", "standpoint", "knowledge" and "angle" that were employed by the interviewees. These words were selected because of their strong associations with particular cognitive stances that could justifiably be rendered as 'frames'. These framing words were then grouped according to the types of adjectives or adverbs used by the interview to describe or identify these words. This process yielded the following four categories of frames that emerged from the interviewees: 1. Clinical Perspective; 2. Financial Perspective; 3. Technical Perspective; 4. Political Perspective. A depiction of these domains and their associated framing terms is found in Table 12 below.

Table 13 – Emergent Frame Domains for HIE Project

Frame	Interview Framing Terminology
Financial Frame	Business perspective, financial perspective, dollar perspective, cost perspective, stimulus perspective, budget knowledge, market knowledge, volume perspective
Clinical Frame	Doctor perspective, meaningful use perspective, radiology perspective, nursing perspective, pharmacist perspective, clinical perspective, outcomes perspective, quality perspective, knowledge of patient treatment history
Technical Frame	Computing perspective, deployment perspective, integration perspective, technology perspective, HIM knowledge, project scope, consultative perspective, operational perspective, security perspective, HIE framework
Political Frame	Friends and family perspective, different hospital perspectives, political knowledge, marketing perspective, vendor perspective, outsiders perspective, personal perspective, historical knowledge, larger community perspective, consensus picture

The emergent frames identified in the table above are broader than the more particular or precise frame domains found in the literature. Whereas, for example, the dissertation identifies a broad technical perspective as a frame domain for its analysis, the TFR literature is more precise and breaks this frame down into narrower fields such as “IT capabilities and Design” (Davidson, 2002), “Requirements” (Lin & Silva, 2005); and “Nature of Technology” (Orlikowski & Gash, 1994). The difference between these frames can be explained by Shrivastava and Mitroff’s (1984) observation which suggests that academics and practitioners have fundamentally different frames of reference with respect to such things as what information constitutes a valid base for action, how information is ordered for sense making, the past experiences used to validate knowledge claims and the types of metaphors used to depict social phenomena. This dissertation therefore maintained this coarse depiction of frame domain in order to retain a more native representation of these structures for its subsequent analysis.

Dialectical Analysis

Argument Mapping (Toulmin's Model)

After the frame domains were established this dissertation proceeded to describe these frames in terms of the argumentation and argument structures that characterized the HIE endeavor. To accomplish this depiction of HIE argumentation, the dissertation employed the technique of argument mapping to graphically illustrate the project's argumentative landscape and to display how its discursive terrain changed over the course of the study. The argument mapping technique is based on Fletcher and Huff's (1990) adaptation of Toulmin's argument model to develop a diagrammatic depiction of argumentation that facilitates a vivid inspection of argument forms. Toulmin's (1958) theory of argumentation proposed that a valid argument has a proper form, analogous to a legal argument that can be laid out for inspection. This proper form consists of key components that are utilized by people who assert something that they want others to believe. The key components and their brief descriptions are listed below:

- Key Claims: According to Toulmin, the claim is “the explicit appeal produced by the argument, and is always of a potential controversial nature.” In other words, a claim is a statement put forward for the audience to believe (Fletcher & Huff, 1990).
- Grounds: Are evidence produced in support of a claim and are given in answer to the question, “What do you have to go on? The General format is: Given these GROUNDS I assert that this CLAIM is true. It is important to highlight that grounds are identified on the basis of their primary function within the context of the argument.
- Warrants: These show the logical connection between claim and grounds. Warrants answer the question: How did you get from these grounds to that claim? (Toulmin, 1958). Warrants present the problems that are often implicit in the argument, in which case the

coder must infer the warrant that connects grounds with a particular claim (Fletcher & Huff, 1990).

- Qualifiers: Are used to communicate to us the degree to which we are to accept the claim as true. Qualifiers may reflect genuine doubts on the part of the speaker regarding a particular claim.

Fletcher and Huff (1990) built on the above components to develop a diagrammatic form to illustrate their interrelationship. To construct these argument maps, Fletcher and Huff recommend the deconstruction of arguments in four stages that are depicted below:

First Pass: Read through the whole document, identifying topics, arguments, and the most obvious key claims.

Second Pass: Mark all claims, and identify grounds for each claim.

Third Pass: Within each argument, identify sub claims, elaborations and reiterations.

Fourth Pass: Provide implicit warrants wherever they are not obvious.

This dissertation adapted Fletcher and Huff (1990) phased approach to its argument map construction and implemented it as follows:

First Pass: To facilitate the identification of topics, arguments and key claims the project was broken down into four major timeframes that marked the endeavor. This approach is consistent with Toulmin's theoretical view which posits that claims pertaining to different time periods could be defined as different logical types. The timeframes identified based on an overview of the interviews were: 1. Project Initiation stage; 2. HITECH Act stage; 3. Vendor Selection stage; and 4. Implementation stage. These timeframes were selected after reviewing the interviews to determine the key events that shaped the progress and outcome of the initiative. Once these timeframes were selected the interviews were read through four times (once for each time frame)

to establish a main topic of argumentation or key question for each phase. Argument topics were selected by searching for points of controversy that would have engendered the illative discourse envisioned by Toulmin.

For example, when reading through the interviews to determine the key question for the initiation phase it was apparent that LRC's medical director had a very different view of the role technology should play in the development and implementation of business strategies than SHS' CIOs view. He argued that IT could not and should not be used as a change agent or strategist in organizations because this was the purview of the business enterprise. He illustrated this by using the example of building best practice reminders into systems in an attempt to influence physician behavior. He argued that, if this IT innovation was not preceded by an acceptance produced by human interactions, the physicians would simply bypass the technology. This perspective, he stated, was diametrically opposite to the one espoused by CIO who advocated IT as a powerful strategic imperative that could and should help shape organizational behavior. These conflicting viewpoints naturally engendered the type of argumentative discourse envisioned by this dissertation. Indeed, this particular interview helped establish the following as the key question or topic for argument mapping in the initiation phase: *How is project defined and what is its motivation?*

Second Pass: Once the key question or topic had been identified a more detailed review of the interviews was conducted to identify all claims and grounds that were pertinent to the topic. The claims and grounds were separated by frame domains in keeping with Toulmin's notion of argument field dependency, which was a central tenet of his theoretical model. The CIO's argument for an IT centric view of the project consequently would fall under a separate domain from the Chief Medical Officer's claim who's argumentation could be placed under the

clinical or other domain (depend on the nature of the claim). To concur with Toulmin's dialectical model the source of the claim was discounted in order to facilitate a logical evaluation of the claim that is independent of the speaker or source. In addition to grouping claims and their associated grounds by frame domain, similar claims within a domain were aggregated into a single representative claim to facilitate argument map construction.

The process of establishing which timeframe a particular claim belonged to was facilitated by linking the claims to the key question for the timeframe. For example, the key question for the initiation stage was, "How is project defined and what is its motivation?" Any claim consequently that answered this question would have been included in the argument map regardless of whether the claims was offered retrospectively or during that particular stage. Indeed, all arguments presented during the initiation stage were offered retrospectively because interviewing started after the project had been initiated. The process of generating the claims took place after the interviewing process had been completed and all the data had been collected.

Third and Fourth Passes: The process for the third and fourth passes were similar to the process described above, but focused its attention on pertinent sub claims, elaborations and reiterations (third pass) or implicit warrants (fourth pass).

After the above passes were completed the argument maps were constructed and forwarded to respondents for validation.

Critical Analysis (Habermas)

Although Toulmin's model and the resultant argument maps provide a convenient and robust means of evaluating arguments in terms of its basic structure, Toulmin's model does not provide us with a rubric for evaluating argument content. To evaluate the reasonableness of a particular claim therefore this dissertation employs Habermas' (1984) Theory of Communicative

Action. Habermas' theory of communicative action divides social action into two orientations: an orientation to succeed (*instrumental action* when this orientation is related to objects and *strategic action* when it is related to subjects) and an orientation to reach an understanding (*communicative action*). The TCA asserts that actions within these two separate orientations should be evaluated along different dimensions of rationality. Instrumental actions can be evaluated by measuring the efficiency with which objects are manipulated to achieve particular goals while strategic actions can be "appraised from the standpoint of the efficiency of influencing the decisions of rational opponents" (Habermas, 1982). In communicative action, however, the goal is the achievement of understanding where "to reach understanding means here that the partners in interaction set out, and manage to convince, each other, so that their action is coordinated on the basis of motivation through reason" (Brand, 1990). Communicative action consequently can be evaluated by examining the levels of non-coerced agreement or common convictions that are attained through this type of action.

The Theory of Communicative Action consequently allows this dissertation to evaluate the claims made within each frame in terms of the efficiency of argumentation and/or the level of agreement or consensus achieved as applicable. This approach is frame or domain specific because its application hinges on Toulmin's field dependent argument model. While Habermas outlined efficiency and consensus as two means of evaluating speech acts, he like Toulmin also limited these acts to a proper form. As he writes, "the meaning of truth is not in the fact that a consensus has been reached, but rather that at all times and places, if only we enter into discourse, a consensus can be arrived at under conditions which show the consensus to be warranted" (in Foss et al, 1985). Warrants tie claims to grounds and are only applicable within

the domain of the particular ground or claim. Warranted consensus or successful argumentation therefore can only be evaluated within a field or frame dependent context.

Rhetorical Analysis (New Rhetoric)

Rhetorical analysis was employed to address argumentation that involved multiple frames or cross frame argumentation. In particular, this lens was selected to examine how differences were resolved when different frames recommended alternate courses of action during the course of an HIE implementation. Unlike the Toulmin and Habermas' argument models, which invalidate argumentation between frames or argument fields as unwarranted discourse, Perelman and Olbrecht-Tyteca's New Rhetoric is not tethered to a particular argument structure and allows for reasonable discourse to occur outside the boundaries these structures. It accomplishes this by abandoning Habermas' insistence on retaining the logical "force" of the better argument as the sole arbiter of argumentation and emphasizing the role of free will and choice in reaching consensus or a successful argument outcome. Rhetorical argumentation aims to persuade and not just prove (asserting that logical force is coercive as it disallows free will and choice with regard to its conclusions or methods). It is also amorphous with regards to its structure as its boundaries are determined by the audience and context instead of an abstract domain or concept.

To apply this model to its study of the HIE initiative therefore this dissertation began by selecting a point in the project that involved a conflict between the various frames and describing the nature of the communications between the two frames. The vendor selection process was chosen as a suitable inflection point as there was significant contention between technical frame and the political frame with regard to whether or not the HIE endeavor would involve a single or dual vendor solution. The dissertation consequently proceeded to sort out interviews that contained vendor selection argumentation and identified 18 out of the 40 interviews as

containing pertinent discourse. Of these 18 interviews, 9 involved interviews with project management staff, 3 involved business leadership, 4 were with senior IS Leadership, 2 involved clinical leadership and one involved IS technologists. 13 of these 18 interviews were conducted before the contract between CareFX and SHS was signed and reflected an ongoing discourse while 5 of these interviews took place after this contract was executed and represented a more reflective discourse.

After selecting the relevant papers the dissertation proceeded to look for argumentation that attempted to bridge the differences between the two frames. Since the New Rhetoric defines *Argumentation* as a contrast to *Demonstration* (See Table 4) the dissertation began by first looking for demonstrative approaches to resolving frame conflict. A *demonstrative* approach was identified by looking for arguments that attempted to resolve the frame differences by extending the logical constraints of one domain to another domain (in violation of Toulmin's tenets). This facilitated the identification of *argumentation* which was identified as all other less coercive attempts to create venues for inter-frame dialogue that could achieve consensus or reasoned outcomes (where "reason" is subjectively defined in terms of audience acceptance). The relationship between both approaches was then evaluated in terms of compatibility and with regard to the level of inter-frame agreement (or consensus) achieved by both approaches. Since consensus, might not have been an intended goal of the discourse, both approaches were also considered from an efficiency (or success) perspective or in terms or in terms of whether or not they reached their intended goals.

Argumentation was then further described using the pre-argument conditions (see table 5) that facilitated this approach and then depicted the starting points that were used to for this type of inter-frame discourse. The New Rhetoric identifies two classes of starting points for

argumentation: 1. The Real; and 2. The Preferable (See Table 6). The dissertation examined the interview data to determine which of these starting points was used and how they were used to produce bridges between the two frames. It concluded its analysis by examining which, if any, of the New Rhetoric's argument schemes (See Table 7) were utilized in the argumentation process. The dissertation was especially interested in determining whether or not there were any discernible differences in terms of how the different argument schemes were used.

CHAPTER 5: RESULTS AND DISCUSSION

ARGUMENT MAPS AND DIALECTICAL ANALYSIS

Four argument maps were developed to depict the argumentation contained within the clinical, financial, technical and political frame domains that characterized the HIE implementation endeavor. Each map provides a composite overview of the argumentation contained within each of the four frames and each map represents a distinct phase of the project. Argument maps were developed for each of the following stages: 1. Project Initiation/Conception Stage; 2. HITECH Act/Meaningful Use Stage; and 3. Vendor Selection Stage. The argument maps consequently provide snapshots of the frames during three stages of the project and illustrate how these changes occurred over the course of the project. An additional argument map was constructed during the vendor selection stage to illustrate more particular argumentation involving a choice between a single or multiple vendor solution for the project. A descriptive review of each of these argument maps as well as a critical analysis of the results using Habermas' theory of communicative action is provided below.

