Abstract:

HIERARCHIES AND COMMUNICATION:
ANALYZING NEGOTIATED POWER RELATIONSHIPS
WITHIN A SMALL SOFTWARE ORGANIZATION

by

Robert D. Buchko

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Dissertation Committee Chair: Dr. Michelle Eble

Department: English

This dissertation examines chatroom data gathered over the course of approximately five months at a small software organization to determine whether the power hierarchy in such organizations diverges from the org chart bestowed by the organization and, if so, what role communication plays in the formation of the negotiated power hierarchy that emerges instead. The analysis of the data was conducted using three frameworks: Brown and Levinson's Politeness Theory, French and Raven's Bases of Power, and a framework of my own design, Domain / Authority Acknowledgement, which was developed to operationalize the "followership" aspect of power as defined by Holland and Offerman. This dissertation argues that the org chart in such organizations is often a facade, and that analysis using the frameworks listed above allows researchers to identify the true power relationships that exist among the organizations' members.

HIERARCHIES AND COMMUNICATION: ANALYZING NEGOTIATED POWER RELATIONSHIPS WITHIN A SMALL SOFTWARE ORGANIZATION

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APPROVED BY:

Director of Dissertation: _____

Dr. Michelle Eble

Committee Member: _____

Dr. Michael Albers

Committee Member: _____

Dr. Shanan Gibson

Committee Member: _____

Dr. Donna Kain

Chair of the English Department: _____

Dr. Jeffrey Johnson

Dean of the Graduate School: _____

Dr. Paul Gemperline

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Chapter 1: Introduction

Overview

In this dissertation, I have undertaken the task of operationalizing and supplementing politeness theory to form a useful and flexible tool for future researchers to examine the negotiated power relationships and communication practices among employees at small companies, particularly small software companies. With relatively flat inherent power hierarchies, I propose that these companies rely heavily on interaction between members of the organization to build and maintain the power relationships that are usually provided by the organization through structures such as org charts.

To conduct this research, I performed a case study of a small software company of approximately 13 employees (the exact number of employees fluctuated during the study), gathering several months' worth of chatroom dialogue among participants with a variety of bestowed power, which is the power provided to the employees by the org chart; what French and Raven (1959) labeled "legitimate power." I then coded and analyzed this data using several different approaches to determine whether there was indeed a distinct separation between bestowed and negotiated power among participants, and to determine the effectiveness of the coding and analysis methods used for examining the data.

What I discovered was that politeness theory, while an extraordinarily useful tool to demonstrate the split between bestowed and negotiated power, was not sufficient in itself to examine power relationships. To bridge this gap, I initially turned to the work of French and Raven (1959), in which they define the types of power imposed by participants upon targets, which they label bases of power (and which I refer to as "Power Types"). I felt that explicit examination of the power being wielded, in conjunction with insight into the politeness strategies being used, would

provide a robust perspective on the negotiated relationships illustrated by my data. What I then determined was that, while the two theoretical frameworks did indeed provide insight into the *Participant's* intent and belief about the relationship, it did little to provide insight into the *Target's* understanding of that relationship.

In response to this perceived need, I created another set of codes and a different approach to looking at the data, which I have labeled "Domain / Authority Acknowledgement," or D/AA. This analytical framework relies heavily on the concept of "followership" as described by Hollander and Offermann (1990), though it expands upon and attempts to operationalize this earlier work. One of the main forms of power, according to Hollander and Offermann, is "power from," which is power provided to the leader by the follower (p. 179). In other words, without the active cooperation of the follower, leaders have no power; of course, such cooperation can be obtained by a variety of means, including coercion. While, at a glance, this additional form of power appears to nicely complement the other types of power defined by French and Raven, it is in fact a superset of those power types; they could not exist without the consent of the followers, from whom the leader gains power. Consequently, the framework provided by French and Raven is insufficient to describe this phenomena of followership on its own, and D/AA's application becomes necessary.

In D/AA, I propose that true followership only occurs when two factors are present: the acknowledgement by the follower of the importance of the domain, either ubiquitously or specific to the present dialogue, and the acknowledgement of the leader's mastery or expertise in that domain: their authority. If either of the two essential components is missing, true followership is absent and the supposed leader is in fact not in a position of power over the supposed follower.

By using these three frameworks to code and analyze the data obtained during this study, I was able to define the negotiated power relationships among participants, demonstrating that

Politeness Theory coupled with Power Types and Domain/Authority Acknowledgement can be used as an effective set of tools to examine power relationships in small software businesses.

Development of Research Topic

According to Brown and Levinson (1987), politeness takes two forms: negative and positive. Negative politeness encompasses strategies used to make requests less of an infringement on freedom of action. Positive politeness includes those strategies that help establish common needs and wants; the acknowledgement that the participant values the same things as those whom he or she addresses. Together, these strategies are used to help preserve (or reduce, in the case of impoliteness) what Goffman (1967) termed "face," which can be roughly defined as the prestige, honor, and self-worth of each member within a group. Politeness is intrinsically tied to power in that its use can both be an indicator of a previously-existing power relationship and, simultaneously, serve to shape that power relationship. The framework developed to help researchers examine the politeness strategies used, or ignored (as occurs in impoliteness), in interactions is called politeness theory.

I became interested in politeness theory due to the role that politeness plays in almost every facet of society. Politeness helps people work together to make and meet demands of one another. Politeness helps people recover after social mores are breached. It allows managers to criticize employees without hurting feelings and instigating contentious relationships. Politeness, or its lack, can start and end wars. It is the glue that holds marriages together or the corrosive element that causes them to fall apart. It makes or breaks business deals. It smoothes international trade and strengthens the economy. It helps the unemployed interview effectively and get job offers. It encourages people to make donations to help the needy of our world. In short, politeness is an incredibly powerful influence on almost every part of our society.

I began this dissertation with the belief that politeness can serve yet another use. Its study can help us understand how power relationships are created and maintained within small businesses, particularly development teams within small software companies (a somewhat less lofty application for politeness than many of the others mentioned previously, I admit, but one which I believe can help researchers understand these relationships better and consequently effect positive change for such organizations). I first became interested in politeness work during a course on discourse analysis, taught by Dr. Donna Kain (who, not coincidentally, is also a member of my dissertation committee). I had taken classes with Dr. Kain before and, when I first entered the classroom at the beginning of the semester, she treated me like an old friend and made me feel extremely welcome. It immediately made me comfortable and allowed me to focus on my work. It was not until we reached the portion of the class on politeness that I thought back to the impact that this small act had on my entire semester in that class.

Should Dr. Kain's welcome be considered politeness? In a manner, yes. Intentionally or not, Dr. Kain had "softened" the inherent threat of the demands she was to make of me that semester by establishing a camaraderie between us, via that simple act alone. In essence, the class itself (and classes in general) was a face-threatening action (FTA), as it affected what Brown and Levinson (1987) called "negative face" by impinging upon the student's desire to have freedom of action. Also, the act of grading student materials can impact "positive face," which is the student's desire to have others acknowledge their needs and wants as being important, in this case, their opinions and approaches to the assignments. Dr. Kain mitigated these implicit and impending face-threatening actions by providing preemptive redress, making the forthcoming FTA's more palatable to the student in question (me), and by helping that student enter into the cooperative community of the class, the members of which collectively worked to maintain each other's (and thus the entire group's) face throughout the semester.

It was an excerpt from Brown and Levinson that first made me realize the applicability of politeness theory to my own life and its potential as an operationalized tool of analysis for researchers who have a need to examine negotiated power relationships. In this excerpt, Brown and Levinson proposed a formula for calculating the weightiness of a face-threatening action: Wx = D(S, H) + P(H, S) + Rx, where D(S, H) represents the social distance between Participants, P(H, S) represents the relative power of the hearer over the speaker, and Rx represents the culturally and situationally specified ranking of the imposition entailed by FTAx (Brown and Levinson 1987, p. 61). I was intrigued by the formula because it seemed such a logical, quantitative approach to study something that appeared to be so inherently qualitative.

What I found on further reflection and research was that the formula requires a number of qualitative assumptions, many of which rely on in-depth contextual knowledge of the Participants and situation within which the interaction is situated. As a result, I decided against using this formula in my own research. However, the seed had been sown, and I began pondering other ways that I might operationalize politeness theory to study interactions. This line of inquiry would lie at the heart of much of my work for the remainder of my Ph.D. studies.

Meanwhile, I was becoming enmeshed in, for want of a better term, drama at my full-time job at a small software company. What I was finding was that, while I had steadily moved up the corporate ladder, inasmuch as was possible at such a small company, for the year or so that I had worked there, my authority was not recognized by certain other employees in the organization. As my prior experience was almost exclusively in a large corporate environment, where a certain code of conduct was not only enforced but simply expected, I was shocked at some of the disrespect being shown not only to me but also to higher-level managers and executives, clear up to the CEO and Founder of the company.

I realized that, unlike in the larger corporations where I had worked, where lack of interaction among employees at different levels of the hierarchy led to a fairly segregated and rigid organizationally-bestowed power structure, the employees at this smaller company tended to define their power relationships according to their own interactions, and that these relationships could, and did, shift on a regular basis. Also, I began to see instances where the specialized knowledge of certain employees, mainly in the software development team, led to an imbalance of power that allowed them to engage in what appeared to me to be highly offensive activities and speech acts with impunity. Within the data captured during my research, I found examples of this previously-perceived imbalance, as in the following example. In it, a senior developer, Owen, berates or "calls out" the quality assurance manager, Bill, for overlooking a bug ticket. The end result is a threat to both Bill's positive and negative face: positive because it impugns Bill's ability to do his job and negative because it makes a demand on Bill's time.

Table 1
Example Data Showing Face Threatening Actions

Row	**Participant**	**Target**	**Utterance**
1798	Owen H.	Bill B.	yes I know it should be on the list, what I'm asking is why it's not on yours.... i.e., if you missed it because it was in restart state, look again, ... whatever reason you missed it, look for ones like it, so you're not missing others. <end asshole>

I speculated that this imbalance of power was due to an organizational reliance on software development skills and to what Alan Cooper (1999) described as a "mental jock" mindset (pp. 101-104). This power may be in part due to the fact that technology specialists, unlike those who specialize in the so-called "soft skills" such as communication or design, engage in pursuits that appear baffling to other employees, and who are therefore viewed almost in awe, as irreplaceable

cogs in the company machine. As Arthur C. Clarke (1962) famously stated (and as one software development employee at the company frequently quoted in response to what he deemed elementary questions from non-software development employees), "Any sufficiently advanced technology is indistinguishable from magic" (p. 36).

These two circumstances (my research interests and my work situation) coincided, making it clear to me that there was an excellent test bed for my politeness theory analysis pursuits in the small software company where I worked. After conducting some preliminary background research, I learned that in-depth understanding of the context surrounding the data would be highly beneficial to any such study. I also learned that participant-observers, which I would be, tended to be the best-positioned researchers for obtaining such deep contextual understanding. As a result, I chose to pursue my study in my workplace and, over the course of nearly eight months, I gathered archived logs from a software development and quality assurance chatroom and audio recordings and field notes from various live management and executive team meetings. As I began coding my data, I realized the scope of the project was well beyond what I could reasonably achieve within my time constraints and decided to abandon my audio recordings to focus on my chatroom data. This dissertation presents the background research and the results of my analysis of the chatroom data gathered during an approximately four month period between February and May 2010.

Before I delve into the research and data, however, the rest of this chapter provides a thorough background on the company, its employees, and its major processes. I will recap the most relevant pieces of this background information where it is most needed for contextual understanding of data and analysis later in the dissertation.

Company Background

In this section, I provide a detailed description of the company that served as the basis for the case study. The purpose of this description is to provide the information needed to not only understand the interpretations I have imposed upon the data but also to formulate alternative interpretations. Like any qualitative analysis, I have found it necessary to make several assumptions when analyzing the data: assumptions about the intentions of the participants, the relationships among participants, the ultimate outcome of the interactions, the impact of external factors (such as corporate culture, society, and others) upon the interaction and the interactions impact upon all of the contributing objects, including the participants and their relationships, the departments involved, the company and its culture, the business sector in which the company operates and, when applicable, the society within which the business sector resides.

I also describe my own background and biases, insomuch as I am able to see them, in order to provide as much information as possible to aid future researchers in developing the appropriate "terministic screen" (Burke 1966) through which to view the data and analysis. Developing a deep understanding will be essential to better understand the personal constraints and ideologies that guided my thinking as I selected certain pieces of data to review (omission is one of the most prominent and influential components of a terministic screen, according to Burke) and the lens through which I was viewing the data as I analyzed it. In addition, as a participant observer, I was exceptionally involved and invested in the interactions as they took place, making it necessary for me to explore ways to distance myself from the data collected before analyzing. These analytical strategies I will discuss in more detail in the analysis chapter; for the background information, I will limit my focus to the beliefs/ideologies and biases that I believe influenced me during the collection and analysis of the data.

Part of what I attempt to present is what Geertz (1973) termed a “thick description” of the setting in which the data was gathered (Geertz notes that he borrowed the term from Gilbert Ryle, but for the purposes of this study, it is Geertz’s notion of thick description with which I am concerned). This concept is an ethnographical one that describes the need for extraordinarily elaboration of the context in which data are gathered in order to provide as accurate an analysis of the data as possible. I will discuss the need for thick description in more depth within the analytical framework chapter.

Leena Louhiala-Salminen (2002) offers a very good example of providing a thick description of a company, if a somewhat short one (understandably so, since her vehicle was a journal article whereas mine is a much longer document). Louhiala-Salminen's description covers a wide variety of background information about the company including the following:

- Name
- Scope of company reach
- Headquarter location
- Number of employees
- Location of company unit being researched
- Number of employees in the particular branch being studied
- Core business
- Typical customers

- High-level description of the structure of the organization
- Brief examination of how business units operate in relation to one another and what impact this relationship has on employees within the business unit in question
- Figure to illustrate the business unit hierarchy
- Location of study participants in the overarching company hierarchy
- Additional information about the cultures that impact the business
- Language used
- Descriptions of the physical spaces occupied by employees involved in the interactions being studied
- Overview of the equipment used for computer-mediated communication
- Descriptions of external locations that are often the scenes for interactions among study participants

Although many items were not applicable to my research, I did use several elements from Louhiala-Salminen's list to help me provide a thorough description of the company, employees, and processes in the following sections.

Overview of Company

As I mentioned earlier, for nearly four years, I worked in a small software organization. For the purposes of anonymity, I will hereafter refer to this company as "XYZ Inc." XYZ was founded in 2006 with the vision of helping individuals discover their career goals and pursue them, starting with skills acquisition and continuing through finding a great job. The Founder and CEO originally had envisioned that the company would provide other companies with internal software to help

develop talent internally through these phases, but eventually the Founder and CEO realized that a more general approach was needed. After a brief stint providing career management consultation services, the XYZ Inc company now maintains the same goal but offers the software features through a self-service website.

This evolution had a few effects on the organization. In addition to impacting company culture, which I will cover in a later section, it served to help the company maintain a "startup" atmosphere as the company did not truly have time to grow into any role as of the time that the data was gathered for this study, though it has made strides in that direction since the end of the study. This startup atmosphere not only impacted the size of the company, but also permeated all aspects of the work environment, from the culture to the amount of pressure its employees were typically under.

Location and Scope

The company is located in North Carolina near the Raleigh-Durham-Chapel Hill (the Triangle) area. This location serves to dictate some of the pace of the organization, as companies in this area typically are in computer, pharmaceutical or other technology-related industries. The competition among these companies often leads to a very high-pressure, fast-pace work environment. In addition, the location allows access to a large, diverse talent set, so the company has some extremely smart and proud individuals working for it, which of course also impacts interactions among them.

Though the company has not (yet) reached an international audience or dealt with international partners or customers, it does work with partners and customers across the United States. It is very much a national company that might see employees traveling to a variety of locations and often engaging in cross-state teleconferencing and training sessions.

Possibly as a result of this fast-paced environment and broad reach of company products (with tens of thousands of end-users) and the accompanying demands and pressures, I observed that interactions among employees are often very direct and abrupt in ways that might not occur in another location or in companies with a smaller scope of reach. Many of the niceties and preambles that I would expect to accompany interactions in other organizations are lacking in this one, though that is merely a personal observation, as I have not yet gathered data on other companies at this time.

Company Size

While the data was being gathered, the company was a relatively small software company with 13-15 employees (it varied during the course of the research). It had extraordinarily high turnover at approximately 225% over the 2 years prior to the completion of the research. This high turnover rate could be due to a number of reasons, including the high stress inherent in smaller companies where each person must "wear several hats" and often work a substantial amount of overtime on short notice. It also may be due to personality conflicts, as evidenced in the data discussed in subsequent chapters. In smaller companies, personality conflicts are more impactful as employees are often forced to work in close proximity and there is little chance to be transferred to a different location within the same company, where the conflicts can be avoided.

This small size and the inherent stress it places on individuals and relationships among employees may play a large role in shaping the interactions that take place on a daily basis, which help form the power relationships among employees.

Typical Customers

XYZ Inc reaches several different sets of customers: job seekers, for whom the services are free; employers, who can access basic services free but must purchase enhanced features to connect

with job seekers; and contract clients, for whom custom versions of the toolset are made available and who receive priority support.

This multi-layered customer set often results in conflicting priorities among employees of XYZ Inc, causing tension and conflict during interactions as each works to have a greater portion of the company's limited resources allocated towards meeting goals for his or her particular customer set.

Company Hierarchy

The hierarchy of power within XYZ is very flat; for example, the CEO works directly with every employee. Thus, unlike larger, more hierarchically-structured companies, much of the power exercised by individuals within XYZ is not inherent to a position within the company. Instead, this power is negotiated through interaction with other employees or relative to their extra-organizational position within the larger framework of society.

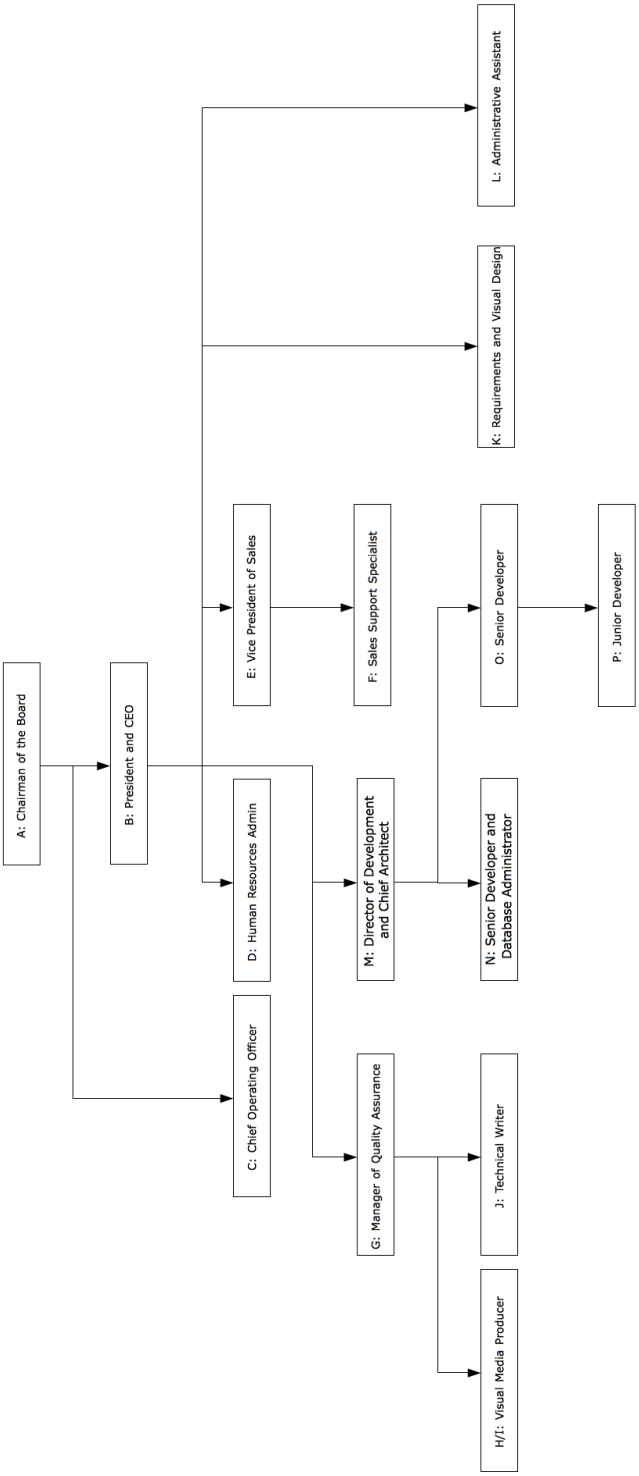
Of course, even in larger companies, individuals negotiate power relationships among themselves. In smaller companies such as the one I am studying, though, these negotiations play a disproportionately large role compared to the power granted by the company itself: the “org chart” that so many companies rely on to determine who holds power over whom has little impact, though one does exist. This lack of a rigid power hierarchy has, I believe, caused an erosion of the importance of inherent status, which is the “intra-organizational” status bestowed by the company, as opposed to relative (extra-organizational) status and contextual (interactional) status.

The hierarchy of the company, on paper, was extraordinarily complex for such a small organization. It was divided into 4 departments: administration, sales, quality assurance and development. Furthermore, quality assurance enveloped several activities that would not

traditionally fall under such a department, namely customer support, video production, usability testing, and user documentation.

The following chart shows the hierarchy of the company at the commencement of the research, according to the structure put in place by the leadership team.

Figure 1
XYZ Inc Organizational Chart as of Time of Study



Company Culture

Clifford Geertz (1973) references the work of Max Weber to define culture as the "webs" in the idea that "man is an animal suspended in webs of significance he himself has spun" (p. 4). In a more functional example, Carol Axtell Ray, in her 1986 article "Corporate Culture: The Last Frontier of Control," draws upon the sociological work of Emile Durkheim to create a definition of corporate culture:

> In organizations, culture may be defined as an amalgam of beliefs, ideologies, language, ritual and myth (Pettigrew, 1979). Put more succinctly, 'It's the way we do things around here' (Deal and Kennedy, 1982). This does not, however, mean formal ways of doing things. Indeed, the crucial feature which distinguishes the use of culture from other forms of management is that culture is conveyed to its participants through the expression of sentiments, beliefs, and attitudes (Pfeffer, 1981). Thus it appeals to the emotional, non-rational, affective elements within employees. Corporate culture, then, is different from the usual methods of operation within U.S. firms, those of quantitative analysis, planning, formal rules and sanctions, the numerative rationalist approach which dominates business schools (Deal and Kennedy, 1982) (pp. 288-289).

This definition is the one I will use to ground my description of the corporate culture in which the data for this study was gathered. Within it, I believe, lies the key to understanding the impact corporate culture has on everyday communication. If one of the key components of a "Model Person" (as Brown and Levinson (1987) term it) is that the person is a rational being when interacting with others, then how does corporate culture fit in?

According to Ray (1986), corporate culture appeals to the "non-rational" elements within an employee. By appealing to such elements, corporate culture can account for deviatons from rational actions taken by employees, providing a valuable explanatry aide to researchers.

To help understand what impact corporate culture has on the data collected for this study, I believe we can again draw upon the definition provided by Ray. Specifically, I would like to consider corporate culture from several perspectives as described above:

- **Sentiments**: The predispositions inherent in interactions within the workplace. Sentiments are similar to attitudes except that they impact the interactions on a more microscopic level rather than macroscopic and are more malleable on an utterance-by-utterance basis.
- **Beliefs**: The ideological assumptions shared by employees within the corporation, with relation to the business at hand. Beliefs are the foundation and shared perspectives of the employees within the corporation. As they are often imposed by the corporation, Ray argues that they can be used as a form of corporate control (with all the ethical implications therein); however, this discussion is outside of the scope of the study at hand.
- **Attitudes**: The positioning of each individual to others and to the corporation itself. This sub-definition deals with such questions as how individuals see themselves, how they see others, how they see the corporation, and how they believe they appear within the corporation. It is a significant factor in identity formation and maintenance within the workplace.

By considering these three factors in the definition of corporate culture, we can have a robust understanding of the ways in which the organizational environment helps contribute to the underlying decisions that occur for our participants as they engage in interactions within the

workplace. In short, this definition provides a significant contribution to our "thick description" (Geertz 1973) of the corporate environment in which the study takes place.

Sentiments

It is difficult to provide a blanket definition of sentiments because, as is noted above, they can really only be defined on an utterance-by-utterance basis. As I explain in my Analytical Framework chapter, I have chosen the utterance as my base unit of analysis in this study, and I attempt to define the sentiments of the individual Participants in my Analysis chapter.

Beliefs

The beliefs of the organization were that the software being created would have a huge impact on society. The CEO and Founder was an ideologue who strongly believed his vision would bridge the skills gap between education and workplace needs. However, while the employees were initially very enthusiastic about this goal and thoroughly embraced it, leading to self-flagellations such as voluntary 80 hour work weeks, by the time of the study, they were mostly disillusioned. The keys to this disillusionment were the executive team's lack of ability to monetize the idea, leading to an almost sole reliance on an "angel investor" to fund the company, and the lack of management ability by the executive team, leading to poorly planned "gear churning" sprints of activity that rarely led to effective results. In short, the employees were disgruntled and tired of being told that the company, despite being on the brink of failure, was also right on the verge of making millions of dollars, leading to pay raises for everyone (such rhetoric was a weekly occurrence).

Attitudes

One of the goals of this study is to define the attitudes of the Participants toward themselves and others via my analytical frameworks: politeness theory, power types, and DA/A. In the Analysis chapter, these attitudes can be clearly seen in the face-threatening actions taken by the Participants

towards not only other employees but also towards themselves; self-directed FTAs were actually a fairly common occurrence in my data.

On a larger scale (beyond individual utterances), I believe the attitudes of the employees were very aligned with departmental boundaries, a supposition my analysis supports. However, with the limited number of Participants in my reduced-scope data, there really was only a single boundary: that dividing Development Team members from other employees. The reason for this dichotomy may lie in the "mental jock" attitude that was previously discussed, or simply in the bonds established among those with similar daily pursuits.

Relevant Processes and Participant Responsibilities

The data gathered for this study was taken from a chatroom provided to aid in communication between the development team and the quality assurance team. Most of the discussion in this chatroom revolved around "stories" and "deployments", two terms that may require some additional explanation. To truly explain them, however, I need to provide a more thorough overview of the development process at XYZ Inc.

Ideas at this point typically originated with the CEO (which is itself an issue as they tended to be feature driven, not user-need driven, but that is a topic for another study). These ideas were conveyed to the requirements person (whom I have decided to call "Mark"), who then turned them into actionable "stories", which is the agile development methodology term for a requirement that has the smallest piece of individual functionality possible. The idea behind stories is that the development team can break its work down into very tiny pieces which can then be tested discretely, allowing problems to be easily pinpointed. This contrasts with the previously popular "waterfall" development approach (as opposed to the agile approach), in which all requirements

were written and combined into a large specifications document before development could begin. Then, development would continue until all requirements were complete. Afterwards, testing could begin, at which point, typically, a very large number of problems (or "bugs") would be uncovered, leading to a great deal of additional effort. In agile development, these bugs were dealt with along the way as various stories were completed, leading to a much smoother process and a more robust set of code at the delivery date. This approach also allowed for incremental user acceptance testing of functionality and subsequent adjustment as needed (which is where the term "agile" comes from, as the process helps ensure the requirements are meeting the needs of the user along the way, instead of delivering a completed product that may not be what was actually needed).

After Mark submitted the story via the organization's requirements tracking software tool, the development team lead (whom I have called "Brad") would assign it to someone on the development team, a group consisting of senior developers "Owen" and "Ted," and junior developers "Dylan" and "Terry." The assigned developer would then use the requirements in the story to write automated tests to ensure the code would function correctly *before* writing the code, a process known as test-driven development (TDD). The developer would then code a feature designed to pass the automated tests. After completing the code, the developer would send the code to a "test realm," which was a copy of the software identical to the most recent released version except that it also contained code from the latest unreleased stories. The team chose to name the test realm "Edge" (as in the "bleeding edge"). The developer would also mark the story as ready to be tested in the requirements tool.

On a daily basis, the quality assurance (QA) team, which was led by a person I will call "Bill" and which also included "Emily," would check the stories to see which were ready to be tested. Then, the testers would ensure the coded feature met the requirements in the original story. If not, it would be "Rejected" (a label for a button in the requirements tool that may have contributed to

tension between the teams) and the developer would be forced to begin again. Once it did meet the requirements, it would be "Accepted" and put in the queue for the next deployment of code.

A deployment moved the code from the test realm to the software in use by the end users, which was called "production" or "Prod." At the same time, the automated tests for the newly-deployed code were added to the automated test suite, which was run before each deployment (and which quickly became very large and unwieldy, contributing to the length of time necessary for deploys). The deployment needed to be monitored by a highly-competent developer as anything that went wrong could potentially shut down the production environment, making the online software product unavailable to end users until it was fixed. Thus, the role of deployment specialist was extremely important to the company.

As mentioned previously, this entire process was aided by interactions in an online chatroom, within which developers, the story writer, and the quality assurance specialists would interact to work out misunderstandings and facilitate the execution of their goals. It is from this chatroom that I gathered my data for this study.

Note About Researcher Bias

During this study, I took on the role of a participant observer who not only gathered empirical data during the study but who also was involved in the creation of that data through his own contributions to the interactions taking place. As a result of this participation, and of my status as a participant prior to becoming an observer, I most likely had somewhat stronger embedded opinions of the individuals involved than those of a typical qualitative researcher engaged in non-participant observation, or even those of a participant-observer who only took on the role of participant for the purpose of the study. Please note that, to combat this potential bias, I chose to

wait well over a year from the completion of my data gathering to begin my analysis, in order to distance myself from the emotions enmeshed with the interactions. I provide more insight into the nature of my potential biases and my measures to mitigate their impact in my Methodology and Methods chapter.

Chapter Synopses

In this chapter, I have introduced my topic and provided some background information about how I selected it and the context in which I collected my data. In Chapter 2, I review the previous research and theories that informed my research questions, methodological approaches, and analysis. I also attempt to identify gaps in the existing literature, situating my own work within the larger discourses of politeness theory and power relationship research. Chapter 3 covers the belief systems and methodology that drove my research and analysis, the method I used to collect the data used in my analysis, and the strategies I used to cull that data to create my final corpus.

In Chapter 4, I explain the process through which I developed my codes and categories, both qualitative and quantitative, and applied them to my data. Then, in Chapter 5, I generate some numbers from the coded data and use them to gain insight into the Participants' involvement and impact on the discourse. I also analyze the coded data using the three analytical frameworks I listed earlier: Politeness Theory, Power Types, and Domain / Authority Acknowledgement. Finally, Chapter 6 contains a summary of my conclusions along with my recommendations for future related research.

Chapter 2: Literature Review

Introduction

Bruce Fraser (1990) noted that, "At first blush, it might seem obvious that politeness is simply a well understood concept that pervades human interaction, and that the task of those interested has been relatively straightforward. Not so. While the existence of politeness or the lack thereof is not in question, a common understanding of the concept and how to account for it is certainly problematic" (p. 219). This chapter examines the development of theories designed to help researchers understand and account for politeness and power in interactions, moving from works that defined the foundation of modern politeness theory, to the application of such theories in interaction, and then on to the crucial relationship of power and communication in workplace interaction.

Power has always been intimately linked to politeness research and related theories on face-work. From the foundational works of Goffman (1967) and Grice (1975) to the work of Brown and Levinson (1987) to the expansions of the more recent past such as Culpepper (1996) and Chen (2001), power has been central to the discussion of politeness, whether it was explicitly acknowledged or not.

Much original work on politeness research and face-work focused on the influences guiding polite, cooperative interactions, and the frameworks needed to understand and describe these interactions (e.g. Goffman, 1967; Grice, 1975; Leech, 1983). This work laid the foundational thinking that would later be expanded and operationalized into modern politeness theories. Bridging the gap between these more pure-theory foundational works and later applied research, Lakoff (1973) attempted to tie politeness theory to pragmatics, arguing for the need for deep

contextual understanding of a situation surrounding an interaction rather than a gloss of the interaction itself.

When these theories were later put into practice, focus tended to be on interpersonal factors and influences (e.g. Brown and Levinson, 1987). However, Coupland, Grainger, and Coupland (1988) moved politeness research into the institutional realm, an area previously unexplored with regards to politeness theories and one which still contains gaps in the research; it is one of these gaps, politeness and power in small software companies, on which I focused my own research. Much of today's small business communication research focuses on organizational culture (e.g. Winsor, 2006; Mathew and Ogbonna, 2009) which, while very closely related and influenced by politeness in the workplace (and which, in turn, influences the use and impact of said politeness), utilizes different theories and looks at the data from a different perspective.

This dissertation expands upon previous scholarship, in particular politeness theory as developed by Brown and Levinson (1987) and the ways in which co-workers display power as described by French and Raven (1959). It does this by examining the role of politeness in everyday communication and its resulting effect on power relationships in small companies (specifically, small software companies). As I noted in the Introduction, the relatively flat inherent power hierarchies within these companies cause their employees to rely heavily on interaction to build and maintain power relationships. Organizationally-bestowed power structures have little impact. I have examined the role that politeness plays in the formation and maintenance of these relative power relationships within small software organizations, a niche that has previously been only lightly explored.

The goal of this chapter is to contextualize the analysis and discussion that follow, and to clarify the gap that my research is intended to address.

Previous Scholarship

Face-Work: The Precursor of Politeness Theory

Politeness theory has been studied in its contemporary form for over 40 years, beginning with Erving Goffman's essay “On Facework: An Analysis of Ritual Elements in Social Interaction” (1967). In this essay, Goffman introduces the concept of face-work, where participants in a cooperative interaction work together to establish particular "lines," which are views of the contextual situation and of the participants themselves (p. 5). Going hand-in-hand with face-work is the concept of face-threatening acts (FTA) (p. 15), which can disrupt the delicate balance of face the group has striven to achieve; this aspect of face-work is a foundational one for the later formation of what is now widely known as “politeness theory” by Brown and Levinson (1987). In response, the group engages in a ritualized process to overcome the face-threatening act and re-establish the expected face of all individuals within the group (p. 19). This notion of face-work is essential to understanding the complex interactions that serve to both demonstrate and affect relative status in the workplace.

Another work to which politeness theory owes many of its foundational concepts is H.P. Grice's “Logic and Conversation” (1975), in which Grice broaches his four categories of maxims of conversation. Grice argues that conversations among rational, *cooperative* individuals follow a set of guidelines, which he calls “maxims” (p. 45). I lend special emphasis to the term “cooperative” as it will become a major point of definition for early politeness theory and a major point of criticism prompting later contributions to the literature surrounding it. Grice himself notes the importance of this concept as being central to the assumptions of his and related theories, so much so that he creates a label for it, the “Cooperative Principle” (p. 45). This principle and its implied opposite are very important to the discussion of power and politeness in small businesses. As the data considered later in this dissertation shows, many workplace interactions are not cooperative

endeavors, which was somewhat surprising to me considering that employees at a company are presumably working toward a common goal. In order to better understand the later expansions of politeness theory to account for uncooperative interactions, I will first consider the original theories that led to their creation.

The four categories of maxims proposed by Grice are those of quantity, quality, relation, and manner. In many ways, politeness theory is a reactionary theory created to explain divergences from Grice's cooperative maxims of conversation. It is useful to review these guidelines in order to develop an understanding of the context that spurred the development of politeness theory. The first category, that of quantity, Grice defines as consisting of two maxims that can be summarized as follows: participants in a cooperative conversation shall make their contributions exactly as informative as is required (p. 45). The two maxims set the high and low boundaries of information disclosure; that the information should not be more nor less than is required for the discussion at hand. The second category, that of quality, also contains two maxims related to the verifiability of the information contributed to a conversation: that such information be true and also be supported by adequate evidence. The third category, relation, consists of a single maxim. The contribution should be relevant to the conversation at hand. Grice notes that, while this maxim appears simple on first review, it is actually quite complicated as what can be considered relevant subject matter changes many times during the course of a typical conversation (p. 46). These first three maxims are particularly pertinent to workplace communication as concise delivery of accurate, relevant information is one of the basic tenets of efficient organizational interactions.

While the first three categories of maxims relate to what is being said when a contribution is made to a cooperative conversation, the last, the category labeled manner, concerns the way in which the contribution is formulated. Within this category, Grice lays the foundation for much of the work of politeness theory, as the maxims presented here are ones often "broken" during

cooperative conversation with face-saving strategies in mind by the participants. These maxims, in summary, are to avoid obscuring the message being conveyed, avoid ambiguous language, be brief, and be orderly (p. 46). As Grice summarizes, the category of manner can be defined as the expectation that the conversational partner will "make it clear what contribution he (sic) is making, and to execute his performance with reasonable dispatch" (p. 47). Again, this maxim is integral to successful workplace communication (where "successful" can be defined as one whose outcome furthers the goals of the organization), as the lack of clarity in the conveyance of information causes much of the tension in these interactions.

Grice himself notes that the maxims he defines are designed to explain how participants might achieve the optimal exchange of information within a cooperative conversation, and that "There are, of course, all sorts of other maxims (aesthetic, social, or moral in character), such as 'Be polite', that are also normally observed by participants in talk exchanges" (p. 47). He also notes that this view of conversation is, by definition, "too narrow" and that it does not consider such purposes as "influencing or directing the actions of others" (p. 47). While Brown and Levinson (1978), the authors of the modern concept of politeness theory, may not agree that Grice's proposed purpose for being polite (influencing others or directing their actions) accurately describes the goal of politeness, it does show that Grice understood that there was a significant need for further theories that covered the more "human" aspects of conversations, beyond the mere mechanical exchange of information.

Politeness and Pragmatics

In her 1973 conference paper "The Logic of Politeness; or, Minding your P's and Q's," Robin Lakoff began calling for more study on guidelines that she felt could be used to gain insight into conversation. Lakoff noted that, "We should like to have some kind of pragmatic rules, dictating whether an utterance is pragmatically well-formed or not, and the extent to which it deviates if it

does" (1973, p. 296). As I noted earlier, Lakoff's explicit and repeated call for a focus on the "pragmatics" of conversation is one of the early references to what would become a foundational element of politeness theory: the need for deep contextual understanding of the situation in which the discourse being studied took place. In fact, Lakoff does not limit herself to oblique calls for deeper contextual understanding; she explicitly references it near the very beginning of her conference paper, when she notes that linguists such as herself "needed to worry about the context in which utterances were uttered" (1973, p. 292).

It is interesting to note that even in these early developmental stages of politeness theory, it was already inherently tied to power relationships. Lakoff references the relative status of speaker and addressee (p. 295), expressing how the speaker's utterance may appear to be a polite request, but that contextual information showing that the speaker is "superior" (Lakoff's term) to the addressee may cause the analyst to reconsider the utterance as a veiled command instead. In addition to showing how power relationships can affect the interpretation of utterances, this example also offers another excellent justification for gathering contextual information in addition to textual data; without it, accurate interpretation may not be possible.

In later works, Lakoff acknowledged the validity of Grice's conversational maxims, offering her own contributions to bridge the self-acknowledged gap left by Grice's original concepts, concerning the idealistic exchanges required for his maxims to apply. Many of these contributions revolve around the ideas of contextual information and politeness. For example, in her 1979 essay "Systematic Strategies within a Grammar of Style," Lakoff refers back to Chomsky's concepts of "surface structure" and "deep structure," the latter of which refers to the meaning of an utterance. It is telling that Lakoff chooses to label surface structure as "superficial structure," a negative connotation, instead of using Chomsky's original term (p. 57). This choice of a negative label implies that Lakoff promotes the idea that, to truly understand an utterance (to get at its "deep structure"),

researchers are required to examine the context surrounding it. I attempt to get at this deep structure in this dissertation, providing a "thick description" (Geertz, 1973) to ground the sample data and give insight into the situation being considered and the participants involved.

As a result of examining context surrounding conversations, Lakoff found that very few actually fall into the circumstances where utterances can be formed which are appropriate for an "ideal" conversation. Lakoff labels such utterances that contribute to ideal conversations "statements of Clarity" and defines them as those which are "maximally informative" (p. 63). When participants in a conversation find that the context is not conducive to Clarity, Lakoff argues, is when politeness comes into play (p. 64). She outlines a framework of increasingly contextual modes of communication. The first, Clarity (as noted above), ignores the relationship between participants; its goals are wholly informative. Distance, the second, calls for the participants to acknowledge their relationship, but for it to be one of avoidance. In many ways, this point builds upon Goffman's (1967) idea of negative facework, which essentially involves avoiding imposition on other participants (the precursor of Brown and Levinson's [1987] negative politeness strategies). Communication in the mode of Distance, Lakoff notes, is deliberately emotionally detached, maintaining a very formal relationship among participants, denying any type of relationship (however, through denial, the participants have implicitly acknowledged that a relationship exists to be denied, while Clarity ignores any relationship at all) (p. 64). The third point, Deference, acknowledges a relationship and begins to truly delve into politeness via the duality of one participant offering options (a face-saving action) and, by the very act of being able to offer these options, exhibiting power over the other participants (a face-threatening action). The last point, Camaraderie, Lakoff seemingly contradictorily notes (as "camaraderie" is often a term associated with cooperative, non-confrontational relationships, whose interactions one might reasonably expect to be "polite") is "the modality least in accord with what we usually think of as 'politeness'" (p. 65). However, Lakoff explains that this occurs because Camaraderie necessitates

explicit acknowledgement of both the relationship among participants and of the content of the communications involved. Thus, it almost by definition leads to overt, direct confrontation, or what Brown and Levinson (1987) might term bald, on-record face-threatening actions (p. 60).

Lakoff offers these modalities to describe not only interactions and situations but also the participants involved in them, and notes that they are merely characteristics that can be exhibited to varying degrees at a given point under examination; she explains that they should be represented not necessarily by a linear relationship, but rather by a three-dimensional one, where both an utterance and the participants involved can be defined in terms of any two of the modalities, depending on the dimensions the researcher is examining. Lakoff has taken both Goffman's and Grice's work, combined elements from each and, understanding the need for contextual analysis in order to truly convey the "deep structure" of a situation, developed a contextual approach to discourse analysis not unlike Kenneth Burke's (1945) pentadic ratios, proposed as a means by which researchers could develop a deep contextual understanding of a situation by examining it from a variety of perspectives.

The Foundation and Evolution of Modern Politeness Theory

After this groundwork was laid, Brown and Levinson developed what has become a seminal work on politeness theory. Originally broaching the concept in a 1978 essay, Brown and Levinson expanded greatly on their theory in their 1987 book, *Politeness: Some Universals in Language Usage*. Within it, Brown and Levinson review various strategies participants employ to build and maintain face within an interaction, which are termed politeness strategies (p. 91). They begin by describing a relatively impolite strategy, bald on-record requests (p. 94), which they believe operate within the boundaries established by Grice's maxims of conversation (p. 95). Next, they describe politeness that reinforces positive face (p. 101), including 14 main strategies along with several examples. Conversely, they explain, negative politeness occurs when the speaker tries to minimize the

perception of restrictions placed upon the addressee's freedom of action by the face-threatening action (FTA) (p. 129). In the final section, the authors describe off record strategies, which usually manifest as vague statements that can have multiple "communicative intentions" (p. 211). As with the previous sections, the authors describe several strategies and give extensive examples (p. 214).

Brown and Levinson make an effort to move away from a western-centric emphasis on language studies, though the small sample size of languages used to draw their conclusions about the “universals” in politeness theory may be worthy of some criticism. Throughout the book, they include examples from a Mexican language (Tzental) and an Indian language (Tamil). While these references are interesting, they are not particularly enlightening to non-speakers of these languages, since such readers must simply trust that the examples truly show what the authors claim. It is important to note that Brown and Levinson use these examples in order to illustrate that politeness strategies bridge cultural divides, and can be applied as an observational and analytical tool to data regardless of the cultural background of the participants. Note that this distinction does not greatly impact the analysis in this dissertation, however, as participants were predominantly white, middle-class people who were raised in Western society (American).

In many ways, Brown and Levinson synthesized the work to date with regards to Grice and Goffman, working them into an operationalized theory of politeness and providing examples of its application in a multi-cultural study. The concepts and analytical approaches described in this book, which were instrumental to my own analysis, have helped define the field of politeness research over the past quarter-century, and one would be hard-pressed to find an article on politeness theory that does not include it as a reference.

Nikolas Coupland, Karen Grainger, and Justine Coupland (1988) take the theory elaborated by Brown and Levinson the previous year and move it into an institutional setting. In addition, Coupland et al. are critical of the “universal” aspect of Brown and Levinson's politeness theory; in

particular, they are very adamant that politeness theory must be extended to consider the wider social context surrounding and influencing an interaction. They argue that, in an organizational setting, the roles and inherent power discrepancy between participants, such as that between a nurse and a patient, are far more influential: "the interpersonal triggers/consequences Brown and Levinson consider, while by no means irrelevant, are likely to be of less significance than the occupational and institutional roles participants are necessarily inhabiting" (p. 260). While I cannot disagree that, in many such organizational settings, this conclusion is accurate, it does not hold within smaller organizations where inherent power does not wield nearly as much influence due to a relatively flat hierarchy. Thus, I believe that Brown and Levinson's model is very much applicable to studies within small software business environments such as my own, though I strongly agree with the need to consider the social, organizational, and cultural context within which the interactions under review have taken place.

By this point in its development, researchers began to note the emergence of several distinct "flavors" of politeness theory. This divergence is illustrated by Bruce Fraser (1990) in his article "Perspectives on Politeness," in which he outlines what he believes were the four major schools of thought on politeness theory at that time: the social-norm view, the conversational-maxim view, the face-saving view, and the conversational-contract view (p. 220). The first, the social-norm view, Fraser defines as essentially the control group; that is, it is the view of politeness held by the general public. Of course, Fraser is also careful to note that this view is entirely dependent on the society in question, hence the label "social-norm," as the view of politeness held by the typical individual within a society stems from the norms embraced by that particular society. By understanding and elucidating these norms, researchers may operationalize politeness by examining the outcomes of interactions. If social norms are not violated, the interaction is polite; if they are, impoliteness has occurred (p. 220). These norms can be seen as being established by various books of etiquette and other social behavioral guides, though it is interesting that Fraser

does not attempt to incorporate religious sources of social norms into his analysis. In essence, this view of politeness is what is often colloquially referred to in Western society as “good manners.” Much of the research surrounding it focuses in on the participants' interpretation of utterances or interactions. Do they feel the exchange was “polite” or “impolite” and why? Fraser goes on to note that very few modern politeness researchers adhere to the social-norm view (p. 221).

The conversational-maxim view, according to Fraser, traces its roots, predictably, to Grice's maxims of conversation and his Cooperative Principle (CP). While superficial review of Grice's maxims may give the appearance of a complete lack of deference to politeness in favor of an optimally efficient exchange of information, in fact it is Grice's contention, Fraser claims, that “CP is always observed and that any real or apparent violations of the maxims signal conversational implicatures: non-explicit messages intended by the speakers to be inferred by the hearer” (p. 222). Thus, by defining maxims which cooperating rational participants should adhere to for optimal information exchange, Grice actually operationalizes politeness analysis by establishing boundaries whose violation indicates an occurrence of note to politeness researchers; something led the participant who violated the maxim(s) to operate outside of the rules of optimal information exchange. Since Grice assumes the goal is still the exchange of optimal information, this must mean that additional limitations or intentions must be conveyed by the seemingly non-optimal utterance or interaction. As Fraser explains, “Whereas the violation of a grammar rule results in ungrammaticality and the assessment of not 'knowing' a language, violation of conversational maxim may be accepted as signaling (sic) certain speaker intentions” (p. 222). It is these signals that are useful to politeness researchers operating in the conversational-maxim view.

Fraser goes on to describe Lakoff's contributions to this perspective on politeness, citing her 1973 paper presentation “The Logic of Politeness,” and her 1979 article “Stylistic Strategies within a Grammar of Style,” both of which are covered in much greater detail earlier in this paper. Leech,

notes Fraser, also contributed a great deal to this view of politeness theory with his examination of illocutionary acts and the goals they are intended to achieve. Leech, however, expands upon Grice's Cooperative Principle by introduce two complementary principles: the Politeness Principle (PP) and the Irony Principle (IP). PP maxims are instrumental in explaining why violations to the CP maxims occur (p. 224).

Both Goffman's and Brown and Levinson's theories involve cooperative action among participants in a group. Jonathan Culpeper (1996), however, has also noted a need for confrontational as well as cooperative models of interaction. He critiques Brown and Levinson for their focus on cooperational face-work as the main motivator for politeness. His impoliteness theory, in contrast, attempts to explain what occurs when members of a discourse are not pre-disposed to cooperate. As confrontational communication appears to be fairly common in the workplace, it is essential to consider deliberate use impoliteness in workplace interaction as well as politeness.

Rong Chen (2001) goes a step further, claiming that Culpeper's theory of impoliteness is still incomplete because it's based entirely on Brown and Levinson's concept of "other-face," as Chen terms it (p. 104). To fill this gap, Chen introduces the concept of "self-face," which accounts for much of impoliteness within the superstructures proposed by Brown and Levinson. Instead of violating the conditions of politeness, most impoliteness can be attributed to the speaker attempting to satisfy self-face over other-face (pp. 98-103). Miranda Stewart (2008) also adheres to Chen's idea of impoliteness as self-face preceding other-face, using the concept to explain some of the dialogue that occurs between a newspaper editor and his writers and photographers.

Politeness Research in the Workplace

Early politeness theory research focused mainly on politeness as a strategy to build and maintain social relationships. For example, in their compilation *The Discourse Reader* (2006),

editors Nikolas Coupland and Adam Jaworski choose to include essays on politeness theory within the chapter "Negotiating Social Relationships" (p. 287). Thus, although politeness theory research has expanded greatly since Brown and Levinson first published their book in the late 1980's, studies based in the workplace, such as Stewart's, have only begun to appear relatively recently.

In a recent example, Joan Waldvogel (2007) uses politeness theory to examine how participants use openings and closings within workplace email, finding that workplace culture greatly impacted the frequency and types of openings and closings used (pp. 128-137). Meanwhile, Lakoff (2005) takes the concept of institutional analysis of politeness to the political stage, examining the evolution of niceness in politics and other public forums, and the coincidental deterioration of politeness by the public towards public figures.

With politeness research expanding to the workplace, it is natural to shift the focus from social relationships to power relationships. Of course, the two are not mutually exclusive, as social relationships can affect power relationships and vice-versa. Rather, it is the emphasis on power as the object of inquiry that has, not coincidentally, begun to appear in recent politeness research based within the workplace. Unfortunately, Brown and Levinson's model of politeness and power, which serves as the foundation for much of modern politeness research, does not cover all aspects of the interrelationship between people occupying different levels of the power hierarchy in the workplace.

Politeness and Power

As noted earlier, politeness theory has always been implicitly connected with power relationships. However, only some of the research has focused explicitly on the things politeness theory can tell us about power relationships. One of the most visible examples of data being examined using politeness concepts with respect to power occurs in Critical Discourse Analysis. This branch of discourse analysis is, at its core, concerned with power relationships, particularly in

interactions in which there exists a power imbalance. It originated with the works of Michel Foucault, who eloquently described the power of discourse to control and influence social change, and the restrictions upon discourse imposed by society in turn, in his 1970 lecture, "L'ordre du discourse" (The order of discourse) which he expanded upon in the 1971 article, "Orders of Discourse."

But Critical Discourse Analysis is more of an *approach* to research and analysis; it relies upon other analytical frameworks to identify power imbalances within interactions. Consider the following, from Norman Fairclough's *Language and Power* (2001). Fairclough used for his example an exchange between a police officer and a witness to a crime, a situation that is excellent for illustrative purposes within Critical Discourse Analysis due to its inherent power imbalance. Fairclough's resulting analysis follows:

> The relationship is an unequal one, with the police interviewer firmly in control of the way the interview develops and of W's contribution to it, and taking no trouble to mitigate the demands he makes of her. Thus questions might be quite painful for someone who has just witnessed a violent crime are never mitigated; P's question in turn 1, for example, might have been in a mitigated form such as "did you by any chance manage to get a good look at the one in the" instead of the bald form in which it actually occurs. ln some uses, questions are reduced to words or minimal phrases — "how tall" in turn 5, and "hair" in turn 7. Such reduced questions are typical when one person is filling in a form 'for' another, as P is here: what is interesting is that the sensitive nature of the situation does not override the norms of form-filling. It is also noticeable that there is no acknowledgement of, still less thanks for, the information W supplies. Another feature is the way in which the interviewer checks what W has said in 7. Notice finally how control is exercised over

> W's contributions: P interrupts W's turn in 5 and 11, and in 9 P gives a minimal answer to W's question about how much longer the interview will take, not acknowledging her problem, and immediately asks another question thus closing off W's interpellation (p. 15).

It is easy to see the role that politeness plays in the analysis. Fairclough begins by noting how the police officer does not trouble himself to "mitigate the demands" (a basic type of face-threatening action) he makes of the interviewee. Note also that these "demands" are a type of request, another parallel with other politeness research. He goes on to quote a potential alternative form of "bald" request made by the police officer, which is one of the characteristics of face-threatening actions; the alternative form proposed is a classic example of a redressive action, as defined by Brown and Levinson.

Before looking more closely at the role politeness plays in the formation and maintenance of power relationships, I will first begin to define what power is in an organizational context. Stephen Bremner (2006) argues that there are two types of power in any organization: inherent and relative. The former allows the speaker a greater license to use linguistic approaches that might be deemed impolite, while the latter forces the speaker to consider interpersonal relationships when making requests, resulting in increased politeness. Sandra Harris (2003) takes this same concept and adds a new idea for researchers to consider, arguing that even those who wield inherent power often resort to politeness in order to maintain a good working relationship with their subordinates.

Relative status and the power it conveys are especially important in smaller organizations, where hierarchies may be flatter due to the smaller number of employees. Thus, inherent status (delivered by the organization and established as a chain of command or hierarchy among employees) occupies a reduced place of importance next to relative status. Interaction among employees becomes even more important, as this communication serves to determine who has the

ability to initiate requests successfully and effect action within the organization. As I have argued, a great deal of this communication involves politeness and its associated face-work. Thus, I believe the study of communication, and politeness in particular, is of great importance to our understanding of how power relationships are established and maintained within small software organizations. Unfortunately, this niche has been largely unexplored in current literature.

Nikolas Coupland, Karen Grainger, and Justine Coupland (1988) are very adamant that politeness theory must be extended to consider the wider social context surrounding and influencing an interaction. However, they argue that, in an organizational setting, the roles and inherent power discrepancy between participants, such as that between a nurse and a patient, are far more influential: "the interpersonal triggers/consequences Brown and Levinson consider, while by no means irrelevant, are likely to be of less significance than the occupational and institutional roles participants are necessarily inhabiting" (p. 260). While I can agree that, in many such organizational settings, this conclusion is accurate, it does not hold within smaller organizations where inherent power does not wield nearly as much influence due to a relatively flat hierarchy.

Mullany (2006) does not address the size or the impact that politeness has on the relative power relationships within the organizations she studied which, while appropriate for her focus on small talk and gender, is another example of researchers' neglect of the impact politeness can have on power in smaller, flat-hierarchy companies. Similarly, Janet Holmes (2000), in her investigation of the connection between politeness and power in the workplace (as part of the Wellington Language in the Workplace Project), in particular the humor component of politeness as a coercive strategy (p. 165), does not focus on the characteristics of the institution itself as they relate to the inherent power relationships of the participants.

Francesca Bargiela-Chiappini and Sandra Harris (1996), who introduced the definitions of inherent and relative power within organizational relationships, nevertheless focus mainly on

organizations with fairly hierarchical, rigid structures. For example, when they first explain inherent and relative power, they use a managing director (MD) to illustrate the concept (p. 637), which is a position whose inherent power is usually firmly seated within a large organization's hierarchy. This focus may help explain why they consider relative power to be subordinate to inherent power when it comes to interaction and the fulfillment of requests in the workplace.

Harris (2003) also focuses on institutions where inherent power is well established. In her article, she uses as her three data sources the following relationship sets: magistrate - defendant, general practitioner - patient, and police - member of the public (p. 29). All three of these relationships have a very distinct inherent power relationship which, while interesting as a study of how inherent power affects interaction and the use of politeness strategies, provides very little possibility of her data being useful in studying how politeness can have a meaningful impact on the power relationships in turn.

Finally, Miranda Stewart (2008), in her article about the negotiation of face-wants in workplace interaction, chooses to study a meeting that takes place in a newspaper editorial office (p. 37). Stewart uses this opportunity to show how inherent power allows participants to neglect socially-accepted standards of politeness (in addition to using Brown and Levinson's theory, Stewart draws upon Gricean maxims in her analysis) (p. 39). Again, this organizational setting is one where participants maintain fairly rigid inherent power relationships, and these relationships (and their immutability in the face of pressure from discourse and, in particular, politeness strategies) are on display in Stewart's data and analysis.

These are just some examples of studies that focus on power and politeness but which, like most research in the field, fall outside of the setting of small software organizations. Stewart (2008) used a newspaper editorial meeting to exemplify her points about the relationship between power and politeness. Bremner's (2006) research took place at a university, where he examined a group of

writers working to revise a curriculum. Lakoff (2005) chose to study politeness in the political arena. Mumby and Stohl (1991) used examples from a more traditional business workplace to illustrate their views on power and discourse.

Other researchers who have chosen to study politeness in the workplace likewise have not addressed the tremendous impact politeness can have on power structures in smaller software companies. Stubbe et al., in their 2003 article "Multiple Discourse Analysis of Workplace Interaction," used a 9-minute recording of a meeting for a special project at a university as their data set. Waldvogel (2007) compared how an educational institution and a manufacturing plant differ in their use of email openings and closings; again, not a study within the niche I have explored. Locher (2004) focused on three different settings, a family discussion, a research institution, and political interactions, which do not, as is true of the other examples shown here, touch upon the neglected realm of politeness and power in small software companies.

Politeness and Requests

Politeness is very closely linked to the concept of requests, which are one of the items that I focused on in my analysis, as requests are inherently face-threatening actions. According to Bargiela-Chiappini and Harris (1996), a request is a primary speech act (p. 636), meaning that when a request is made from one participant to another during a discourse, that request is more than mere words. It is a concrete action that has specific consequences. As mentioned previously, one of the major consequences is that, by their very nature, requests are face-threatening acts (Clark and Shunk 1980, p. 113); they impinge upon the recipient's freedom to act by making demand on his or her time, and they affect the requester's face by placing them in a vulnerable position with respect to the recipient of the request. Thus, requests and the concept of speech acts are key to any discussion of power and politeness in the workplace.

The origin of speech act theory can be traced back to J.L. Austin's foundational work, *How To Do Things With Words* (1962), based upon a series of lectures he gave from 1952 through 1954. Austin breaks utterances into two top-level categories: constatives, which consists of utterances intended to convey meaning, and performatives, which are in themselves actions that bring about some sort of change or other consequence; they are the utterances that are actions beyond the mere act of speaking the words (pp. 3-7).

Austin goes further in his breakdown of performative utterances, noting that there are three main types of acts associated with an utterance: locutionary, illocutionary, and perlocutionary (p. 103). The locutionary act is the actual forming of the utterance: the speaking of the words themselves. The illocutionary act is the intended meaning on the part of the speaker. As Austin puts it, the illocutionary act is, "performance of an act in saying something as opposed to performance of an act of saying something" (p. 99). Note that Austin, along the same lines as Lakoff (1973), des note that having a firm grasp of the context of an utterance is essential to understanding the intended meaning of the utterances, or the illocutionary act, in this case. As he puts it, "the words used are to some extent to be 'explained' by the 'context' in which they are designed to be or have actually been spoken in a linguistic interchange." (p. 100). The perlocutionary act is actual effect of the utterance; its consequences.

> Saying something will often, or even normally, produce certain consequential effects upon the feelings, thoughts, or actions of the audience, or of the speaker, or of other persons: and it may be done with the design, intention, or purpose of producing them; and we may then say, thinking of this, that the speaker has performed an act in the nomenclature of which reference is made either (C. a), only obliquely, or even (C. b), not at all, to the performance of the locutionary or illocutionary act (p. 101).

The perlocution, or consequence, often has very little to do with the illocution, or intentions, of the speaker. It has everything to do with the reception of the locutionary act and its interpretation by the other participants of an interaction. Even if interpreted correctly, meaning as intended by the speaker, the other participants may choose not to act as anticipated due to a number of factors. One of these factors, which I focus on in my analysis, is that of domain/authority acknowledgement; if the target of a locutionary act does not acknowledge both the importance of the domain of knowledge relevant to the request and the larger interaction in question, and of the speaker's authority within that domain, the perlocutionary act will not be in line with the intentions of the speaker.

John Searle focuses squarely in on the illocutionary act and, in particular, one type of illocutionary act in his essay "Indirect speech acts" (1975). These types of speech acts do not explicitly make a request but instead imply a request, thus lessening the potential damage to the face of both (or all) participants involved. Searle offers simple example to illustrate this concept, "example, a speaker may utter the sentence *Can you reach the salt?* and mean it not merely as a question but as a request to pass the salt" (p. 60).

Building upon the concept of indirect speech acts, Herbert H. Clark (1979) focuses on both the literal meaning and the implied request behind such speech acts. He then delves into the factors that shape the recipients' understanding and response to such requests. His main questions include, "How do listeners decide whether an utterance should be taken directly or indirectly? And if it is to be taken indirectly, how do they decide what its indirect meaning should be?" (p. 430). Clark notes several properties of indirect speech acts (pp. 431-434). Those of particular importance to the work presented in this dissertation are that of rationality, conventionality, politeness, and purposefulness. Clark's property of rationality assumes that the participants in a discourse community

"mutually know" certain facts (p. 432). This concept is essentially akin to context of a specific utterance within a larger conversation: local context. Conventionality (pp. 432-433) indicates the larger context surrounding the conversation, which for the purposes of this study include the organizational conventions, the industry conventions, and the societal conventions that guide interactions. The property of politeness is Clark's attempt to explain the purpose of indirect speech acts (p. 433). His thoughts mirror my own: that indirect speech acts are a method of reducing the threat to other participants' face, though Clark does limit the scope to participants with imbalanced power relationships. Purposefulness (p. 433-434) is Clark's label for the illocution, the goal of the speaker in performing the indirect speech act. What were the intended outcomes? Gaining insight into the desired outcome of performative utterances is an activity that is central to the study of requests.

Clark also notes that responses to these indirect speech acts fall into three main types: expected, cooperative but unexpected, and uncooperative (p. 434). Clark also provides a fairly good operationalized definition of a cooperative exchange, noting that during the initial interaction:

> To be cooperative, B must accomplish three things in his response (see Goffman, 1967, p. 300 on). First, he must give A immediate assurance he has received and understood her speech act; otherwise, *What?* or *I didn't hear you* is in order. Second, he must give her immediate assurance that her speech act is legitimate-that he doesn't think it is intrusive, stupid, or otherwise inappropriate. And third, he must deal with the content of the speech act itself as soon as feasible (p. 435).

Note the temporal aspects of this definition of a cooperative exchange; in essence, cooperative discourse involves *timely* exchange of information. This concept will become very

important during the discussion of the data containing exchanges made via computer-mediated communication (CMC).

Clark teams up with Dale H. Shunk to take a closer examination of indirect speech acts as a method of politeness in the 1980 article "Polite responses to polite requests." In it, the authors note that, "the more the literal meaning of a request implies personal benefits for the listener, within reason, the more polite is the request" (p. 111). In other words, to use Brown and Levinson's concepts, a face-threatening action can be made less impactful by targeting the recipient's positive face: focusing on their wants and desires. Note the assumption of cooperative interaction; in the absence of such cooperation, the chance of a speaker blunting the face-threatening aspects of their requests lessens considerably.

This reduction in the face-threatening impact varies according to the way the indirect request is phrased. This concept is demonstrated in the following table from Clark and Shunk's article (p. 114):

Table 2
Categories of Requests

Descriptive category	Request type
1. Permission	May I ask you where Jordan Hall is? Might I ask you where Jordan Hall is? Could I ask you where Jordan Hall is?
2. Imposition	Would you mind telling me where Jordan Hall is? Would it be too much trouble to tell me where Jordan Hall is?
3. Ability	Can you tell me where Jordan Hall is? Could you tell me where Jordan Hall is? Can't you tell me where Jordan Hall is? Do you know where Jordan Hall is?
4. Memory	Have I already asked you where Jordan Hall is? Did I ask you where Jordan Hall is? Have you told me where Jordan Hall is? Do I know where Jordan Hall is?
5. Commitment	Will you tell me where Jordan Hall is? Would you tell me where Jordan Hall is? Won't you tell me where Jordan Hall is? Do you want to tell me where Jordan Hall is?
6. Obligation	Shouldn't you tell me where Jordan Hall is?

The imposition varies along the scale from Permission, where the speaker gives full authority to the other participant, to Obligation, where the speaker claims entitlement to a response from the other participant. The threat to the other participant's face is in direct proportion to the implied obligation to respond with the information requested. From another perspective, the speaker is claiming authority over the other participant to a lesser or greater extent.

Taking the concept of indirect requests a step farther, Soshana Blum-Kulka (1987) proposed an additional distinction between "conventional" politeness and "hints." As Blum-Kulka notes, "Politeness is defined as the interactional balance achieved between two needs: The need for pragmatic clarity and the need to avoid coerciveness" (p. 131). In short, indirectness is directly proportional to politeness only to a point; once the request itself becomes obscured in the language

of the polite utterance, the affront to the recipient's face begins to grow again. The speaker is impinging upon the recipient's negative face by forcing them into an unnecessary interpretation of the utterance before they can decide if they accept or reject the request contained therein. This notion of "hints" and the impoliteness that might be caused by forcing listeners into unnecessarily difficult interpretation of requests was more recently explored (in the context of cross-cultural politeness) by Kyong-Ae Yu in his article, "Culture-specific concepts of politeness: Indirectness and politeness in English, Hebrew, and Korean requests" (2011).

Bargiela-Chiappini and Harris (1996) take the concept of requests and use it as their basic unit of analysis in their study of communication in the workplace which they examined via a framework of politeness theory. According to Bargiela-Chiappini and Harris, "communication links meaning and action" (p. 636). This concept gets at the core of the importance of the relationship between power and communication. While I believe communication does serve to build power relationships within the workplace, true power lies in the ability to effect action as a result of communication with others within the organization.

Bargiela-Chiappini and Harris also note another extremely useful concept in their article, that of "inherent status" versus "relative status" (p. 637). The organization itself grants some status and, therefore, an ability to effect action upon individuals within the organizational hierarchy. This type of status is inherent to the position the individual occupies and is fairly rigid.

However, there is also the status that is developed among employees as a result of daily interaction. This relative status is constantly being negotiated; as requests are made, the ability to effect change depends on the requester's inherent and relative status, and the outcome (what Bargiela-Chiappini and Harris refer to as the "reward") in turn affects not only the requester's relative status, but also the providers. As the gateway to information or skills, the provider wields great power as a result of relative status (which in turn affects relative status of future

interactions). As the authors note, “the higher the perceived value of the reward, the higher the relative status attributed to the person or group who is being asked for something” (p. 637).

All of this research is conducted, as I noted, using the request as the foundational unit of analysis. Bargiela-Chiappini and Harris, after examining over 200 documents during their study along with prior literature on the subject of requests, formulated four basic maxims linking requests, communication, and face-work in a workplace environment:

> (1) written communication is demonstrably a process that takes place between individuals operating within well-defined social and corporate contexts (Fraser, 1990);
>
> (2) written communication in business is a goal-oriented activity; in the case of requests, the writer aims to get someone to do something, or to get something out of someone;
>
> (3) a factor which affects interpersonal communication, whether written or spoken, is the status of the communicators;
>
> (4) the language used in conveying the (potentially) face-threatening act of a request reflects, among other things, the addresser's perception of his/her own status and that of the addressee (p. 637).

As is clear, requests are of extreme interest to anyone examining face-threatening acts and power relationships in the workplace, as they are an essential method of delegation of authority and are inherently face-threatening acts in and of themselves.

In 1997, Morten Pilegaard's article "Politeness in written business discourse: A textlinguistic perspective on requests" attempted to move politeness theory firmly into an organizational setting and into written discourse, advancing what had heretofore been a discourse centered mainly around oral social exchanges. Pilegaard analyzed 323 letters in a university setting, utilizing Brown and Levinson's politeness strategies as categories and their formula for weightiness as an analytical tool. As Pilegaard notes, "In written texts, the linguistic expressions of politeness are not only the primary vehicles of politeness, they are the only ones" (p. 240).

Pilegaard focuses on requests in written language in particular because the parties who are interacting are "separated physically and temporally," as he puts it, and therefore:

> (G)reater care is spent on adapting the text to its illocutionary purpose in written than in oral communication and that the deployment of politeness strategies therefore more truly reflects strategic considerations in written than in oral communication (p. 240).

Pilegaard also notes the importance of requests to politeness research. He is particularly concerned with requests that fall outside the conventional norm of typical business interactions. I would argue that this "norm" can only be defined through a deep contextual understanding of the situation being examined. Pilegaard also emphasizes the importance of considering the participants' understanding of the conventions that guide interactions within an organization, the impact that straying from these conventions may have, and what it says about the power balance among the participants.

Politeness and Computer-Mediated Communication (CMC)

Part of Pilegaard's assertion about the importance of considering the illocutionary force of written correspondence is based on the "temporal" separation between sender and recipient. While

that may have been a given in 1997, with today's methods of communication, such temporal distance is often the exception rather than the rule, especially in certain industries. In particular, the software industry relies heavily on computer-mediated communication (CMC), which has created an expectation of near-instantaneous response to requests delivered via such methods. This temporal expectation factors heavily in my analysis of the chat room discussions that took place among the software team and various supporting groups.

By the turn of the century, politeness and speech act researchers had begun to focus on computer-mediated communication as fertile grounds for study. Elizabeth Scheyder, as she describes in her 2004 article, "Responses to indirect speech acts in a chat room," created a study that partially mirrors my own in that it focuses on requests as the key unit of analysis and that it uses chat room data as its corpus (as you shall see in subsequent chapters, I also focus on face-to-face communication). Scheyder compares this data with telephone data captured in a previous study (p. 54) to show the contrast in how requests are couched in politeness. In particular, Scheyder focuses in on indirect requests only, hypothesizing that, while indirect requests often result in two levels of responses, to that of the literal question and to that of the implied question, the instance of only direct answers would be higher in chat room interactions, due to the effort involved in typing versus speaking (p. 55). She did indeed find that the data supported her hypothesis, as a higher percentage of responses were "information only" in the chat room data than the telephone data (p. 57). Scheyder also noted that this indicated a lack of attempts at being polite within the interactions, though she did qualify this observation with the consideration that the situation (students responding to a professor) may have encouraged direct responses as students vied to be "first" to answer a question (p. 57). As my own data was taken from more "natural" interactions, not ones where the situation encouraged a "Q&A" like atmosphere but ones designed to move what would otherwise be face-to-face workplace interactions into a virtual space, my own study does not suffer from this potentially confounding influence.

In another recent example, Joan Waldvogel (2007) used politeness theory to examine how participants use openings and closings within workplace email, finding that workplace culture greatly impacted the frequency and types of openings and closings used (pp. 128-137). Taking the impact of computer-mediated communication beyond the medium itself and into its role in the shaping of social structures, Stefanone and Gay considered CMC's effect on the creation and maintenance of social networks in organizations in their 2008 article, "Structural reproduction of social networks in computer-mediated communication forums." This article is of particular interest to me as I am also interested in the creation of relationships via such communication methods, and the impact the communication medium itself has on the relationships and, on a larger scale, on the company culture.

Similar to my own study, Anguori and Tseliga also took a case study approach to data collected via computer-mediated communication, focusing on two Greek online discussion forums in their article, "From e-disagreement to e-impoliteness in two online fora" (2010). As did many previous researchers, Angouri and Tseliga note the importance of contextualized meaning over decontextualized data (p. 58). As I noted earlier, this study is of particular interest to me as much of my data was collected from an online chat room utilized by the development and quality assurance teams to coordinate activities and resolve any obstacles to successful completion of development work. The case study approach allows Angouri and Tseliga to delve deeply into the activities in the forums, getting to know the users closely and ultimately analyzing how they construct a "collective 'we' identity" as members of the group participating in the forum discussions (p. 64).

Politeness and Cultures

Finally, while my study centers on a Western culture with no variation in its participants, I want to briefly touch on the research dedicated to politeness across and within different cultures around the world. The subject matter here is rich for exploration, to discern the differences among

cultures and to try to establish common rules or factors that influence politeness, particularly the strategies undertaken when making requests of others in various circumstances.