Initiation Stage

The central questions that served as a fulcrum for the argument map (see figure 4 below) depicting the discourse during the initiation stage of the HIE implementation endeavor were: *How is project defined and what is its central motivation?* Since the interviews were conducted after the project had been initiated, answers to this question were provided retrospectively after respondents were prompted by the interviewer to look reflectively to the origins of the HIE project.

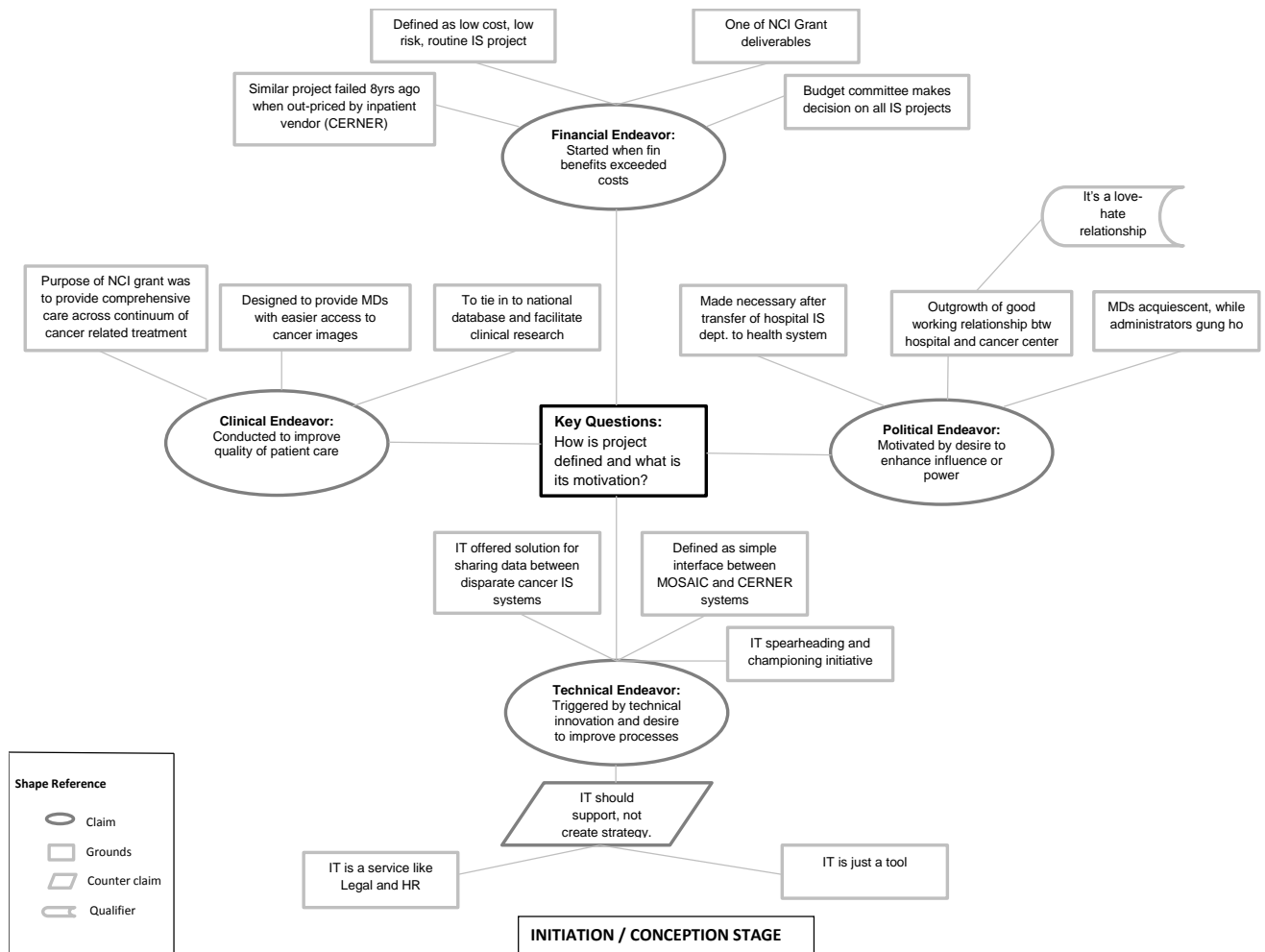


Figure 4 – Argument Map of Initiation Stage of HIE Initiative

The argument map for this stage reveals four different answers to this question; each one corresponding to one of the technology frames of reference selected for the dissertation. From the financial frame the project’s initiation was explained by a claim that attributed its origins to a financially conducive environment and that defined the project in terms of a cost/benefit analysis of its implementation. On the other hand, the clinical frame offered a claim that attributed the project’s origin to a desire to improve the quality of patient care and defined the endeavor in terms of its impact on clinical outcomes. Similarly, the technical frame yielded a separate claim that credited technical innovation with the project’s origins and construed the project in terms of

a desire to improve operational processes. The political frame also produced a unique claim by couching the endeavor in terms of inter-organizational and interpersonal power dynamics.

In keeping with Toulmin's model, each claim in all four frames was supported by grounds that help to justify the legitimacy of the different claims. Indeed, there was no evidence in the transcripts of a contradiction or disputation of these grounds which lends credence to the notion that these claims served as the de facto depictions of reality within their respective domains. Similarly, although each frame provides a different claim in response to the key question of this stage of the project, there is also no evidence of conflict between the different frames. Even though the frames offered contrasting perspectives of the project's nature and motivation, there was nevertheless agreement across the frames regarding the project's underlying appeal or merit. The sole counter-claim found in the argument map of the initiation stage provides an alternate view of the appropriate role of technology by challenging the notion that technology should motivate or define any strategic business endeavor. This challenge, while it was directly adversarial to the technical point of view, remained peripheral and did not materially undermine the progression of the project or impede its technical application. This is evident from the fact that the counter claim does not challenge the technical view in terms of its grounds but, much like the other claims found in the argument map, simply offers an alternate view. The difference between the counter claim and alternate claims or claims belonging to different frames is that the counterclaim directly contradicts the technical frame's main claim. While therefore the counter claim does not materially impact the initiation of the project (it does not represent an objection to the project's initiation), it nevertheless remains significant as a potential harbinger of future conflict. Indeed, the counter claim was offered retrospectively and was used not only to explain the origins of the endeavor, but also the later course of events

(events that were current at the time of the interview). It is included in the argument of map of the initiation stage to acknowledge the existence of a contrary view even though its existence was not very salient at this stage.

The lack of conflict between frames is compatible with Habermas' theory of communicative action which, while acknowledging the need to consider separate domains simultaneously, nevertheless suggests that these domains should be focalized separately. This is accomplished by the argument maps of the initiation stage which show separate domains of argumentation occurring during the same time period. Inter-frame argumentation would have contradicted Habermas' notion of ideal speech as it would invalidate the possibility of reaching an agreement based on the unforced force of the better argument. It would be unfeasible to rationally compare arguments between domains that employ different or separate criteria for reasoning. The task of evaluating arguments using Habermas' model consequently is best conducted by comparing competing claims within the same frame. There was however no evidence of this type of argumentation in the initiation stage as only the technical frame manifested a competing claim. This competing claim, which related to the role of technology in the project, did not engender argumentation that could be evaluated in terms of which side made the better argument because no attempt was made to examine or challenge the grounds of a competing claim.

The lack of argumentation or controversy related to the grounds could be explained by examining these grounds in terms of Habermas' (1991) argument domains (see table 2). A review of the grounds employed during the initiation stage of the discourse indicates that they belong exclusively to the objective domain of argumentation. The grounds provided in each frame are presented categorically as statements of undisputed fact or truth (what Habermas refers

to as ‘*constantives*’). Constantives, as Habermas asserts, are claims that are reasonably made with regard to objective/physical phenomena and are statements that can be verified by multiple observers using procedures that render social values and individual idiosyncrasies irrelevant. Constantives, therefore, make good grounds because they reduce the prospect of challenge or disputation. The use of constantives therefore indicates the reification of frames and a collective representation of the initiation stage of the project in concrete terms as a definite thing or object. The reification of the initiation stage is also evident from the absence of arguments pertaining to the rightness or appropriateness of claims (or “*Regulatives*”) that Habermas assigns to the social domain. The only regulative found in the argument map is the counterclaim that challenges the technical view of project by asserting that, “*IT should support, not create strategy*”. The fact that this counterclaim belongs to a separate social domain than the objective domain may help to explain why there is no evidence of an attempt to resolve the difference between these two claims. The counterclaim does not challenge the existence of the technical frame as a reified construct, but challenges its appropriateness. There is therefore no argumentation (in a Toulmin sense of the word) because the claim asserts the objectivity of the technical frame while the counterclaim asserts its appropriate place in the social realm.

In addition to the dearth of claims related to the social domain, the objectivity or reification of argumentation in this stage is further emphasized by the absence of any claims or grounds pertaining to Habermas’ subjective domain. Avowals or arguments that relate to the truthfulness or sincerity of claims would not apply to objects. The absence of such claims therefore supports the assertion that argumentation during this phase was predominantly objective. This view is further supported by an examination of the argument map using Habermas’ (1984) notion of social action orientations, which divides social action into an

orientation to succeed (instrumental and strategic action) and an orientation to reach an understanding (communication action). A review of the argument map of the initiation stage indicates that the argumentation at this phase was primarily success oriented. All four claims as well as their respective grounds are presented in terms of objective goals or success outcomes (i.e., improved quality of patient care, improved technical processes, an improved financial bottom line and a stronger partnership between the hospital and physicians). While instrumental and strategic action is feasible in all three worlds (i.e., objective, social and subjective), communicative action is only possible in the social and subjective domains as reaching an understanding is strictly an inter-subjective phenomenon. While the absence of communicative action in the argument maps does not indicate that this did not take place (as the dissertation examined retrospective accounts instead of real time communications), the absence of communicative action in the argument maps nevertheless suggests the reduced salience of the social and subjective worlds during this phase. Specifically, it indicates that the respondents did not consider these aspects noteworthy or as meriting retrospective reflection or commentary.

The success orientation of this stage of argumentation may also be explained by the notion that actions within each frame in the argument map are based on an *a priori* common understanding that is established by the parameters of the particular frame. Since each frame has commonly held assumptions or understandings the main activity in each frame is not communicative action, but the attainment of functional goals or success. There was, for example, no need to establish an understanding related to the importance of profitability within the context of the financial frame as this is a defining attribute of the frame. Indeed, given that technology frames are by definition based on commonly shared understandings of technology, the task of achieving communicative action within frames would seem inherently unfeasible or

unnecessary. Only when these assumptions are challenged, such as occurred when the main technical claim was contested by a counterclaim, does an opportunity for communicative action within a frame arise. Although the opportunity for communicative action was afforded by the technical frame's counter claim, communicative action did not occur in this instance because as indicated earlier the counterclaim and claim belong in separate worlds of argumentation (social and objective respectively). They also have different orientations. The counterclaim has limited impact on the claim because it does not represent a challenge that is pertinent to its success orientation. The counterclaim does not suggest that IT will not achieve its technical goals or attain technical success, but rather challenges the proper role of technology within the broader organizational social milieu.

HITECH Act / Meaningful Use Stage

The advent of the HITECH Act of 2009 merited a new argument map because the HIE endeavor was reconfigured to meet the requirements of this new government policy (see figure 5 below). The pivotal question for the argument map of this stage consequently was: *How should the project be viewed in light of the HITECH Act?* Interview responses were more cogent during this stage than the initiation stage as the interviews were conducted contemporaneously with the events that occurred during this time period. Interviewees during this stage were asked to reflect on an ongoing discourse and did not have to rely on their long term memories to reconstruct the historical details of events. A review of the argument map of this stage reveals that argumentation during this stage had a similar structure to that of argumentation during the initiation stage. The similarity of the argument structure might be explained by the fact that while the HITECH ACT introduced a new context for the discourse this new context did not negate or challenge any of the basic assumptions or arguments from the previous discourse.

Indeed, the basic definitions and motivations for the project remained intact, but were now translated into a different context. From the financial perspective, for example, the project was still fundamentally a cost vs. benefit decision but with new cost/benefit structure imposed by the HITECH Act.

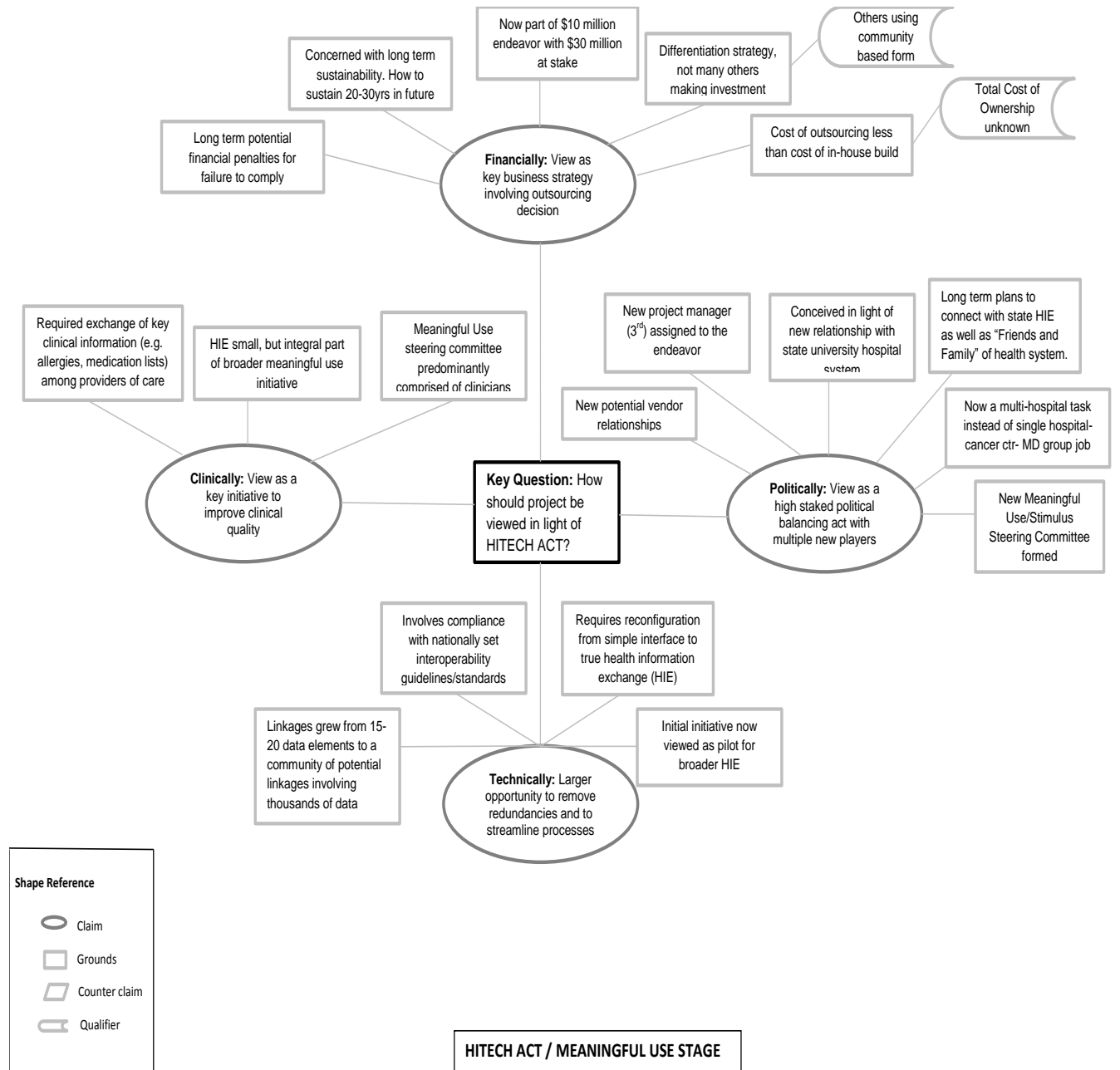


Figure 5 – Argument Map of HITECH Act / Meaningful Use Stage of HIE Initiative

The passage of the HITECH Act therefore did not change the basic assumptions or structure of argumentation around the initiative, but it did result in a significant reconceptualization of the project in terms of argument content. This is reflected in the new claims and grounds that were generated during this stage in response to the challenges presented by the Act. With regard to the claims the key change that occurred in this stage was that all four frames had claims that asserted the heightened significance of their particular perspectives to the endeavor. From the technical frame, for example, the project was escalated in its importance because it represented a larger opportunity to remove redundancies and streamline processes. Similarly, from the financial frame the project was elevated from a routine budget request to a key business strategy that would involve millions of dollars and an outsourcing arrangement with an external vendor. The political frame also morphed into a high staked balancing act involving multiple new actors with differing agendas. Clinically the project gained new significance as it was now redefined in terms of clinical imperatives designed to improve patient care.

While with the advent of the HITECH Act each frame claimed increased significance, there was nevertheless no argumentation regarding the relative importance of each frame to the redefined endeavor. Indeed, as in the previous argument map and in accordance with Toulmin's supposition, which negates the possibility of rational argumentation between disparate argument domains, there is still no evidence of cross argumentation or disputation between frames. The lack of argumentation between frames could be attributed to an overall consensus between the frames with regard to the project's overall heightened significance after the HITECH Act, howbeit for different reasons or claims. Each frame consequently continued to exist as a separate reality that consisted of unchallenged domain specific claims and supporting grounds. In addition to the lack of conflict between frames at this stage of the project, there was also no

evidence of conflict within frames during this stage. There are no counterclaims in the argument map and each claim is supported by uncontroversial frame specific grounds.

Due to the lack of disputation, both the grounds and claims in the argument maps are presented as undisputed truth statements or *constatives*. Truth based argumentation belongs to Habermas' objective domain. The presence of this type of argumentation therefore points to the continued reification of argumentation from initiation to the HITECH Act stage. This is supported by the absence of *regulatives* or *avowals* in the argument map which suggests that neither the rightness or appropriateness of claims (social domain) nor the sincerity of individuals (subjective domain) were salient issues during this stage. The claim within the political frame which states that the project should be "*viewed as a high staked political balancing act with multiple new players*" seems to suggest an awareness of potential future issues that would merit argumentation in the social domain, but even this claim is presented as an objective truth statement because there is no challenge to this perspective. The reification of argumentation during this stage is striking considering that claims in the argument map were generated in response to a regulative question. The question, "*How should the project be viewed in light of the HITECH Act?*" invites or targets regulative responses related to an appropriate or right view of the endeavor in light of the legislation. Although, however, the resultant claims do indeed provide responses with regard to an appropriate or right view, these claims are nevertheless not considered to be social constructs or regulatives because claims in the social domain are relational and there is no indication of the relative appropriateness of each view with respect to alternate views. The claim that the project should be viewed as a key financial strategy, for example, is no different from an objective claim that asserts that the earth should be viewed to be round because both claims render social values and individual idiosyncrasies irrelevant. As a

financial claim it is governed only by the assumptions and values of the financial frame. The frame consequently serves a reification mechanism that translates amorphous social phenomena (in this case a regulative question) into an objective thing that is easier to manipulate and act upon.

The ease with which a concept can be manipulated after it has been reified helps explain the success orientation of the claims and grounds in this map. As in the previous argument map the discourse here is not oriented toward achieving an understanding, which is taken for granted, but rather the focus of the discourse is the accomplishment of goals as defined by the boundaries each frame. Success means different things depending on the frame, but the different definitions are not conflicting as they are considered separate domains of action or success. There is no indication in the map of any interdependencies between frames that would impact success outcomes. It is, for example, conceivable that the project could be considered a financial success while at the same time viewed to be a technical failure. Indeed, as the project has been depicted thus far by both argument maps, the HIE project could be conceived as four separate endeavors with separate criteria for evaluation. There is a financial project, a technical project, a political project and a clinical project. The only linkage between these projects is that they occur or can be viewed simultaneously. Determining a collective standard for success consequently is impeded by the lack of discursive activity between frames. There is no sense, for example, that if the overall project were to fail financially, but succeed clinically, technically and politically that it would be an overall success based on a majority of frame success criteria because the maps do not capture any inter-frame discourse that could help establish the relative weights of each frame.

Vendor Selection Stage

The vendor selection stage of argumentation also falls under the umbrella of meaningful use, but a new argument map was developed because the vendor selection process resulted in a distinct reconceptualization of the project (See Figure 6 below).

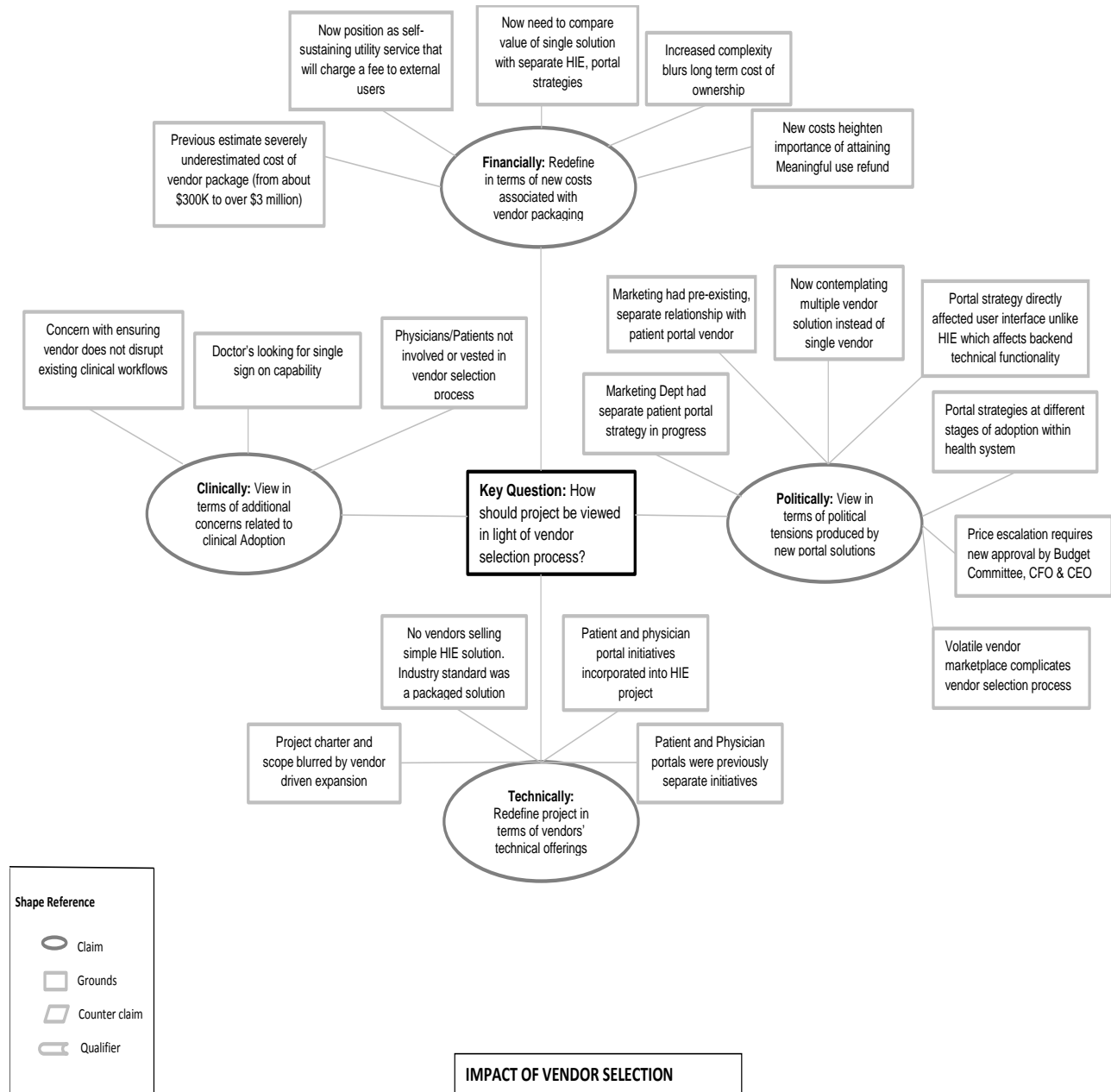


Figure 6 – Argument Map Depicting Impact of Vendor Selection

To depict the change in argumentation during this stage, an argument map was developed that hinged on the following central question: *How should the HIE project be viewed in light of the vendor selection process?* The argument map constructed in response to this question revealed no changes to the basic structure of argumentation when compared to the other two maps. The four frames of reference retained their separate argumentation with each frame represented by a frame specific claim that was supported by constituent grounds. There were also no counterclaims in this argument that challenged or contradicted any of the four alternate conceptualizations of the project. This lack of contradiction suggests a de facto legitimization of the respective argument forms as they were manifested during this stage.

The main point of departure from previous argument maps was a reconfiguration of argument content to meet the challenges presented by vendor offerings that differed from initial conceptualizations of how an HIE would work. From a technological standpoint the project needed redefinition because all of the prospective vendors offered a packaged solution for the HIE endeavor that included patient and physician portals layers that would sit upon the basic exchange mechanism. This development changed the cost figures for the endeavor from an anticipated outlay of \$300,000 to over \$3 million. From the financial frame consequently the importance of the project was escalated in terms of ensuring that the return on the investment would cover the increased cost. The political frame was also modified to indict the new hurdles that were introduced with the entrance of new players who would be affected by the inclusion of portal solutions into the decision making process. Similarly, from the clinical perspective the focus was shifted to specific concerns related to clinical adoption. The focus of argumentation during this stage therefore evolved from the previous stage, but as in previous argument maps there was no change in the basic assumptions and motivation that characterized argumentation

within frames. There was also no change in argumentation when viewed from the perspective of Habermas' theory of argumentation. As in the previous two argument maps, the frames constructed in the wake of the vendor selection process serve as reification devices that promote objective argumentation. All grounds and claims in model are based on objective truth statements and there is no evidence of argumentation pertaining to the rightness or appropriateness of claims (social domain) or arguments pertaining to the truthfulness or sincerity of claims (subjective domain). Argumentation also continues to be success oriented instead of directed toward achieving an understanding (or communicative action).

Although, however, the claims and grounds in this argument map retain their objectivity, it is also apparent that they introduce new uncertainties or potential differences of opinion that could serve as seeds for communicative action or argumentation (where an argument is construed not only in terms of its "illative core" or the "this, therefore that" form that has been used to describe argumentation in the previous maps, but also in terms of an attempt to resolve a difference of opinion or controversy). The political frame, for example, is depicted by a claim that in light of the vendor selection process now views the project as an attempt to translate new political tensions into positions of increased influence and power. The other frames also reveal uncertainties such as the question related to long term costs of ownership in the financial frame, a blurred project charter and scope in the technical frame and doubts related to adoption in the clinical frame. These uncertainties, while perhaps also existent in a nascent form prior to this stage, become particularly salient during vendor selection because of the palpable nature of this decision. Prior to the vendor selection stage, much of the discourse in the project pertained to conceptual planning. The advent of vendor selection decision making consequently marked a significant shift involving the application of these concepts to the domain of practice. It is the

attempt to reconcile the reified frame specific concepts with the vagaries of practice that produces the equivocal claims observed in this argument map.