I needed to look no farther than Brown and Levinson's (1987) work to find an excellent example of non-Western cultural research in the realm of politeness theory, as they used data from a non-Western culture to illustrate their various face-threatening actions and mitigating politeness strategies; the strength of such data lies within its ability to show the potential universality of findings that come from its analysis. Another example of interesting research that explores politeness across cultures is Victoria Escandell-Vidal's article, "Towards a cognitive approach to politeness" (1996). Within this article, Escandell-Videl begins to break down what she sees as the "unavoidable contradiction between universality and culture-specificity" into which politeness research at the time had fallen (p. 629). As noted earlier in this chapter, Yu (2011) used the notion of "hints" and the impoliteness of extremely indirect requests as the foundation for his cross-cultural analysis of data taken from English, Hebrew, and Korean interactions.

These are just a few examples of politeness research that focuses on culture-specific and/or culture-independent phenomena. Although this research does not impact my study in particular, it is worth noting as an important subgenre within the area of politeness research, one that often crosses the boundary of other pursuits as cross-cultural data is used to explore other issues within the realm of politeness.

Chapter Conclusion

Small companies and, more specifically, small software companies, which tend to encourage fairly flat inherent power hierarchies that are developed via both face-to-face and computer-mediated communication, appear to be largely neglected as a site for research on politeness in the

workplace. I suspect that this gap in current research is mainly due to the extremely fast-paced, high-pressure environments that are prevalent at most small companies.

The study conducted by Drury and Stott (2001) examining bias in participant-observation research (specifically in how it related to taking sides among competing groups, but many of their findings are applicable to the research being presented here) uncovered some of the challenges that I believe have caused such a dearth in communication research at small software companies. In particular, they note the difficulty in gathering data in any highly competitive environment, where there is a "suspicion of it being used against them [the group being researched]" (p. 51). In conclusion, Drury and Stott note that, in many cases, participant-observation is the only practical methodological approach to gather data in a particular situation and that, lacking it, the "research would never have been done" (p. 52).

Research takes subjects' time and affects how they work; these are barriers that are easier to overcome in more traditional, larger organizations, where a few hours' time usually doesn't mean the difference between making and missing an important deadline, and missed deadlines (when they do occur) usually don't have the potential to "make or break" the company. Ironically, in environments where such a fast pace must be maintained, and especially in smaller companies, inherent power hierarchies tend to be flatter, meaning that relative power, which is partially built through politeness in interaction, grows in importance. In the following chapters, I address this gap in the existing literature and expand upon the previous research on politeness and power relationships in the workplace.

Chapter 3: Epistemology, Methodologies and Methods

Introduction

I have to admit that, before I began my Ph.D. studies, I had never had any insight into my core beliefs as to what constituted "knowledge" and the ways in which this knowledge was created. Knowledge simply *was*; it was an unambiguous set of facts, though I was aware that some of this knowledge might still be lying in wait for some opportunistic researcher to discover it and begin the process of passing it down from teacher to student, generation to generation.

However, in the years since, I have developed strong insights into the questions of what constitutes true knowledge and how it is created, many of which are based upon the lessons instilled in me by such educators as Professors Eble, Kain, Albers and others (it is no coincidence that I have chosen these professors to form the English Department core of my dissertation committee). In this chapter, I will elaborate on my epistemological beliefs and the methodologies that guided my research. Then, I will go into detail about the methods I used to gather the data from which my research corpus was drawn. This research had previously been approved by the East Carolina University Institutional Review Board (IRB), and the IRB Approval Materials, including the approval letter and Informed Consent form, are included in the Appendix.

Methodologies and Epistemological Beliefs

Case Study

In order to provide the sort of deep contextual understanding of the data necessary for my analysis, I chose to conduct a case study. According to Yin (2008), experiments and surveys divorce phenomena from their context, whereas case study allows for a deep understanding of this context

that surrounds the data collected. Case study is particularly applicable to empirical research in software development environments. As McLeod, MacDonell, and Doolin (2011) state, "software development is generally an (organizational) activity that involves complex interrelationships between people, structure, procedures, politics and culture - elements that require qualitative empirical case study research in real world settings if they are to be genuinely understood" (pp. 432-433). Gaining insight into these complex interrelationships is essential to providing a truly thorough and insightful analysis of data collected, and case study as a methodology allows researchers to do so.

Yin also offers basic guidelines to determine the appropriateness of case study research versus other "methods," as he calls them (although I choose to label it a methodology as I believe its implications to the research being undertaken go far beyond data collection). If I were merely interested in recording the percentage of real-time chat interactions among software developers which include requests, I would most likely be content to obtain archival documentation from a large number of organizations. However, since I am interested in not only the "what" (what percentage of the interactions involved requests) but also the "why" (why each participant decided to issue the request), and the "how" (how these requests were presented and how they impact the relationship among the participants), case study is far more appropriate. In fact, I feel strongly that it is required since this sort of understanding relies on the kind of contextual information that, though I would argue can be partially reconstructed using the texts alone, cannot be comprehensively understood without immersion in the context that helped produce and was in turn affected by the interactions being analyzed.

The main opposition to case studies tends to center on the claim that they cannot produce generalizable results (Yin 2008). While I do agree with this statement to some extent, I disagree that it invalidates case study results as useful knowledge. I believe that, in the proper

circumstances, case studies can produce very useful information that can contribute greatly to both the current knowledge within a field and to the development of future research. The existing literature in the field of politeness research, especially the sub-field that focuses on organizational communication, validates my beliefs, as a large number of the most prominent researchers have relied heavily on case study in their work.

One such politeness-related study that relied on case study methodology, and which was very similar to my own, was conducted by Stephen Bremner (2006). In the introduction to his write-up, Bremner explains the major criticism of politeness research up to that time: that most studies failed to consider the inherent interconnectedness of the data and the context surrounding its creation. Bremner relied on Meier to better describe his point: "politeness can only be judged relative to a particular context" (Meier 1995, p. 387). Bremner goes on to describe his belief that politeness research must take a social constructionist view, approaching the research from the perspective of genre and context acting upon one another dynamically (p. 398). As Bremner states, "Such an approach entails looking at the production of texts and their effect over time" (p. 399). Thus, he chose to conduct a self-described longitudinal ethnographic study, delving deeply into his role as a participant-observer over the course of a year and collecting a variety of contextual information to support his analysis of the data. This, notes Bremner, allowed him to examine not only texts in isolation but as part of an "ongoing system" where there is a continual interaction and influencing occurring among "texts and contexts," a phrase that I find particularly apt when applied to my own research (p. 400). While my study does not take as longitudinal approach as Bremner's, as it is limited to approximately fuor month's worth of data and therefore can hardly be considered ethnographic in its scope, the in-depth participant-interaction I engaged in allowed me to gain the same type of deep contextual understanding that Bremner advocates.

Anguori and Tseliga (2010) also note the increased importance on contextualized meaning over decontextualized data in recent work related to politeness theory (p. 58). Their study also used a case study approach, in this case focusing on two Greek online discussion forums. As I noted in the Literature Review chapter, this study is of particular interest to me as much of my data was collected from an online chat room utilized by the company's development and quality assurance teams to coordinate activities and resolve any obstacles to successful completion of software work. The case study approach allows Angouri and Tseliga to delve deeply into the activities in the forums, getting to know the users closely and ultimately analyzing how they construct a "collective 'we' identity" as members of the group participating in the forum discussions (p. 64). Without a case study approach, such deep analysis would not be possible.

In another example of case study being chosen as the methodological approach to a predominantly politeness-theory based research study, Bargiela-Chiappini and Harris (1996) chose to capture a large number of texts written by or to a single managing director of an international organization. As they explain, this decision was originally made to allow for control over "individual writing styles," one of many pieces of information that are difficult to capture without in-depth analysis of the context such as that provided by a case study. They also imply that this case study approach allowed them to contextualize the texts in a particular business environment and with relatively stable power hierarchies that enabled them to closely examine the impact of power hierarchies on the interactions (pp. 639-640).

In a study whose foundational theories are in line with my own, Sandra Harris (2003) examined politeness and its relationship to power in institutional settings. While different from my study in the organizations being examined (Harris focuses on such power-laden relationships as a doctor-patient interaction and a policewoman and civilian, while my research focuses on less rigid and well-defined power relationships), she also takes a case study approach rather than examining

a large corpus of disconnected data. While her description of each situation is somewhat superficial, due most likely to the highly formulaic nature of such exchanges and the immutable power hierarchy inherent in the relationships chosen for her analysis, which require little additional explanation, she relies on the context of the situation to aid her analysis.

Like Lakoff in her foundational 1973 conference paper, Harris's examinations focus on rigidly-defined power hierarchies, ones where it is very possible to say "Person A is superior to person B." Harris notes this rigid power hierarchy explicitly through such descriptions as, "the power differential is moderately high (a policewoman interacting with a member of the public in the station)" (p. 39), which brings such situations into sharp contrast with those in small software business environments like those from which I collected my own data. In these less-rigidly structured (from a power-relationship perspective) interactions, as will be shown in the analysis chapters that follow, not only does power shift on an interaction-to-interaction basis, but there are also often multiple power hierarchies in play, further confounding analysis of the situation except through deep contextual examination. Case study makes such an examination possible.

Further demonstrating researchers' historical reliance on case study when examining workplace interaction, Janet Holmes (2000) gathered data from four government departments in New Zealand as part of her analysis of humor and politeness in business organizations. This study was part of the larger Language in the Workplace project, undertaken in the late 1990's and early 2000's to examine workplace interactions from a variety of perspectives (p. 161). Other examples of case study being used for politeness research include early politeness researcher Robin Lakoff (2005), who examined particular political speeches, Leena Louhiala-Salminen (2002) and her observational study of a Finnish business manager's discourse activities, and Louise Mullany (2006), who chose to analyze "small talk" in managerial meetings using data from two ethnographic case studies. This continued an almost exclusive reliance on case study to gather data for politeness

research speaks not only to the need for in-depth contextual data to understand intentions and results of interactions, but also to the advantages of case study approaches for gathering data within organizational environments.

It is interesting to note that authors of more recent studies such as those of Angouli and Tseliga and others (see Bargiela-Chiappini and Harris, 1996; Holmes, 2000; Louhiala-Salminen, 2002; Harris, 2003; Lakoff, 2005; Mullany, 2006) do not appear to feel obligated to defend their choice of a case study approach, suggesting that the practice has become more accepted as a legitimate means to generate knowledge since 1989, when Robert Yin first published his vigorous defense of the practice as part of his Case Study Research text. The fact that such a defense was originally necessary is particularly interesting because of its implications about case study being an epistemology as well as a methodology; by defending the choice of case study as a methodology (or "method," as Yin chose to label it), there is an implied defense of the legitimacy of the data and, subsequently, the conclusions obtained as a result of analyzing it.

Participant-Observation

Drury and Stott (2001) note in their study of competing groups that "there was an understandable amount of mistrust of people with notepads and clipboards" (p. 51). Holmes (2000) provides a similar opinion based on her experiences as part of the Language in the Workplace project, explaining that, "recording in workplaces is difficult, especially if the aim is to be minimally intrusive in order to collect data which is as spontaneous and 'natural' as possible" (p. 161). This inherent mistrust and difficulty in obtaining quality data drove two of my decisions: first, the need for me to conduct participant-observation research and second, the need to be as discreet as possible in my research.

Participant-observation, while containing many potential bias concerns, lends itself to research in competitive environments due to the trust and bond that is established between

researcher and researched. Of course, this also creates an increased responsibility on the researcher to use the study to empower the participants and improve their conditions as a result. In addition, while I was very open in stating what I was recording as well as why and how it would be used, I used discreet methods not only to prevent mistrust but also to combat the observer's paradox which, as defined by Labov (1972) in his book *Sociolinguistic Patterns*, occurs because, "the aim of linguistic research in the community must be to find out how people talk when they are not being systematically observed; yet we can only obtain these data by systematic observation" (p. 209). Thus, I used every means possible to put participants at ease so they would behave "naturally," as Holmes puts it, and so the resulting data would be less impacted by participants' knowledge that they were being observed.

Of course, the impact of the observer's paradox was also lessened by my status as a participant-observer, especially since I was a participant *before* I became an observer. As I was not artificially grafted onto the situations I was observing, my presence was in no way a flagrant disruption of the situations to the other participants. In a way, it might be useful to further sub-define my particular situation as a *participant*-observer, with the emphasis on "participant," since I was a participant first and only became an observer at a later date, as opposed to a participant-*observer* (opposite emphasis), who faces the much more difficult challenge, as noted by Kluckhohn (1940), of having to choose applicable roles within a community, research those roles to gain the inherent knowledge needed to successfully occupy them, and then work to integrate into the community within those roles before the research can begin. Even then, the researcher engaging in participant-observation is still a researcher *first* and a member of the community *second*, and most likely will never truly be viewed as anything other than an outsider by the participants being observed.

In one of the earliest explicitly self-aware examples of participant-observation, sociologist Florence R. Kluckhohn (1940) defined it as "conscious and systematic sharing, inasmuch as circumstances permit, in the life-activities and, on occasion, in the interests and affects of a groups of persons. Its purpose is to obtain data about behavior through direct contact and in terms of specific situations in which the distortion that results from the investigator's being an outside agent is reduced to a minimum," going on to note that the participant observer must "achieve status within the community organization" (p. 331).

However, Kluckhohn also notes the possibility for bias when the researcher is so involved with the subjects under observation, stating that the participant-observer must not only carefully select roles in which to be incorporated into the community and analyze these roles for the data and insights afforded, but also to "examine them for the biases inherent in them" (p. 332). In addition, some of the limitations of participant-observation research lend themselves to bias, such as the limitations on access to data, which is governed by the role occupied (p. 339). Also, the need to "sacrifice a certain uniformity in data" due to the limited amount of observations possible when conducting research as a participant-observer as opposed to, for instance, a large-scale survey. Kluckhohn no doubt felt the need to respond to this view of uniformity, and the generalizations thereby afforded, due to her placement in an era when modernism was still the predominant form of thinking; I mention this because the issue of lack of uniformity, the lack of control over confounding variables, and the resulting "messiness" that occurs and must be addressed in research analyses, is one that faces nearly every qualitative study. However, ultimately, Kluckhohn concludes that any "drawbacks" caused by the lack uniformity in data are more than offset by the gain in in-depth contextual information that lends itself to greater insights into the data, noting that, "there will be less danger of that surface uniformities are obscuring subtle differences" (p. 339). She goes on to extol the benefits of participant-observation in her own research, stating that, "I gained

understanding and insight by such experiences. I think I gained more than I lost by the temporary lapses of cold objectivity" (p. 343).

Drury and Stott eloquently describe the usefulness of participant-observation in combating the observer's paradox, stating that, in addition to ethnographic research often being compromised because the results are affected by the researcher's presence, the very act of attempting to remain "neutral" in relation to the subjects under observation can be misinterpreted by the participants and, thus, affect the data gathered during the study. As they quote from Jacobs (cited in Whyte 1984), "this [the effect of neutrality on data gathered during ethnographic research] demonstrates that neutrality itself is a role enactment subject to interpretation" (p. 223). Participant-observation (in particular, according to Drury and Stott, partisan participant-observation) helps alleviate this issue by removing the outward neutrality of the researcher in the eyes of the other participants who are under observation for the study.

Bremner's (2006) decision to use participant-observation in conjunction with his case study approach allowed him to focus on a single organization and become thoroughly embedded in its daily activities. This enhanced his access to the interactions, giving him a considerable wealth of data from a variety of sources (pp. 401-404). I believe this perspective on participant-observation, as a methodology which enhances access to data by allowing researchers to do a deep-dive into a particular organization and its daily activities, is particularly useful when dealing with software development companies, as it provides a means to overcome the resistance to access that may occur as a result of the fast-pace and rapidly-changing nature of such organizations. Participant-observation allows researchers the opportunity to become deeply enmeshed within a single organization, potentially transforming them, in the eyes of participants, from disruptive interlopers into colleagues who can be trusted and who may be allowed access to data to which they might otherwise not be privileged.

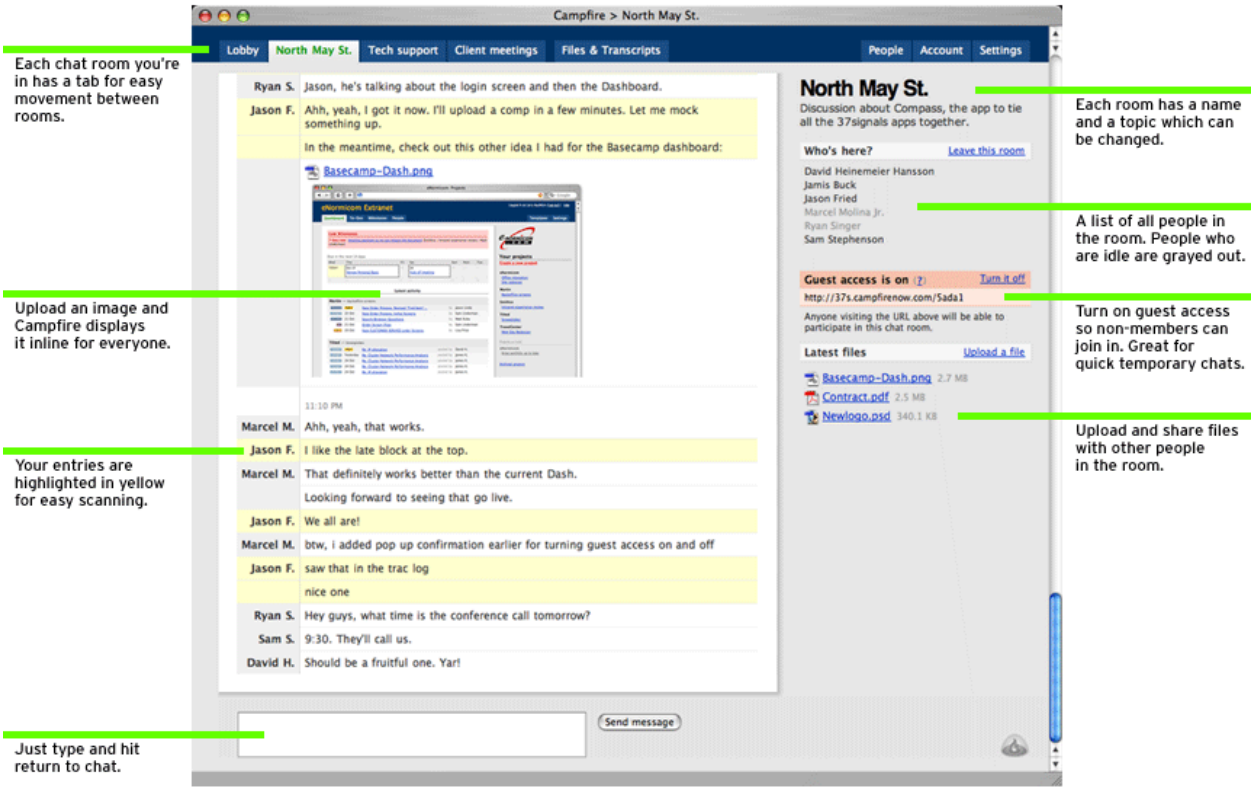
Method of Data Collection

The data set that I collected consisted of real-time chat logs containing communication among developers, the requirements team, and the quality assurance team. These teams all regularly communicated using an online chatroom program called Campfire, which contained topic-based, invite-only "rooms." This chatroom functioned as the official communication medium for resolving issues around testing, deployment, and development of the software product. An additional benefit of the chatroom was that, if a user entered in the middle of a discussion, they could scroll back to read the previous entries, preventing the other users from needing to interrupt their interaction to get the new user caught up.

All chatroom discussions were automatically saved to a text-only "log" and this log was often referenced during "who said what" disputes in the organization. The log of this chatroom data was exported in Word format and contained only the text entries and the timestamps; no images, room information, attached files, or highlights were included.

The image below shows a typical Campfire chatroom. You will see that the "room" also has an overarching topic, which was the focus of discussion in an example in the Analysis chapter.

Figure 2
Campfire Chatroom Interface



Note. Image used with permission from 37signals

The chatroom log data that I collected spanned approximately four months and included over four thousand rows of data. To make this large corpus manageable, I needed to define working units and then select a representative sample to analyze extensively.

Units of Analysis

Before I could begin working with my data, I needed to select base units to serve as the foundation of my analysis. I chose the *utterance* because it provides the flexibility needed to define a discrete entry into a discourse, which serves well for the initial quantitative analysis I performed, and the *turn* because of its usefulness and flexibility in identifying one or more utterances which serve as a complete contribution by a participant to the current conversation, which is ideal for

qualitative analysis. This flexibility is missing from grammatical and linguistic structures such as the phrase or sentence. As Bakhtin notes (cited in Emerson and Holquist, 1986):

> Each rejoinder, regardless of how brief and abrupt, has a specific quality of completion that expresses a particular position of the speaker, to which one may respond or assume, with respect to it, a responsive position... But at the same time rejoinders are all linked to one another. And the sort of relations that exist among rejoinders of dialogue - relations between question and answer, assertion and objection, suggestion and acceptance, order and execution, and so forth - are impossible among units of language, either in the system of language or within utterances (p.72).
>
> The sentence as a language unit lacks all these properties; it is not demarcated on either side by a change in speaking subjects; it has neither direct contact with reality (with an extraverbal situation) nor a direct relation to others' utterances; it does not have semantic fullness of value; and it has no capacity to determine directly the responsive position of the other speaker, that is, it cannot evoke a response. The sentence as a language unit is grammatical in nature (p.74).

The utterance, as Bakhtin explains, is inherently defined by the discourse in which it takes place. As a result, it transcends grammatical structure because it can range from a single word to entire paragraphs, and may even transcend spoken dialogue into physical action beyond speech acts.

Likewise, turn-taking, as originally described by Sacks, Schegloff and Jefferson (1974), is flexible in that there are no particular grammatical characteristics that define a turn. “Turn size is not fixed, but varies” based on the length needed for a particular participant to complete a contribution to the larger conversation, whose length can also vary (pp. 700-701).

One desirable characteristic of chatroom data is that there is no potential for physical overlap of utterances as there was in the spoken dialogue analyzed by Sacks et al. However, the potential for overlap still exists in that an intended turn may encompass several utterances in the chatroom, which could be broken up by the insertion of an utterance from another participant. I needed to remain aware of this possibility as I reviewed my data, since I chose to programmatically code my end-turn utterances, as described in a subsequent section of this chapter.

Chatroom data also appears to vary from spoken dialogue in another way: the distinct lack of "interruption markers" (Sacks et al., p. 724). In spoken dialogue, these markers, which include interjections such as "excuse me," serve to allow participants to interject into another participant's turn. The nature of chatroom dialogue precludes the need for such verbal interjections, however, as textual interjections can simply be inserted without the need to prevent conflicting auditory output from other participants. There is no potential for misunderstanding, oversight, or any other negative effects that occur during auditory overlap.

Data Grooming

The chatroom log was captured in a streaming format in a word processor filetype due to the limitations of the chatroom software itself. This streaming log contained many pieces of irrelevant information, such as links to other dates in the timeline, which were taken from the site through which the data was captured.

In addition, the original chatroom log was structured in a narrative format: a single date appeared, followed by the timestamp of the first activity. These timestamps were broken down into 5-minute intervals. All activities within the interval would appear under the single timestamp. The actions and contributions to the discussion were labeled by participant name at the point of first contribution for a particular interval. However, if multiple successive contributions were made within a time interval, no further participant labeling was applied. This narrative structure

precluded any quantitative analysis or programmatic labeling of utterances or turns within the data.

The following figure illustrates the original format of the chatroom data. Please note that I have intentionally deviated from APA format on this table to illustrate the original formatting.

Figure 3
Sample Illustrating Original Chatroom Data Format

April 29

← Yesterday, April 28

Apr 29	9:40 AM
Ted H.	has entered the room
	10:20 AM
Emily M.	has entered the room
	10:40 AM
Emily M.	has left the room
	10:55 AM
Bill B.	has entered the room
Bill B.	Morning Ted
	do you know if Edge has been indexing resumes? I have a guy showing up on searches for text in a document that we removed from his profile several days ago
	11:20 AM
Bill B.	I'm not able to upload documents on edge. Opened ticket #3340108

	11:35 AM
Bill B.	For the resume index thing, it looks like it's not wiping out previous indexes when a .DOC is replaced with a .PDF. Opened ticker # 3340243
	11:50 AM
Owen H.	has entered the room
Owen H.	Bill : I'm sure it didn't index that document several days ago.
	11:55 AM
Owen H.	why pass this one, http://www.pivotaltracker.com/story/show/3125386 and reject this one http://www.pivotaltracker.com/story/show/2803660?
	12:05 PM
Owen H.	hears crickets chirping
	12:30 PM
Bill B.	I didn't pass either of them.
	and i was eating lunch
	not sure who passed the first story but I was never able to get one to upload successfully

Before I could begin my coding and categorization of the chatroom data, I had to groom the raw data to remove irrelevant information and to combine the information into a "database" format; that is, a format where all relevant information surrounding an utterance (which, in the case of the chatroom data, I defined as a single entry in the chat log) was present on a single row of my spreadsheet. I accomplished this goal through the following steps:

1. I copied all data into a spreadsheet.

2. I used macros to determine if the cells contained dates, times, or other text.

3. I created a date column. I then created a formula to auTedatically populate the column. If the adjacent cell contained a date, it copied in that date. Otherwise, it copied the date from the cell above, ensuring that dates would be correctly applied to entries (this process worked because all data was sequential).

4. I used a similar process to apply the correct timestamp to each line of data.

5. I used a similar process to apply the correct participant to each line of data within each time interval.

6. I created a temporary column and used a series of nested "IF" functions to determine whether a row contained a complete set of data. This formula then tagged the rows containing only a date, only a timestamp, or only other irrelevant data. A complete row contained the date, time, participant, and action/utterance.

7. I sorted to segregate the irrelevant rows from the complete rows of data

8. I manually deleted irrelevant rows.

At the end of this process, I was left with a spreadsheet containing the following columns: Date, Time, Participant, Utterance/Action (see Figure ? for example of groomed data). I was then ready to begin coding and manipulating the data to prepare for my analysis.

Figure 4
Sample Illustrating Groomed Chatroom Data Format

Date	**Time**	**Participant**	**Utterance/Action**
4/29/13	9:40 AM	Ted H.	has entered the room
4/29/13	10:20 AM	Emily M.	has entered the room
4/29/13	10:40 AM	Emily M.	has left the room
4/29/13	10:55 AM	Bill B.	has entered the room
4/29/13	10:55 AM	Bill B.	Morning Ted
4/29/13	10:55 AM	Bill B.	do you know if Edge has been indexing resumes? I have a guy showing up on searches for text in a document that we removed from his profile several days ago
4/29/13	11:20 AM	Bill B.	I'm not able to upload documents on edge. Opened ticket #3340108
4/29/13	11:35 AM	Bill B.	For the resume index thing, it looks like it's not wiping out previous indexes when a .DOC is replaced with a .PDF. Opened ticker # 3340243
4/29/13	11:50 AM	Owen H.	has entered the room

Date	Time	Participant	Utterance/Action
4/29/13	11:50 AM	Owen H.	Bill B.: I'm sure it didn't index that document several days ago.
4/29/13	11:55 AM	Owen H.	why pass this one, http://www.pivotaltracker.com/story/show/3125386 and reject this one http://www.pivotaltracker.com/story/show/2803660?
4/29/13	12:05 PM	Owen H.	*hears crickets chirping
4/29/13	12:30 PM	Bill B.	I didn't pass either of them.
4/29/13	12:30 PM	Bill B.	and i was eating lunch
4/29/13	12:30 PM	Bill B.	not sure who passed the first story but I was never able to get one to upload successfully

Chatroom Data Selection

While I did generate useful quantitative information from the 4,100+ lines of chatroom data I gathered, it was not necessary to code the entire data set. After coding a certain amount of data, diminishing returns would begin to set in, leading to a great deal of additional work with minimal return on the investment.

I instead selected a subset of the data. Because I was particularly interested in in-depth conversations that gave participants ample opportunity to develop and explore power dynamics among themselves, I selected 5 of the most active days, as determined by number of utterances/actions, but spread out over the course of the 3 months that I gathered data.

My final corpus for qualitative coding consisted of approximately 1,500 lines of data, as shown in the figure below. Note that I have distinguished qualitative coding from generated coding, which did not require qualitative analysis as part of the code application. These generated codes were applied to all 4,100+ lines in my original dataset, and were used to determine levels of interaction among participants via the complete dataset. I will provide more explanation regarding my generated and qualitative categories and codes in the next chapter.

Figure 5
Dates Selected for Data Coding With Number Of Utterances/Actions

Date Selected	**Utterances/Actions**
February 4	226
February 18	688
March 5	403
March 18	97
April 16	79
Total	1493

Chapter Conclusion

In this chapter, I explained my reasons for following case study and participant-observation methodologies when conducting my research. I also explained why I believe case study is more

than a methodology; it is also an epistemology. Finally, I provided a description of the methods I used to capture my data and generate a workable corpus.

With the apparent recent acceptance of case study research as a methodology, the subsequent implication is that there is greater acceptance of the legitimacy of data and conclusions obtained from it. In other words, researchers are increasingly accepting of the information resulting from case study research as true knowledge. Thus, I contend that case study is not only a collection of methods at a daily-activity level, but also a methodology at a research-shaping level and an epistemology at the highest, most abstract level, because its use promotes, by implication, a belief that the knowledge that is obtained through case study is legitimate and useful. Furthermore, not only are such case studies accepted as creating useful knowledge but, in the realm of politeness research, they are practically a requirement to obtain the type of deep contextual information that is necessary for a truly insightful analysis of the data obtained.

In the narrower scope of politeness research in software environments, I contend that a participant-observation or, more specifically, a *participant*-observation methodology, with the emphasis on the researcher being accepted as a participant prior to becoming an observer, is an effective way to combat the observer's paradox and obtain data that is as "natural" as possible.

In the following chapters, I will describe my framework that I used to code and analyze the data that I obtained through these methodologies and methods. I will then proceed to present my findings, using them to provide evidence to support my claims regarding the use of politeness strategies to effect change in, and to maintain, power relationships among employees in small software organizations.

Chapter 4: Analytical Framework

Introduction

As noted earlier, my purpose when undertaking this research was to examine the relationships among employees at a small software company to determine how power relationships are developed and maintained. An additional goal was to develop a framework through which researchers could define power relationships, as indicated via observation of the discourse among participants, and contrast those relationships with the expected organizational hierarchy to determine the level of effect the organization itself had in shaping the power structure within it. In other words, is it a top-down, inflexible power structure, imposed by the organization, or is it a bottom-up, evolving power structure created by the employees working within the structure itself?

The following chapter describes the process through which I developed my codes and categories, both qualitative and quantitative, and applied that coding method to my data. As I will show in this chapter and in subsequent chapters presenting the analysis itself, it is possible to identify trends that point to a "breakdown" of the organizational power structure as defined by the org chart. These quantitative trends show a reversal of expected politeness strategies among employees based on their relative hierarchical rating, which I assigned based on the org chart standing of each employee (this assignation process will be described more fully later in this chapter). By conducting further qualitative analysis of the relationships so identified by the trends in the data, I was able to provide some insight into the nature and possible causes of the unexpected upheaval (from an organizational standpoint) of power.

Generated Categories and Codes

Action Type

The first code I applied to my data was the action type: end-turn utterance, other utterance, or non-utterance. The non-utterance label identified events such as someone leaving the chatroom, entering the chatroom, or changing the room's "topic." As this list of events was quite limited, it was simple to programmatically apply this label to relevant rows of chatroom data. Any rows remaining outside of those identified as being one of the limited set of non-utterances were labeled as utterances of one type or another.

End-turn utterance was applied to those utterances where the participant changes from the current row to the next. Other utterance was applied to the remaining rows, which did not fall under the non-utterance or end-turn utterance codes.

Figure 6
Lines of Data by Action Type

Code	Number of lines
NON UTTERANCE	584
END-TURN UTTERANCE	1816
OTHER UTTERANCE	1762
Total	4162

Although simplistic in nature, this code was very important because it allowed me to segregate chatroom-defined events from participant-created utterances and actions. I then was able to further target breaking points in the conversation (end-turn utterances) to which I could apply my qualitative codes, as described in the next main section.

Delay

In addition to the contents of an utterance, delay in responding to an utterance can in itself be considered a face-threatening action, depending on the context. Therefore, I programmatically generated the delay between responses to other participants' utterances. I did this by only counting the time lapse between shifts from one participant to another; sequential utterances by the same participant were not included in the average delay calculations.

Target

I used manual interpretation of the data to label the target of each utterance. My own role as a participant-observer became very useful in this task, as a thorough understanding of the concepts and situations under discussion was necessary to correctly identify the true target of each utterance.

While I did attempt to adequately identify each target, the category and its codes do have a shortcoming in that they cannot be used to explicitly identify more than one target. Instead, I used a catch-all code of "All" for utterances with multiple targets, at least when one target was not clearly identified as being of greater importance than others. In practice, however, I found this shortcoming to be of little impact as there were few utterances containing face-threatening actions or other demonstrations of power that were aimed at multiple targets.

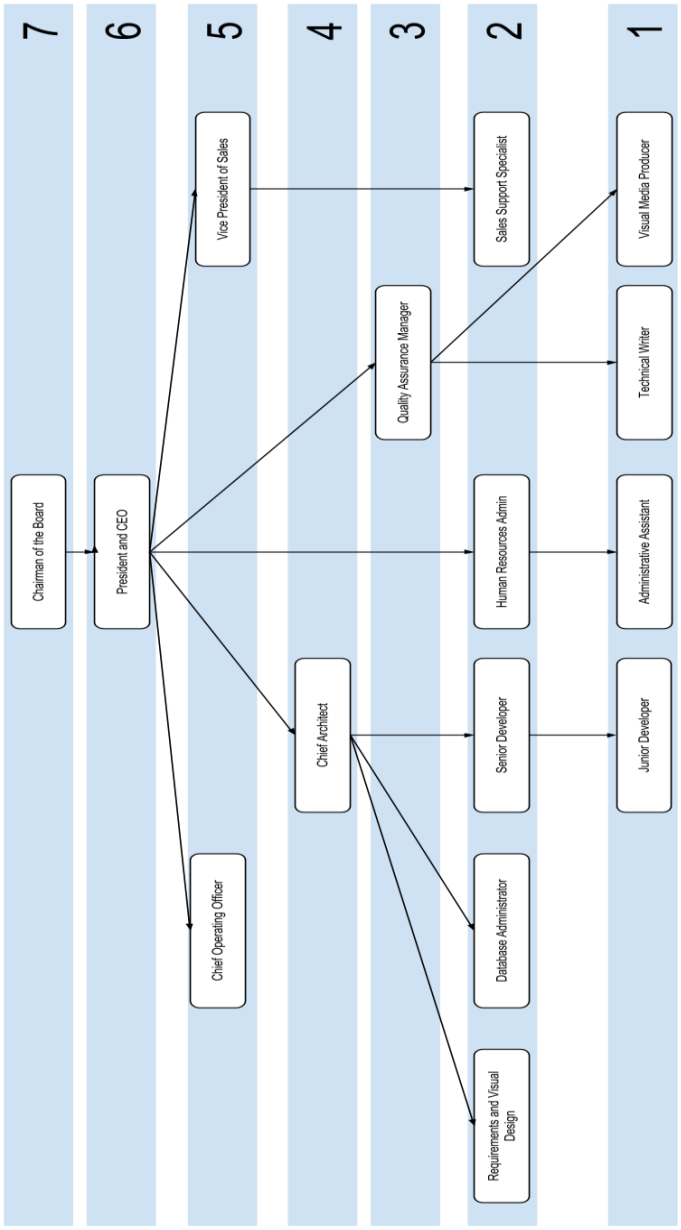
The resulting data was of interest when reviewing trends in politeness strategies, power being exercised, and other data points favored by participants with regards to specific individuals and groups.

Speaker and Target Hierarchical Rating

Based on the subject company's organizational chart, I assigned a "hierarchical rating" to each participant, from 1-5. This rating was useful to allow me to examine how participants' actions and utterances tended to differ (or remain the same) depending on whether they were interacting with colleagues rated above them, below them, or on the same level.

The following figure shows the organizational chart of the company observed during this study, along with the hierarchical rating assigned to each tier of the chart.

Figure 7
Org Chart and Corresponding Hierarchical Ratings



- 1: Entry level or junior individual contributor
- 2: Senior individual contributor
- 3: Manager
- 4: Director

- 5: VP/C-Level Executive (COO, etc.)
- 6: CEO/President/Founder
- 7: Chairman of the Board/Angel Investor

Note that hierarchical ratings 5-7 do not appear as these organizational members did not frequent the chatroom from which I collected my data. However, I did capture significant amounts of data for the lower four tiers. As these are the tiers whose power relationships most likely depend more on interpersonal relationships (since executive-level employees, at least in this instance, do not interact with lower-level employees on a daily basis), I don't believe my corpus suffers from the lack of data originating with the uppermost tiers of the organizational hierarchy.