Choice of Vendor Argumentation

The difficulties associated with the transition of argumentation from planning to implementation resulted in the first recognizable controversy in the endeavor (See Figure 7 below).

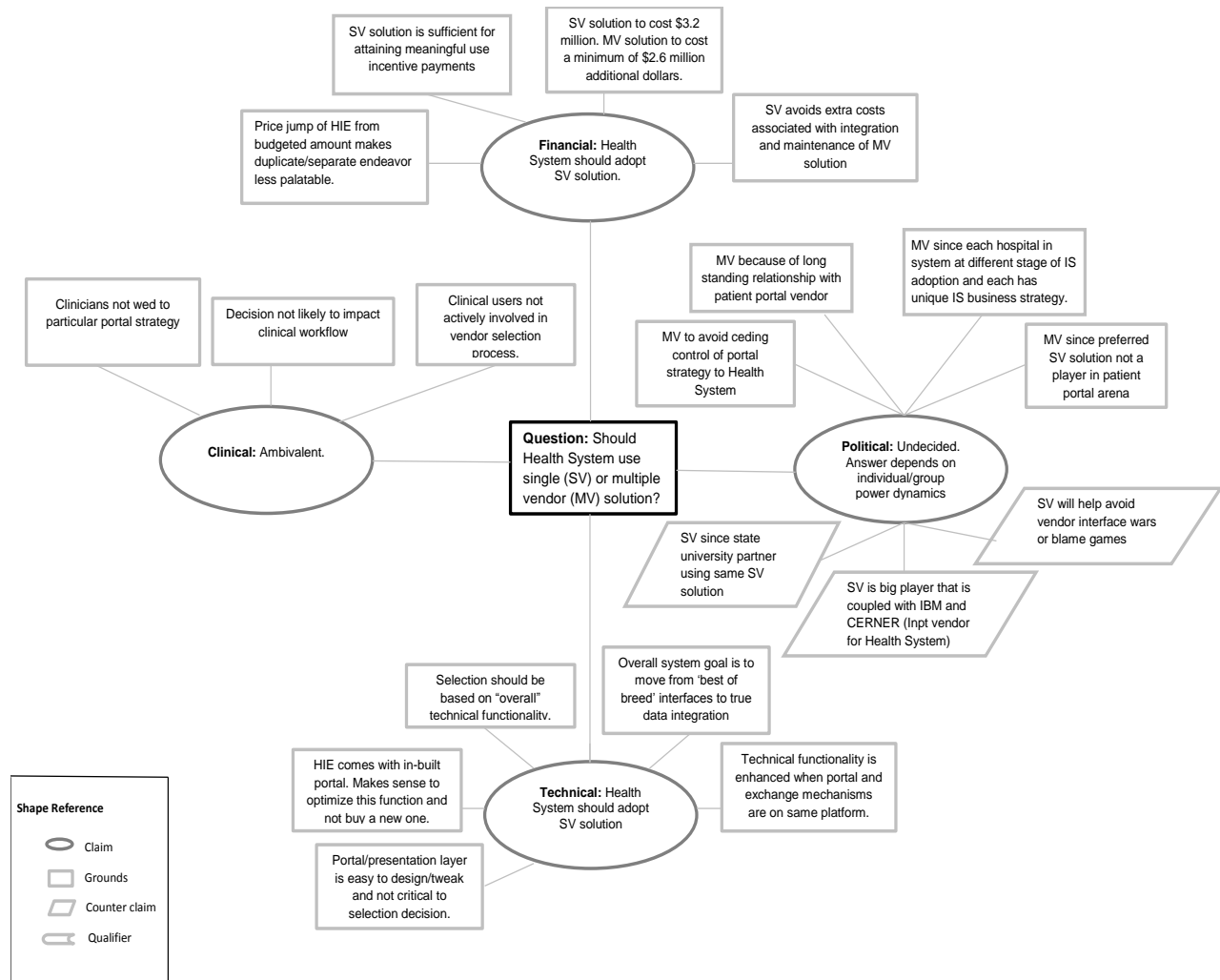


Figure 7 – Choice of Vendor Argument Map

As indicated in figure 7 above the controversy revolved around the question regarding whether or not the Health System should employ a single or multiple vendor solution for the HIE initiative. Unlike in previous argument maps where the differences in perspective had no impact on actionable aspects of the endeavor, in this case the differences in perspective resulted in a stark conflict over the appropriate course of action. The financial and technical frames of reference uniformly viewed a single vendor system as the appropriate answer to this question, while the political frame was divided with some stakeholders recommending a multiple vendor solution and others recommending a single vendor solution. The clinical frame of reference is ambivalent regarding this decision as the number of vendors chosen was not viewed as being central to the clinical frames concerns.

Despite the difference in terms of recommended course of action, the basic structure of argumentation in this map is very similar to previous maps. As in previous maps and consistent with Toulmin's argument model, each claim in all four frames is supported by legitimizing grounds. Indeed, there is no questioning or disputation of the grounds which lends credence to their acceptability as statements of truth or fact. There is also, despite the apparent conflict between the clinical – technical frames and a key claim in the political frame, no evidence of argumentation between frames. Argumentation remained domain/frame specific and although there was conflict between the frames there was no attempt to use arguments made in one frame to invalidate arguments made in another frame. This is consistent with the constraints placed by Toulmin's model on rational argumentation.

As in previous argumentation the financial, technical and clinical frames showed overall coherence in terms of argumentation. Only the political frame had competing claims. The counter claims found in this argument map differ from previous counter claim in that they were

clearly adversarial and had material implications for project outcomes. Having competing claims within the same frame, however, is compatible with Toulmin's model as competing claims can be rationally evaluated using a common set of premises and assumptions. Interestingly, however, while there are competing arguments within the political frame there is no evidence of any attempt to refute a contrary claim in terms of a rational evaluation of argument structure or rational strength. The competing claims are both supported by uncontroversial grounds (i.e., grounds that are not questioned by either side) and there is no suggestion by proponents of either claim that the other side's argument is irrational or logically inconsistent. This makes it difficult to resolve the conflict in terms of Habermas' notion of the unforced force of the better argument because both claims make equally strong arguments structurally.

The difficulty involved in resolving this conflict using Toulminian rationality may help explain why claims in this map are not presented as *constantives* or undisputed truth statements, but as *regulatives* that seek to establish the appropriate course of action in the social domain. The regulative nature of these claims makes it evident that even though each frame makes a self-contained argument based on frame-specific assumptions and grounds, this self-sufficiency does not inoculate the frame from external arguments that do not follow its particular scheme of rationality. While, for example, the technical frame makes a technically rational argument for a single vendor solution this claim is propositional and not as definitive as similar claims in previous maps because it is not without challenge or dispute in the domain of social action. Indeed, it is interesting to observe that with the shift of argumentation from the more conceptual planning stage to the more practical implementation stage that the argumentation shifted from an objective or reified orientation to a more nebulous social form. This is evident when the claims are considered from Habermas' notion of social action orientations, which divides social action

into an orientation to succeed and an orientation to reach an understanding. While the success orientation is still apparent in the grounds used in the technical and financial frames (e.g., Financial claim: Single venture solution is sufficient for attaining meaningful use incentive payments; Technical claim: goal is to move from ‘best of breed’ interfaces to true data integration) it is nevertheless evident from the regulative nature of the claims that the focus of the discourse is reaching an understanding or agreement between and within the frames. Indeed, the absence of this type of social agreement precludes any success oriented activity because not only can the project not proceed without selecting one of the two alternate courses of action, but this agreement is also essential for setting the parameters regarding how the concept of ‘success’ itself should be construed or defined.

Achieving this agreement is problematic from both Toulmin’s and Habermas’ theoretical perspectives because both models do not provide a means for resolving inter-frame differences. In event that conflict in the political frame would have been resolved rationally and arrived at a conclusion different from the conclusions obtained in the financial and technical realms there would have been no rational recourse for resolving the conflict because the frames employ different criteria for rationality. The models also fall short in terms of helping to resolve the conflict within the political frame because the competing claims both make ostensibly good arguments and there is none that seems to prevail by the pure force of the better argument or stronger rationality. Habermas’ theory of communicative action does make a contribution to this dilemma by recommending a communicative approach that minimizes the influence of power in decision making (the ideal speech situation), but this approach still falls short because of its dependence on domain specific rational discourse. To address the shortcomings of the Toulmin and Habermas’ models, therefore, this dissertation proceeded to examine the vendor selection

argument from a rhetorical perspective which both allows for inter-frame argumentation and maintains Habermas' disavowal of power as a desirable means for resolving conflict.

RHETORICAL ANALYSIS

Perelman and Olbrechts-Tyteca's (1958) *New Rhetoric* provides an alternative view of argumentation that circumvents the difficulty that dialectical approaches like Toulmin's and Habermas' have with inter-frame conflicts and decision making when conflicting views make equally sound logical arguments. It accomplishes this by departing from a strictly logical view of argumentation to a view of argumentation that depicts it as a predominantly persuasive enterprise whose outcomes are based on choice and free will instead of definitive logical proofs. Inter-frame conflict would not be problematic for rhetorical analysis because individual and/or group preferences need not be confined to a particular frame, neither are they tethered to a particular logical structure. To illustrate this difference, this dissertation proceeds to examine the controversy regarding whether or not the Health System should use a single or multiple vendor solution for its HIE initiative from the perspective of Perelman and Olbrechts-Tyteca's *New Rhetoric*. In particular it focuses the attention of its rhetorical analysis on how the participants in the study attempted to resolve the inter-frame and logically equivalent conflicts that proved to be inscrutable to the argument mapping and dialectical analysis techniques employed earlier in the dissertation.

Demonstration vs. Argumentation

When introducing the concept of the *New Rhetoric* Perelman and Olbrechts-Tyteca begin by offering *Demonstration* and *Argumentation* (See Table 4) as two diametrically opposed approaches to resolving discursive differences. In terms of the inter-frame and logically equivalent intra-frame conflict that was identified previously therefore a *demonstration* would be

manifested by an attempt to resolve the discursive difference by extending the logical constraints of one frame to another frame or by insisting on the use of a single internally consistent argument form as the sole representation of rational argumentation within a given frame.

Argumentation on the other hand would entail all the other non-coercive discursive avenues that were persuasively used in an attempt to create a consensus or to reach a reasonable outcome (where “reason” is subjectively defined in terms of audience acceptance and not as a logical construct). Since, therefore, *argumentation* is defined in contradistinction to *demonstrative* discourse; this dissertation used demonstrative discourse as a backdrop from which it could accentuate the features of rhetorical argumentation.

A review of the argumentation related to vendor choice indicates that demonstrative discourse was a prominent strategy that was used in the attempt to bridge inter- and intra-frame conflicts. While this discursive strategy was predominantly employed by arguments emanating from the technical frame, it was also found in the political frame albeit to a much more limited extent. As indicated in appendix B a review of the technical discourse surrounding vendor selection identified the following seven types or groupings of demonstrative argumentation: (1) Level Setting or IT Centric Education (2) Emphasizing the Superiority of Technical Considerations (3) Depoliticizing the process and attempting to maintain frame separation (4) IT as Stewards of the Big Picture (5) Irrefutable Technical Logic or Common Sense (6) Technical view as fact based and impartial (7) Technical Principles as immutable and Timeless.

The level setting approach was evident in the first interview with the project manager who was trying to educate all the stakeholders on the technical reasons for a single vendor approach to what had previously been conceived as a dual vendor solution. When faced with conflicting views the IT department sought to eliminate the discord by providing the other

stakeholders with a window into IT's thought processes. While the act of providing a lens into one's point of view would not necessarily qualify the discourse as a demonstration, this particular strategy is considered to be demonstrative because it is based on the assumption that once opponents understood the argument they would be logically required to accept the conclusions. This is evident in the senior IS manager's approach (see appendix B) to developing consensus which attempted to lead discussants to a preformed conclusion by asking a trail of educative questions. This is different from a rhetorical approach which would not provide any guaranteed outcomes and would make allowances for dissent as a reasonable outcome. The demonstrative nature of this approach is also seen in the appeal to industry standards as an authoritative source of truth.

The second category of technical demonstration or the emphasis of the technical components of HIE over any non-technical perspectives could also have been classified as a rhetorical strategy as it could be viewed as an argument over values. It is however classified as a demonstrative approach because not only does it seek to prioritize the technical view but it also excludes non-rational approaches as irrelevant to the discourse. This is explained or justified by using the analogy that compares the HIE project to car manufacturing where vehicle performance is considered key and car color is considered inconsequential. The third category or the attempt to depoliticize the process and maintain frame separation clearly meets the criteria for demonstrative discourse as its impersonal characteristic is antithetical to the rhetorical notion of audience adherence. This group of arguments is captured well by the project manager who said, "If you can guarantee me that you can do your part and just stick to your part, I will stick to mine and we'll have a happy marriage." This view reflects an attempt to maintain the separation that had apparently served all parties well prior to the vendor selection inflection point. The

fourth category, which groups arguments that portray IT as the stewards of the big picture, offers the IS perspective as transcendent and is termed a demonstrative approach because seeks to rise above the more parochial disputing that would be the hallmark of rhetorical argumentation. This perspective is justified by the fact that the IS department had moved to a corporate or system level function and was chartered to collectively serve the needs of all four SHS hospitals.

The last three categories, which pertain to irrefutable technical logic, impartial fact based argumentation, and immutable principles, are all prototypical demonstrations that seek to resolve the dispute by bracketing out the controversial subjective elements. The appeal of technical logic was its clearly defined rules and assumptions that could be easily scrutinized. Senior IS management, for example, was able to suggest that the single vendor solution was a slam dunk or non-controversial proposition based on the logical merits of the technical case that was being made. Indeed, as the project manager observed, “From an implementation or technology standpoint” there had been no criticism of their reasoning from a technical standpoint. Similarly, the category of discourse that referred to IS argumentation as a mere presentation of facts was an attempt to avoid controversy by attempting to disassociate this decision from the capricious arena of human preferences and to let the facts speak for themselves. The notion that technical principles are timeless was also aimed to elevate the discourse above the conflict by suggesting the futility of trying to argue with proven or time tested technical principles. As the project manager indicated in one of the interviews, “Pipes are pipes at the end of the day”.

The attempt to bridge the frame conflict by emphasizing the neutral and transcendent nature of the technical perspective was not very successful in building bridges as this line of thought had little resonance with its intended audience or adherents of the political frame. Indeed, in response to the attempt to broaden the appeal of technical discourse adherents of the

more political perspective adopted similarly demonstrative arguments to counter the perceived encroachment of technical discourse on its domain. As indicated in Appendix C, proponents of a multiple vendor solution offered the following categories of arguments in response to the technical outreach: (1) Different Industry Standard or Separate Business Centric Education (2) Emphasizing the Superiority of Business Considerations (3) Emphasizing the Importance of Frame Linkage and Highlighting the Role of Relationships (or Politics) (4) Business as Stewards of Big Picture (5) Presenting Business Facts; and (6) Business as a Variable and Unpredictable Human Process. The review of the interview transcripts found no attempt to counter the arguments which positioned technical discourse in terms of “irrefutable logic”.

The technical group’s attempt to define the project strictly in terms of the technical industry standard consequently was hampered by the fact that the marketing group was using a separate marketing specific industry standard to define the project. Marketing had previously contracted with a consulting group to help develop an e-strategy for the organization (LRC) that also incorporated harnessing the HIE endeavor. The attempt to redefine the project in terms of an industry standard fell short because there was not a single standard to follow. Similarly, the strategy of emphasizing the criticality or importance of technical considerations was negated by an equally ardent articulation of business/political considerations. The notion that the portal was merely “lipstick” was countered with idea that IT was merely “zero’s and one’s” flowing through a wire. The group of arguments that all sides should remain within their realms of expertise with IT handling the technical vendor selection process was also met with stiff resistance as adherents of the political frame submitted that this was a political process. Indeed, emphasizing the need to be included in this consideration, one of the business leaders referred to herself as the “portal stalker” to indicate the inseparability of her concerns from what was previously considered a

straightforward technical solution. The argument that IS could serve as stewards of the “big picture” by virtue of its corporate position which served all constituent hospitals was countered by the notion that it was business that was responsible for strategy and not IS. The argument that the technical view was only informed by impartial “facts” was challenged by a separate representation of “facts” pertaining to the marketing department’s or the political frame’s point of view. Furthermore, the notion that technical principles could bridge the gap between the conflicting frames based on their immutability was challenged by the argument which suggested that the project inescapably involved unpredictable human actors and human relationships are difficult to manipulate using defined, repeatable processes or roadmaps.

None of the above argument groupings consequently were successful at effectively bridging the discourse between the conflicting frames because they were unable to generate acquiescence or agreement from the other side. Indeed, while all the above approaches could have been classified as rhetorical strategies for bridging discourse as they could have been viewed as attempts to attain a level of adherence from the intended audience, they are all nevertheless classified as demonstrative discourse because there is little evidence of any inter-frame agreement. They are treated different from the arguments presented in the earlier argument maps because, unlike the Toulminian arguments which are theoretically constrained to their respective frames, these arguments represent dialectical attempts to cross frame boundaries and proselytize adherents from a different frame.

New Rhetoric’s Pre-argument Conditions

The failure of demonstrative discourse to achieve consensus or provide an acceptable solution provided an opportunity for more rhetorical approaches to resolving the conflict. This was evidenced in the interview when in response to queries related to how this impasse could be

resolved one respondent only offered two alternate approaches. One was an appeal to authority where a single authoritative individual such as the system CEO would make the call and set the course of action. The approach was that of dialogue where it was believed that some sort of consensus could be achieved by face to face negotiation. The mechanism for this dialogue was not spelled out, but it was universally stated by respondents from both sides that more communication and more meetings could help alleviate some of the disagreement. Similarly, while an authoritative ruling remained an option, the federated governance structure of SHS put obstacles in the path of this type of decision making. Indeed, this was a source of frustration for the project manager as is evidenced from the following excerpt from the interview transcripts,

The difference between here and [my previous employer] is that here... and I will say that this is pretty much a new initiative, I've dealt with that before, I've kind of dealt with the politics and nonsense before but at the same time I ran my division, so if I needed to get something done, I needed to make a final decision, I could say, we're going to do it or go from there, and if I was having an issue I could go and knock on my CEO's door and say, "look, I need some help to get this done" and if that didn't work, which usually I never had a problem on that, usually it would be bridged so I could go straight to the division president and say, "hey look, this is what's going on", ..., if I wanted to get something done I would get it done one way or another. Here, I can take all those experiences I guess, from [my previous employer] and apply them here, I think the only thing is that the results, I've just never seen it take so long to make a decision, or had to move so many people over. I guess the biggest thing, or the hardest change for me is that in the past if I needed something I could go to one of the decision makers and if one of them said, "hey, this is what we're doing", it didn't matter what anybody else said, it was going to get done. They were in a position, I should say they were in a position, but they said it and it happened, here it's "okay, I think that's a good idea, run it by everyone else and get them all to agree and vote".

The failure of demonstrative argumentation and the SHS governance structure consequently helped to provide a reason to argue which is one of the *Contact des spirit* ("*Meeting of the Mind*") (See Table 5) requirements for argumentation as envisioned by the New Rhetoric. Indeed, it was interesting to note that while early interviews with project management were demonstrative in nature the latter part of the interviews seemed to reflect an increased

appreciation for persuasive or audience specific argumentation. In one of interviews conducted in late July 2011, for example, the project manager reflectively noted the importance of understanding group history and the nature of interpersonal relationships because of the ability of these factors to taint technical considerations. A new technology could be perfectly fine from a technical perspective, but if the individual had a previous negative experience with some vendors the flashback or human perspective could cloud the new decision even if this was a completely different vendor. As the project manager pithily stated, “It doesn’t matter how technically smart you are, you are always going to have problems on every single project, because it is not the technical component, it is the personal components that are blowing everything straight to hell”.

The prospects for achieving rhetorical argumentation were also enhanced by an expressed sense of trust in the sincerity of both sides in terms of achieving what they thought was best for the organization. As one of the business leaders stated, “I think in the end; we all want the same end result. I don’t have any doubt in my mind of that, I think we all want the best possible outcome, but it is more how we really work to get that result. We all bring different things to the table.” The strict time barrier placed by the government regulation also helped establish a firm deadline for the ending of argumentation and helped meet the *contact des spirit* requirement for rules that govern the beginning, conduct and ending of argumentation. Indeed, while the dispute over the role of IS in the organization can be traced to the earliest argument map (see figure 4) there had been no need to resolve this dispute until the conflict had real ramifications in terms how to select vendors for the HIE initiative.

While there were several incentives for argumentation in the tradition of the New Rhetoric, there were also significant barriers to this type of discourse. A major one of these

barriers was the historical relationship between the SHS IS department and LRC's business leadership. As one of the business leaders observed (mirroring comments by other leaders),

I think IS is still paying a price for a very poorly executed centralization. I think they thought they were doing it very well, but that particular model that they used which was kind of just napalmed across the organization, created a lot of hard, hard feelings, a lot of distrust. I think they struggle to listen and really be that kind of service or client service model mentality, tell us what your goals are and then we're going to be subject matter experts and help you accomplish your goals.

Indeed, one of the reasons for the observed tension in the project was the fact that LRC resorted to an external IS expert to provide counsel for its E-MAP exercise instead of relying on the expertise of the internal IS department. This was a more costly endeavor, but indicative of the great chasm between the two areas. The consultants were also quoted as remarking that if there had been better communication flow between the IS department and the business areas there would have been no need to hire an external consultant. The consolidation of the IS department had also physically separated the IS personnel from the main LRC plant which made it more difficult to meet. Communications and coordination efforts for the HIE initiative consequently were mainly conducted via email and the attendance at the face to face meetings tended to be sparse.

Attaining a suitable atmosphere for rhetorical argumentation was also hindered by significant turnover within the project management office with regard to the project managers assigned to this particular endeavor. As observed, by one of the business leaders, "we've seen two or three people leave the HIE study from the IS end and it's like [jerking movements]...bits and starts." The project manager who was handling the vendor selection process was also relatively new to the organization and had been at the organization for less than six months when he tried to navigate this process. Although, therefore, this project manager had extensive experience managing projects he was new to SHS' organizational culture and might not have had

sufficient history with the organization to navigate the nuances of rhetorical communication. As Table 5 indicates one of the requirements for rhetorical argumentation is the presence of “interlocuters with sufficient and accurate enough knowledge of the other party to permit appeals to what is held in common and the use of appropriate argument forms”. The early and unsuccessful use of technical demonstrations therefore could be attributed to insufficient knowledge of commonly held knowledge that could serve as platform for rhetorical argumentation.

The Starting Points of Argumentation

In addition to the *contact des spirit* requirement that is necessary to create a suitable climate for rhetorical argumentation, the New Rhetoric also requires the discovery of an acceptable common ground or starting point for this argumentation to take place. The New Rhetoric identifies two types of starting points for this type of discourse: (1) The Real (Facts, Truths, and Presumptions) and (2) The Preferable (Values, Value Hierarchies, and Loci). The defining part of this argumentation and one that distinguishes it from the demonstrations that were previously described is the notion that these starting points are commonly held and not particular to any domain or frame. A review of the interview transcripts indicated that while there were several potential starting points that manifested this type of agreement, such as a commonly held understanding of the overall costs of the single versus the multiple vendor approaches (the real), and the significance of the endeavor relative to other projects (the preferable), none of these were used as platforms for further discourse. Indeed, because these potential starting points were non-controversial they were not considered germane to the discussion at hand and were not used by either frame to further their competing agendas or to negotiate an acceptable compromise. Instead of serving as springboards for rhetorical

argumentation, these ‘preferences’ and ‘realities’ served as boundary markers or referees for “reasonable” discourse. When, for example, project management indicated that vendors were not offering a simple “pipe” solution, but were only offering a composite solution that included patient and portal solutions both technical and political frames accepted this as commonly held fact or truth. The opposing arguments were consequently framed in terms of this new commonly held reality, but it did little in terms of resolving the essential conflict between the frames.

The failure of these potential starting points to give rise to rhetorical argumentation as envisioned by Perelman and Olbrecht-Tyteca (1958) might be explained by the reification of argumentation that had taken place by this stage of the HIE endeavor which made it difficult for argument participants to change their minds about their chosen conclusions. Indeed, argumentation at this stage was reduced to defending frame associated conclusions instead of arguments that would evaluate different potential choices. When, for example, one of the senior business leaders was asked how she envisioned resolving the impasse she recommended detaching the discourse from the hardened positions and having strategic discussions based on commonly held organizational values and strategic imperatives. She said, “I think you have to have strategic conversations that don’t have anything to do with a budget, that don’t have anything, you need to have conversation that’s about innovation...what’s out and what’s in, but you don’t have to have this tug of war about money.” While therefore the vendor selection decision may have highlighted the need for rhetorical argumentation this might not have been an opportune time for this type of discourse. The reification of perspectives at this stage may have necessitated demonstrative discourse as the argumentation pertained to the more rigid realm of tactical operations than the conceptual realm of guiding strategy. The difference between the two being that one asks the question, “What should we do?” while the other asks “What must we

do?” At the start of the endeavor when there was a non-consequential debate about whether or not the endeavor should be conceived as an IT endeavor would have been a good starting point for rhetorical argumentation because of the more theoretical nature of the question. It was not addressed in this particular project because it did not have a direct bearing on contemporary praxis. The difficulty of attaining this type of discourse at later stages of the endeavor seems to suggest that this lapse was a critical flaw in the conduct of argumentation for this project.

The impasse was resolved after it was discovered that the meaningful use requirements promulgated by the federal government did not require the setup of a full-blown patient portal solution in the first year, which allowed SHS to setup a “skinny” version of the portal with its HIE vendor of choice (CareFX) and to postpone the decision for the full-blown vendor solution until the following year. Interviewing stopped before this decision was made, but it was learned that SHS ended up adopting a multiple vendor solution. This decision was also preceded by a change in the project manager handling the endeavor and some issues related to client-vendor relationship that surfaced during the implementation of the HIE after the contract with the vendor had been executed. The role that argumentation played in the choice of the multiple vendor selection decision is unknown, but the new project manager as well as a senior member of SHS’s IS leadership indicated their retrospective satisfaction with this decision.