Hierarchical Differential

This measurement shows the difference between speaker hierarchical rating and target hierarchical rating, which shows at a glance whether the speaker *should* experience a power deficiency based on the organizational hierarchy (org chart). Of course, in practice, an anticipated deficiency did not always translate to a realized deficiency, as my analysis will show.

Qualitative Categories and Codes

Each of the categories and codes listed below appeared in my spreadsheet as distinct columns. I applied them based on the descriptions provided, taken from my own knowledge and background reading, as elaborated upon in the literature review chapter. By applying these codes to each utterance, I attempted to make quantitative analysis possible, in hopes of providing insight into the power relationships among participants beyond those defined by the organizational chart.

Again, my position as a participant-observer was invaluable when applying these codes, as a deeply contextual understanding of the discussions and the participants involved them was necessary to interpret the data.

FTA Type

This label contains two possible super-categories (which were not applied explicitly to the data), Positive and Negative face-threatening actions (FTA), as defined by Brown and Levinson (1987, p. 62). Positive FTAs include those which impact the target's sense of self-worth, such as insults, questioning of authority, opposition to ideas, and similar utterances. Negative FTAs include those which impact the target's freedom of action, such as demands of their time, commands to complete an activity, and other similar requests.

I further broke these codes down based on Brown and Levinson (pp. 65-68) to provide insight into not only the high-level type of face threatening action, positive or negative, but also whether the FTA was directed at the Target or the Participant making the utterance. Then, I provided a brief descriptive code to subcategorize positive and negative FTAs, both towards the participant and target. Although I originally attempted to split these subcategories into separate categories with their own sets of codes, I ultimately decided to combine them into a single category with codes as defined later in this section.

The results helped me determine the type of FTAs most likely to be used by each participant and whether variations occurred for individuals when dealing with others either above or below them in the corporate hierarchy. The codes identify the recipient of FTA damage, participant or target, and indicate the type of threat that has been perpetrated. Note that some utterances may cause multiple FTAs; in such instances, both codes were applied to the utterance in question. I accomplished this dual labeling by duplicating the line in question and tagging it as such, to exclude

it from other calculations. Fortunately, this happened rarely so there was little chance of skewed results based on duplicate utterances.

In addition, by including "Target" options as viable coding alternatives and by broadening my definition of the FTAs in question, I have countered potential criticism that may have arisen had I focused solely on Brown and Levinson, as articulated by authors such as Chen (2001) and Culpeper (1996) regarding self-face and impoliteness, respectively. Politeness aimed at the Target constitutes self-face, while my broader definitions include not only cooperative strategies, such as excuses and apologies, but also non-cooperative strategies, such as insults and expressions of envy. The latter satisfies Culpeper's contention that Brown and Levinson's original theory excluded non-cooperative communication, which he deemed impoliteness.

Please note that, while the code titles are my own, the following descriptions are taken verbatim from Brown and Levinson (pp. 65-68), as these were the definitions and examples I used as references during my own application of the codes.

In the following definitions, note that "A" refers to the Act, "S" refers to the Speaker, and "H" refers to the Hearer. As noted previously, "FTA" stands for Face-Threatening Action, which may be mitigated by politeness strategies.

- **TNR. Target - Negative - Request to Act**

  Those acts that predicate some future act A of H, and in so doing put some pressure on H to do (or refrain from doing) the act A

  - Orders and requests (S indicates that he wants H to do, or refrain from doing, some act A)
  - Suggestions, advice (S indicates that he thinks H ought to (perhaps) do some act A)

- Reminders (S indicates that H should remember to do something)
- Threats, warnings, dares (S indicates that he - or someone, or something - will instigate sanctions against H unless he does A)

- **TNA. Target - Negative - Participant Future Action**

  Those acts that predicate some positive future act of S toward H, and in so doing put some pressure on H to accept or reject them, and possibly to incur a debt

  - Offers (S indicates that he wants H to commit himself to whether or not he wants S to do some act for H, with H thereby incurring a possible debt)
  - Promises (S commits himself to a future act for H's benefit)

- **TND. Target - Negative - Desire to obtain/become or harm possessions/person**

  Those acts that predicate some desire of S toward H or H's goods, giving H reason to think that he may have- to take action to protect the object of S's desire, or give it to S

  - Compliments, expressions of envy or admiration (S indicates that he likes or would like something of H's)
  - Expressions of strong (negative) emotions toward H — e.g. 1 hatred, anger, lust (S indicates possible motivation for harming H or H's goods)

- **TPD. Target - Positive - Disapprovals or challenges**

  Those that show that S has a negative evaluation of some aspect of H's positive face

  - Expressions of disapproval, criticism, contempt or ridicule, complaints and reprimands, accusations, insults (S indicates that he doesn't like/want one or more of H's wants, acts, personal characteristics, goods, beliefs or values)

- Contradictions or disagreements, challenges (S indicates that he thinks H is wrong or misguided or unreasonable about some issue, such wrongness being associated with disapproval)

- **TPI. Target - Positive - Indifference or disdain**

  Those that show that S doesn't care about (or is indifferent to) H's positive face

  - Expressions of violent (out-of-control) emotions (S gives H possible reason to fear him or be embarrassed by him)

  - Irreverence, mention of taboo topics, including those that are inappropriate in the context (S indicates that he doesn't value H's values and doesn't fear H's fears)

  - Bringing of bad news about H, or good news (boasting) about S (S indicates that he is willing to cause distress to H, and/or doesn't care about H's feelings)

  - Raising of dangerously emotional or divisive topics, e.g. politics, race, religion, women's liberation (S raises the possibility or likelihood of face-threatening acts (such as the above) occurring; i.e., S creates a dangerous-to-face atmosphere)

  - Blatant non-cooperation in an activity e.g. disruptively interrupting H's talk, making non-sequiturs or showing nonattention (S indicates that he doesn't care about H's negative or positive-face wants)

- Use of address terms and other status-marked identifications in initial encounters (S may misidentify H in an offensive or embarrassing way, intentionally or accidentally)

- **PP. Participant - Positive**

  Those that offend S's negative face

  - Expressing thanks (S accepts a debt, humbles his own face)
  - Acceptance of H's thanks or H's apology (S may feel constrained to minimize H's debt or transgression, as in 'It was nothing, don't mention it.')
  - Excuses (S indicates that he thinks he had good reason to do, or fail to do, an act which H has just criticized; this may constitute in turn a criticism of H, or at least cause a confrontation between H's view of_ thing and S's view)
  - Acceptance of offers (S is constrained to accept a debt, and to encroach upon negative face)
  - Responses to H's faux pas (if S visibly notices a prior faux pas, he may cause embarrassment to H; if he pretends not to, he may be discomfited himself)
  - Unwilling promises and offers (S commits himself to some future action although he doesn't want to; therefore, if his unwillingness shows, he may also offend H's positive face)

- **PN. Participant - Negative**

  Those that directly damage S's positive face

- Apologies (S indicates that he regrets doing a prior FTA, thereby damaging his own face to some degree — especially if the apology is at the same time a confession with H learning about the transgression through it, and the FTA thus conveys bad news)

- Acceptance of a compliment (S may feel constrained to denigrate the object of H's prior compliment, thus damaging his own face; or he may feel constrained to compliment H in turn)

- Breakdown of physical control over body, bodily leakage, stumbling or falling down, etc.

- Self-humiliation, shuffling or cowering, acting stupid, self contradicting

- Confessions, admissions of guilt or responsibility — e.g. for having done or not done an act, or for ignorance of something that S is expected to know

- Emotion leakage, non-control of laughter or tears

Politeness Strategy and FTA Weight

This category allowed me to assign an FTA mitigation strategy and a weight to each utterance that contained an FTA, to provide a method to quantitatively observe the typical force of FTA for different participants in different contexts, and to see which strategies were most prevalent. The weights are on a 1-5 scale, with 5 representing the weightiest FTA.

5. **Without redressive action, baldly**

Occurs when the perpetrator of the FTA states it clearly (as opposed to indirectly) and offers no mitigation for it.

Examples:

"Deploy the new code."

"Thank you."

"Your code is terrible."

"I'm sorry for my buggy code."

4. **Positive politeness**

Strategy used to mitigate threats to positive face to either target or participant. Flexible definition covers any effort to keep a positive FTA from being baldly stated.

Examples:

"I think your code may need some work." Mitigates the FTA by stating there is only a *possibility* that the code may be defective, and limits the criticism to only *some* of the code. Also changes the criticism from a universal truth to a personal opinion, as the participant only *thinks* revision may be necessary.

"I guess my code may have been a bit buggy in a few places." Reduces Positive FTA to participant through several mitigators: *guess*, *may*, *a bit*, *few places*. All of these words limit the scope of the positive threat to self-face.

3. **Negative politeness**

Strategy used to mitigate threats to negative face to either target or participant. Flexible definition covers any effort to keep a negative FTA from being baldly stated.

Examples:

"Could you deploy your new code?" Mitigates the threat to target's negative face by giving the target an option to refuse the request. Acts as a mitigator even if the target in actuality has no power to refuse to perform the task.

"Thanks for doing that, but I can take it from here." Limits threat to participant's negative face, which is diminished by expressing thanks, by placing a limit on the contribution made by the target.

2. **Off record**

Most threat-reducing action when an FTA is committed (as opposed to the FTA being avoided altogether, which is difficult to identify when it occurs), as the FTA is never explicitly stated. This strategy can be risky, however, as there is the potential for the target to misunderstand or overlook the implied request.

Examples:

"The code needs to be deployed soon." No command is given, no request is made, but the indirect request most likely will be understood.

"Some of the code may need another look." By not singling out the target as a particular offender, and by not making an explicit request to rewrite the code, the participant has avoided most of the threat to face while still indirectly requesting that the code be reviewed and, most likely, revised.

1. **Don't do the FTA**

   As no FTA is present to analyze, this strategy may be difficult to identify. Easiest to recognize when a bald, on record threat was previously made to a participant's positive face but the participant refuses to take retaliatory measures, though some may argue that this lack of action is in itself a threat to the Participant's self-face.

The strategies and weights are based directly on Brown and Levinson (1987): I took their assigned weightiness of FTA strategies (pp. 60, 69), where the weightiest were assigned lower numbers, and inversely assigned my own weight. Thus, bald, on record FTAs whose politeness strategy provided no mitigation were assigned the highest weight (5) and those which were mitigated or off record (indirect) were assigned lower weights. Note that indirect speech acts are inherently more polite as they show that the participant performing the utterance is aware of the potential threat to the target's face and is working to mitigate that threat. As John Searle (1975) noted, there is no imperative force in indirect speech acts (p. 67), thus robbing such utterances of much of their potential threat to face.

As noted previously, the strategy of avoiding the FTA (assigned a weight of 1) was very rarely applied to an utterance, and only when a bald, on record FTA appeared to demand some sort of confrontational response, but was instead ignored entirely.

Power Type

Using French and Raven's (1959) bases of social power as the foundation, I coded utterances to determine which types of power participants attempted to exercise most often in different situations. This coding approach allowed me to look for correlations among types of power and other codes such as hierarchical rating:

- **Reward**: Positive reinforcement; conferred by superior power position upon inferior.
- **Coercive**: Negative reinforcement. Insults, degrading statements, blatant personal challenges, and other similar utterances fall under this code.
- **Referent**: Based on personality/interpersonal interaction; personalized.
- **Legitimate**: Based on position within an organization; depersonalized Paradoxically, unless it is well supported by other forms, legitimate power lacks higher-order legitimacy.
- **Expert**: Recognized expertise conveys power. Form of referent power because it must be recognized to be effective. Limited to the area of expertise, occurs when significant gap exists in knowledge on topic; referent power is more of a wider-scope differential in power between individuals.
- **Informational**: Ability to control the availability and accuracy of information. This is a form of legitimate power, but is becoming difficult to maintain in information age.
- **Connectional**: Based on whom the individual knows. Variant of referent power, but depersonalized because it is not based on attributes of the person in question, but rather on those of people with whom he/she is connected. Changes as those people's power changes.

Domain

This category and the two that follow it (*Domain Acknowledgement* and *Authority Acknowledgement*) comprise my Domain/Authority Acknowledgement coding methodology. Unlike the two subsequent categories, which permit only a small set of possible codes, the *Domain* category is nebulous; the code I chose to use, when applied, was my own interpretation of the

domain of knowledge being discussed as part of a particular utterance. These domain codes are important as I examined participants' attempts to establish (in themselves) and discredit (in others) domain/authority acknowledgement, as represented in the next coding categories.

Domain/Authority Acknowledgement (D/AA)

Domain/Authority Acknowledgement is a code of my own design, intended to allow researchers to gain insight into the "leadership/followership" dichotomy of power relationships (Hollander and Offerman 1990). Power stems not only from acknowledgement of authority within a particular domain, but also from acknowledgement that the domain is of importance to the current discourse. Without both aspects, a participant cannot hold true power within a discourse.

My codes for D/AA include the following; the codes have been separated into sub-categories to allow me to code for both domain and authority within the same line of data:

Domain Acknowledgement (DA) Codes:

- **Domain Acknowledgement**

  Acceptance of the importance of the domain by participants to the current discourse or subject at hand, but not necessarily acceptance of its importance outside the discourse. This code was only rarely applied during this research study due to the nature of the data, which was taken from a chatroom with a specific purpose: discuss quality assurance testing for features created by the software development team. Thus, rarely was there a need to acknowledge the limited domains (QA, software development, etc.) or to dispute them.

- **Domain Acknowledgement Dispute**

  Occurs when one or more participants acknowledge the importance of a domain while one or more others explicitly deny its importance

Authority Acknowledgement (AA) Codes:

- **Target Authority Acknowledgement**

  Un-prompted acknowledgement of the authority of other participants in the discourse. This acknowledgement usually takes the form of deferring to another's expertise, often by asking a question or asking permission to perform an action. Less often, it will take the form of explicit acknowledgement.

- **Self Authority Acknowledgement**

  Not necessarily self-aggrandizement; can be a display of knowledge or other expertise that leads other participants to acknowledge authority where they might not have prior to reading or hearing the utterance; acknowledgement that arises from occurrences within the discourse. Often takes the form of commands or statements of permission ("Unless the code is fixed, we can't deploy on Thursday", "Yup, go for it") or statements of fact intended to display a superior expertise or access to information ("The deployment will be complete in 4 hours"). Less often, it will take the form of explicit acknowledgement.

- **Authority Acknowledgement Dispute**

  Occurs when one or more participants acknowledge the authority of a participant while one or more others explicitly deny his/her importance. Note that the dispute may be resolved, at which point the discourse group as a whole may indicate it has either accepted or rejected the authority of the participant in question. Often takes the form of questioning of the target's actions or conclusions ("That can't possibly be correct", "How is that bug on your critical list if you can't reproduce it?") or, less

often, in the form of utterances that infringe on another's area of authority ("Go test Bill. Now." targeted at Bill even though he is the lead for Quality Assurance).

Note that these codes are independent of the other politeness-based codes, though a correlation may exist.

Chapter Conclusion

Once I completed the coding described in this chapter, I analyzed the results to determine the percentage that each of the codes appeared for each person in relation to each other person. I also looked at the codes as they pertained to interactions above and below each participant with respect to the hierarchy imposed by the organization, as determined by the hierarchical differentiation for each utterance.

By conducting a qualitative analysis on utterances I deemed particularly contentious, those involving bald on-record FTAs, displays of coercive power, and instances of authority disputes, I was able to determine what I believe is the true relationship between participants. I then checked to see if there was a correlation between the percentage of codes and the relationship that I qualitatively determined for each participant-target pairing.

The results of this analysis, described in the following chapter, can be used by future researchers as a method to identify true power relationships among participants in a study, beyond the rigid, and often illusory, power structure bestowed by organizational charts.

Chapter 5: Analysis and Discussion of Data

Introduction

In this chapter, I present my analysis of the data after it was groomed and coded as described in the previous chapter. My goals during this analysis (and, indeed, during the entire dissertation process) were to determine how power relationships were negotiated at a small software company and to evaluate the effectiveness of the three major analytical frameworks I applied to my data, that of Politeness Theory, French and Raven's Bases of Power (which I have chosen to call "Power Types"), and Domain / Authority Acknowledgement (DA/A), in order to determine whether any of them, or some combination thereof, would be useful as a tool for examining negotiated power structures within a small software organization. To accomplish this task, I have presented my own analysis of the data using these frameworks in this chapter. I then proceed to discuss my conclusions on the role politeness plays in the formation of power relationships in small software companies, as well as my perceptions of the effectiveness of each analytical framework, in the Conclusion chapter.

Contextual Information

As I noted in my literature review, a deep contextual understanding is necessary to accurately interpret the results of data such as that which I have collected (Lakoff 1973, p. 292). To facilitate my own understanding, I chose to engage in participant-observation as my method of data collection, and I elaborated extensively on this decision in the Methodology chapter. The depth of knowledge of the data's context provided by the participant-observer's engagement in the discourse is unmatched by other research methods, which is why the participant-observation research methodology has been chosen frequently by politeness researchers (for some examples,

see Bremner 2006, Drury & Stott 2001, Harris 2000, Kluckhohn 1940). Drury and Stott note that, in many research situations, participant-observation is the only practical methodological approach to gathering data and that, lacking it, much "research would never have been done" (p. 52).

I provided a very in-depth overview of the company where I gathered the data and its background in the Introduction chapter. Below, I concisely review the pieces of that information relevant to understanding the following analysis: the process description and overview of Participants involved.

Ideas for new features for the company's flagship software product originated with the CEO. These ideas were conveyed to the requirements person, Mark (please note that all names are fabricated to preserve anonymity), who then turned them into actionable "stories". After Mark submitted the story via the organization's requirements tracking software tool, the development team lead, Brad, would assign it to someone on the development team, a group consisting of senior developers Owen and Ted, and junior developers Dylan and Terry. The assigned developer would then code the feature. After completing the code, the developer would add it to a "test realm," which was a copy of the software identical to the most recent version except that it also contained code from the most recent, unapproved (and often untested) stories. The team chose to name this test realm "Edge" (as in the "bleeding edge"). The developer would also mark the story as ready to be tested in the requirements tool.

On a daily basis, the quality assurance (QA) team, which was led by Bill and which also included Emily, would check the stories to see which were ready to be tested. Then, the testers would ensure the coded feature met the requirements in the original story. If it met the requirements, it would be passed and put in the queue for the next deployment of code. Otherwise, it would be sent back to the developer, who would fix any issues and submit it to the testing process again.

The following table summarizes the Participants in this data and information about their roles in the organization. As I described in chapter 4, the Hierarchical Rating is the number, from 1 to 7, which I assigned to each member of the organization based on their organizationally-bestowed authority. Entry-level employees received a hierarchical rating of 1, senior employees 2, managers 3, and so on up to the Chairman of the Board at 7. These ratings helped me determine the effect, if any, that the authority given by the organization had on the power wielded by each Participant in interactions.

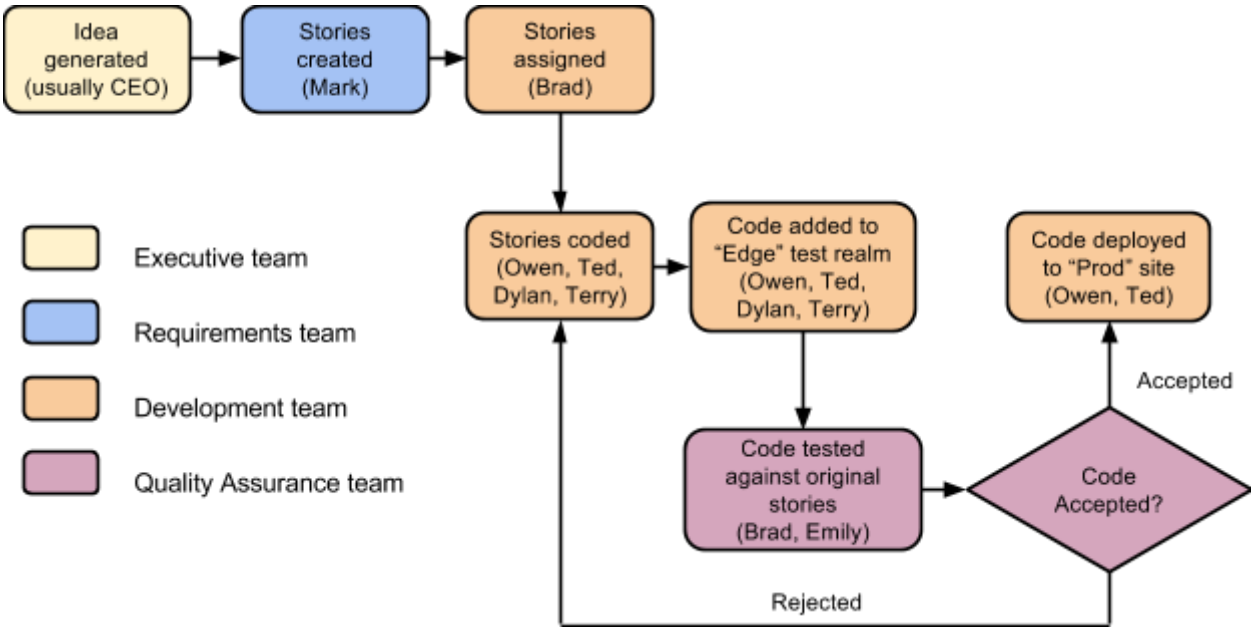
Table 3
Summary of Participant Titles, Hierarchical Ratings, and Roles

Name	Title	Hierarchical Rating	Team	Role
Mark	Requirements and Visual Designer	2	Requirements	Create "stories" (requirements)
Brad	Chief Architect	4	Development	Lead the development team
Owen	Senior Developer	2	Development	Manage deployments and write code
Ted	Senior Developer	2	Development	Write code and serve as backup deployment manager
Dylan	Junior Developer	1	Development	Write code
Terry	Junior Developer	1	Development	Write code

Name	Title	Hierarchical Rating	Team	Role
Bill	Quality Assurance Manager	3	Quality Assurance	Create QA process and test "stories" to either reject or accept
Emily	Visual Media Producer	1	Quality Assurance	Test "stories" to either reject or accept

A "deployment" moved the code from the test realm to the live software, which was in use by the end users, and which was referred to as the "production environment" or "prod." The deployment needed to be monitored by a highly-competent developer as anything that went wrong could potentially shut down the production environment, making the online software product unavailable to end users until it was fixed. Thus, the position of deployment specialist was extremely important to the company. At the time of this study, Owen was typically the developer in charge of deployments, with Ted as his backup.

Figure 8
Development Process - Simplified Flow



Now that I have reviewed the relevant contextual information, I will consider the quantitative data from the chatroom logs collected as part of my corpus.

Flow of Utterances

First, I wanted to determine the general flow of utterances. Who was targeting whom and how often? I was especially interested to see if there was any correlation between the ratio of Utterances made (where the person in question was the Participant) to Utterances received (where the person in question was the Target) and the Hierarchical Rating of the person in question. Note that I examined the entire corpus with regard to Utterances, not only those dates to which I chose to apply my codes. (Later in this chapter, when I analyze the data using the analytical frameworks I have chosen to apply, I use only the total Utterances from the selected dates to determine percentages.)

Utterances by Participant

Utterances made were heavily weighted toward a select few Participants. As the table and chart below show, Owen, Bill and Brad accounted for a large majority of Utterances, with 90.3% of the total among them. Ted and Emily also contributed a small percentage of Utterances, but others like Dylan and Mark were minor players at best and Terry did not contribute at all, appearing only in a passive role as a Target.

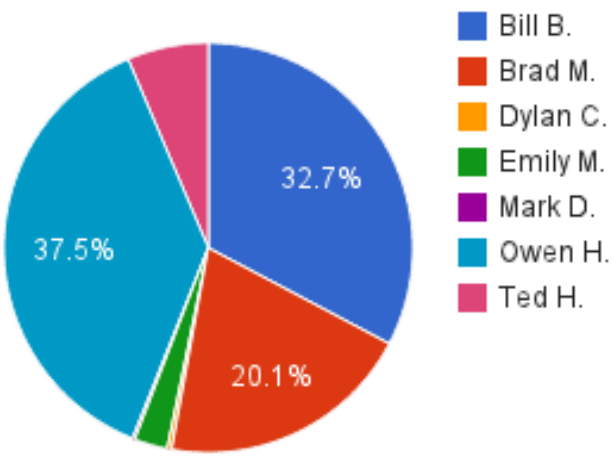
The following table shows the total number of Utterances by each Participant. Other actions contained in the data, such as entries and exits into the chat room, are not included in these totals. Generally, I disregarded these extraneous actions except where they marked the end of a turn in an interaction.

Table 4
Total Utterances by Participant

Participant	Number of Utterances
Bill B.	1113
Brad M.	684
Dylan C.	12
Emily M.	89
Mark D.	7
Owen H.	1276
Ted H.	218
Grand Total	3399

The conversational dominance exhibited by Bill, Brad, and Owen (and, to a lesser extent, Ted) is a form of power in itself, as it shows that these high-volume Participants had much more to contribute on the topics being discussed while the others wielded very little power. The fact that these other Participants did not contribute much to the conversation means that, by extension, they could not have had much influence on that conversation. The following chart clearly illustrates the discrepancy in the number of Utterances.

Figure 9
Percentage of Utterances by Participant (pie chart)



As noted previously, this discrepancy is a clear sign that some participants had more influence on the conversation than others. However, it is not clear whether the contributions made by each were from a position of leadership or followership. Thus, while this metric does point to the Participants who contributed most to the conversation, and thus which Participants were in a position to exercise power, it does not provide any information as to whether these Participants did indeed wield the power made possible by the opportunity.

Utterances by Target

Similarly to the Utterances by Participants metric, the Utterances by Target metric was heavily weighted in favor of only a few Participants. In addition, two of the Participants who contributed Utterances do not appear as Targets: Mark and Dylan, and another, Terry, only appears once, so I chose to exclude him from the analysis due to lack of sufficient data. These omissions underscore their lack of participation and, therefore, their lack of opportunity to exercise power during the conversation.

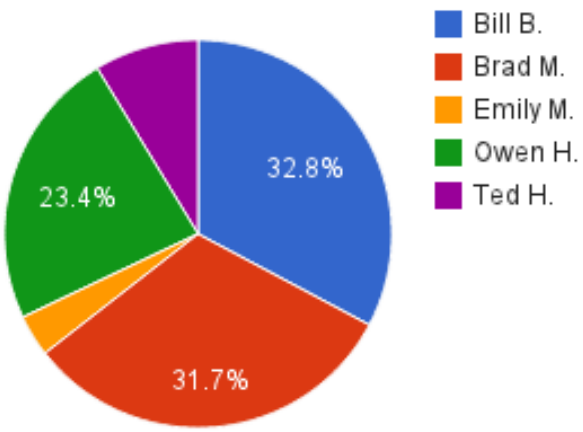
The following table shows the number of Targets for each Participant. Again, the data omits any rows that did not contain an Utterance directed at a Target.

Table 5
Total Utterances by Target

Participant	Number of times Targeted
Bill B.	1114
Brad M.	1077
Emily M.	118
Owen H.	794
Ted H.	296
Grand Total	3399

The following chart clearly illustrates the skew towards only a few Targets, as Bill, Brad, and Owen had 87.9% of the Utterances directed towards them. As they were also the major players in the Utterances by Participant metric, it is clear that the majority of the conversation was dominated by these three Participants, with others playing a minor role.

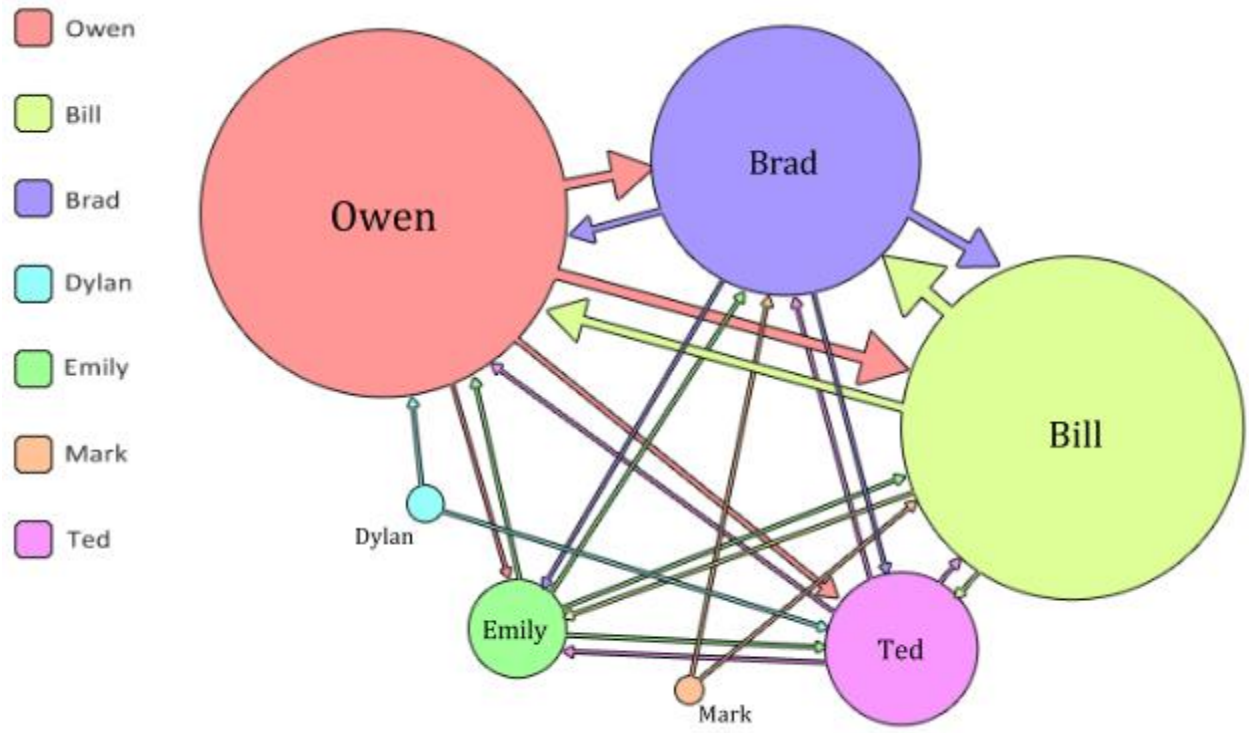
Figure 10
Percentage of Utterances by Target (pie chart)



It is interesting to note the shift in weight among the three major Participants between these first two measurements. While Owen was by far the largest contributor with over 37% of Utterances made, he was Targeted by only 20% of Utterances. Meanwhile, Bill maintained an almost even ratio, with 32.7% and 32.8% respectively, and Brad shifted in the opposite direction, from 20.1% of Utterances made to nearly 32% of Targets. This variance is in line with their Hierarchical Ratings, as Owen had the lowest with a 2, Bill was next with a 3, and Brad had the highest with a rating of 4. I explore this relationship in the next section, Correlation of Utterances Made and Utterances Received.

While the total numbers and percentages give a good idea of who was doing the interacting, I wanted to get an overall picture of who was interacting with whom. To visualize this interaction, I decided to create something beyond a series of pie charts, so I developed what I am labeling an Interaction Proportion Diagram.

Figure 11
Interaction Proportion Diagram



This diagram provides a visual representation of the number of Utterances made by each Participant overall, via the circles whose areas correspond to the relative percentage of Utterances. It also shows a proportionate representation of the relative number of Utterances directed by each Participant towards each Target, if any, via the width of the arrows connecting the circles. The end result is a diagram that, while somewhat complex, shows at a glance which Participants interact the most, and which other Participants they tend to Target with their Utterances. While it would become unwieldy to create a useful diagram for many more Participants than what I show here, due to the exponential increase in possible relationships, I found this diagram to be useful for my own data as a means to visualize the unevenly weighted interactions described earlier in this section, and thus to easily see which Participants had best positioned themselves to exercise power.

Correlation of Utterances Made and Utterances Received

To determine the effectiveness of utterances made as a Participant and received as a Target as useful metrics for evaluating the impact of organizationally bestowed power on the interactions, I calculated the correlation between the ratio of these two measurements and the Hierarchical Rating of the individual. Since Brad, the highest rated at 4, had a heavily inverse ratio of Utterances to Targets, Bill at rating 3 had an almost even ratio, and Owen at rating 2 had a positive ratio, with many more Utterances versus Targets, I expected a strong negative correlation, with Participants owning higher Hierarchical Ratings having more Targets than Utterances.

As I discovered, however, there was only a very weak negative correlation (-0.21, where 1.00 or -1.00 indicates a strong correlation and 0.00 indicates no correlation at all) between the ratio of Utterances to Targets and the Hierarchical Rating, which showed that these measurements are not necessarily good ones for validating power relationships bestowed by the Organization. However, that does not mean that they are not useful as an indicator of *negotiated* power relationships. Unfortunately, the data that I gathered could not conclusively prove this possibility one way or the other.

Average Delay

As chat rooms (a synchronous communication medium) breed an expectation of fast response, as opposed to email (an asynchronous communication medium), I reasoned that the act of perpetrating an intentionally offending delay can be in itself a face-threatening action. Delays impose upon Targets' negative face as they are forced to wait for a response to their question or request for action. Consider the following example, in which Owen responds to Bill's request for a spare testing computer:

Table 6
Example Interaction Showing an Intentional Delay

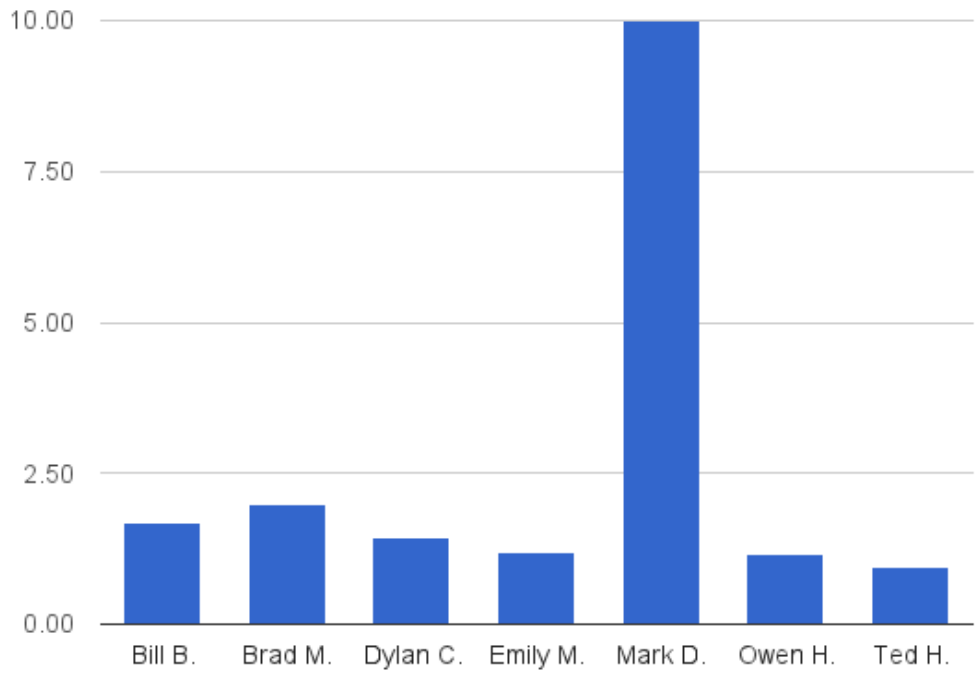
Row	Time	Delay	Participant	Target	Utterance
2047	3:35 PM	0:00:00	Owen H.	Bill B.	dude, I offered that to you like 3 weeks ago.
2048	3:40 PM	0:05:00	Bill B.	Owen H.	Oh yeah. Slipped my mind. Well, if it's still on the table, I accept.

In this sample interaction, Bill may be intentionally delaying his response by 5 minutes in order to mitigate the damage to self-face that he incurs when he explicitly acknowledges his error and then accepts Owen's offer. The delay could be intended as a means of regaining some power in the interaction by forcing Owen to wait for the response, which impedes Owen's freedom of action and thus constitutes a threat to Owen's negative face.

However, it is difficult to accurately label lengthy delays as face-threatening actions without contextual information as the key characteristic is that the delay be *intentionally offending*. It is possible the perpetrators of any delays (including Bill, in the sample above) were merely away from their computers and forgot to notify the other Participants that they were focused on some other task, or that some other legitimate reason caused the delay. In any of these instances, the delay would not be intentional. Alternatively, the delay may be intentional but may be legitimately necessary. In this case it would not be offending, as in the following Utterance by Owen, which came after a 5+ minute interval in response to a request by Bill: "Ok Bill, I've gone through your list and labeled the ones I 100% agree with with _mustfix". Owen obviously was engaged in a task that required him to be away from the chatroom during the delay period, so this delay does not satisfy the criteria for an FTA.

Regardless of whether the delay was intentionally offending or not, a feeling of frustration and loss of face may still be experienced by the Participant waiting for the response. Therefore, I chose to measure average delay for the entire corpus for each Participant. In the following graph, I show the average delay for each Participant after they were Targeted by turn-ending Utterances. I defined a turn-ending Utterance as that which preceded a change in the Participant providing Utterances, so long as there was no non-Utterance action (such as another person entering the chat room) intervening before the next Utterance.

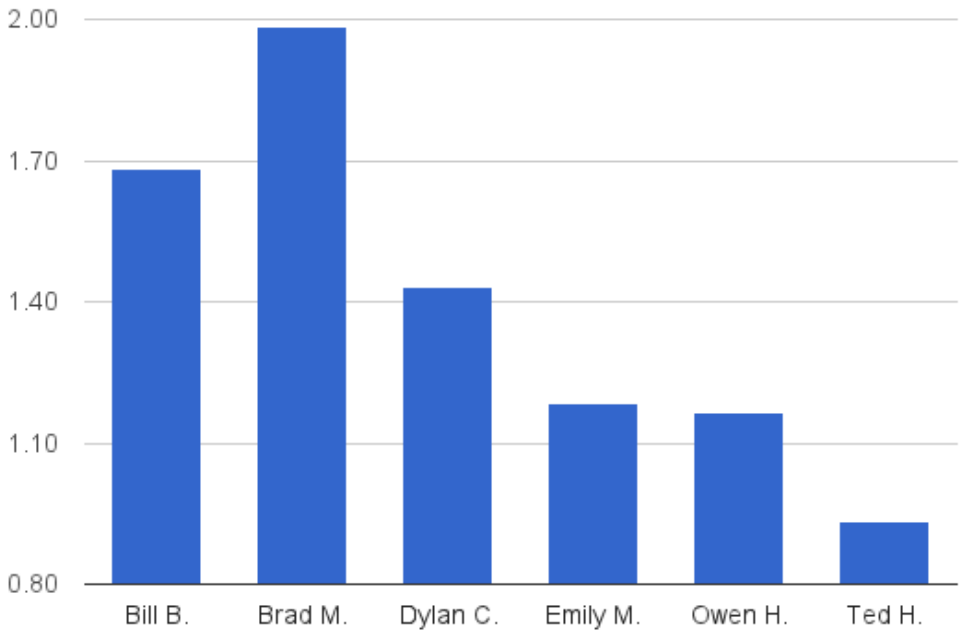
Figure 12
Average Delay (sec) by Participant (bar graph)



As the graph shows, most Participants' delays fall within a fairly narrow range. The sole outlier, Mark, contributed an extremely low number of Utterances to the corpus (7), which provided the opportunity for his average to be very skewed due to the small sample size. Mark's lack of regular participation may have also contributed as a confounding variable, as he would be

less likely to check the chatroom for responses often. If I remove Mark's data, it is easier to see the discrepancies in the average delays among the remaining Participants.

Figure 13
Average Delay (sec) Without Mark (bar graph)

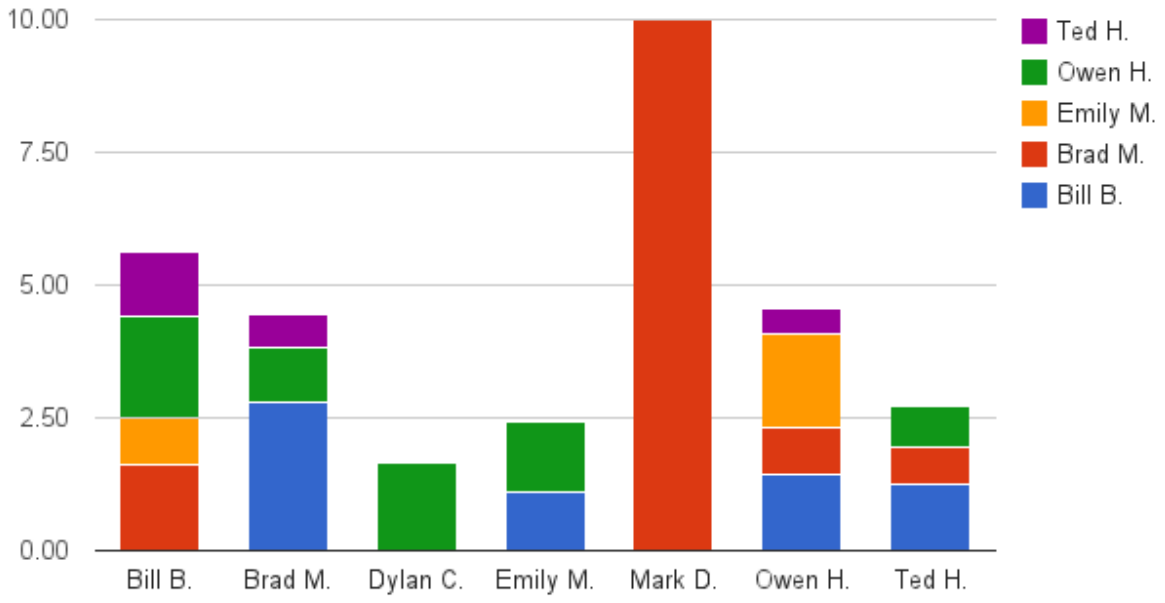


Brad and Bill were by far the highest in terms of average delay in response. Brad, at nearly 2 minutes, and Bill, at nearly 1.7 minutes, both exceed the median of 1.4 (Dylan) for the entire data set. They also possess the highest Hierarchical Rating in the chat room data, with Brad at rating 4 and Bill at rating 3. Of the remaining 5 (Mark included), only Owen and Ted contributed more than 5% of the Utterances, and they exhibited the lowest delays in average response time. It is possible that the others are misrepresented by their relatively small sample sizes, or that their lack of contributions indicated it was not as important to their job functions and they simply did not pay as much attention to the chat room as the other more engaged Participants. With that factor taken into consideration, it is possible that the average delays in response time did approximately correspond to the Hierarchical Ratings bestowed by the organization.

Average Delay by Target

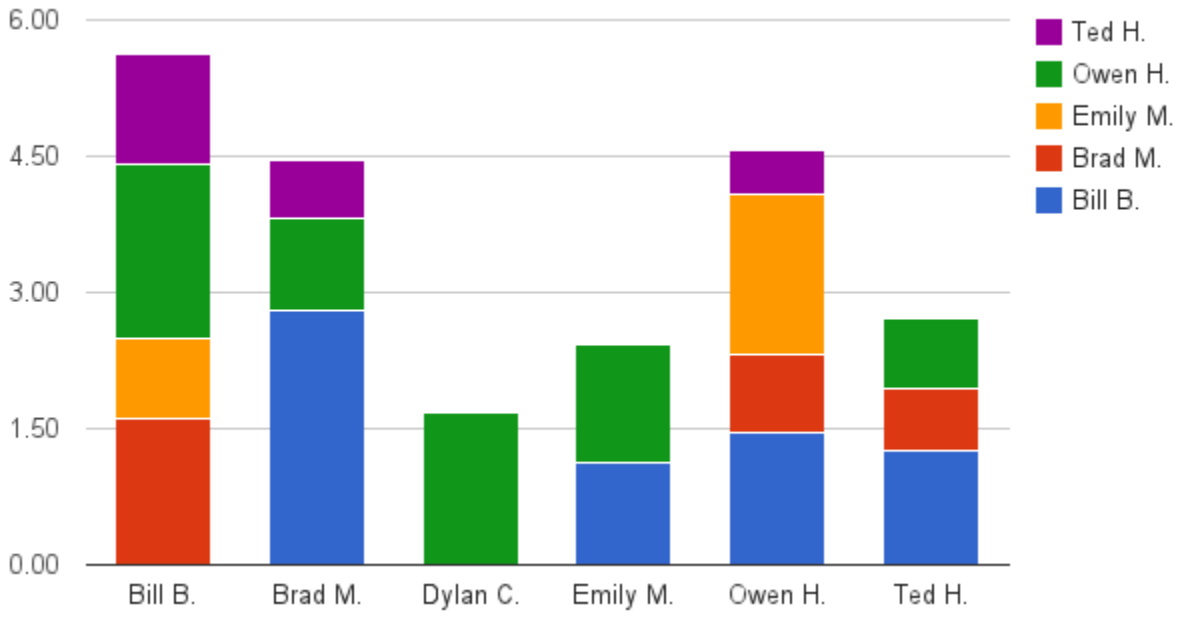
It is even more interesting to consider the different delays between sets of Participants and Targets. As with the overall average delay, Mark's data was greatly skewed, as the chart below shows.

Figure 14
Average Delay (sec) by Target (bar graph)



After I omit Mark's data, I can better compare the average delay by each Participant toward each Target. While it appears at a glance as if the three major participants, Bill, Brad, and Owen, were also the greatest offenders when it came to average delay, a closer examination shows that some Participants did not have delays when interacting with certain Targets (or that they did not interact with some Targets at all).

Figure 15
Average Delay (sec) Divided by Target Without Mark(bar graph)



In fact, of the five remaining Participants who perpetrated some delay against a Target, only Bill and Owen perpetrated delays against all four other remaining Participants. Thus, the overall height of the bars for the other Participants do not accurately reflect their average overall delays even though they appear to be lower.

Looking at the delays per individual Target by each Participant, it is obvious that Owen (green) tended to be a heavy recipient of delays. Each other Participant perpetrated delays against him, with Bill, Dylan, and Emily targeting Owen with the lengthiest average delays of any of their Targets. Discounting Dylan due to his small sample size (of his 12 Utterances, only 7 were responses and only 2 of those occurred after a delay), it appears that the developers, Brad and Ted, tended to be far more responsive to Owen than were the quality assurance testers, Bill and Emily. Meanwhile, Bill's and Emily's delays to each other ranged from very small (Bill) to non-existent (Emily, who never delayed when responding to Bill despite several interactions). Conversely, both

Brad and Owen perpetrated lengthy delays responding to Bill, while Owen also delayed heavily when responding to Emily.

Clearly, in this environment, interdepartmental interactions tended to be accompanied by lengthier delays than intra-departmental ones did. What is not yet clear is whether this inter-departmental tendency toward delays was caused by a lack of cooperation or was merely due to inter-departmental requests taking longer due to lack of shared knowledge, lack of additional communication outside of the chatroom, or other factors. Based on this potential correlation, I believe that it is useful to examine average delays as an indicator of negotiated power relationships, as the delays targeted at others may indicate a lack of urgency on the part of the Participant, which implies an accompanying lack of respect for (and therefore a perceived ascendency over) the Target.

Next, I focused on each major analytical framework and conducted an isolated analysis, before examining them for correlations and conducting cross-analyses in the Conclusion chapter.

FTA and Politeness Strategy Analysis and Interpretation

First, I considered the face-threatening actions (FTA) and accompanying Politeness Strategies used by each Participant. I dissected this data in several different ways, including types of FTA offered, overall averages, trends over time, correlations with the Hierarchical Ratings of Targets, and the percentage of what I decided to label "Blatant FTAs", which I defined as those with no accompanying redress/mitigation.

FTA Types per Participant

To begin my analysis on my Politeness Theory-related categories and codes, I looked at the types of FTAs each Participant used throughout the interactions. To recap from the Analytical Framework chapter, the FTA Types included the following:

- TNR - Target - Negative - Request to Act
- TNA. Target - Negative - Participant Future Action
- TND. Target - Negative - Desire to obtain/become or harm possessions/person
- TPD. Target - Positive - Disapprovals or challenges
- TPI. Target - Positive - Indifference or disdain
- PP. Participant - Positive
- PN. Participant - Negative

These FTA Type codes were applied only to Utterances that contained threats to face, either of the Participant or of the Target. The total number of FTAs by Type per Participant is shown in the table below.

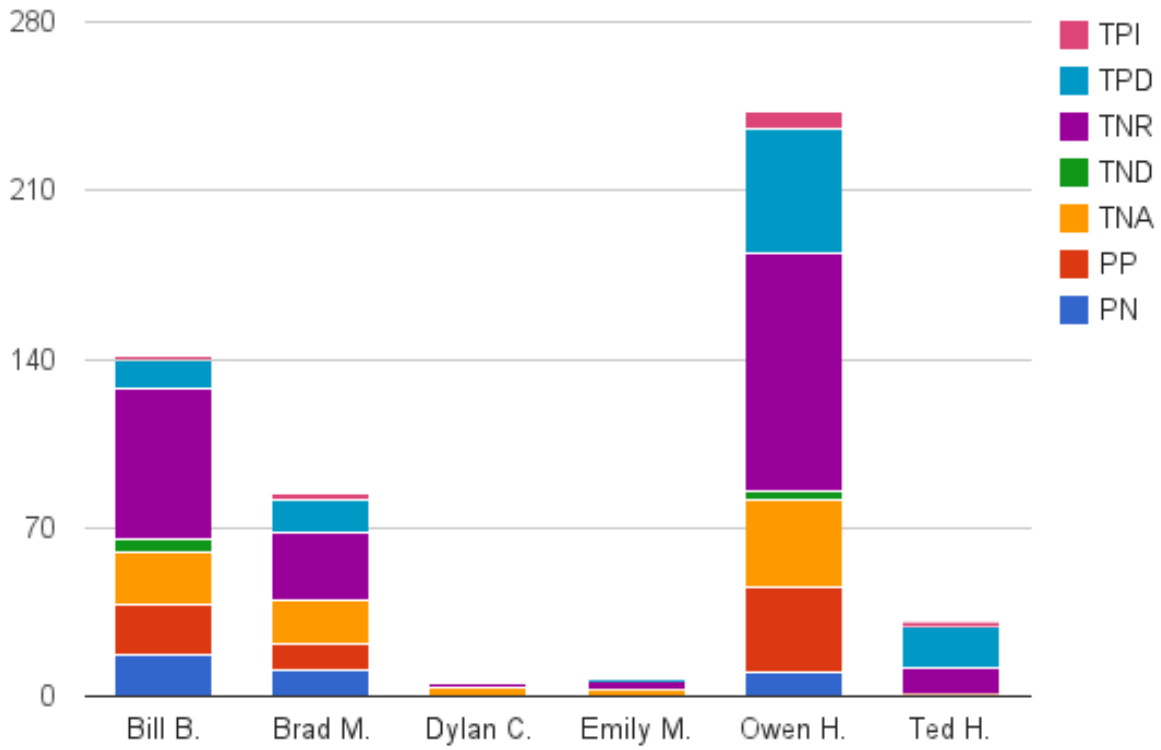
Table 7
Total FTAs by Type per Participant

Participant	PN	PP	TNA	TND	TNR	TPD	TPI
Bill B.	17	21	22	5	63	12	1
Brad M.	11	11	18	0	28	14	2
Dylan C.	0	0	4	0	1	0	0
Emily M.	0	0	3	0	3	1	0

Participant	PN	PP	TNA	TND	TNR	TPD	TPI
Owen H.	10	35	37	3	99	52	7
Ted H.	0	1	0	0	11	17	2

When I look at the data in graph form, some distinct patterns begin to emerge.

Figure 16
Total FTAs by Type per Participant (bar graph)



It is easy to see that TNR (represented by the purple entries) dominates the FTA Types used by the Participants in this study. This FTA Type code was applied when a Participant requested an action from the Target, either directly or indirectly. This request could be a prompt to perform an action or a desire to obtain information from the Target, which would require the Target to perform

some sort of research or, at the very least, to take the time to respond to the Participant. As a result, it offered a threat to the Target's negative face.

TNA (orange) appeared to be the next most prevalent FTA Type, though Owen also delved heavily into TPD FTA Types (disapproval or challenge), a phenomenon that led me to look more closely at Blatant FTAs, which I analyze in a later section. TNA FTAs involve the offer to perform a future beneficial action, which incurs debt on the part of the Target and thus impacts face.

It is not surprising that these two FTA Types were the most prevalent considering the nature of the data under review. The purpose of the chatroom was to allow the development and QA teams to work together to accomplish a common goal: deployment of bug-free code that meets the original written requirements. Thus, requests for and offers of action should have been at the forefront of the discussion.

However, the previous data makes it difficult to compare across individual Participants as some contributed much more than others. To facilitate this comparison, I next took the FTA Types as a percentage of total FTAs.

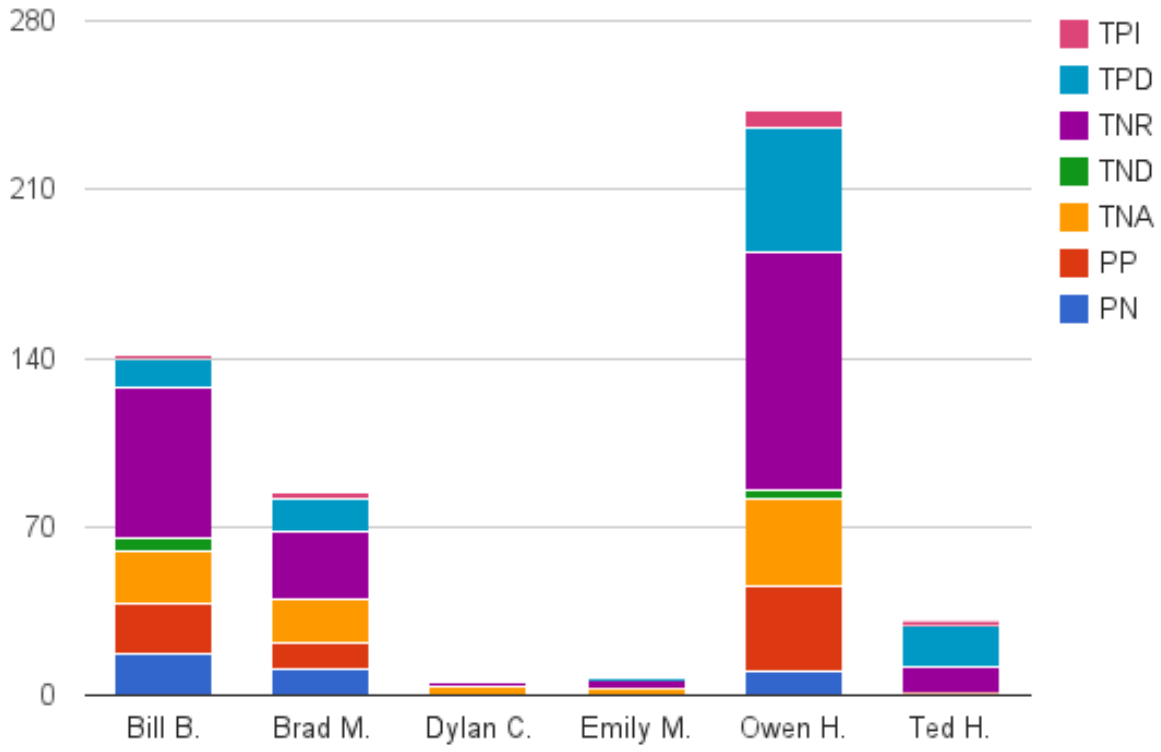
Table 8
FTAs by Type as Percentage of Total FTAs

Participant	PN	PP	TNA	TND	TNR	TPD	TPI
Bill B.	12.06%	14.89%	15.60%	3.55%	44.68%	8.51%	0.71%
Brad M.	13.10%	13.10%	21.43%	0.00%	33.33%	16.67%	2.38%
Dylan C.	0.00%	0.00%	80.00%	0.00%	20.00%	0.00%	0.00%
Emily M.	0.00%	0.00%	42.86%	0.00%	42.86%	14.29%	0.00%
Owen H.	4.12%	14.40%	15.23%	1.23%	40.74%	21.40%	2.88%

Participant	PN	PP	TNA	TND	TNR	TPD	TPI
Ted H.	0.00%	3.23%	0.00%	0.00%	35.48%	54.84%	6.45%

To aid in the visualization of this data, I also portrayed it in bar graph form. Though I realize pie chart is best for displaying portions of a whole, I wanted to make it simple to compare Participants to one another.

Figure 17
FTAs by Type as Percentage of Total FTAs (bar graph)



This data backs up the previous observation that FTAs in discussions were dominated by Utterances containing TNR and TNA FTA Types. It is interesting to note that Ted can now be seen to have a much higher proportion of TPD FTAs than was apparent in the previous data, where Owen

appeared to be the only Participant who engaged in a significant proportion of TPD FTAs. As I show in a later section, this data is corroborated by Ted's reliance on Blatant FTAs.

Another interesting observation is that some Participants, notably Bill and Brad and, to a lesser extent, Owen, also direct a fair number of face threats towards themselves, in the form of PP and PN FTAs. These three Participants also happen to be the highest ones in the Hierarchical Rating scale, with Brad at 4, Bill at 3, and Owen at 2. Ted also has a Hierarchical Rating of 2, but he contributes far less than Owen which, as I explained in the previous section on total Utterances, provides him with less opportunity to wield power. Owen, Bill and Brad were the top three contributors, respectively, and therefore it may simply be a case of increased opportunity giving them the chance to present a more varied set of FTAs. However, it may be that their increased sense of power and, thus, of responsibility cause them to offer more threats to their own negative face, through self-imposed demands, and to their own positive face, through self-beratement when goals are not met or mistakes are made.

Average FTA Weight by Participant

Next, I looked at the average FTA weight for each Participant. In other words, when they performed a face-threatening action, how much threat did it typically convey? As I explained in the Analytical Framework chapter, the weights are based directly on Brown and Levinson (1987): I took their assigned weightiness of FTA strategies (pp. 60, 69), where the weightiest were assigned lower numbers, and inversely assigned my own weight. I chose to examine this metric instead of the total FTAs by type because calculating the average normalized the numbers for easy comparison.

I was expecting one of two things from this category's analysis: either the Participants with higher Hierarchical Ratings would be more polite due to the measure of power exercised by the Participant, which would be in line with the weightiness of FTAs according to Brown and Levinson

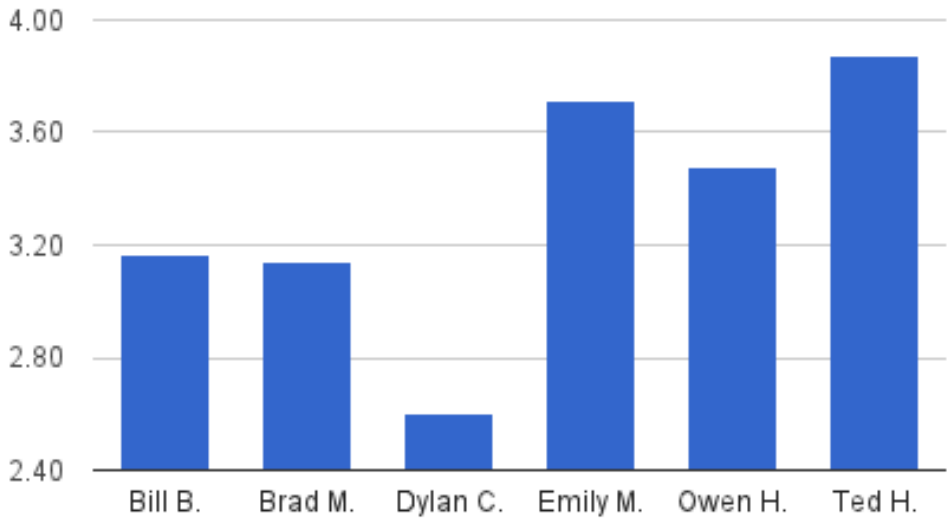
(1987, p. 76), or they would be less polite due to their inherent security; there would be less threat to their face when they initiated an FTA due to their superior position in the organization's hierarchical rankings. As you can see in the table below, neither occurred.

Table 9
Average FTA Weight

Participant	Average FTA
Bill B.	3.17
Brad M.	3.14
Dylan C.	2.60
Emily M.	3.71
Owen H.	3.48
Ted H.	3.87

If I look at this data in graph form, it is even easier to see the high variability in the average FTA weight.

Figure 18
Average FTA Weight (bar graph)



The average FTA weight appears to be mostly independent of the Participant's Hierarchical Rating, although Brad and Bill, with the highest Hierarchical Ratings at 4 and 3 respectively, did have the lowest average FTA weight among those who contributed heavily to the chatroom discussions (Dylan, with 12 Utterances, may not have a truly representative sampling). The correlation between average FTA weight and Hierarchical Rating was an almost nonexistent -0.07, where 1.00 or -1.00 show a strong positive or negative correlation and 0.00 shows no correlation.

Based on the formula proposed by Brown and Levinson (1987, p. 76), power disparity is a major component of FTA weightiness. Conversely, I believe it is possible to infer the overall power wielded by Participants within the context of the rhetorical situation by examining the weightiness of the FTAs perpetrated by them. Thus, the lack of correlation between Participant Hierarchical Rating and average FTA weight shown above indicates clearly that, in the context of this case study (a small software development team), power structures bestowed by the organization are far less influential than negotiated power relationships.

Average FTA Type by Participant per Target

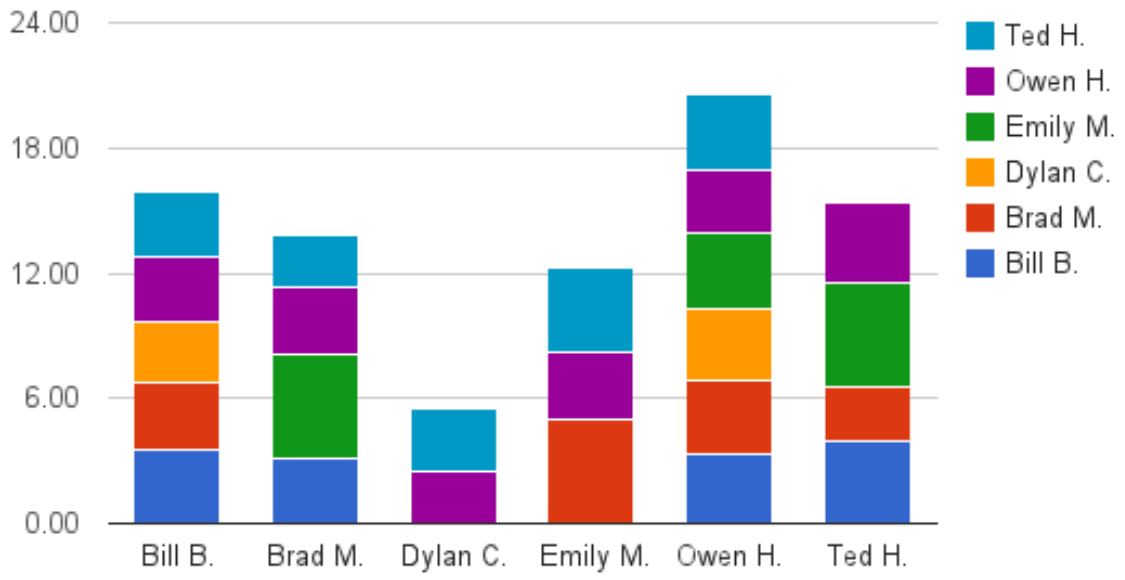
Expanding upon the above explanation of the importance of FTA weight understanding power wielded in the rhetorical context, I also believe it is possible infer the power disparity between Participants by looking at the FTA weight each one tends to exhibit toward each of the other Participants. Using this metric, I attempted to gain insight into the negotiated power relationships themselves. I theorized that, while the previous, overarching FTA metric gives an idea of a Participant's tendencies, a closer look at whom they are most likely to direct FTAs with low or high threat should be an indicator of their negotiated relationship.

Table 10
Average FTA by Participant (rows) per Target (columns)

	Bill B.	**Brad M.**	**Dylan C.**	**Emily M.**	**Owen H.**	**Ted H.**
Bill B.	3.50	3.21	3.00	-	3.09	3.08
Brad M.	3.09	-	-	5.00	3.19	2.50
Dylan C.	-	-	-	-	2.50	3.00
Emily M.	-	5.00	-	-	3.25	4.00
Owen H.	3.34	3.56	3.40	3.58	3.00	3.67
Ted H.	4.00	2.50	-	5.00	3.90	-

This data is more easily grasped when laid out in a bar graph. Please note that, like the delays I examined previously, some Participants did not direct FTAs toward all other Participants. Therefore, their bars appear to be smaller overall than others when, in fact, they may simply have less Targets represented in the graph.

Figure 19
Average FTA per Target (bar graph)



Owen, Dylan, and Bill appear to use approximately the same average weight of FTAs regardless of whom they are Targeting. Brad, however, clearly favors those at the higher end of the Hierarchical Rating scale (Owen and Ted at 2 and Bill at 3) over Emily (who is a 1). Emily is more difficult to read, as she conveys her most threatening FTAs to Brad, who is far above her in Hierarchical Rating (at 4) and who is part of the development team (Emily is part of the QA team). She also Targets Ted, who is at a 2 rating and on the development team, with fairly high-threat FTAs while Owen, who is also a 2 rating and is also on the development team, receives by far the least threatening FTAs from Emily. Ted's pattern is more easily discerned, as he reserves his highest-threat FTAs for members of the QA team (Bill and Emily), while development team members receive relatively light FTAs, especially Brad (at Hierarchical Rating 4).

Another interesting factor in this metric is the self-Targeted FTA, which only Bill and Owen display. What is most interesting is that, while Owen's self-Targeted FTAs convey the lowest level of threat of those directed at any of his Targets, Bill's self-Targeted FTAs convey his highest level of

threat. This level of self-deprecation may indicate insecurity or submissiveness, and shows that Owen feels far more secure in his role within the group than does Bill. What the lack of self-Targeted FTAs indicates about the other Participants is less clear, but they are not displaying the same level of self-deprecation that Owen and, especially, Bill are.

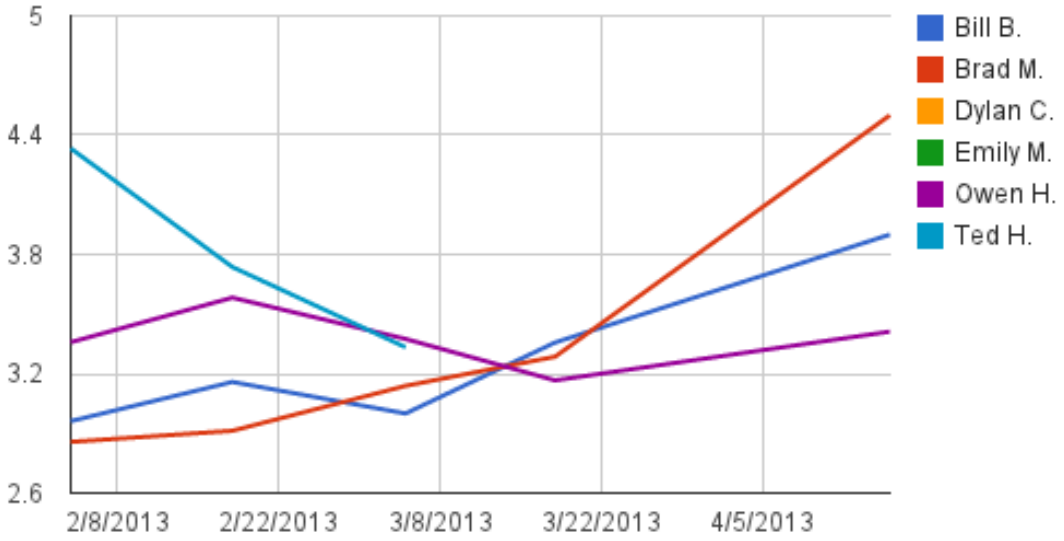
Average FTA Over Time by Participant

Another interesting metric is how the Participants' roles grow over time. While I do have a fairly small sample size in terms of dates, I have a large number of Utterances per date. This large Utterance sample size should allow us to gain insight into the growth of the Participants over time, with regards to how they interact with others in terms of FTAs.

Table 11
Average FTA Over Time

	2/4	**2/18**	**3/5**	**3/18**	**4/16**
Bill B.	2.96	3.16	3.00	3.36	3.90
Brad M.	2.86	2.91	3.14	3.29	4.50
Dylan C.	-	2.60	-	-	-
Emily M.	3.71	-	-	-	-
Owen H.	3.36	3.58	3.38	3.17	3.41
Ted H.	4.33	3.74	3.33	-	-

Figure 20
Average FTA Over Time (line graph)



While the data is partial for those Participants who contributed only a small number of Utterances, it does show a marked trend for the three most frequent contributors: Bill, Brad, and Owen. Bill tends to trend up, aside from a slight dip. Brad, however, has no dips: he trends sharply upwards, especially over the last two dates, while Owen fluctuates greatly.

In order to gain a better understanding of the underlying causes of these trends, I felt it necessary to look at some examples from each date. Bill begins with a fairly low average FTA on 2/4, at just under 3. Looking at the data, it is clear Bill relies heavily on off-record politeness strategies during this date. For example, when he is requesting that the development team do a deployment on Friday, instead of making a direct request, he phrases it as follows: "at worst maybe we can do friday this week and then plan future releases for thursday evening". This off-record strategy greatly mitigates the threat of his request, which would have affected the Target's negative face. In addition to being off-record by not being a direct request, Bill also mitigates the threat by placing the onus on the group, "we," rather than on the individual Target, by hedging via use of phrases and words such as "at worst" and "maybe," and by phrasing the request as a possible

option instead of as a command, allowing the Target to maintain the appearance of control over the decision (even if this control cannot be exercised due to the organizational power discrepancy).

Brad begins by tending toward off-record strategies as well, which is corroborated by his 2.86 average FTA on 2/4, lowest of all average FTAs for any date. The following example shows him responding to a question from Owen. Please note that some extraneous Utterances have been omitted.

Table 12
Sample Data from 2/4

Row	Participant	Target	Utterance
339	Owen H.	Brad M.	speaking of this weeks' deploy, are we doing it Friday or Thursday (i.e., tonight ick)
343	Brad M.	Owen H.	i assumed friday

His response carries an implied command, in that he wants Owen to carry out the deployment on Friday, but Brad phrases it in such a way that he mitigates much of the threat. He does not issue a command to do the deployment, relying on the implied command in Owen's initial Utterance (which is itself a negative threat to Owen's own face, mitigated with Negative Politeness). He also makes the comment in such a way that his own opinion is not stated as the dominant one. Instead of simply saying "Friday," Brad instead says that he assumed it was Friday, leaving an opening for Owen to disagree and, thus, allowing Owen to retain a modicum of positive face in the interaction.

Owen also maintains fairly polite mitigation strategies, though he was higher than Bill and Brad with just under 3.4 average FTA weight during 2/4. He also resorts often to off-record

strategies, as can be seen when he indirectly requests that Bill begin testing the latest round of code on the test server: “Ok edge appears to be up.” This off-record request allows Bill to save considerable face as he does not appear to be taking a command from Owen, which might be problematic for him as Owen is not in his department and is lower on the organizational Hierarchical Rating (3 for Bill versus 2 for Owen).

All three raise their average FTA on 2/18, though Brad’s rises only slightly. This lack of increase for Brad presents itself in his continued use of off-record requests, such as the following: “yeah, that's it, but if we don't push bens today, reverting to the old email templates should correct the pipeline image tag.” In this Utterances, Brad is actually requesting that the Target (Owen) revert a portion of the code to a previous version (old email templates), which can be accomplished if Owen delays on deploying code related to a particular product, code-named “bens”. The request is considered off-record because Brad does not ask that Owen perform the action. He implies that doing the action would be beneficial, leaving Owen with the decision to perform the action. Thus, even though Brad’s clear intent, in the context of the interaction, is to command Owen to revert to the old email templates, he saves Owen considerable face in his approach.

Although Bill continues to use a fair number of off-record FTAs, he does begin trending toward more face-threatening Utterances, such as the following: “also Dylan, let me know when you have a sec once Edge is back up.” In this Utterance, Bill makes an explicit demand on Dylan’s time, which is a threat to Dylan’s negative face. However, Bill refrains from making an explicit work-related FTA, which presumably will be made once Dylan speaks with Bill later on. Bill also provides Dylan with the courtesy of allowing him to complete his current task before discussing the new one, a form of negative politeness showing respect for Dylan’s time and granting him at least some freedom of action.

On 2/18, I see Owen begin to use a lot more negative FTAs directed toward himself, which cause threat to the Target group because the Participant (Owen) is often taking on a task that will benefit everyone, causing a debt to be incurred. For example, Owen states, "I think there's at least one, and I'll have to hack it to fix." This statement references a broken feature that must be fixed for a deployment of code to be completed. Without the fix, no one's code can be put into the live (production) website, and no live testing can occur. Owen does provide some negative politeness by hedging when he states "I think," which implies a possibility that the fix will not be necessary and therefore downplays the necessity of the action, reducing the face-threatening debt incurred.