CHAPTER 6: CONCLUSION AND IMPLICATIONS

CONTRIBUTIONS TO THE LITERATURE

Extant TFR research has been criticized for its limited focus on frame content or ‘specific knowledge’ at the expense of frame structure or ‘domains of knowledge’ (Walsh, 1995; Davidson & Pai, 2004, Davidson, 2006). One of the objectives of this dissertation consequently was to address the scarcity of research on frame structure by focusing its attention on technology frame argument structures. The dissertation accomplished this by drawing argument maps based on Toulmin’s (1958) theory of argumentation to depict the discourse contained in each frame. Frames could then be described and analyzed structurally in terms of the claims, grounds, qualifiers and counterclaims that characterized the discourse. It was, for example, noted from the argument maps that in this particular study that most of the claims in the four argument maps did not have counter claims. There was one counterclaim in the initiation stage that challenged the key claim in the technical frame and three counterclaims in the choice of vendor stage that were all located in the political frame. The absence or presence of counterclaims can be used to assess the level of argumentation within a frame and can be used to compare argumentation across settings. In this particular case, for example, the structure of argumentation seems to suggest that there was not much argumentation (where argument includes the notion of controversy) in the initiation and HITECH Act stages of the project, but that there was marked escalation in controversy at the vendor selection stage.

Argument maps consequently could also be used to structurally depict changes in frame salience over time. In this dissertation, for example, the change in the number of counterclaims present in the discourse was used to indicate a shift in frame salience or tension in the HIE initiative. This shift could be seen structurally and independent of the content of the particular

claim or counterclaim (even though the content was used to corroborate this finding). Argument mapping as used in this dissertation helps meet Davidson's (2002) recommendation for additional studies that could help identify frame shifting patterns as well as the triggers for these shifts. Argument maps could also be used structurally to assess the relative strength or validity of arguments presented within different frames. In this dissertation, claims within each frame were evaluated in terms of whether or not they were supported by grounds. The grounds in turn were assessed by examining whether or not they were questioned or controversial. In this dissertation all the claims from all four frames were supported by uncontroversial (or unchallenged) grounds and this was used to explain the relative stability or resistance to change that was manifested by the frames in this study. This finding consequently contributes to the literature by suggesting a possible argument structure based explanation for the varying degrees of frame rigidity or resistance to change found in previous studies.

In addition to addressing the structural limitations of existing TFR research, this dissertation also sought to go beyond the well-trodden observation that different groups think differently about information technologies and that these differences can produce implementation problems, to tackling the "how" and "why" of these differences as recommended by Walsh (1995) and Davidson and Pai (2006). To answer the "why" of frame differences this dissertation employed Toulmin's (1958) theory of argumentation, which asserts that rational argumentation is field (or "frame") specific and therefore constricts rational discourse to the assumptions and logical limitations of the particular field or domain. This was supported in this dissertation by the lack of inter-frame argumentation revealed in the argument maps. There was, for example, no attempt to use technical grounds to justify a financial claim as these two claims were socially constructed as separate worlds of reasoning. This separation is viewed as socially

constructed because the frame boundaries are somewhat tenuous and it is not inconceivable that the HIE endeavor that was the subject of this dissertation could have been considered holistically as single domain instead of four separate frames. Despite these fuzzy boundaries, however, Toulmin's theory continues to provide a cogent explanation of the source of frame incongruence by implying that the differences are innate or intrinsic to the frames themselves. Since Toulmin's model negates inter-domain argumentation as being irrational (as different domains have different assumptions and limitations) the construction or existence of separate frames inherently produces frame incongruence. Toulmin's model consequently suggests that understanding frame differences could be best be achieved by unpacking the assumptions and logical criteria that generated the frames instead of viewing frames solely as *apriori* cognitive constructs.

Habermas' theory of communicative action assists in this "unpacking" process by introducing the notion of different social action orientations to help identify the various purposes of discourses. The dissertation found that orientations to succeed (or instrumental and strategic actions) were associated with reified frame structures as commonly held assumptions helped to facilitate the attainment of functional goals or success. On the other hand communicative action (or an orientation to reach an understanding) was associated with weakened frame structures. This was evidenced in the dissertation by the observation that attempts to achieve communicative action only become apparent at points of conflict between or within frames. The application of Habermas' theory of communication action to the study of frames also introduced the role that argument domain play in reification or weakening of frame structures. Results from the dissertation showed how the use of 'constantives' (or claims that are made with regard to objective/physical phenomena) help provide structure to frames by constructing them in concrete

terms as a definite thing or object. A review of the grounds used in the initiation stage of the dissertation, for example, indicated that the grounds provided in each frame were presented categorically as statements of undisputed fact or truth. This use of ‘constantives’ was used to explain the lack of controversy in the initiation stage, because ‘constantives’ are typically made with regard to objective/physical phenomena and are presented as statements that have been verified by multiple observers using procedures that render social values and individual idiosyncrasies irrelevant. Constantives consequently help provide structure to frames and also buffer these frames by reducing the prospect of dispute or refutation. On the other hand, the use of ‘regulatives’ (or arguments pertaining to the rightness or appropriateness of claims) were found in dissertation to be associated with weakened frame structures as they were only found in instances of controversy or disputation between or within frame domains. This was indicated in the dissertation by the dearth of regulative claims in the early argument maps that had little or no conflict and their subsequent prominence in the argument map that depicted the first controversy of the endeavor – the argument related to the vendor selection decision (figure 7).

Perelman and Olbrecht-Tyteca’s (1958) New Rhetoric corroborated this perspective (i.e. the view that upholds the structuration properties of “constantives” relative to “regulatives”) by asserting that premises of the real (i.e., facts, truths, presumptions or what Habermas terms as ‘constantives’) have greater appeal to the universal audience than premises of the preferable (i.e. values, hierarchies, loci or what Habermas terms as ‘regulatives’), which only apply to a particular audience (See Table 7). Perelman and Olbrecht-Tyteca explained this distinction by arguing that while some values such as honesty could secure the adherence of a universal audience; this adherence disappears whenever the content of this value is specified. As Foss et al.

(1985) illustrated, while truth could be considered a universal value not all reasonable people would expect someone to tell a thief where the family jewels were hidden.

This helps explain the exclusive use of demonstrative discourse - which as indicated in table 7 reasons based on truth - by the opposing sides of the vendor selection decision that was observed in this dissertation. Perelman and Olbrecht-Tyteca also suggest that when values are employed in argumentative discourse that individuals arguing for the status quo are more likely to begin their arguments with concrete values than those arguing for change because concrete values are more persuasive when trying to preserve than when attempting to renovate (and vice-versa). This is congruent with the finding that showed the proponents of the technical domain (or those who emphasized the IT artifact as the “real” HIE) as championing the maintenance of status quo frame separation, and proponents of the more political perspective (or those who emphasized the social dimensions) championing an overhaul of the process. This was illustrated colorfully by the depiction of the non IT aspects of the HIE as “putting on lipstick” and the counter response that referred to IT as “zeros and ones flowing through a wire”.

Indeed, in addition to providing a depiction of technology frames that goes beyond the mere observation of frame difference to providing an explanation of how these differences emerge, the dissertation also, by introducing the New Rhetoric framework, provides a granular or vivid depiction of how these frames emerged. Previous studies such as Khoo (2001), which highlighted the role played by rhetorical devices such as the synecdoche in negotiating frame conflicts, contributed to the literature by noting the impact or effect these rhetorical devices on technology frame boundaries. This dissertation builds on this extant work by providing a theoretical explanation for the role that these devices play in the construction or deconstruction of these frames. The dissertation goes beyond previous work to provide an explanation for why

rhetorical devices might work in one setting and not another. In the HIE endeavor that was the subject of this dissertation, for example, rhetorical devices were ineffective because of the failure to establish suitable starting points for rhetorical argumentation. As noted in the results section, while there were several potential starting points for rhetorical argumentation that were identified in the interviews, all of these served commonly held “realities” or “preferences” served as boundary markers instead of platforms for further discourse. This finding suggests a more complex problematic for inter-frame discourse and decision making than the employment of a rhetorical device or the mere presence of a boundary spanning individual or commonly held assumptions. Indeed, this dissertation introduces new questions to the literature related to the feasibility of non – power based mechanisms for inter-frame conflict resolution. Several TFR studies, such as McLoughlin et al. (2000), Gallivan (2001) and Bjorn et al (2006), have recommended measures such as frame bending exercises, change readiness coaching, negotiation of plans and goals, and the need for “configurational intrapreneurs” that could achieve “cognitive jail braking” to help resolve frame differences. This dissertation contributes to these literatures by problematizing these recommendations and providing a theoretical explanation for why and how these remedial efforts could fail.

This dissertation also contributes to the literature by providing a theoretical explanation for the conflicting ideas related to the impact of divergent frames on implementation efforts. It accomplishes this by illustrating how divergent views that were present in the early stages of the project were able to coexist based on the nature of their social action orientations. As indicated in the results section of this dissertation most of the discourse in the early stages of the HIE initiative was primarily success oriented. This orientation was uniform across the four frame domains. While therefore the frames were incongruent in the early stages of the initiative, the

project nevertheless proceeded smoothly because these differences did not amount to a “misunderstanding”. A “misunderstanding” would have necessitated a change in orientations or a shift to communicative action which is oriented towards achieving an understanding between differing parties. It was this shift in orientations that served as a harbinger of potential conflict between the disparate views.

The success orientation was able to accommodate disparate views by compartmentalizing or assigning these disparate views to separate or discrete worlds of argumentation. At the initiation stage of the HIE project, for example, the project was practically divided into four separate endeavors – a technical endeavor, a clinical endeavor, a financial endeavor and a political endeavor. These endeavors occurred simultaneously and had co-dependencies (hence the classification a single project), but could also be focalized separately. At the vendor selection stage, however, these cognitive boundaries were collapsed as the choice required a collective decision and forced true communication between the disparate frames. It was this communication that provided challenges for the project. This scenario consequently suggests that one reason why some projects thrive under a plurality of views might be because in some instances these differences are handled by specialization or dividing the project into discrete parts instead of achieving true integration of disparate ideas. Indeed, a core insight of this dissertation and a key contribution that it makes to the literature is its finding of prevalent or prominent “perspective blindness” or “perspective indifference” which occurred in the initiative until an external trigger forced a change in orientations. Previous TFR literature has focused on dysfunctions produced by conflict/alignment issues. This dissertation extends this research by highlighting the role that conflict avoidance or frame apathy may play in producing these dysfunctions.

CONTRIBUTIONS TO PRACTICE

An important contribution of this research to practice is the finding that the success orientation of most practical endeavors may play a role in the problematic “perspective indifference” that was observed in the HIE endeavor. Prior TFR work such as Shaw et al (1997) and Iivari and Abrahamsson (2002) have shown that there are narrow “windows of opportunity” for alterations or adjustments of the TFRs and that early identification and intervention in instances of frame incongruence is most likely to achieve optimal or desirable outcomes. These windows of opportunity exist because at early stages of an endeavor there is often a lot less at stake for the different stakeholders (due to having less skin in the game at early stages and the uncertainty which makes participants more amenable to cognitive shifts). It is, however, these very same reasons that make it less likely for stakeholders to become willing to make the cognitive effort to engage in the type of discourse necessary to resolve these frame differences.

In the HIE endeavor that was the subject of this dissertation, for example, there was an early question about the appropriate role of technology in organizations. There was however no real (or no evidence of) discourse that attempted to resolve this frame difference at this early stage because it did not at this time translate into a material obstacle for the project at hand. It was not until the later vendor selection stage that this disagreement surfaced in earnest, but by this time it was apparent that positions had been so hardened that it made true rhetorical argumentation (in the tradition of the New Rhetoric) unfeasible. This conundrum is perhaps best paralleled by the tension between theory and practice where theory that has no immediate practical application is dismissed as irrelevant, while theory that is designed to cater to the latest practical concern is often criticized for being too faddish or lacking rigor. Both theory and

practice, however, are linked at the hip and one cannot walk without the other. Good theory both informs and is informed by practice.

The solution to the “perspective indifference” observed in this study therefore might lie in attaining the right balance between abstract thought and practical application in organizations. The involvement of practitioners in academic exercises that challenge frame assumptions in the abstract might be helpful in promoting the necessary creativity and flexibility required to negotiate frame conflicts later on. While this is not a new concept (e.g., Gallivan (2001) suggested the use change preparation techniques such as frame bending exercises and change readiness coaching aimed at enhancing the nimble zone), this dissertation provides a more detailed and nuanced explanation for its necessity. Indeed, the findings of this dissertation could be used to advocate that organizations recommend continuing education classes for its employees that would include an emphasis on primarily theoretical or abstract questions that may have no immediate impact on existing projects, but might have significant long term benefits in terms of creative thinking and argumentation.

Similarly, although this dissertation did not find evidence of rhetorical argumentation as envisioned by Perelman and Olbrechts-Tyteca (1958) it does offer rhetorical argumentation as a potential vehicle for the creative discourse recommended in the previous paragraph. It suggests that rhetorical training and deliberate rhetorical strategies could be used to help mitigate implementation problems produced by incongruent frames. This recommendation corroborates findings by Khoo (2001) who found that the use of the synecdoche (a rhetorical device) could be used to help bridge the discourse between incommensurate frames. Additionally, by introducing Perelman and Olbrecht-Tyteca’s New Rhetoric model, the dissertation builds on Khoo’s work to provide a framework (as opposed to a single rhetorical device) for inter-frame discourse within

organizations. This contribution would meet a need identified by respondents to the dissertations interview question who almost universally cited communication as the main area of concern for the HIE implementation endeavor. The introduction of Perelman and Olbrecht-Tyteca's New Rhetoric meets this need by providing a relatively robust mechanism for improving these problematic communications.