I also see Owen begin to make more self-deprecating Utterances, which are labeled Participant Positive FTAs, such as this one: "what I can't get working is same code, different templates." In this Utterance, Owen admits a failure on his part, which causes a threat to his own positive face. He couches it in relation to his successful endeavors, casting it as the one thing he cannot accomplish among, presumably, many successes. Thus, he reduces the threat via a form of positive politeness. This tendency continues throughout the data, as Owen displayed a total of 35 threats to his own positive face, involving some form of self-deprecation such as admission of guilt or failure. This total accounted for 4.62% of Owen's Utterances on the dates analyzed (757). No one else was close to this total, as Bill was next with only 21 Participant Positive FTAs, but Bill's total did account for 5.30% of his Utterances (396). It is also interesting, that Owen's 35 PP FTAs account for 14.40% of his total FTAs (243), while Bill's 21 PP FTAs account for 14.89% of his total FTAs (141). These statistics show that, as Owen was more likely to offer FTAs to all Targets, his tendency to offer self-directed threat is roughly equal to Bill's own tendency.

On the next two dates (3/5 and 3/18), I see only minor fluctuations for all three major Participants, with Bill and Owen alternating higher and lower and Brad following a gradual upward trend in average FTA weight. Then, on 4/16, all three rise, with Brad displaying an especially sharp

increase to an average of 4.5 out of a possible 5.0, which represents the highest average of all dates for any Participant. However, a closer examination reveals that this statistic may be misleading, as Brad actually engages in a number of threats to his own Positive face when he thanks several other Participants. These thanks, when made explicit, are considered to be bald, on record FTAs and therefore carry the highest possible weight. However, he also engages in other on-record FTAs whose threat he mitigates, as in this example: "can you run the job manually, after Bill sets up an invite?" In this Utterance, Brad actually makes two requests, which inherently threaten negative face: he indirectly asks Bill to set up an invite (which is a function of the software platform being developed) and also asks Owen (the Target) to "run the job," which refers to manually launching a piece of code that would otherwise happen automatically overnight, thus allowing Bill to test whether invites would be sent correctly without having to wait until the next day. However, Brad phrases the request as a question and only references Bill's task obliquely, thereby mitigating the threat of both requests.

The increases for Owen and Bill, conversely, are more representative of the change in the nature of their Utterances. Consider the following exchange:

Table 13
Sample Data from 4/16

Row	Participant	Target	Utterance
3957	Bill B.	Owen H.	the story talks about a cron job. wasn't sure if that was related to the overnight push of outdated invites
3958	Bill B.	Owen H.	or is this the one we can't test
3959	Owen H.	Bill B.	let me put it this way.

Row	Participant	Target	Utterance
3960	Owen H.	Bill B.	nothing about outdated invites has been tested at all since January, maybe even as far back as December.
3961	Owen H.	Bill B.	So why don't you go ahead and give it all a look see.
3962	Brad M.	Owen H.	can you run the job manually, after Bill sets up an invite?
3963	Bill B.	Owen H.	alright, let me know when edge is back up

During this interaction, Owen threatens Bill's positive face by implying he has been negligent in his testing diligence. He then makes a request for Bill to do a thorough test, but he does it in a way that threatens not only Bill's negative face, due to the imposition on his time (and, therefore, his freedom of action), but also his positive face, due to the condescending manner of the request. Note Brad's contribution (which I examined in isolation earlier), which appears to be an attempt to mitigate some of the threat to Bill's face by placing part of the burden back on Owen. Bill then makes a blatant, on-record request of Owen, most likely in retaliation for the earlier threats to his face.

These examples illustrate that, while metrics such as those I have considered can be useful to identify areas to examine more closely, they can be misleading and must be accompanied by a more thorough qualitative analysis of the data behind the numbers, and this analysis must be positioned within a deep contextual understanding of the situation. As evidence of the need for in-depth qualitative analysis, not only is Brad's apparent escalation into impoliteness misleading but, in the most recent example interaction between Owen and Bill, the statistics alone would lead an observer to believe that Bill, not Owen, was the more impolite of the Participants. Bill's request

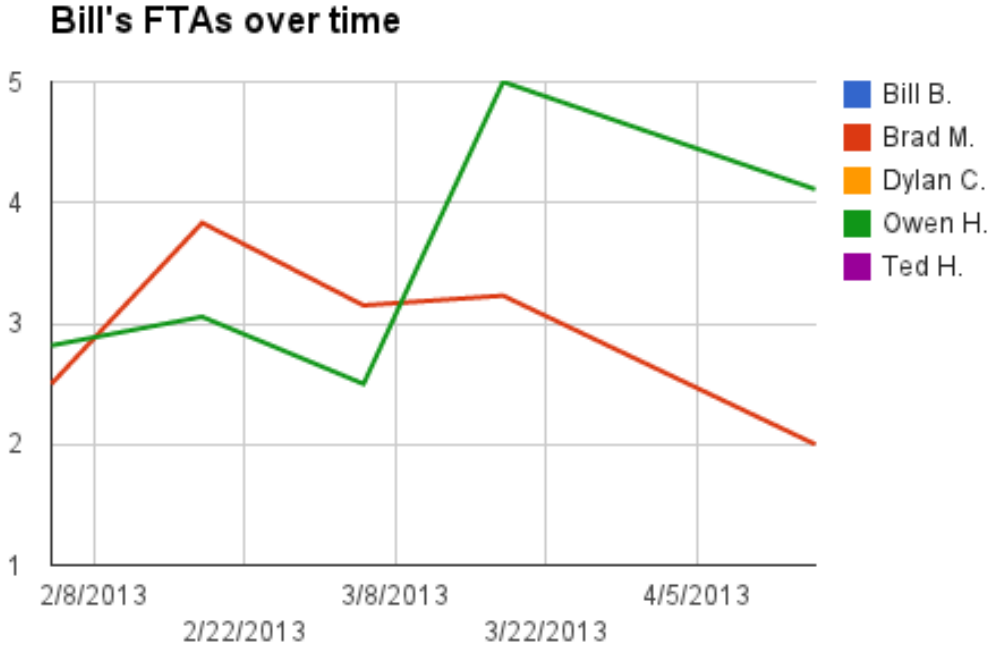
would be classified as having the highest threat weight (5, without redressive action) while Owen's request, which I can see from the context is actually more face-threatening, would have a lower threat weight (3, negative politeness) due to the indirect nature of the request. Upon closer examination, with contextual knowledge of the situation, I can see that such an interpretation is not the correct one.

Average FTA Over Time by Participant per Target

I also wanted to analyze any trends that may appear for each Participant with regards to how their relationship with each Target progressed over the months. To accomplish this end, I segregated the average FTA weight for each Target by Participant.

Bill only trended for two Targets: Brad and Owen. His interactions with other Targets were isolated to single days and thus do not display on the graph below.

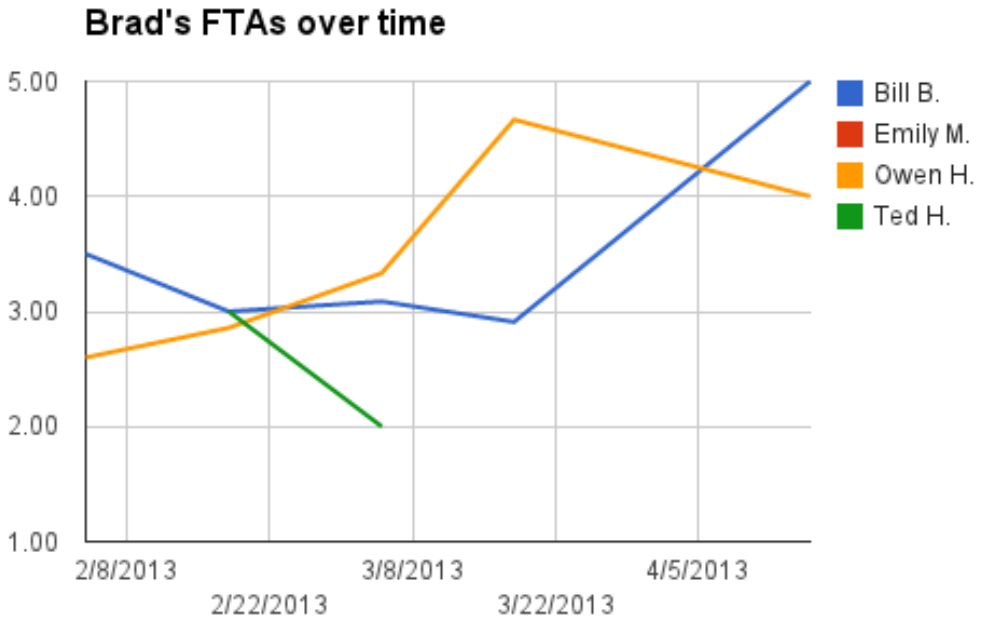
Figure 21
Bill's Average FTA per Target Over Time (line graph)



Both sets of interactions appear to follow the same general pattern, albeit with greatly varying magnitude. This pattern could indicate that Bill's self-confidence or, to phrase it another way, his own self-empowerment plays a factor in how he interacts with others, while the magnitude may vary depending on the negotiated relationship with the specific individual. Unfortunately, the small sample size makes it impossible to prove this relationship conclusively.

Brad's FTAs over time by Target comprise a more varied set of data points. As you can see from the chart below, he begins fairly low on the FTA scale for all parties, proceeding to a large jump during the last few dates. However, I know that the last date's data is skewed as he was often impinging on his own face by thanking his Targets. Therefore, I cannot read into the data as indicating animosity or impoliteness towards the other Participants.

Figure 22
Brad's Average FTA per Target Over Time (line graph)



His increase regarding Owen (yellow) on 3/18, however, I have not yet accounted for. If I examine the data from that date, I can see that Brad is again mostly self-effacing, such as in the following example where Brad realizes he has missed an issue that will temporarily delay

deployment of new code, which will affect Owen's work. Please note that, in the third line, Owen is actually quoting an automated message, which Brad caused to be generated by the code hosting environment used by the team (Engine Yard):

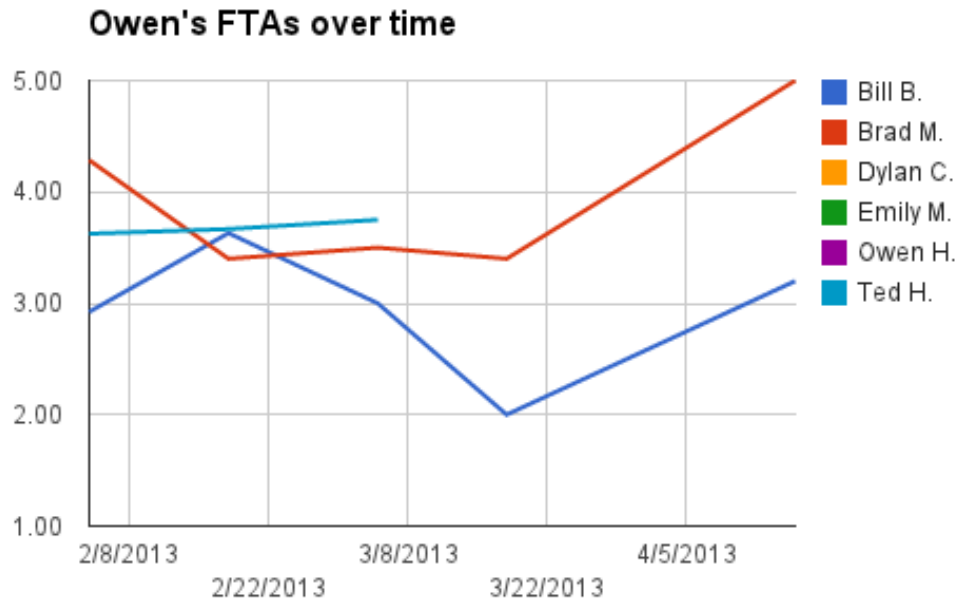
Table 14
Sample Data for Brad from 3/18

Row	Participant	Target	Utterance
3327	Owen H.	Brad M.	did I miss the deploy?
3328	Owen H.	Brad M.	note message from engine yard.
3329	Owen H.	Brad M.	We will be deploying at 3:15 PM Pacific. Deploys will be disabled briefly during this scheduled maintenance.
3330	Bill B.	Owen H.	I don't think Brad kicked it off yet
3331	Owen H.	Brad M.	which means right now.
3332	Owen H.	Brad M.	which means deploys are disabled.
3333	Brad M.	Owen H.	nope, i'm tracking down a failed dashboard data issue before pushing the button, first
3334	Bill B.	Brad M.	uff
3335	Brad M.	Owen H.	fuck
3336	Brad M.	Owen H.	sorry
3337	Owen H.	Brad M.	no worries.
3338	Brad M.	Owen H.	yep, deploys are disabled briefly

It can be seen that Brad makes two heavily-weighted FTAs against his own face on rows 3335, where he berates himself using language that, because it is usually not deemed acceptable in a work environment, decreases his authority as a representative of the organization by showing evidence of a loss of control, and 3336, where he acknowledges his mistake and baldly apologizes for it. Though he was Targeting Owen during the Utterances, the FTAs included within them actually threatened his own face.

When dealing with the other members of his team (Brad and Ted), Owen has surprisingly highly weighted FTAs on average, while his interactions with Bill fluctuate over time. I was surprised because, while Owen and Bill had several exchanges with obvious vehemence involved, such as the one previously considered, I did not see any such exchanges between Owen and his fellow development team members, Brad and Ted. The following graph shows the trends of Owen's FTA weights over time.

Table 15
Owen's Average FTA per Target Over Time (line graph)



Owen begins on 2/4 by making a fair number of requests and offers to act, both of which incur negative FTAs against the Target. Consider the following examples:

Table 16
Sample Data for Owen from 2/4

Row	Participant	Target	Utterance
330	Owen H.	Bill B.	on another topic, what should we rename this room to?
331	Owen H.	Bill B.	QA? Testing?
332	Owen H.	Bill B.	I want to be able to put in some hooks that will automatically notify campfire of up/down events.

I can see that Owen makes a request for a decision from Bill in line 330. He does mitigate the threat to Bill's freedom of action (negative face) both by phrasing the demand as a question and by offering possible solutions, thus allowing Bill the opportunity to select from existing options instead of generating new ones from scratch. On line 332, he causes threat by promising a future action that will be beneficial to Bill. This future action will put Bill in debt to Owen and therefore places Owen in a position of power.

I can see from the following example that, on 2/4, Owen was indeed attempting to maintain polite interactions with both Brad and Bill, as he is clearly frustrated but attempts to express himself without becoming overly aggressive.

Table 17
Additional Sample Data for Owen from 2/4

Row	Participant	Target	Utterance
353	Brad M.	Owen H.	i won't likely have my tix in place and tested by this afternoon, tho, as i'm booked most of this afternoon in meetings
354	Brad M.	Bill B.	lol
355	Owen H.	Bill B.	ok let me get this env up & see what we're missing if we deploy.
356	Owen H.	Brad M.	I've been assuming reporting won't make it. ;)
357	Bill B.	Owen H.	at worst maybe we can do friday this week and then plan future releases for thursday evening
358	Brad M.	Owen H.	that's correct, Owen...Mark set the expectation for delivery by march 31, so we're good there
359	Bill B.	Owen H.	or is it bad to clip off the end of an iteration
360	Owen H.	Brad M.	Yeah, I'm okay with that, though I want to make a judgement call based on what's missing & how comfortable we feel.
361	Owen H.	Bill B.	I don't think it's bad to clip it off in general. Thursday would be best, gives us Friday to plan the next one & fight fires if need be.
362	Owen H.	Bill B.	and helps folks realize that their stuff has to be done and tested and really done Wed/Thu
363	Bill B.	Owen H.	good deal

Row	Participant	Target	Utterance
364	Owen H.	Bill B.	none of this "I'll get it done over the weekend" heroics that just end up screwing the guy who has to do the deploys.
365	Owen H.	Bill B.	(I'm not bitter at all, it's not like that's ever happened to me.)

I can see on row 353 that Brad sets the tone of the interaction by leading with an FTA against himself when he acknowledges he will not be able to accomplish a stated goal. Owen follows with a promise of future action on row 355 and goes on to reduce Brad's self-FTA by indicating he wasn't expecting the goal would not be done on row 356. The emoticon (smiley) serves to soften the potential threat such an expectation may have conveyed to Brad, as it may have appeared Owen lacked confidence otherwise. As it stands, Owen is obviously not concerned with the lack of completion of the ticket, which included the code for reporting functionality for the software product.

The truly interesting part of this interaction begins on line 357, as the group begins to discuss a possible set day for weekly deployments. Owen presents his viewpoint very logically in 360-362. However, he continues on to express frustration in rows 364 and 365, as he uses sarcasm to convey his dismay at a situation he has obviously experienced in the past: that of developers submitting code late and forcing the deployment person (in this instance, Owen) to work on the weekend to deploy the delayed code to the test or production environment.

While Owen's statements are strong, he mitigates the face-threat through two major strategies. First, he does not direct his FTA at a particular Target; although he is directing the Utterance to Bill, Bill is not a developer and therefore cannot be guilty of the offending action that

Owen references. Second, he uses humor, via his obvious sarcasm, to build camaraderie with the group. Humor is a function that can be used as a form of Positive Politeness, in order to reduce accompanying FTAs (Brown and Levinson 1987, p. 124).

Owen's average FTA weight remains fairly consistent through 3/18, when it dips dramatically with regards to Bill. At the same time, his FTA weight toward Brad remains consistent and Ted drops out of the interaction. A closer look shows the reason, as the conversation is centered around Brad, who interacts frequently with both Bill and Owen. However, Owen and Bill only have a single exchange, and not one of any true import (note that an irrelevant row was removed from the following example):

Table 18
Sample Data Between Owen and Bill on 3/18

Row	Participant	Target	Utterance
3381	Owen H.	Bill B.	have a good weekend Bill, assuming you're not in.
3383	Bill B.	Owen H.	thanks Owen, you too.

Although Owen nominally makes a request of Bill in row 3381, I can clearly see it is not a request that will threaten Bill's negative face. However, he does provide a slight off-record threat to Bill's positive face by implying that Bill will not be working over the weekend (what is not apparent without understanding the context is that the development team was regularly working weekends at this time, which may have fostered a sense of resentment by its team members toward members of other departments). Bill chooses to ignore the FTA, offering the lowest possible threat level ("Don't do the FTA") in return. This extremely limited interaction accounts for Owen's sudden dip in FTA weight for Bill on 3/18.

On 4/16, Owen's average FTA weight against Bill climbs back to its typical level just above 3.00 while his average FTA weight toward Brad climbs to the highest possible level (5.00). However, the data shows that Owen only targets Brad with a single FTA, which did have weight 5.00. However, what is interesting is that, while Owen targets Brad with the Utterance, the FTA is actually directed at Bill and Dylan, as he accuses them of taking the last of his favorite sodas.

Table 19
Sample Data for Owen from 4/16

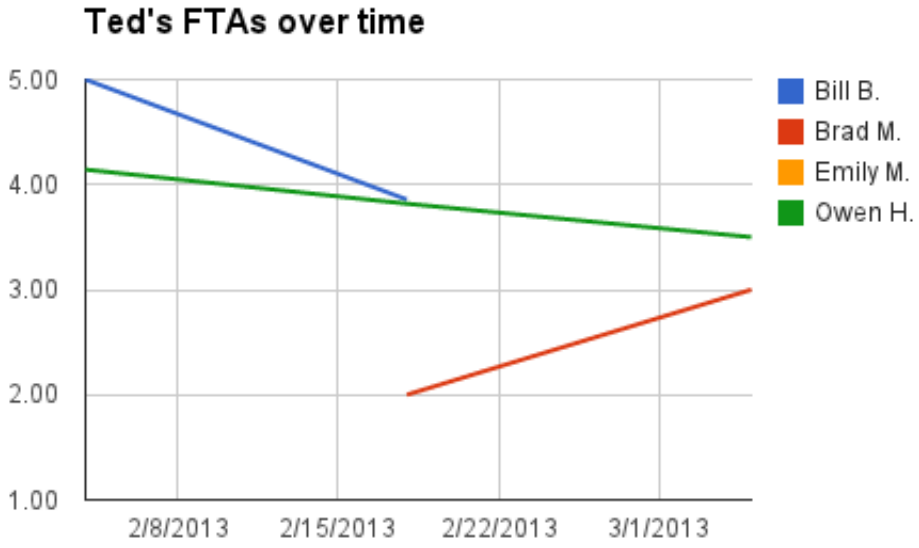
Row	Participant	Target	Utterance
3915	Owen H.	N/A	changed the room's topic to Take the last one of a kind, put the next 12-pack in.
3916	Bill B.	Owen H.	Not sure this is the right room for that message. ;)
3917	Bill B.	Brad M.	unless.. Brad?!?
3918	Owen H.	Bill B.	Depends on whether or not someone took the last one of the diet dr pepers or not.
3919	Owen H.	Bill B.	fwiw, it's set in all the rooms I'm in right now.
3920	Bill B.	Owen H.	lol
3921	Owen H.	Bill B.	and it's certainly more useful than "Thursday BENS deploy"
3922	Brad M.	Owen H.	hehe
3923	Bill B.	Owen H.	that's definitely true
3924	Brad M.	Owen H.	i'm strictly a coke-fiend

Row	Participant	Target	Utterance
3925	Owen H.	Brad M.	I know.
3926	Brad M.	Owen H.	read that as you wish
3927	Owen H.	Brad M.	and Terry and Ted don't drink any.
3928	Owen H.	Brad M.	I'm pretty sure that leaves Dylan or Bill.
3929	Bill B.	Owen H.	I've been shunning soda for a while now.
3930	Owen H.	Brad M.	maybe Mark, but he prefers pepsi.
3931	Bill B.	Owen H.	Emily swears there were 4 diet cokes left
3932	Owen H.	Bill B.	there still are.
3933	Owen H.	Bill B.	I had to take one of those 'cuz the diet dr pepper was out.
3934	Bill B.	Owen H.	and I don't drink soda
3935	Brad M.	Owen H.	someone was visiting earlier...could have been a dr. pepper thief
3936	Bill B.	Owen H.	so that rules us out

What starts out at a fairly playful interaction turns somewhat threatening, as Owen levels accusations at all but Brad, whom he absolves in row 3925, though he rationalizes the possible offenders down to Dylan or Bill. This accusatory tone continues until Brad introduces an alternative explanation on row 3935 and also reverts back to the humorous tone of the earlier discussion. This Utterance appears to defuse the situation as no further mention is made of the soda “thief.”

The only remaining Participant who interacted enough to display a trend was Ted. His data below shows that his interactions were limited to only a few dates and that he did not interact with all others on the dates in which he was present for the discussion.

Figure 23
Ted's Average FTA per Target Over Time (line graph)



Ted tends to offer less mitigation in his Utterances, preferring a more bald, on record style. Consider the following example.

Table 20
Sample Data for Ted from 2/4

Row	Participant	Target	Utterance
434	Ted H.	Owen H.	someone hard coded '/logout'
435	Owen H.	Ted H.	this other thing I already know how to fix. :)
436	Ted H.	Owen H.	it's '/log_out' now
437	Owen H.	Ted H.	ok srsly?

Row	Participant	Target	Utterance
438	Ted H.	Owen H.	ye
439	Owen H.	Ted H.	*facepalm*
440	Ted H.	Owen H.	someone didnt use the named route
441	Ted H.	Owen H.	no tests either apparently

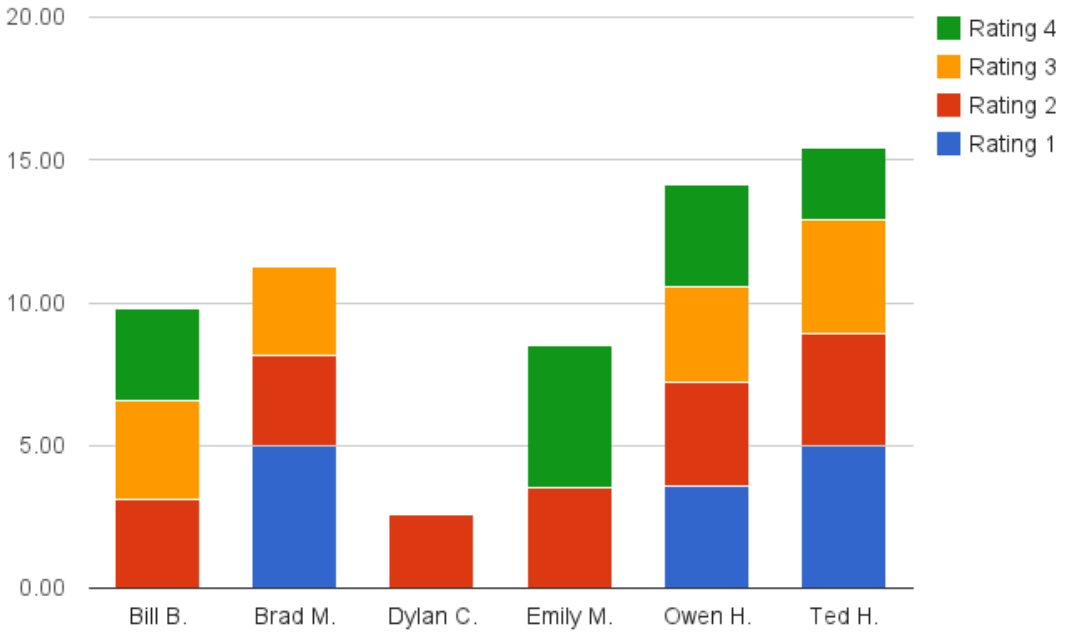
In this example, Ted implicitly accuses a developer of incompetence. While he does use mitigating strategies such as not including the name of the individual and using the hedge "apparently," the impact is negligible as the entire team (which is a small one that consists of only five developers: Brad, Owen, Ted, Dylan, and Terry) knows who was responsible for the code in question.

The data over time does provide additional insight into the individual relationships but, as with the measurements I examined in previous sections, it also needs to be supplemented with in-depth analysis of the Utterances themselves with regards to their context in both the individual interaction and larger scopes as well.

Average FTA by Participant per Target Hierarchy Level

I next considered the average FTA weight directed at each Hierarchical Rating level, as represented by the following bar graph.

Figure 24
Average FTA by Target Hierarchy Rating (bar graph)



I found that this measurement was insufficient on its own to provide any real insight into the data, as most Participants were weighted fairly evenly among the different Hierarchical Ratings. This observation coupled with revelations from other measurements, which led me to reduce the importance of Hierarchical Rating when considered in isolation, caused me to discount this measurement as an effective aide examining negotiated power relationships.

Proportion of Target-Oriented FTAs

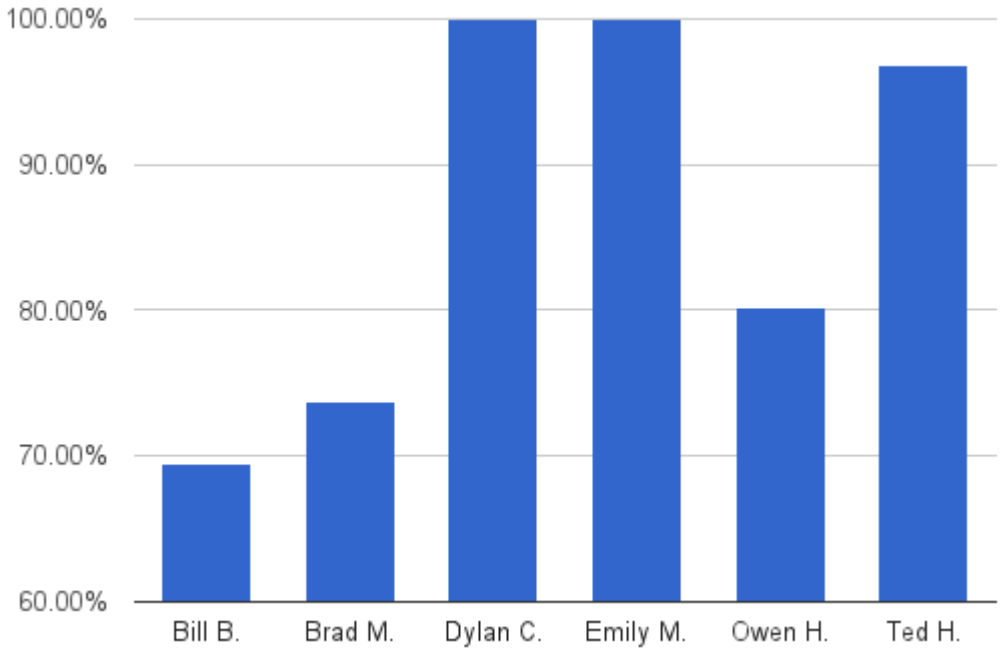
The previous metrics show that, while average FTA is potentially a useful statistic for directing researchers to sections of the data warranting closer examination, it can be misleading. One of the ways in which it is most misleading is in Target-oriented FTAs (TNA, TND, TNR, TPD, and TPI) versus Participant-oriented FTAs (PN and PP). Therefore, I felt it would be useful to segregate the two in order to look at Target-oriented FTAs in isolation. I found that there was a particularly telling discrepancy among the Participants, as the following table shows.

Table 21
Percent of FTAs Directed at Targets

Participant	Percent of FTAs directed at Target
Bill B.	69.50%
Brad M.	73.81%
Dylan C.	100.00%
Emily M.	100.00%
Owen H.	80.25%
Ted H.	96.77%

This discrepancy is even more marked when I look at the data in graph form.

Figure 25
Percent of FTAs Directed at Targets (bar graph)



The Participants with the highest Hierarchical Rating (Brad, 4, and Bill, 3) appear to have the lowest percentage of FTAs directed at Targets rather than at themselves. The next tier (Owen and Ted, 2) are both below 100% other-Targeted FTAs, while the lowest-rated Participants (Emily and Dylan, 1) both directed all FTAs outward. In this instance, the statistics corroborate the initial appearance, as there is a strong negative correlation of -0.86 (where 1.00 and -1.00 show the strongest correlation and 0.00 shows no correlation) between Hierarchical Rating and Percent of Target-oriented FTAs. It would appear that, in this respect, the power bestowed by the organization can be accurately reflected in the data; those who wield more organizational power tend to make demands of themselves more frequently and are possibly more self-critical, while those lower in the organizational power hierarchy receive requests and critical feedback from others.

Blatant FTAs by Participant

One metric I wanted to examine more closely was what I label a "Blatant FTA," which occurs when an FTA is offered with no mitigation strategies. In other words, it is a threat with no accompanying politeness. My theory is that those who would offer such potentially offensive Utterances must feel that they occupy a position of superior authority to their Target or, if they do not already occupy a superior position, are trying to position themselves to gain such ascendancy. The results were very intriguing.

Table 22
Number of Blatant FTAs per Participant

Participant	Blatant FTAs
Bill B.	27
Brad M.	10
Emily M.	3
Owen H.	55
Ted H.	12

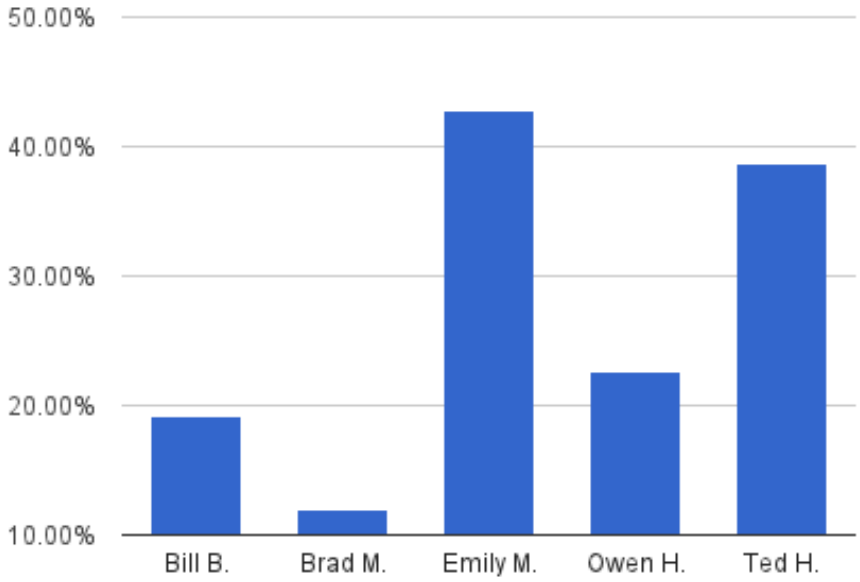
While I could see that some of the Participants clearly stood out from the others, this data was not sufficient in itself as it could merely be a reflection of the disparity in number of Utterances, as some Participants contributed far more to the data than others. To combat this possible skew, I normalized the data in two ways: via percentage of total Utterances and as a percentage of total FTAs.

Table 23
Blatant FTAs as Percentages of Utterances and Total FTAs

Participant	Blatant FTAs as percentage of Utterances	Blatant FTAs as percentage of total FTAs
Bill B.	6.82%	19.15%
Brad M.	3.88%	11.90%
Emily M.	10.71%	42.86%
Owen H.	7.27%	22.63%
Ted H.	13.64%	38.71%

I then compared the rates of Blatant FTA perpetration among the Participants. While the Blatant FTA per Utterance measurement may be useful, I decided to focus on the Blatant FTA per total FTA percentage, as I believed examining the tendency of someone to offer unmitigated face-threats versus mitigated face-threats would provide better insight into their self-perception of their power status in the group.

Figure 26
Blatant FTAs as a Percentage of Total FTAs (bar graph)



Emily had easily the highest percentage of Blatant FTAs per FTA offered. However, she had an extremely low number of total FTAs (7), which makes her measurements suspect. Of the remaining Participants, Ted at 38.71% was by far the most offending member, with nearly double the next highest (Owen at 22.63%). Owen and Bill have moderate percentages of Blatant FTAs relative to the entire group, while Brad shows by far the lowest tendency to resort to Blatant FTAs. An interesting note is that the tendencies of the Participants are inversely proportionate to their Hierarchical Rating, with Brad at 4, Bill at 3, Owen and Ted at 2, and Emily at 1. This link may show that those with higher bestowed power feel the need to work to maintain good relationships among the team via politeness strategies (cause) or that those who use politeness strategies most often are more likely to rise in the organizational hierarchy (effect).

Blatant FTAs by Participant per Target

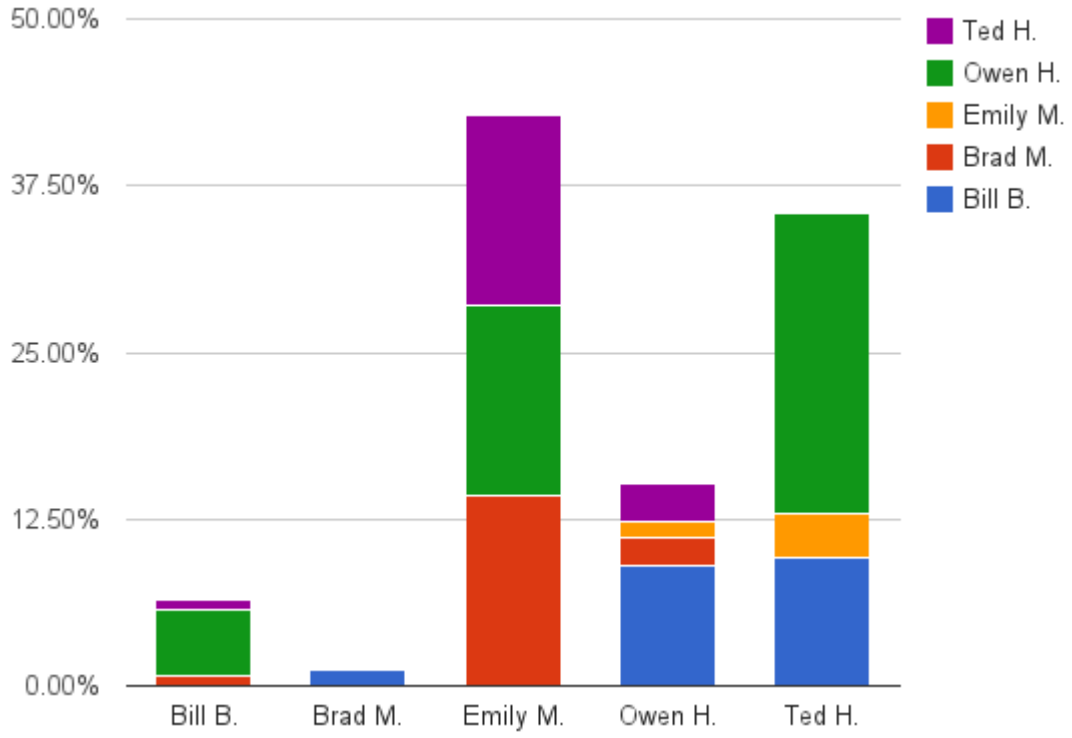
Next, I looked into the Blatant FTA use between Participants to gain insight into their negotiated power relationships. I also chose to exclude Participant-oriented FTAs to focus solely on those directed at Target face, in order to determine how often an unmitigated threatening action

was offered to a Target. The following data and graph show the Blatant FTAs directed at Targets as a percentage of total FTAs for each Participant toward each Target.

Table 24
Blatant Target-Oriented FTAs as Percent of Total FTAs (Rows = Participants)

	Bill B.	**Brad M.**	**Emily M.**	**Owen H.**	**Ted H.**
Bill B.	0.00%	0.71%	0.00%	4.96%	0.71%
Brad M.	1.19%	0.00%	0.00%	0.00%	0.00%
Emily M.	0.00%	14.29%	0.00%	14.29%	14.29%
Owen H.	9.05%	2.06%	1.23%	0.00%	2.88%
Ted H.	9.68%	0.00%	3.23%	22.58%	0.00%

Figure 27
Blatant Target-Oriented FTAs as Percent of Total FTAs per Target (bar graph)



I now begin to see some distinct relationships. The most striking feature of the above graph is the amount of green, representing Blatant Target-oriented FTAs directed toward Owen. Next, Bill appears to be heavily targeted, almost entirely by the two senior developers, Owen and Ted. Brad's bar almost entirely disappears, showing that he rarely resorts to Blatant Target-oriented FTAs, preferring instead to mitigate his potentially threatening Utterances to save Target face. Bill reserves almost all of his Blatant Target-oriented FTAs for Owen, with the occasional one directed at Ted and Brad. Conversely, Owen aims most of his toward Bill, with only a small percent reserved for other Targets. Ted, meanwhile, targets Owen heavily and Bill somewhat less heavily, with some reserved for Emily and, surprisingly (considering the number of interactions they had), what appears to be none at all for Brad.

Judging from this data, I would expect Emily and Ted to be dominant in the conversation, or at least to be the most contentious. In reality, however, their relative lack of participation

(especially for Emily), limits their opportunity to gain ascendancy over their fellow Participants from their use of Blatant Target-oriented FTAs. Owen, however, contributed the most Utterances to the data, and appears to have used his Blatant Target-oriented FTAs to either establish or, at least, exhibit his dominance over Bill, as the following example illustrates. In it, Owen berates Bill for not adding what he considers to be a catastrophic bug to the daily high-priority bug list. Note that some rows of extraneous Utterances have been removed to provide a clearer view of the interaction.

Table 25
Sample Blatant FTA Data for Owen

Row	Participant	Target	Utterance
1782	Owen H.	Bill B.	Bill, why didn't this make your list?
1783	Owen H.	Bill B.	Replace pipeline header w/ WG in approved company alert
1784	Owen H.	Bill B.	http://www.pivotaltracker.com/story/show/2357365
1785	Owen H.	Bill B.	it's pretty much catastrphic.
1795	Bill B.	Owen H.	That one should be on the list.
1796	Owen H.	Ted H.	ok, certainly didn't get it.
1797	Owen H.	Bill B.	Bill, are you ready to accept stuff, or should I redeploy to get this one?
1798	Owen H.	Bill B.	yes I know it should be on the list, what I'm asking is why it's not on yours.... i.e., if you missed it because it was in restart state, look again, ... whatever reason you missed it, look for ones like it, so you're not missing others. <end asshole>

Row	Participant	Target	Utterance
1799	Bill B.	Owen H.	up to you. I can test now or later.
1802	Owen H.	Bill B.	go test Bill.
1803	Owen H.	Bill B.	now.

Owen begins by implicitly questioning Bill's competency by stating that Bill has missed a catastrophic bug (rows 1782 through 1785). Owen then goes on to offer a fairly threatening action against Bill's negative face in row 1797, asking directly if Bill is prepared to act immediately. In the meantime, Bill attempts to offer an excuse on 1795, putting himself clearly in the submissive role, as he strives to gain approval from Owen and significantly threatens his own face by admitting an error. Owen responds with a very blatant attack on Bill in row 1798, which he somewhat mitigates by attempting to insert a humorous pseudo markup language closing tag of "<end asshole>", implying he knows his rant is overly threatening. Bill then further puts himself in the submissive role by looking to Owen for direction on row 1799, to which Owen replies with a bald on-record command, made even more threatening by its abruptness, on rows 1802 and 1803.

It appears that, in the Blatant Target-oriented FTA measurement, I have found a metric that points to data worthy of closer examination, and that the metric in itself provides insight into the nature of negotiated power relationships within the group. While the normalization of the data into percentages is a useful tool to compare tendencies, researchers must be aware that confounding variables such as the total number of Utterances (and therefore the opportunity the Participant has to impact interactions) play a factor as well, and be prepared to account for them. I elaborate on this need in the recommendations for future research section of the conclusions chapter.

Power Types Analysis and Interpretation

Overall, I found that FTAs and their accompanying Politeness Strategies did provide excellent insight into negotiated power relationships, though additional in-depth qualitative analysis of the data in question was often needed. Early in my research, I was concerned that Politeness Theory would not provide enough insight to truly conduct an effective analysis of negotiated power relationships in small software teams. So, I decided to supplement this main theory with two others. For the next phase of my analysis, I examine my data using the second theoretical framework, that of Power Types as originally defined by French and Raven in their article, "The Bases of Social Power" (1959). As I explained in my Analytical Framework chapter, these Power Types comprise 7 different codes: Reward, Coercive, Referent, Legitimate, Expert, Informational, and Connectional. I studied the resulting data from several different perspectives, which I describe in detail in the following sections.

Total Instances of Power Being Exercised by Participant

First, I considered the total number of times Power Types appeared in Utterances for each Participant, which is shown in the following table.

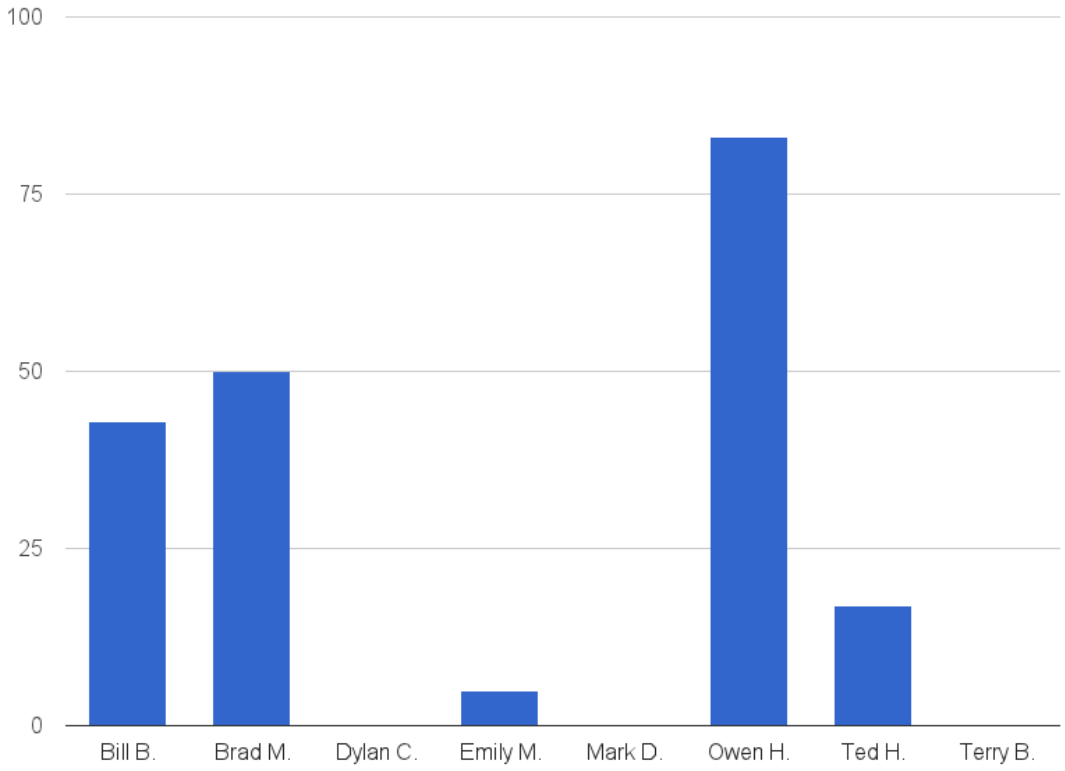
Table 26
Number of Times Each Participant Exercised Power Types

Participant	Number of times Power Types were exercised
Bill B.	43
Brad M.	50
Dylan C.	0

Participant	Number of times Power Types were exercised
Emily M.	5
Mark D.	0
Owen H.	83
Ted H.	17
Terry B.	0

As the table shows, several Participants had no instances where they exercised a Power Type during an Utterance. However, this may have been due to lack of participation, as Terry, Mark, and Dylan had very few contributions to the data. For the remaining Participants, the following graph allows us to easily see who exercised Power Types the most during their interactions.

Figure 28
Total Power Types Exercised by Participants (bar graph)



The graph shows that Owen most frequently displayed a Power Type in his Utterances by a wide margin. Brad and Bill were a distant second and third. This data falls in line with the Blatant FTA data from the last section, which also showed that Owen often attempted to dominate via threatening actions. Ted, whose Blatant FTA percentage was even higher than Owen's, is low on this graph because it has not been normalized as a percentage of total Utterances.

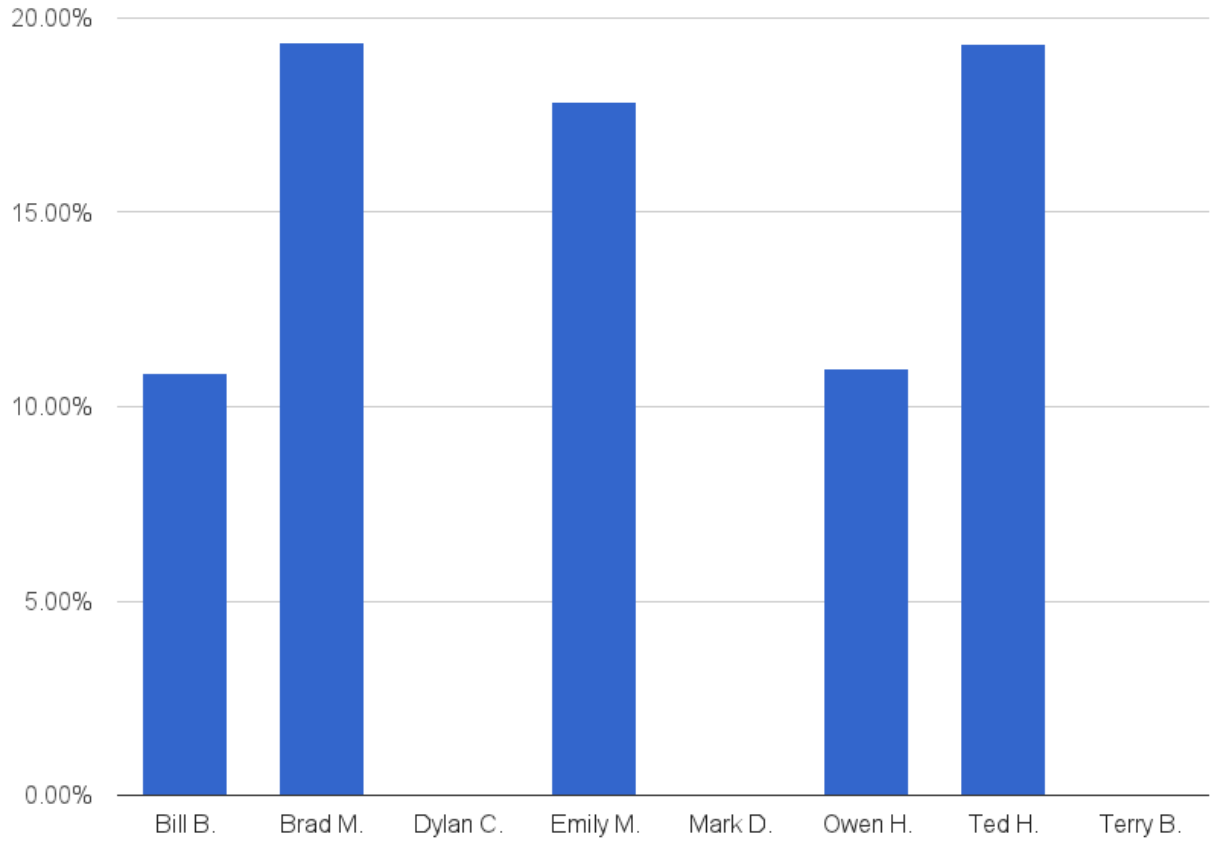
When I normalize it, the data falls closer to expectations, though I see that, in addition to Ted eclipsing Owen for percentage of Utterances where a Power Type was exercised, Brad eclipses everyone. Dylan, Mark, and Terry have no Power Types in their Utterances, as I knew from the earlier totals. This dearth of Power Types was also to be expected considering their low number of

contributions (12 Utterances for Dylan, 7 for Mark, and none for Terry; he appeared only as a Target).

Table 27
Percentage of Utterances Containing a Power Type

Participant	Percentage of Utterances including Power Types
Bill B.	10.86%
Brad M.	19.38%
Dylan C.	0.00%
Emily M.	17.86%
Mark D.	0.00%
Owen H.	10.96%
Ted H.	19.32%
Terry B.	0.00%

Figure 29
Power Types as a Percentage of Utterances (bar graph)



This normalized data shows Owen with far less of a tendency to display Power Types in his Utterances, though the total volume of attempts to exercise Power may be more indicative a measurement. Meanwhile, as previously mentioned, both Ted and Brad rise above Owen in percentage of Utterances displaying a Power Type. Bill lags far behind Brad and Ted, which is in line with what I expected after seeing his general submissiveness in the FTA analysis, but it is surprising to observe that he is nearly equal to Owen. To gain a better understanding of these percentages, I looked more closely at the Power Types exercised by each Participant.

Power Types Exercised by Participant

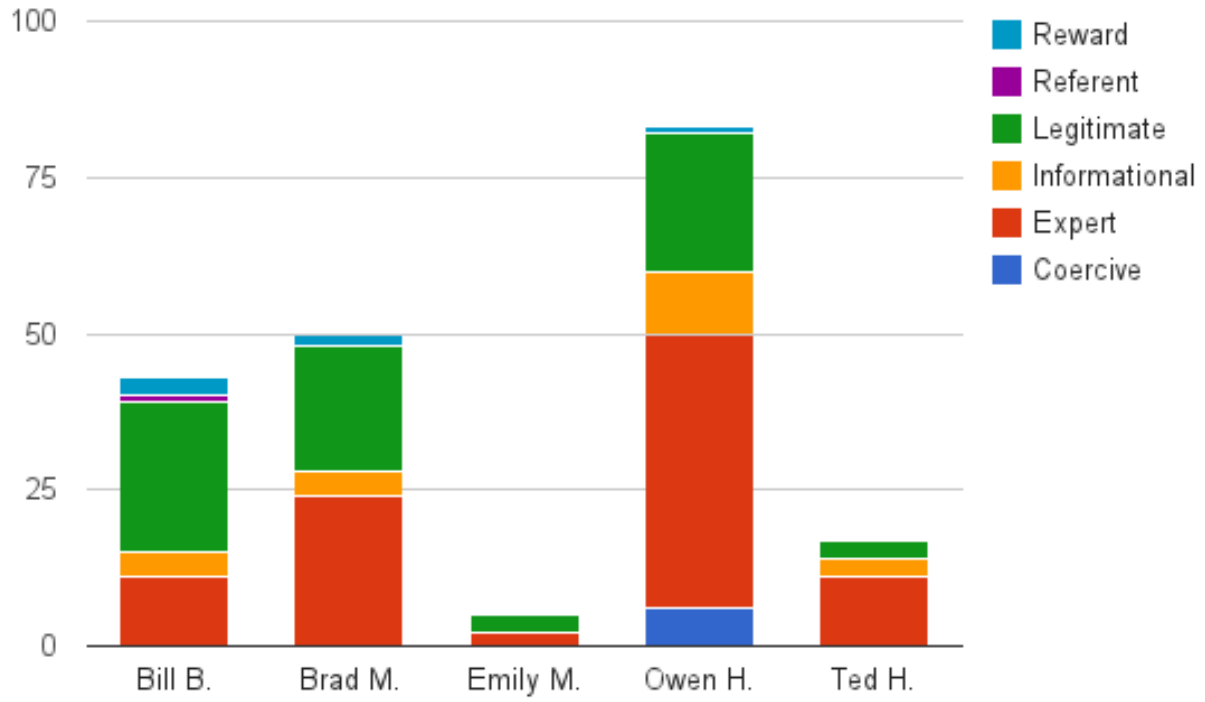
Next, I went beyond the total instances of power being exercised to the Types of Power themselves. The following table and graph show the Participants' total Utterances containing each Power Type.

Table 28
Total Number of Each Power Type Exercised by Participants

Participant	**Coercive**	**Expert**	**Informational**	**Legitimate**	**Referent**	**Reward**
Bill B.	0	11	4	24	1	3
Brad M.	0	24	4	20	0	2
Dylan C.	0	0	0	0	0	0
Emily M.	0	2	0	3	0	0
Mark D.	0	0	0	0	0	0
Owen H.	6	44	10	22	0	1
Ted H.	0	11	3	3	0	0
Terry B.	0	0	0	0	0	0

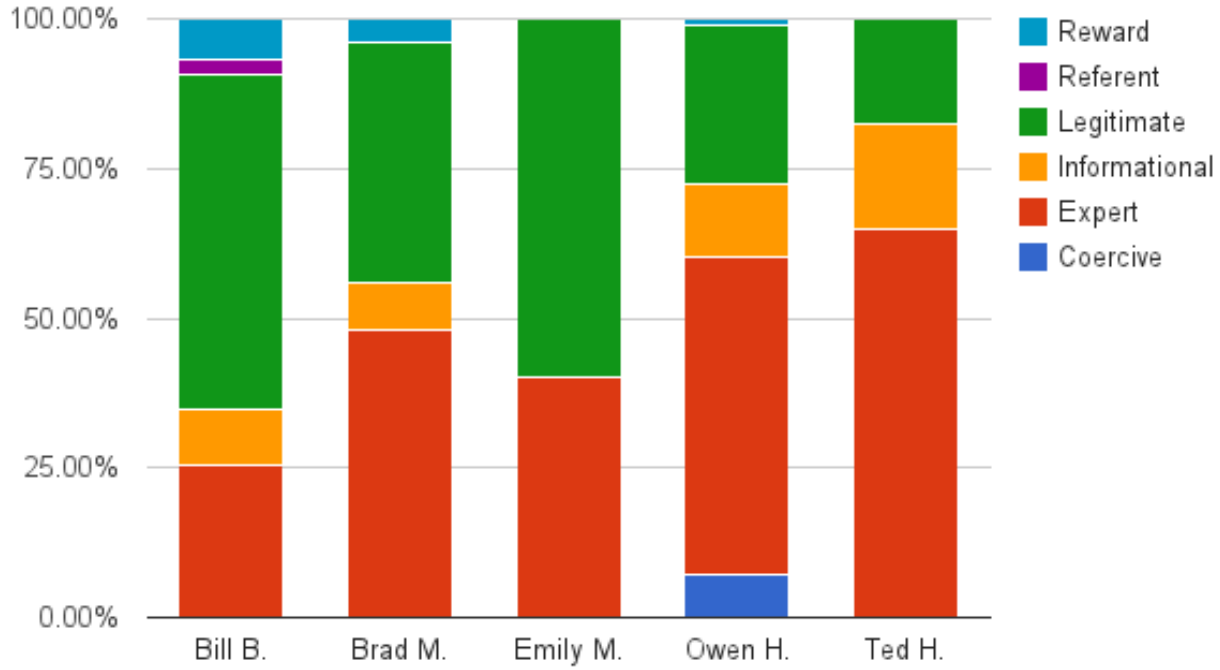
The Participants with no Power Types in their Utterances, due to lack of contributions, can be seen in this data as well. I omitted them from the following graph to help us better compare the remaining Participants.

Figure 30
Power Types Exercised by Each Participant (bar graph)



In addition to considering the total number of each Power Type exercised, I also found it useful to look at the totals as a percentage of the Participants' total Power Types exercised. This adjustment makes it easier to compare relative reliance on different Power Types. As with previous comparisons of percentages among multiple Participants, I chose to use a single bar graph to display the data instead of multiple pie charts.

Figure 31
Power Types Exercised by Each Participant as Percentages (bar graph)



Two Power Types clearly stand out in both of the graphs above: Legitimate (green) and Expert (orange). These results fall in line with my own expectations, as the context of the interactions, as task-oriented development chatroom, lent itself to the exercise of both organizationally-bestowed power (to assign and facilitate the completion of tasks) and the power that comes from a superior understanding of subject matter (as jobs were highly specialized).

Informational power is also to be expected, as the specialized nature of the jobs would serve to compartmentalize certain information, giving power to those who control it. The truly interesting type of power being exercised is that of Coercive power, which I have earlier defined as "negative reinforcement. Insults, degrading statements, blatant personal challenges, and other similar utterances." In short, Coercive power appears to fall roughly in line with what I termed Blatant FTAs in my Politeness Theory analysis section. The examples below show that the Coercive power exercised by Owen does indeed tend to coincide with Blatant FTAs, as all but row 2000 were made without redress, and that only because it is a type of Coercive power once removed; Owen

notes that he disciplined the CEO in order to make his point that a similar fate is in store for any others who make the same mistake.

Table 29
Examples of Coercive Power in Utterances

Row	Participant	Target	Utterance
325	Owen H.	Bill B.	I'm guessing the lack of a Bill in here means he doesn't need edge to test.
1720	Owen H.	Bill B.	I'm gonna do a deploy, clearly no one is using it if Bill didn't know it was up.
1798	Owen H.	Bill B.	yes I know it should be on the list, what I'm asking is why it's not on yours.... i.e., if you missed it because it was in restart state, look again, ... whatever reason you missed it, look for ones like it, so you're not missing others. <end asshole>
1803	Owen H.	Bill B.	now.
2000	Owen H.	Bill B.	kudos for asking first, I had to slap [the CEO's] wrists for just walking in and picking it up.
2094	Owen H.	Brad M.	by the time our QA is back from CEO babysitting duty, staging should be done deploying.

Owen also directs five of the six remarks to Bill, while the sixth (2094), although Targeted at Brad, is actually about Bill (whom Owen refers to as "our QA"). Note that row 1803, while not threatening out of context, is part of an example I examined earlier, where Owen command Bill to perform an action. The "now" in row 1803 is a public attack on Bill's sense of responsibility, implying he would procrastinate if Owen did not apply pressure to have Bill complete the task immediately.

It appears that the exercise of Coercive power, much like Blatant FTAs, is a key indicator to show that one Participant is attempting to establish dominance over another. The use of such a Power Type clearly shows a lack of respect from one Participant for another, and is an excellent flag for researchers to use to pinpoint data worthy of more intensive analysis when considering negotiated power relationships.

Domain / Authority Acknowledgement Analysis and Interpretation

Finally, I examined the data from the standpoint of a new framework that I created to supplement existing ones. I have discussed the genesis and specifics of this framework in greater detail in my Analytical Framework chapter, but in essence, from my previous experience, it seemed to me that leadership could only be present should followers allow it to be. In short, without followership, leadership could not occur. I believe followership is present when two factors are in play: acknowledgement of the importance of the Domain under discussion, and acknowledgement of the other Participant's Authority in that Domain. Of course, this acknowledgement does not need to be explicit, which is one of the reasons deep contextual understanding of the context is necessary to effectively code and analyze what I refer to as Domain / Authority Acknowledgement. In the following sections, I discuss the results of my review of the data using this framework.

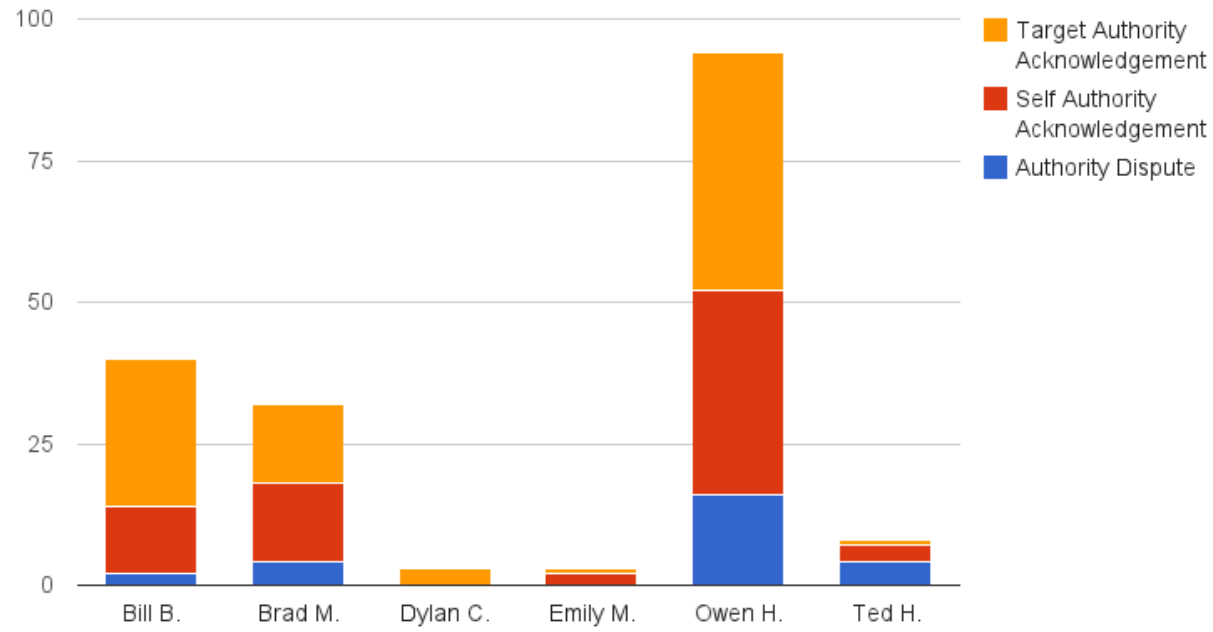
Authority Acknowledgement by Participant

First, I examined the Authority Acknowledgements from a Participant perspective. The results tended to be skewed toward those who contributed the most, as I expected, but were interesting nonetheless.

Table 30
Authority Acknowledgement by Participant

Participant	Authority Dispute	Self Authority Acknowledgement	Target Authority Acknowledgement	Grand Total
Bill B.	2	13	26	41
Brad M.	4	14	14	32
Dylan C.	0	0	3	3
Emily M.	0	2	1	3
Owen H.	16	36	42	94
Ted H.	4	4	1	9

Figure 32
Authority Acknowledgement by Participant (bar graph)



The data shows that Target Acknowledgement occurred at some point for every Participant. On the upper-end of the contributor scale (Bill, Brad, and Owen), Brad and Owen split their Target Authority Acknowledgement and Self Authority Acknowledgement (in which they promote their own capabilities) fairly evenly. Bill, however, is skewed toward Target Authority Acknowledgement. This skew is likely due to the fact that most discussions revolved around development and deployment efforts. Bill, as a quality assurance tester, was rarely in a position to exert Authority in such discussions. This supposition is backed up by Bill's proportion of Expert Power Type usage in his Utterances, as shown in the previous section, which is the lowest of all Participants.

Another striking characteristic of the previous graph is that Owen appears to have a disproportionately high number of Authority Acknowledgements compared to his Utterances. While he did have the most Utterances in the data, he did not have more than twice the next Participant (Bill). In light of this characteristic, I decided to check the Authority Acknowledgements as percentages of total Utterances, with the following results.

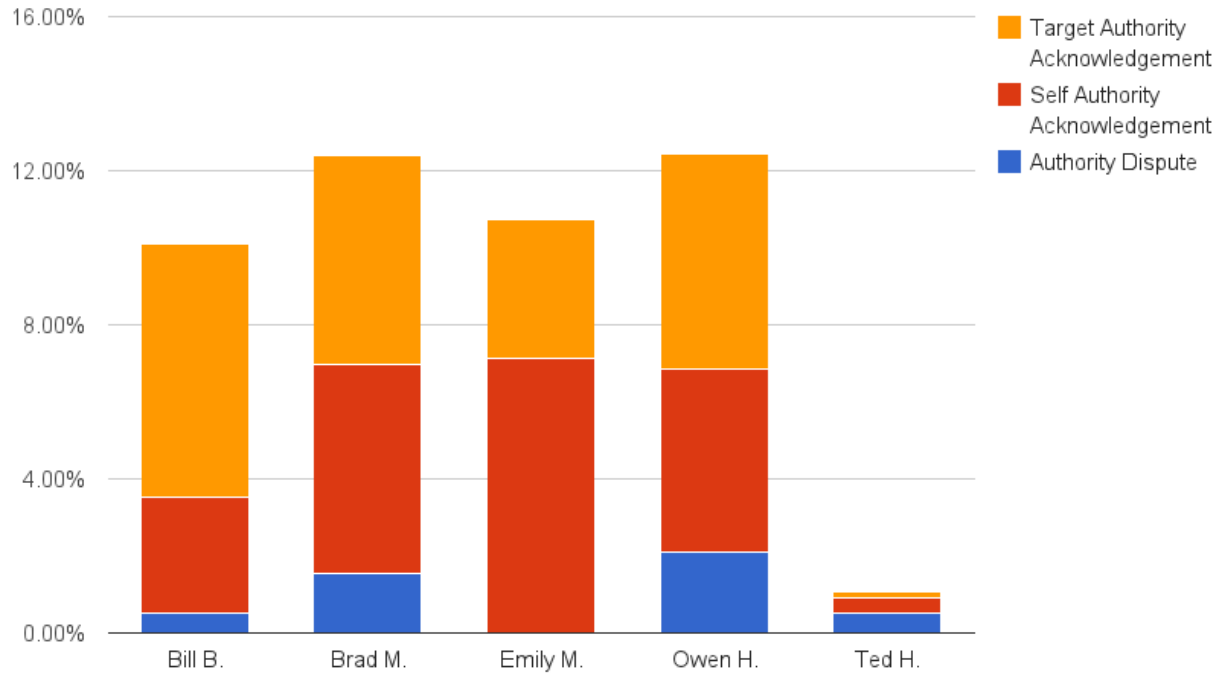
Table 31
Authority Acknowledgement by Participant as Percentage of Utterances

Participant	Authority Dispute	Self Authority Acknowledgement	Target Authority Acknowledgement	Grand Total
Bill B.	0.18%	1.08%	2.34%	3.68%
Brad M.	0.58%	2.05%	2.05%	4.68%
Dylan C.	0.00%	0.00%	25.00%	25.00%
Emily M.	0.00%	2.25%	1.12%	3.37%

Participant	Authority Dispute	Self Authority Acknowledgement	Target Authority Acknowledgement	Grand Total
Owen H.	1.25%	2.82%	3.29%	7.36%
Ted H.	0.31%	0.23%	0.08%	0.70%

Dylan has by far the highest proportion of Authority Acknowledgements to Utterances, but as he contributed a very low number of Utterances (only 12, which may have caused his data to be misleading), I decided to omit him from the graph of the data to allow us to better compare the more prolific Participants.

Figure 33
Authority Acknowledgement by Participant as Percentage of Utterances (bar graph)



It appears that Owen's data from the first graph (total Authority Acknowledgements) was somewhat misleading; he really does not Acknowledge Authority significantly more often than the

other Participants. However, he engaged in Authority Disputes more than any other Participant (2.11% versus Brad's 1.55%). This disparity in Authority Disputes is even more marked when total instances are considered instead of percentages of each Participant's Utterances, as Owen engages in more than half-again as many Disputes as everyone else combined (16 for Owen compared to 10 for all others combined).

Authority Disputes appear to be another measurement that, in practice, falls roughly in line with both Blatant FTAs and the exercise of Coercive power, which is not surprising because all three involve a Participant challenging or disparaging another Participant in some way. Consider the following Authority Dispute examples, which come from a range of locations in the data.

Table 32
Examples of Authority Disputes

Row	Participant	Target	Utterance
325	Owen H.	Bill B.	I'm guessing the lack of a Bill in here means he doesn't need edge to test.
457	Ted H.	Bill B.	It's not a bug if you cant reproduce it
498	Owen H.	Bill B.	funny thing is, this is the sort of thing that ought to /prevent/ the kinds of problems I'm talking about, Bill.
542	Ted H.	Owen H.	that cant possibly be related
1749	Owen H.	Bill B.	how is that on your critical list if you can't reproduce on prod?
1782	Owen H.	Bill B.	Bill, why didn't this make your list?

Row	Participant	Target	Utterance
1798	Owen H.	Bill B.	yes I know it should be on the list, what I'm asking is why it's not on yours.... i.e., if you missed it because it was in restart state, look again, ... whatever reason you missed it, look for ones like it, so you're not missing others. <end asshole>
1866	Owen H.	Ted H.	that couldn't have been it.
1932	Bill B.	Owen H.	It has minimal exposure. It is a bug because it's functionality that is broken for users so I want to document these things even if we ultimately decide to ignore them.
1965	Brad M.	Bill B.	Bill: i don't think the wg bens fix needs to go out today, as we're not deploying bens this week
2160	Ted H.	Bill B.	the document thing isnt important
3960	Owen H.	Bill B.	nothing about automatic invites has been tested at all since Janurary, maybe even as far back as December.

The common theme in the above Utterances is that all involve disagreements, of which the major types seem to be the following: A Participant may be challenging another about their knowledge on a topic, as in row 542 where Ted questions Bill's expertise; this Utterance follows a statement by Bill speculating about the cause of a bug he was seeing. Another example occurs when Owen questions the validity of a bug Bill has submitted (row 457). Another common type of disagreement involves dissatisfaction with decisions a Target has made, as on row 1798 where Owen disputes the decision made by Bill to exclude a bug from a daily critical bug list. Note that it is also possible to use politeness to mitigate these Authority Disputes, as Bill does in row 1932 when

he explains the decision he made to create a bug instead of simply invoking Legitimate power and demanding that it be created.

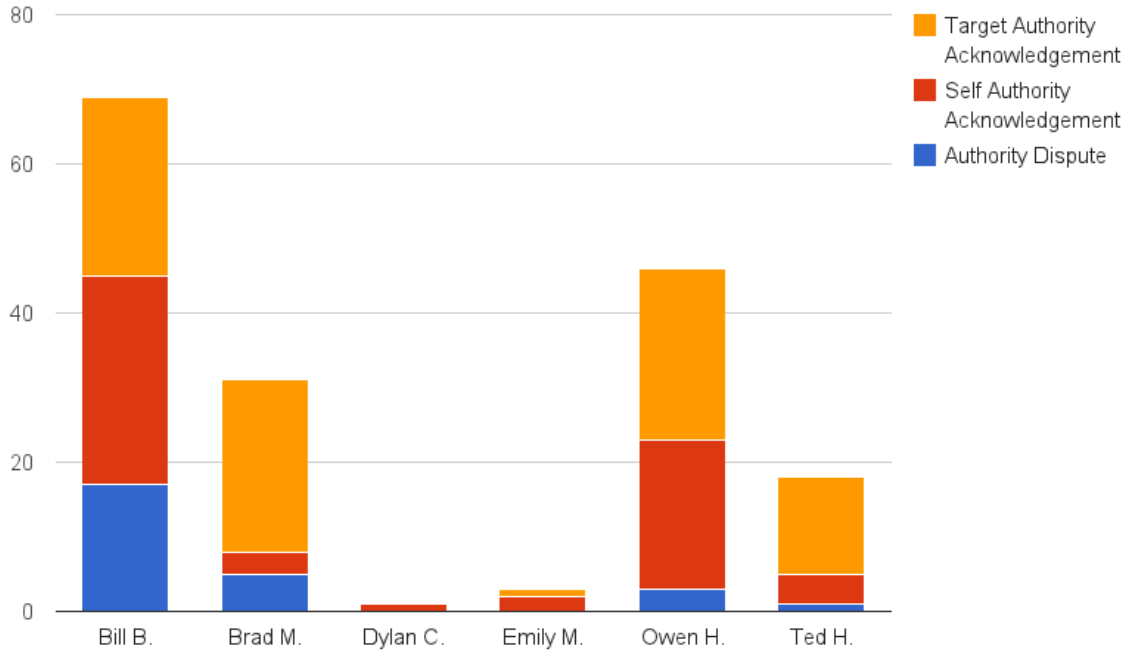
Authority Acknowledgement by Target

It is apparent from the examples above that many of the Authority Disputes were directed at Bill. After noticing this tendency, I decided to look more closely at Authority Acknowledgement from the perspective of Targets; who was Targeted most often and by which types of Acknowledgements (or disputes)?