RESEARCH LIMITATIONS

A major limitation of this dissertation was its reliance on interview transcripts for the reconstruction of argumentation that took place during the HIE initiative instead real time observations of the discourse. The absence of argumentation pertaining to Habermas' social and subjective realms therefore could be attributed to the fact that the interviews were one step removed from the actual discourse and could therefore represent a more sterilized version of the real time argumentation that took place. Indeed, evidence from the interview transcripts seems to suggest that there were several "off line" conversations that took place between participants in the HIE endeavor that were not captured in the study. It is possible that the missing "regulatives" (or social domain discourse) and "avowals" (subjective domain discourse) were prominently featured in the HIE project, but not captured in the interviewing process.

Another important limitation of this dissertation is related to its design as a single case study. The findings of this study reflect the particular circumstances of this case and the results are not readily generalizable to other studies. The argumentation that took place within this particular setting, for example, is not likely to be replicated in a single practitioner clinic that would have no dedicated portfolio management office or federal governance structure. Similarly, the interview respondents are not necessarily representative of other potential

respondents in the study. It is therefore possible that very different argument structures for the project could have emerged had a different set of interviewees been selected for this endeavor.

Another limitation of this dissertation, and one that is related to its design as a single case study, is its failure to highlight and explain the role of important institutional forces that influenced the sensemaking around the HIE endeavor. The HIE initiative that was the subject of this initiative was heavily influenced by external factors such as government promulgations and vendor narratives. While these factors are acknowledged in the dissertation they are nevertheless not considered theoretically or problematized. Indeed, while the results of this dissertation indicate a prevalent “frame indifference” in the case that it was exploring, it is also interesting to note that the dissertation itself manifests a similar disregard for alternative explanations that do not fit its chosen theoretical lens. The main difference between the dissertation and the case study is that in this dissertation these limitations are explicitly acknowledged and a means of mitigating these shortcomings is suggested in the future directions section of this dissertation.

FUTURE DIRECTIONS

Although Perelman and Olbrecht-Tyteca’s (1958) New Rhetoric holds great potential for use in examining and conducting interframe argumentation, this potential was not fully explored in this study because of its reliance on interview transcripts instead of real time argumentation. To address this limitation this future work needs to be conducted that examines rhetorical discourse in practice. This is admittedly a more complex undertaking as it requires gaining access to more intimate conversations between interlocutors. A study of this sort however could be accomplished by using an action research approach to data collection and analysis. The difficulty of accomplishing such an endeavor adds to its potential value as there have been few,

studies in the TFR literature that have based their findings on real time argumentation or discourse.

Similarly, since the TFR lens employed in this dissertation did not effectively capture or explain the institutional forces that influenced the sensemaking surrounding the HIE endeavor, future work examining impact of these factors on argumentation is likely to shed additional light into the findings of this dissertation. Ballinger and Rockman's (2010) social exchange relationship theory and its notion of "anchoring" events based on a punctuated equilibrium perspective is likely to be particularly useful in this regard based on the well defined punctuations or frame transitions that were evident in this dissertation. This lens could also help explain how changes in organizational relationships could contribute to the observed phenomenon of "frame indifference" by offering a theoretical account of the origins of nonreciprocal forms of organizational relationships.

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APPENDIX A – INTERVIEW GUIDE

INTERVIEW GUIDE

Questions target to elicit views of the overall goals of HIE initiative:

1. Please provide me with your understanding of what the HIE initiative is and what are its overall goals and mission.
2. How do the goals of the HIE initiative relate to the overall goals and mission of your organization?
3. How do the goals of the HIE initiative relate to the overall goals and mission of other organizations/stakeholders involved in this endeavor?
4. How do the goals of the HIE initiative relate to your particular function within your organization? How do the goals of other organizations/stakeholders relate to your function?
5. What level of involvement did/do you have in setting the goals and objectives of the HIE initiative?
6. Do you have any general opinions or gut feelings about this initiative? What are your expectations of this project?

Questions designed to elicit thoughts on implementation process:

7. As you understand the initiative, how will its implementation affect your organization's work practices?
8. As you understand the initiative and the work practices of other organizations involved in this initiative, how will its implementation affect the work practices of other organizations participating in this endeavor?
9. As you understand the initiative, how will its implementation affect your particular job function's work practices/processes?
10. What key concerns do you believe need to be addressed in order for the new system to work well for you?
11. What key concerns do you believe need to be addressed in order for the system to work well for other stakeholders involved in this initiative?
12. What level of involvement will you have in the implementation of the HIE?
13. How much confidence do you have for a smooth implementation of this initiative?

14. How would you describe, define and/or measure a successful implementation?

Questions designed to ascertain perspectives of the consequences of the HIE initiative:

15. What in your opinion will be the long term effect or consequence of a successful implementation for your organization, other stakeholders involved in the initiative and your job function? What about a failed initiative?
16. Describe in your own words what the end product will look like in an ideal or best case scenario for this initiative. From an overall perspective, from your functional areas perspective and how you'd imagine others would perceive the end product.
17. Reality is rarely ideal. Are there any departures from the ideal scenario that you expect to occur? Any that you'd be willing to live with? Any deal breakers or items that would cause you to recommend pulling the plug on the project?

APPENDIX B – SAMPLE TECHNICAL DEMONSTRATIONS

IS Demonstration	Examples (Interview Quotes)
<p>Level setting document / IT Centric Education</p>	<p>“It’s more level setting than anything. I want to make sure we are all using the same terminology and we understand what is meant by.... For example we talk about a physician portal. Well, depending on who I talk to physician portal means a certain thing to them...so my point as far as level setting is being able to find out what is the industry standard for that...</p> <p>That’s what this document is about. It’s not just physician portal, but HIE patient portal, e-health and quite a few other things that relate to this project. A large part of it is being able to make note to where the industry is heading...so what we have are HIE, a portal...or 2 portal initiatives that are kind of being built or going on their own...but doing research as far as the industry is concerned if you are going to do this they all need to be combined in this manner because this is how you get the best ROI, this gives you the best functionality overall...so that kind of notifies that we need to rethink how this is going because we are asking for one thing...and all the vendors are looking at us like why do you want to do that...it doesn’t make sense to do.” – Project Management</p> <p>“So part of our job and you know what [Project Management] is doing, what [Senior IS Leadership] and others are doing... is to educate these different folk so hopefully they all understand the value” – Sr. IS Leadership</p> <p>“Now [MY] method which might not be the best way is ... I try to let people get there. And some of it is just me asking questions. That’s what I call my stupid question. I’ll ask something and I’ll already pretty much know, but by asking this trail of questions people become educated. You can make them think a different way and so that’s how I operate a lot of times. I don’t walk... you got the kind of guys that walk in there and say this is what we are doing. In my style of doing it, I know what it is I want to do, but I want to kind of get a consensus if I can and hopefully they get there without me saying this is what we are going to do.” – Sr. IS Leadership</p>
<p>Emphasizing Superiority of Technical Considerations</p>	<p>“It’s sort of like building a car, I wouldn’t like to think that most manufacturers don’t worry about the fact that can I get a car in blue, more so, is the car going to perform the way I need it to perform, I can slap whatever paint I want on it in that effect, right?” – Project Management”</p> <p>“so that’s how we’re looking at I guess encouraging the use of the portal itself, is if you wrap it up, you wrap up the HIE portal and everything else, are you putting lipstick on it, or slapping on a dress, whatever whatnot,</p>

	<p>to make it look good, well people are going to use it and my approach of them using that, “is okay hey, I can get my lab results”. – Project Mgt</p> <p>“And that’s the argument. At this point, it is kind of breaking us out of old habits. Now, we’ll go from the standpoint that we know that from the patients’ side of things, we’re looking at MEDSEEK, so one of things I know that supposedly MEDSEEK can do and CareFX can do, okay, if we go with the MEDSEEK portal, we just say, “Okay, well CareFX, I want you to push specific HIE information to that MEDSEEK portal”, right? So, basically they’re just kind of wrapping it up and put a different dress on it, but I’m still getting that information. So, then the question is, assuming that the portal just looks or that we can dress it up however we want, well wouldn’t it make sense just to go with one unified solution in that space and that’s kind of my argument.” –Proj. Mgt.</p>
<p>Depoliticize the Process / Attempt to maintain frame separation</p>	<p>“Some of the things that I am currently on guard for ... I think one major thing is politics and different agendas. This goes back to my last point envisioning all the hospitals in the health system attaining the same standard of excellence. What I’m really watching out for is different agendas from different facilities and individuals” – Project Management</p> <p>“Going back to how HIE is envisioned to work...it should be able to function independent of the existing workflows and just kind of slide in to get the job done.” – Project Management</p> <p><i>“INT: When do you envision getting these end users involved? Will they be involved in the vendor selection?”</i></p> <p>Response: No. They’ll be involved in the development and design of it... because bringing them to the selection process... its too crazy just dealing with the stakeholders I have. It was hard enough to get them together. But if now we were to get an overall group of people say 30 or 40 people...it would never get done. I personally do not think that the end users really care about the technology as opposed to how do I use the technology...how does it work into my workflow. So if we went with Microsoft or if we went with Medicity... they do not care what’s on the back end. Its how does it look to me... is it going to make my job that much easier.” – Project Management</p> <p>“A user engagement plan will be developed after we’ve selected the vendor in the training phase. One of the ways that I’m hoping to encourage adoption is definitely breaking training down into phases and bringing good quality...by having little bits at a time because I think going that route we can get pretty high adoption. I’ll still say that they probably don’t care about the solution itself.” – Project Management</p>

	<p>“Connections are connections at the end of the day, they don’t need to be concerned with that... at the end of the day from a technical standpoint, I don’t need everybody in the backend, I don’t need my graphic designer team and my arts team or my marketing team concerned about how I actual build the guts of a computer or the guts of a cellphone. ...pipes are going to pipes at the end of the day. I’d like to get them to understand “you are not ever going to be part of that, you’re not trying to be a part of that. I’ll let you design the look of it. ...If you can guarantee me that you can do your part and just stick to your part, I will stick to mine and we’ll have a happy marriage.” – Project Management</p> <p>“I think that’s part of the reasons for getting them [Business Leadership] involved in the selection is that leadership saw the tool in action and part of their call has to be this a good interface or whatever and then it’s our job to make sure the connectivity and the data’s there for that usage, but I don’t think we really carry the accountability for whether or not it’s used 10% of the time, or 40% of the time or 70% of the time.” – Sr. IS Leadership</p>
<p>IT as stewards of Big Picture</p>	<p>“It’s doing a lot of social engineering...finding out what we need from the health system side, understanding what each hospital and individuals want... talking to the vendors and finding out what they can offer...figuring out what that wild factor is for each particular individual and then being able to present that to them so that they can see the side that is most important to them while I’m keeping the big picture in mind” – Project Management</p> <p>“There are days that I wonder if I have the right big picture, but I’d have to say that by virtue of where I’m standing and what I get to see and because of the fact that this is a health system project. I probably have one of the most accurate pictures of it because I’m not looking at it from my particular facility’s standpoint...I’m trying to get everyone up to a particular level” – Project Mgt.</p> <p>“IS at the health system has no money. We get it from the organizations, so you need consensus, you need buy in. And some part we’ve been able to do that, but there are some challenges with that. ... it does make it a challenge for me because I’m trying to work between all those different organization... to keep everybody happy... an impossible task by the way” – Sr. IS Leadership</p>
<p>Irrefutable Technical Logic / Common sense</p>	<p>“And now looking at portals ...from a totally logical and I consider myself a common sense kind of person. Carefx has a portal and MEDSEEK has a portal and LRC is one of the vendors that they have used for a lot of things for a long time. When I look at it purely logical... if I have the Carefx vendor why wouldn’t I want to have the Carefx vendor door to that foundation? If I go with MEDSEEK now that’s a</p>

	<p>different vendor. So when I go... I don't see your potassium the way I want to see it... I know what's going to happen its going to be like the old interface. MEDSEEK is going to say it's the HIE. Carefx is going to say portal coding, the integration layer...it's going to be one of those. If MEDSEEK gives you everything you want and it's great.. but I know right now it's more expensive and does it make sense?" – Senior IS Leadership</p> <p>"So, this is basically what I've got, from my understanding of the other side as a lot of this has to do with relationships, hey we've built with these guys for X number of years, we know them, I think we asked okay well from a technical standpoint, I'm just trying to figure out, help me understand why we're looking at these guys vs. these guys for our patient portal solution. I don't know if I sent you the educational information that I sent all of them and all that, and so the response back that I got was not from the technical standpoint, it was just more of hey we're used to dealing with these guys, we can give then a call, we can do whatever, so it's just relationship, that's it. From an implementation or a technology standpoint, there is really nothing there and that's fine" – Project Management</p>
<p>Technical view fact based/ Impartial</p>	<p>"I am not actively trying to persuade anyone one way or another, I'm just trying to be sure that whatever solution we come up with will work. Going back to the facts with my leadership going, "Hey we want to go with the MEDSEEK portal", my only thing is if we go with the MEDSEEK portal, it's going to cost us an X amount of dollars to set it up, it's going to cost an X amount of dollars to integrate it and this is what it's going to cost to maintain it, whereas if we did everything with CareFX or whatever, so at that point, I put the facts in front of them and then they make a decision" –Project Management.</p> <p>"And we have to go before the steering committee to justify the need for funds... the pros and cons of doing it the way we feel it is best for the customer... but ultimately it's the customer's decision as to whether or not they'll go with our particular recommendations. If they already have a relationship with someone and they are dead set on that's who we do business with and we're not changing... that's their choice." – Project Management</p>
<p>Technical Principles as immutable / Timeless</p>	<p>"At the end of the day, if you look at the technologies for HIE and just look at my IT and just technology in general, I would use the same procedures to build an HIE as I would to build a space shuttle. I always hear that a lot, not from you, but actually other guys from the project say, "You know, well every project is unique", well that's funny, every Camry that Toyota builds is unique, but they have a defined and repeatable process that they will repeat each and every time they get that Camry or that Honda or whatever off the line. So, at the end of the day, there is</p>

	<p>still a process, there may be some little tweaks, but there's nothing that different under the sun to where you can't say, I've implemented an HIE, how's that any different from implementing a full blown Cerner EHR solution. The task may be slightly different as far as the actual component of it, but the phases, the workflow, all the things that need to happen, all the same"- Project Mgt.</p>
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APPENDIX C – SAMPLE POLITICAL DEMONSTRATIONS

Bus. Demonstration Response	Examples (Interview Quotes)
<p>Different Industry Standard/ Separate Business Centric Education</p>	<p>“MEDSEEK provides, has been marketing’s counsel on best practices, about how the information is served up to the consumer whether it’s the physician or the patient” – Business Leadership</p> <p>“Yes, we did, we did a project to called an EMAP with [MEDSEEK] and it was separate from their, totally separate from their sales end, though in the file analysis, it all becomes I guess a shade of one organization, but it was a separate consulting engagement with them to come in and to do a 360 evaluation of where we are as an organization and what we say our goals are, our leadership thinking here, IS leadership thinking, what do we have in place and then what would be sort of as we all move towards meaningful use and as we all move towards portal experiences on all fronts, what's the order that you deploy in, like what do you have to invest in first in order to be able to then successfully do it, I mean the investments are not small, so the dollars get your attention then and say, what's the order and how fast do we want to get there and the recommendations we got back were, you guys are all talking about the right things, you're all talking about the same things, so in terms of a vision, I think we were validated in that we were thinking about it correctly, what they pointed out was also what we know is that we probably don't have as good as a communication flow which we, the business owners being the medical centers, the physician groups, all of those folks and IS and in fact the consultant said, if you guys would just talk to each other more you wouldn't have needed to hire me.” – Business Leadership</p>
<p>Emphasizing Superiority of Business Considerations</p>	<p>“I think that if there was a learning that I would want to share it with IS colleagues is that I think having the name of information services masks the essence, because then you think of things, you think of zero’s and one’s and they flow through a wire. You’re talking about the exchange of information, but what that information is, is about people, there is a person at the end of that data record and so there’s a person at the end of it. Who cares about that person? The people who provide their care, the people who try to bring that person into an organization as a business strategy and so I think it’s taking off the goggles and saying, “Well my job is about information, but in the end it’s about people” – Business Leadership</p> <p>“When IT says we’re going to do a strategy, it becomes fundamentally difficult and almost counterintuitive for IT, a service organization, to do strategy development. Usually strategy development comes from the stakeholders and the end users and then you turn to the service people and</p>

	<p>say, “gee whiz can you provide these services?” But because so few people understand the complexity of IT, it’s hard for these folks to strategize about an IT issue and so you get this conflict. So, when the SHSIS says, “we’re going to put a strategy together”, that’s difficult, it’s kind of like saying, we’re going to have legal do a strategy for the overall organization. Legal provides resources to the people who are the true strategy people. HR provides resources, their services to a bigger, the strategic people are the business enterprise and that’s where the struggle is. You have IS trying to come up with a strategy of how do we build an IT infrastructure, but you can’t impose an IT strategy on the business users” – Clinical Leadership</p> <p>“From a system standpoint, as in health system and strategy I mean I clearly believe that you have to have, I mean IS really just a tool and that tool helps us connect our physicians”- Business Leadership</p>
<p>Emphasizing Importance of Frame Linkage / Highlighting Relationships or politics</p>	<p>“I now refer myself over there and I’ve tried to work and build bridges but I’ve referred myself to them as the portal stalker and to try to say, here’s where we’re trying to go, but I did the engagement, I did the EMAP engagement, went to them two years ago and said, we’d like to do an EMAP engagement, we think there are benefits to do it as an enterprise, and we were told, no thank you. We know all this stuff already, we don’t need an EMAP, but if people only know it in silos, you’re never going to get there” – Business Leadership</p> <p>“I think from my limited perspective, and my personal opinion is that I think a lot of people go into the IS field because they are not social people. They’re not socially wired, let’s put it that way. They’re friendly, they have relationships, but they’re not socially wired, they’re not wired to think across the spectrum of the universe of the people that they touch and their business partners and so forth, whereas marketing is very, we’re a very social kind of people, but we’re not data driven so we can’t do what, today, we can’t do what we need to do without IS. I think IS also cannot do a good job without what we bring to the table... we are not going to be doing a good job with what we have to do without better synergy.” – Business Leadership</p> <p>“The little piece, the HIE is important to [us] in that we have to have that because it’s the pipes that populate what I am charged with deploying. I can’t deploy the patient portal that I think is truly robust, that is truly adding value to the experience, cultivating a deeper relationship with the patient, if I don’t have a good HIE.. . I think CareFX is a fine HIE solution, where I’m not totally sure I understand is what CareFX is selling as its patient portal solution.” – Business Leadership</p>

	<p>“Really this is uncharted territory for a lot of people and a lot of different groups in the organization. It’s unchartered in that we’re no longer making decisions in a vacuum, that what we do and what we decide upon has huge impacts on our business strategies and IS business strategies and local organizations business strategies and so there’s a lot of uncharted territory here.” – Business Leadership</p>
<p>Business as stewards of Big Picture</p>	<p>“So, let’s go back to the strategy question, the strategy question is do the business leaders do the strategy and then the IT supports it or does the IT do the strategy and then brings it to the business people? My point is, the only way you can reconcile that is they have to be in the room together and they do the strategy together. So, it’s a human relationships process only and they have to all be at the same table, but the business people have to drive the strategy, you just turn to the IT people and say “can it be done” and if they say, “no it can’t be done that way”, then you say, “okay, how might we change it, tweak it”? So, they become the resource in the strategic discussions, but they have to be at the table in the strategic discussions so that we can stop going down a rabbit hole that can’t be resolved and that’s the only way I know it can work” – Clinical Leadership</p> <p>“If you ask my opinion of does IS today have an e-health strategy? No. And I think they've been incredibly task oriented, I think they've spent three years really doing a lot of foundational work, base level, we couldn't even begin to talk about e-health if we hadn't have done some of the things that we've done now. They've done a great job of setting us up, but in terms of has somebody stepped back and said what really puts our vision, long-term view, strategically what do we need to be doing in our market places” – Business Leadership</p> <p>“IT is great in its structure around projects, it's a very project oriented structure, and it’s not a strategic thinking structure. I find there’s nobody over there that really, if I'm going to talk to who’s the guy that's looking out ahead, who’s the smartest guy in the room about where years IT technology going, what are the best practices in the industry, where are things headed, there’s nobody that I find that’s having that conversation.” – Business Leadership</p>
<p>Separate Business Facts</p>	<p>“CareFX pulls themselves out, I mean in those meetings at least they were holding themselves out as a one-stop shop total solution and I’m not convinced that they are, and they haven't said anything to me that leads</p>

	<p>me to believe they are” – Business Leadership</p> <p>“I mean the CareFX people, they went back to talking about the clinical HIE and I want to say, dudes, I’ll give you that, I got that and trust the you’re absolutely capable and you can do that, what I want to understand then, what’s that layer, it’s either the pipes, what’s the layer that you claim you can deliver that sits on top of that and then how in my daily charge of care and feeding of that, how then do I administer that?” – Business Leadership</p> <p>“I also think their interpretation of it is very, it fits for them, it’s very narrow as opposed to me, if I’m saying, I want a patient portal that I can continually build and I’m going to plug in my bill pay and I’m going to plug in future whatever or I’m going to do a deal with [Hospital X] in the future, how do I plug them in and how do I plug in what’s going on in those physician offices or.” – Business Leadership</p> <p>“I think it’s that one side does not necessarily fit all, so I think what we have to do is discover, let’s take a look at the different needs of the organization and find out how best we can fulfill those, and certainly some companies might say that they are end to end solution, but if the company; a) does not meet certain constituents’ needs and requirements, then the whole equation gets out of whack. So, I think marketing has this very well, we have these strategies in place and we’ve identified some solutions or tactics of those strategies, how do they tap into what other people are doing, how they play well together in other words” – Business Leadership</p>
<p>Business as Variable and Unpredictable Human Process</p>	<p>“Really this is uncharted territory for a lot of people and a lot of different groups in the organization. Its unchartered in that we’re no longer making decisions in a vacuum, that what we do and what we decide upon has huge impacts on our business strategies and IS business strategies and local organizations business strategies and so there’s a lot of uncharted territory here. Will the conversations always happen when they’re supposed to and be in the right tone and the right spirit? No, because we were just getting started on this path. Did Christopher Columbus have a map to the New World? No. Did he make some wrong turns? Yes, absolutely, he did. So, it’s not a tried and true, it’s not a proven process and so there’s going to be room for missteps, but there’s going to be room I think and we’re seeing it now, room for a lot of, you know, the light comes on and Ahh, we can work together on this and this is how we do it.”</p>

APPENDIX D – IRB APPROVAL FORM

Application for Exemption from Institutional Oversight



ness qualified as meeting the specific criteria for exemption from Institutional Review Board (IRB) oversight, ALL LSU research/rojects using living humans as subjects, or samples, or data obtained from humans, directly or indirectly, with or without their onsent, must be approved or exempted in advance by the LSU IRB. This Form helps the PI determine if a project may be exempted, nd is used to request an exemption.

Institutional Review Board
Dr. Robert Mathews, Chair
131 David Boyd Hall
Baton Rouge, LA 70803
P: 225.578.8692
F: 225.578.6792
irb@lsu.edu
lsu.edu/irb

Applicant, Please fill out the application in its entirety and include the completed application as well as parts A-E, listed elow, when submitting to the IRB. Once the application is completed, please submit two copies of the completed pplication to the IRB Office or to a member of the Human Subjects Screening Committee. Members of this committee can e found at <http://www.lsu.edu/screeningmembers.shtml>

A Complete Application includes All of the Following:

- (A) Two copies of this completed form and two copies of part B thru E.
- (B) A brief project description (adequate to evaluate risks to subjects and to explain your responses to Parts 1&2)
- (C) Copies of all instruments to be used.
*If this proposal is part of a grant proposal, include a copy of the proposal and all recruitment material.
- (D) The consent form that you will use in the study (see part 3 for more information.)
- (E) Certificate of Completion of Human Subjects Protection Training for all personnel involved in the project, including students who are involved with testing or handling data, unless already on file with the IRB. Training link: (<http://phrp.nihtaining.com/users/login.php>.)
- (F) IRB Security of Data Agreement: (<http://www.lsu.edu/irb/IRB%20Security%20of%20Data.pdf>)

Principal Investigator: Rank:
 Dept: Ph: E-mail:

Co Investigator(s): please include department, rank, phone and e-mail for each

IRB# LSU 78 LSU Proposal # _____
 Complete Application
 Human Subjects Training

Project Title:

Study Exempted By:
Dr. Robert C. Mathews, Chairman
Institutional Review Board
Louisiana State University
203 B-1 David Boyd Hall
225-578-8692 | www.lsu.edu/irb
Exemption Expires: 11-1-2013

Proposal? (yes or no) NO If Yes, LSU Proposal Number

- Also, if YES, either
 This application completely matches the scope of work in the grant
 OR
 More IRB Applications will be filed later

Subject pool (e.g. Psychology students) _____

*Circle any "vulnerable populations" to be used: (children <18; the mentally impaired, pregnant women, the aged, other). Projects with incarcerated persons cannot be exempted.

PI Signature Date (no per signatures)

* I certify my responses are accurate and complete. If the project scope or design is later changes, I will resubmit for review. I will obtain written approval from the Authorized Representative of all non-LSU institutions in which the study is conducted. I also understand that it is my responsibility to maintain copies of all consent forms at LSU for three years after completion of the study. If I leave LSU before that time the consent forms should be preserved in the Departmental Office.

Screening Committee Action: Exempted Not Exempted _____ Category/Paragraph 2
 Reviewer Mathews Signature [Signature] Date 11/2/10

VITA

David Murungi is a doctoral candidate in the Department of Information Systems and Decision Sciences at the E. J. Ourso College of Business, Louisiana State University in Baton Rouge. His research interests are focused on the social aspects of information technology (IT) adoption with an emphasis on the role of discourse and argumentation. He also has a special interest in IT adoption within the healthcare domain. He has served as adjunct instructor at Our Lady of the Lake College in Baton Rouge since August, 2007 where he has taught undergraduate courses in healthcare information systems, healthcare systems and trends, healthcare management and governance, managerial epidemiology, and health care reimbursements. His academic research has been accepted for publication at the Information and Organization journal and presented in the Americas Conference on Information Systems. He holds a Masters in Public Administration from Louisiana State University and a Bachelor of Arts in Political Science from Williams College.