Table 33
Authority Acknowledgement by Target

Participant	**Authority Dispute**	**Self Authority Acknowledgement**	**Target Authority Acknowledgement**	**Grand Total**
Bill B.	17	28	24	69
Brad M.	5	13	23	41
Dylan C.	0	1	0	1
Emily M.	0	2	1	3
Owen H.	3	20	23	46
Ted H.	1	4	13	18

Figure 34
Authority Acknowledgements from Perspective of Target (bar graph)



Bill was by far the most frequent Target of Authority Acknowledgements of all types, especially Self Authority Acknowledgements and Authority Disputes. (Note that Self Authority Acknowledgements when viewed from the Target's perspective indicate that whomever was addressing the Target was promoting their own Authority.) So, while Bill did receive roughly the same number of Acknowledgements of his own Authority from others (Target Authority Acknowledgement) as did Owen and Brad, the other heavy contributors, he also had by far the most Utterances Targeted at him where the Participants were either promoting their own Authority or Disputing Bill's Authority. This disparity may indicate that other Participants felt they were in a superior position of power to Bill.

Note that I decided not to review this metric as a percentage of total Targeted Utterances as I did not feel such an analysis would contribute beyond what I was able to glean from the totals.

Domain Acknowledgement

Unfortunately, I found that there were very few Domain Acknowledgements, and very nearly no Domain Disputes, in my corpus, as the following table shows.

Table 34
Domain Acknowledgements by Participant

Participant	**Domain Acknowledgement**	**Domain Dispute**	**Grand Total**
Bill B.	7	0	7
Brad M.	1	0	1
Dylan C.	0	0	0
Emily M.	0	0	0
Mark D.	0	0	0
Owen H.	6	1	7
Ted H.	1	0	1
Terry B.	0	0	0

In retrospect, I should have anticipated this dearth of Domain Acknowledgements of any type, as the context precludes them: the chatroom existed for a very explicit purpose, and only those whose Domain knowledge would be relevant were invited to participate in the interactions. Thus, everyone had already, by their very presence in the chatroom, implicitly Acknowledged the importance of the few Domains under discussion: development, deployment, and quality assurance. In a less narrowly-focused research environment, this metric should prove to be very useful.

Chapter Conclusion

In this chapter, I have examined the data from the perspective of three major frameworks: Politeness Theory, Power Types, and Domain / Authority Acknowledgement. While I drew some conclusions from the results of my analysis, I did not attempt to review the effectiveness of the frameworks themselves to form overarching conclusions. In the next and final chapter, I will examine the results of my methodologies, coding approach, and analysis; determine which portions of each of the frameworks proved most useful during this analysis; and attempt to guide future researchers in deciding whether one or more of these frameworks will be useful as tools to help them gain insight into data in their own research.

Chapter 6: Conclusions and Recommendations for Future Research

Introduction

In the previous chapter, I presented my analysis of data gathered from archives of a chatroom used by a development team and a quality assurance team at a small software company. Now, I will attempt to summarize and draw some overarching conclusions concerning that analysis and to provide my own insights into the effectiveness of the various analytical frameworks used, with the goal of providing guidance to future researchers who may be considering them. I will also provide some ideas about future research that may be useful to expand upon my research and findings.

Negotiated Power Relationships Among Case Study Participants

As I showed in the previous chapter and reiterate in the following sections, negotiated power played a large role in determining the hierarchy of this small software organization, much more so than the traditional, organizationally-bestowed power via the org chart. In this section, I compare what I determined to be the true hierarchy versus what the org chart showed, and explain why I placed each Participant in their position of power (or lack thereof) relative to his or her peers.

One of my major findings, as explained in the following sections, was that Blatant FTAs, Coercive Power use, and Authority Disputes tended to be good indicators of a Participant "bucking the system," so to speak, or pushing out of their place in the organizationally-bestowed power hierarchy. While other politeness and impoliteness strategies were often used in subtler ways to negotiate power relationships, the more blatantly offensive approaches usually appeared when a Participant was pressing for a particularly large shift in power. One of the mitigating factors in this

pressure was how the Target responded, though. A Participant could perceive themselves in a particular power role but, without followers among their Targets, the role would not be an actuality as there would be no impact; influence would not be exerted over anyone.

Thus, I looked particularly closely at the exchange of what I will call, for convenience' sake, "Offensive Acts," including Blatant FTAs, Coercive Power, and Authority Disputes. The following tables review the data, originally presented in the Analysis chapter (Chapter 5), for these types of exchanges. I highlighted particularly interesting results for ease of reference.

Table 35
Review of Blatant Target-Oriented FTAs as Percent of Total FTAs (Rows = Participants)

	Bill B.	**Brad M.**	**Emily M.**	**Owen H.**	**Ted H.**
Bill B.	0.00%	0.71%	0.00%	4.96%	0.71%
Brad M.	1.19%	0.00%	0.00%	0.00%	0.00%
Emily M.	0.00%	14.29%	0.00%	14.29%	14.29%
Owen H.	9.05%	2.06%	1.23%	0.00%	2.88%
Ted H.	9.68%	0.00%	3.23%	22.58%	0.00%

Table 36
Total number of Each Power Type Exercised by Participants

Participant	Coercive	Expert	Informational	Legitimate	Referent	Reward
Bill B.	0	11	4	24	1	3
Brad M.	0	24	4	20	0	2
Dylan C.	0	0	0	0	0	0
Emily M.	0	2	0	3	0	0
Mark D.	0	0	0	0	0	0
Owen H.	6	44	10	22	0	1
Ted H.	0	11	3	3	0	0
Terry B.	0	0	0	0	0	0

Table 37
Authority Acknowledgement by Participant

Participant	Authority Dispute	Self Authority Acknowledgement	Target Authority Acknowledgement	Grand Total
Bill B.	2	13	26	41
Brad M.	4	14	14	32
Dylan C.	0	0	3	3
Emily M.	0	2	1	3
Owen H.	16	36	42	94
Ted H.	4	4	1	9

As I noted earlier, I have highlighted some of the more interesting results in the previous tables. Regarding Blatant FTAs, although Emily does appear to be attempting to exert influence over Brad and Owen, her lack of FTAs (only 7 total, of which only 3 were Blatant FTAs) make her data susceptible to skewed results and limit her opportunities to exert influence via Blatant FTA. I have thus chosen not to consider her extremely small number of Blatant FTAs in my conclusions.

Owen's interactions were very telling, as he tended to attack Bill with Blatant FTAs, at 9.05% of his total FTAs, while treating other Participants relatively well; no other Participant received more than 2.88% Blatant FTAs from Owen. Meanwhile, Ted showed a firm self-perception of his power role in the development team, directing a large percentage of his FTAs as Blatant ones towards Owen (22.58%), nominally his equal according to the org chart, while directing no Blatant FTAs at all toward his manager, Brad.

When examining the interactions from the perspective of Power Types, I also saw some very interesting results. Owen clearly was the "mental jock" of the group, as Alan Cooper (1999) might have termed him, attempting to coerce other Participants 6 times throughout the interaction. No other Participant exhibited Coercive Power at any point, leading me to believe it was not generally considered an acceptable behavior in this context. Owen also attempted to exert power through other Power Types more than any other Participant, although this was partly due to his extremely large proportion of contributions. When Utterances where Power Types were exercised are considered as a percentage of total Utterances, Brad and Ted, with 19.38% and 19.32% respectively, far outstrip Owen, with only 10.96%. However, Ted leaned heavily on Expert Power while Brad split his fairly evenly between Expert and Legitimate, showing that he perceived himself to be in a position to exert organizationally-bestowed power, which is not surprising considering he was the highest-ranking person in the chatroom, according to the org chart.

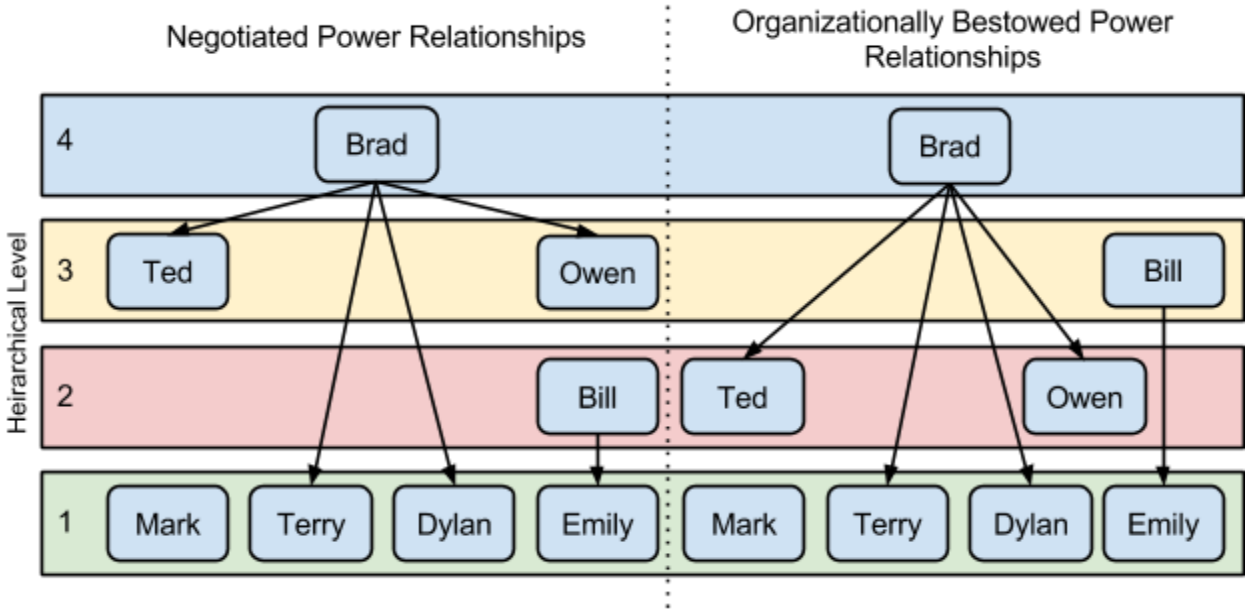
Meanwhile, Bill also conveyed Legitimate Power in his Utterances but without the same reliance on Expert Power, showing that he relied heavily on the org chart to grant him his authority in the chatroom. This, as much as anything, showed how little influence the org chart conveyed in this context compared to expertise (shown via Expert Power and Authority Disputes) or sheer willpower (shown via Blatant FTAs). Thus, it becomes obvious that negotiated power trumps organizationally bestowed power in this context.

Finally, the Authority Dispute numbers show that Owen was far and away the most likely to challenge someone else's power base, as he had more than four times the Authority Disputes of any other Participant. The ratio of Self Authority Acknowledgement to Target Authority Acknowledgement is also telling, as both Brad and Owen had roughly 50-50 ratios while Bill tended to acknowledge the authority of others twice as much as he did his own. This measurement further shows that Bill was very insecure in his role as a manager with Hierarchical Rating 3, while Owen

tended to act as if he held power beyond his Hierarchical Rating of 2. Brad, as he showed in his other measurements, was right in line with what I expected from someone with Hierarchical Rating 4, but considering the obvious importance of Expert Power (as the Power Types summary shows), his authority is just as likely to stem from the superior knowledge that led to his upper-level role in the organization as it is from the role itself.

I used these key indicators as a gauge of the negotiated power relationships (as opposed to organizationally bestowed power relationships) among employees, as shown in the following chart.

Figure 35
Negotiated vs. Organizationally Bestowed Power Relationships



Brad remained on the top level due to the respect shown him by other employees; he rarely was the recipient of Blatant FTAs (aside from Ted) and showed that he exerted significant Expert and Legitimate Power. Owen and Ted elevated their standing through both Expert Power and, in Owen's case, by Coercive Power and Blatant FTAs toward Bill. Ted also used Blatant FTAs toward Bill but, surprisingly, he used many more toward Owen. Meanwhile, Bill showed a lack of Expert Power, which coincides with the large proportion of Authority Disputes directed at him with regards to the Domains (development and quality assurance). He was also the Target of many

Blatant FTAs, lowering his authority within the context of the chatroom. Note that Mark, Dylan, Terry, and Emily remained on the bottom tier mainly due to their lack of interactions. Through this lack, they did not give themselves the opportunity to wield power.

Based on this analysis, it appears that negotiated power relationships, created both through expertise and through personal conflict, are vitally important in the development of the hierarchy within this small software organization, much more so than the organizationally bestowed hierarchy (org chart). Although it is dangerous to generalize from a single case study, I believe the factors that led to this reliance on negotiated power relationships will be prevalent at most similar organizations; these factors include a relatively flat organizational structure that encourages close interaction among employees and highly technical Domains that cause an escalation of the value of expert knowledge.

Impact of Organizationally-Bestowed Power (Hierarchical Rating)

The data and analysis clearly show that the Hierarchical Rating, which represents the power bestowed by the organization, has little to do with the actual exercise of power in this chatroom. The various metrics I examined under the frameworks of Politeness, Power Types, and DA/A rarely had any relationship to the Participants' Hierarchical Ratings. The only statistic that did have a strong correlation with Hierarchical Rating was that of Self-Targeted FTAs, which had a negative correlation of -0.86 on a scale of -1.00 to 1.00 (where 0.00 shows no correlation). While this does show that those with a higher Hierarchical Rating in my study did tend to be self-effacing, it does not indicate that they were able to exercise power over others with any regularity.

While this may seem to indicate the ineffectiveness of organizationally-bestowed power, it is possible there is another factor at work. Owen Ambur (2000) felt it was useful to further refine French and Raven's theory on the bases of social power, regarding legitimate power. As he states:

> Lack of such legitimacy is why organizational hierarchies are often ignored and bear relatively little relationship to the supply chains by which value is actually delivered. The rumor mongering and griping about the "bosses" that are endemic in bureaucratic organizations are symptomatic of the illegitimacy of so-called legitimate power.
>
> Employees simply fail to volunteer referent power to those occupying superior positions in the organizational hierarchies. Lower-order, *bureaucratic* legitimacy is powerless to do anything about it, since referent power cannot be enforced through punishment nor bought with "rewards." (Ambur 2000, pp. 1-2).

Ambur argues that the main reason for this erosion of legitimate authority is the ease with which information can be shared outside of the hierarchy of organizational structure. The chain of command can be sidestepped. "Legitimacy relates only to commonly accepted practice and implies no higher-order degree of truth, logic, honor, or justice" (Ambur, p. 3). While it is interesting to note that Legitimate power was one of the two major types of power exercised by Participants in this study (the other being Expert power), there was no correlation between the exercise of Legitimate power and Participant Hierarchical Rating, indicating that the force of the Legitimate commands came from negotiated power, not organizationally-bestowed power.

Chatrooms such as the one chosen for this study are themselves one of the methods by which information is shared and, according to Ambur (2000), the chain of command is sidestepped in small software organizations. Therefore, it was an ideal setting within which to examine negotiated power relationships in such organizations.

Need for Immersion in Context

As I have mentioned previously, the accurate application of codes such as those described in this study requires a deep understanding of the context surrounding the data. This contextual understanding is necessary not only to apply the codes, but also to analyze the resulting metrics and to conduct qualitative examinations of specific interactions. While thick descriptions (Geertz 1973) can help convey some of the necessary information to readers in order to help them interpret the findings, they are not sufficient background for researchers to conduct the actual code application and analysis.

Therefore, a research methodology such as participant-observation is essential to provide the essentially ethnographic background understanding needed. The deep immersion in the context in which the data is gathered, provided by such a methodological approach, will allow the researchers to better interpret the intent and attitudes behind the data. Also, it may give researchers more opportunity to capture data and can help counter the observer's paradox (Labov 1972) by giving the other participants a sense of security and comfort that they might otherwise lack. Finally, I believe the fact that I was a participant first, and only then an observer, enhanced all of the benefits of the participant-observer methodology. I chose to illustrate this distinction by adding emphasis to the central focus of the researcher in question, as in *participant*-observer versus participant-*observer*.

An interesting side note to the need to understand context to interpret the data effectively is that, once the data has been interpreted, researchers may gain an even greater understanding of the context, such as being able to identify and account for certain variables it introduces. For example, in this study, it became apparent that the nature of the medium of an online chatroom and the circumstances surrounding the content contained therein, namely that the interactions centered on

predefined topics requiring a great deal of specialized knowledge, lent themselves to certain types and frequencies of FTAs, such as those in which Participants threatened Target negative face via a request to act (TNR) and those in which Participants threatened Target negative face via a envy or jealousy of characteristics or possessions (TNA).

Importance of Data Grooming

In the Methodology chapter, I explain in great detail the process I followed in order to prepare my data to be coded, which can also be referred to as "grooming." This grooming process was extremely valuable as it eliminated a great deal of extraneous work in which I would have otherwise have had to engage. Had I delved directly into coding on a line-by-line basis, I would have had to ignore a large number of rows containing framing information, including dates, labels, and other information intended to supplement the rows containing the data comprising my unit of measurement, the Utterance. In addition, the original format of the data did not lend itself to manipulation of the end data. I would have had to do a great deal of manual counting or some other manual manipulation of the data in order to extract the summaries used as the quantitative foundation of my Analysis chapter.

Instead, due to the grooming process, my data was centered on the unit of measurement most important to my analysis, the Utterance. It was also in a spreadsheet format, with the supplemental information not segregated into separate rows but rather associated in columns next to the Utterance to which it pertained. This format enabled me to quickly manipulate the data in a variety of ways using formulas and pivot tables, many of which I then converted into visual representations such as line graphs, bar graphs, and pie charts. The manipulatable nature of the groomed data allowed me to spend minimal time on the mechanics of extracting summarized

information from my data, freeing me to focus on the contemplation and interpretation of the information itself.

Effectiveness of Analytical Frameworks

"Raw" Statistical Analysis

Although not technically an analytical framework, I found several of the "raw" numbers, which I am defining as those not resulting from my coding efforts, to be useful in providing insight. The number of Utterances per Participant was a very useful metric to gauge each Participant's opportunity to exercise power. Those who only infrequently contributed were in a far less advantageous position to impose their wills on other Participants. Thus, I found that, though certain other metrics might point to some of these infrequent contributors negotiating a very favorable power position, their lack of potential to exercise this power, due to their correspondingly low number of Utterances, meant they actually had little impact on the interactions and actions of others.

Average delay per Participant in response to requests was a useful measurement not so much to establish intent to enact face-threat to Targets, both negative due to the delay itself and positive due to the implied disregard for the Target's desires, but more so due to the inferred intent on the part of the Target. Thus, I decided to decline to consider whether the delays were Intentionally Offending and focused instead on the overall average. I found that this metric fell along departmental lines, with Participants much less likely to delay when interacting with others within their own department than they were when interacting with those from other departments. This disparity provided useful insight into the culture pervading the organization's development and quality assurance teams and impacting the interactions among them.

Politeness Theory

I found Politeness Theory to be the most effective analytical framework overall, though it could be supplemented with the other two to good effect. In particular, Blatant Face-Threatening Actions (FTA) were an excellent indicator of power struggles, as Participants perpetrating them displayed lack of respect for Targets (or themselves) and also appeared to often be attempting to baldly impose their wills via negative Blatant FTAs, openly requesting some sort of action by the Target. Once the Utterances had been identified, however, it was necessary to examine them more closely to determine the true nature of the FTA and, therefore, to gain insight into its impact on the negotiated power present among the Participants.

Among the other metrics which I examined as part of my Politeness Theory-based analysis, several stood out as having the potential to provide significant insights into negotiated power relationships. The percentage of FTAs directed at one's own face versus those directed at a Target's face was strongly correlated to the Hierarchical Rating, the only statistic to show such a relationship. This may indicate that, despite much of the true power relationships being negotiated rather than bestowed, the self-image provided by the bestowed power causes those attaining higher Hierarchical Ratings to become more self-effacing, perhaps in order to maintain good working relationships among team members for whom they feel responsible.

Similarly, the weight of FTAs directed at Targets was a very useful metric, especially when applied to pairs of Participants. It helped provide insight into the nature of the relationship between the Participants when viewed from the perspective of the one offering the FTAs. Overall, this metric, coupled with the average FTA weight received by Targets, provided a general sense of which Participants tended to view themselves as leaders or dominant versus those who viewed themselves as followers or submissive. I do feel the need to mention the need to capture a statistically-significant amount of data when considering FTAs, as the FTA weight over time data

showed that the numbers may vary based on the particular date, perhaps due to the topic being discussed, the Participants engaged in the interactions, and other such variables. Fortunately, my decision to include only dates with a large number of Utterances helped counteract these potentially confounding variables, as each date contained a variety of topics and included Utterances from nearly all major Participants.

Other measurements regarding FTA did not appear to be very useful, especially those linked to the Participants' Hierarchical Ratings. For example, the average weight of FTA given across all FTA Types had almost no correlation to Hierarchical Rating, at a mere -0.07, where -1.00 would be a strong correlation and 0.00 indicates no correlation at all. I found this lack of impact of the Hierarchical Rating on nearly all measurements to be somewhat surprising considering the one measurement which did indicate an impact happened to be the very strongest correlation, that of self-targeted FTAs to Hierarchical Rating.

Power Types

French and Raven's (1959) Bases of Power (which I chose to call "Power Types") served as a useful tool for evaluating my data, as it helped me gain insight into the underlying foundations of the power that was shown to be exercised in the Politeness analysis. I found that, in my case study of a small software organization, Legitimate and Expert Power Types were easily the most dominant forms. This information provided insight into the culture of the organization, as I could see that the Participants often acted from a position of perceived superiority in either authority or in experiential knowledge (as opposed to situational knowledge, which would constitute an instance of the Informational Power Type).

In addition, I found that the few instances where the Coercive Power Type was exercised were particularly enlightening. Similarly to the instances of Blatant FTAs, the Coercive Power Type instances indicated that a Participant was attempting to completely dominate another, making

them a rich source of information as to the nature of the negotiated relationship between Participants. However, the two items do not completely overlap; it is possible to issue a Blatant FTA without resorting to coercive measurements. In fact, many Blatant FTAs were conveyed with Legitimate Power Types. The Utterances where the two overlap, however, are especially useful and should be qualitatively studied with considerable attention.

Domain / Authority Acknowledgement

This formative analytical framework proved to be of mixed use. While I was disappointed in the lack of opportunities to apply the Domain Acknowledgement portion of the theory, I found the Authority Acknowledgement aspect to be very useful, if somewhat less frequently applicable as the other two overarching frameworks. In particular, the comparison of Self Authority Acknowledgement to Target Authority Acknowledgement provided insight into the self-perception of each Participant, as it showed how often they accepted the authority of others versus how often they attempted to promote their own leadership traits and capabilities.

Authority Disputes, like instances involving Blatant FTAs and application of the Coercive Power Type, tended to be fertile ground for additional qualitative research. What I found was that, in such situations, the dispute either tended to indicate a general disagreement concerning the Target's authority or a situational disagreement, which might be conveyed with some polite redress.

Domain Acknowledgement, as I noted above, was rarely applied to the Utterances. I believe this is due to the nature of the case study: the chatroom existed for a very specific purpose, the Participants were all working together toward common goals, and their relationships were fairly well-established by the time the interactions in the archival data commenced. Thus, Participants' very presence served both as an implicit Domain Acknowledgement and as a reinforcement, due to certain individuals' perceived Authority in their Domains, of the importance of the Domain in

question. To clarify by way of an example, one of the chatrooms main purposes was to discuss deployment schedules. By choosing to log into the chatroom, the Participants acknowledged they wanted to be part of a discourse concerning this Domain. Meanwhile, the presence of the Deployment Specialist, who was respected not only as an Authority in his Domain but also in general within the company, lent considerable weight to the importance of the Domain.

Summary of Analytical Framework Effectiveness

While each framework had highly promising and less promising aspects, each did offer unique perspectives on the data and proved invaluable, in its own way, to the analysis I conducted. Therefore, I believe a mixed analytical approach would be the best one to use during similar research. For example, Blatant FTAs consisting of an Authority Dispute in which the Participant applied Coercive Power appeared to be the richest ground for analysis of impolite exchanges. In these narrowly focused Utterances, Participants could be seen to have been most blatantly exercising power over Targets, heavily impacting the intended power relationship. The Target's reaction could then be used to identify *their* perception of the negotiated relationship, and the continuing interaction to determine the "shaking out" of relative power among the interactants.

While I do admit that Domain Acknowledgement was of minor use in the analysis of the data gathered during this study, I strongly believe that this lack of impact was mainly due to the specific context of the data. In other situations, I believe Domain Acknowledgement could be used as a very effective analytical tool, alongside Authority Acknowledgment, to provide insight into followership among Participants. By applying all three frameworks, researchers can not only identify key Utterances and therefore focus their efforts on the richest analytical ground, but they can also explicitly articulate the reasons the Utterances are worthy of such close examination as part of their write-ups.

Tactical and Strategic Benefits for Organizational Communication

While I do believe there are additional steps needed to fully realize the benefits of this line of research in the business world, there are some potential immediate applications as well. Researchers occupying a consultant role could engage a group of employees at a similar organization and use these analytical frameworks to identify potentially problematic exchanges. By thus identifying them, they could alert management to employee conflicts and allow managers to address the issue with the employees involved. These actions could serve a twofold benefit to the company in question: increasing productivity by reducing both tension and contention in workplace communication, and creating greater employee satisfaction due to a decrease in workplace conflict. The latter may also have an economic benefit of reducing both employee churn and the subsequent need for new employee training, along with the lack of productivity that coincides with such new employee onboarding.

From a strategic point of view, this research only enables the first step: identifying potentially problematic interactions and employees. Next, I would encourage further research to diagnose the true cause of the problem, whether it is rooted in the employees being observed, the impact of the organizational culture, or some other factor such as pressure from impending deadlines (which may point to a temporary issue that will not recur regularly, but which must be addressed when such high-pressure situations occur). Finally, once the root cause has been diagnosed, strategies to resolve the issue must be put in place to guide management when rectifying the problem. I discuss this potential follow-on research in detail in the recommendations for future research section later in this chapter.

Study Limitations

Although I feel this research was conducted in a thorough and systematic manner and did produce reliable, repeatable results, it did have some limitations, which I would like to articulate so that they may be addressed by future researchers attempting to conduct similar research.

First, my role as a *participant*-observer, while integral to obtaining the sort of deep contextual understanding that I argue is key to this type of research, may be difficult to replicate. Researchers may not have the opportunity to be a Participant before becoming an observer, and therefore may need to enter the community with the other Participants' full knowledge of their status as an observer. While I do believe it is still very possible to build the relationships and status within the group needed for successful completion of a similar study within those circumstances, it will add a degree of difficulty that I did not face and which future researchers must be prepared to address.

Another limitation was the lack of triangulation of data and code application. Unfortunately, I was discouraged by the organization from seeking interviews, perhaps due to its fast-paced, high-pressure culture, and I did not press to have them included in my research approval. Therefore, I was unable to obtain the Participants' insights into the interactions I was analyzing. These insights would have been very valuable, though of course they would have needed to be considered in light of the Participants' own biases and what would possibly have been their very natural tendency to try to show themselves in the best light. Also, as my data was limited to online chatroom discussion, I was unable to determine the impact of the medium itself; further research using data from multiple media could serve to address this deficiency. Finally, while I did have colleagues attempt to use the descriptions in this document to apply the codes to a set of random sample data, after repeated attempts I came to the conclusion that a participant-observer level of understanding of the situation was needed due to the subtext and cultural influences that went beyond the utterances

themselves, and which are difficult to describe within a paper to the extent needed for code application. However, it is possible that more iterations of this process would have produced a thorough enough description to allow for code application by multiple evaluators, and I would encourage future researchers to strive to accomplish this goal.

The nature of case study research was another limitation of the study, and one of the reasons I call for additional research using the same frameworks in other small software organizations and in other types of organizations as well. The narrow focus of this study makes it difficult to generalize the results, though I postulate that similar phenomena should occur at organizations with similar characteristics. I also believe this study has shown that the frameworks themselves, and the approach I used to gather and analyze the data, will be useful, applicable tools for research in a wide variety of organizations.

The limitations of the data and the context in which it was collected also provide important reasons to repeat this approach using other organizations. While I strongly believe that my analysis showed that my analytical frameworks are effective as tools for analyzing negotiated power relationships, the data had a very narrow focus: one organization, relatively few Participants, a limited number of days' worth of data included in the final corpus, and a limited number of domains of expertise under discussion. Expanding the research in any or all of these areas would be a useful next step to further evaluate the frameworks as analytical tools and to develop tactics and strategies to effect change in other types of organizations.

Recommendations for Future Research

The most significant expansion on this research could come from the application of it to other situations. While I believe I have shown the frameworks' effectiveness as analytical tools

when applied to data gathered from a small software organization, additional research is needed to determine whether these frameworks would be equally effective when applied to other contexts.

Within the frameworks themselves, I see the need for additional research into the significance of the ratio of Utterances made in the role of a Participant to Utterances received as a Target. The data gathered here showed that there is little correlation between this ratio and the Hierarchical Rating of the Participant/Target, but the same might not be shown were the framework to be applied to data gathered in an organization possessing different characteristics.

I also believe that further research could exonerate the Domain Acknowledgement component of D/AA as a useful analytical tool when applied to certain situations. Specifically, I believe it could be useful when used to analyze data gathered in contexts in which the Domain's importance is not implicit in the medium or circumstances in which the data was gathered.

Along other, related lines of research, I would encourage the development of the "Power Opportunity Threshold" measurement to determine how many contributions are needed for a Participant to give themselves the opportunity to exert influence (power) within an interaction or set of interactions. Conversely, at what point can a researcher consider a Participant to be irrelevant to the negotiation of power due to lack of contributions? I found that several Participants had very little impact due to lack of entries in the online chat, but I do not yet know how many more they would need to contribute to become relevant. To provide another example, consider the CEO, who nominally has power over every Participant in this study. However, because he did not participate, he gave himself no opportunity to exercise that power in this context, thus negating his potential influence. It may seem to be a simple and obvious point, but I strongly believe it is an important concept to operationalize to allow future researchers the ability to provide a compelling argument for focusing exclusively on significant contributors.

To take this concept of a contribution threshold a step farther, future researchers might want to develop the concept of "Power Level" for utterances in an interaction. This measurement could take the form of the level of threat to negative face (with regards to the amount of time the request would take the Target) or level of threat to positive face (with regards to potential insult to the Target or to the things and ideas which he or she considers important). The analysis I conducted here focused mainly on the presence of the FTA, not on its subsequent impact on the Target. By considering this impact, Power Level could be used in conjunction with Power Opportunity Threshold to explain why some Participants wield a great deal of influence despite giving themselves relatively few opportunities to interact and, thus, to exert power.

Finally, I believe this area of study can be used as a foundation for future ones that take a Critical Discourse Analysis (CDA) approach intended to effect change in small software organizations. I could offer anecdotal evidence that leads me to believe Owen might have been a "problem" employee that disrupted the organization more than he helped it. I strongly believe he caused several good employees to leave the organization and decreased the morale of those who remained. However, my study scope did not include the measurements necessary to provide evidence of my beliefs, which are based solely on my own subjective observations. It would be useful, in a similar study, to focus not on the communication but on its outcomes: which activities led to success and which were detrimental to the organization? Were certain types of Participants more prone to commit detrimental actions and, if so, were there common elements that characterize such Participants? If future researchers were to explore methods through which management teams could identify and address such employees before they could cause too much damage, it could prove of great use to small software organizations.

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Appendix: IRB Approval Materials

EAST CAROLINA UNIVERSITY
University & Medical Center Institutional Review Board Office
1L-09 Brody Medical Sciences Building• 600 Moye Boulevard • Greenville, NC 27834
Office **252-744-2914** • Fax **252-744-2284** • **www.ecu.edu/irb**

TO: Robert Buchko, 709 Charleston Rd., Raleigh, NC 27606

FROM: UMCIRB KCK

DATE: July 19, 2010

RE: Expedited Category Research Study

TITLE: "Case study of Communication Practices and Power in Small Businesses"

UMCIRB #10-0360

This research study has undergone review and approval using expedited review on 7.14.10. This research study is eligible for review under an expedited category number 6 & 7. The Chairperson (or designee) deemed this **unfunded** study **no more than minimal risk** requiring a continuing review in **12 months**. Changes to this approved research may not be initiated without UMCIRB review except when necessary to eliminate an apparent immediate hazard to the participant. All unanticipated problems involving risks to participants and others must be promptly reported to the UMCIRB. The investigator must submit a continuing review/closure application to the UMCIRB prior to the date of study expiration. The investigator must adhere to all reporting requirements for this study.

The above referenced research study has been given approval for the period of **7.14.10** to **7.13.11**. The approval includes the following items:

- Internal Processing Form (dated 5.11.10)
- Letter of Support (dated 4.26.10)
- Informed Consent (dated 6.29.10)
- Interview Questions

The Chairperson (or designee) does not have a potential for conflict of interest on this study.

The UMCIRB applies 45 CFR 46, Subparts A-D, to all research reviewed by the UMCIRB regardless of the funding source. 21 CFR 50 and 21 CFR 56 are applied to all research studies under the Food and Drug Administration regulation. The UMCIRB follows applicable International Conference on Harmonisation Good Clinical Practice guidelines.

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East Carolina University

University Health Systems of Eastern Carolina

Informed Consent to Participate in Research

Information to consider before taking part in research that has no more than minimal risk.

Title of Research Study: Case study of Communication Practices and Power in Small Businesses

Principal Investigator: Robert Buchko
Institution/Department or Division: Dept. of English, Technical and Professional Discourse
Address: 709 Charleston Rd, Raleigh, NC 27606
Telephone #: 919-606-1975

Researchers at East Carolina University (ECU) study problems in society, health problems, environmental problems, behavior problems and the human condition. Our goal is to try to find ways to improve the lives of you and others. To do this, we need the help of volunteers who are willing to take part in research.

Why is this research being done?
The purpose of this research is to better understand the role that communication plays in the creation and maintenance of power relationships in small businesses, where formal hierarchies are not as prevalent. The decision to take part in this research is yours to make. By doing this research, we hope to learn more about how power relationships are formed and maintained and strategies to enhance communication among different members of a small business organization without threatening the hierarchy established through that communication.

Why am I being invited to take part in this research?
You are being invited to take part in this research because you are a member of the business being targeted for a case study. If you volunteer to take part in this research, you will be one of about 14 people to do so.

Are there reasons I should not take part in this research?
There are no risks or possibilities for harm in this research.

What other choices do I have if I do not take part in this research?
You can choose not to participate.

Where is the research going to take place and how long will it last?
The research procedures will be conducted at your place of business. This research will be conducted over a period of four to six months in the latter half of 2010.

What will I be asked to do?
You are being asked to do the following:

- Allow access to archive documentation in which you participated that is freely available in the organization, such as Campfire chat logs and Pivotal Tracker stories.

- Volunteer work-related communication in which you participated, including email and IM conversations. The inclusion of these communications will be at your discretion (i.e. you only need to volunteer communication that you feel comfortable sharing for analysis).
- Be open to the possibility of voice-recording of conversations and meetings; you may refuse to be recorded in individual circumstances without opting out of the study completely.
- Allow me to conduct follow-up interviews with you so you can explain circumstances surrounding particular pieces of communication and provide feedback on my analysis. These interviews will be brief, informal and infrequent and I will not disrupt your work schedule.

What possible harms or discomforts might I experience if I take part in the research?
It has been determined that the risks associated with this research are no more than what you would experience in everyday life.

What are the possible benefits I may experience from taking part in this research?
We do not know if you will get any benefits by taking part in this study. This research might help us learn more about workplace communication and how it contributes to power hierarchies in small businesses. There may be no personal benefit from your participation but the information gained by doing this research may help others in the future.

Will I be paid for taking part in this research?
I will not be able to pay you for the time you volunteer while being in this study.

What will it cost me to take part in this research?
It will not cost you any money to be part of the research.

Who will know that I took part in this research and learn personal information about me?
To do this research, ECU and the people and organizations listed below may know that you took part in this research and may see information about you that is normally kept private. With your permission, these people may use your private information to do this research:

- Any agency of the federal, state, or local government that regulates human research. This includes the Department of Health and Human Services (DHHS), the North Carolina Department of Health, and the Office for Human Research Protections.
- The East Carolina University & Medical Center Institutional Review Board (UMCIRB) and its staff, who have responsibility for overseeing your welfare during this research, and other ECU staff who oversee this research.

How will you keep the information you collect about me secure? How long will you keep it?
All information will be stripped of identifying information and kept on my personal computer, with a backup on my external hard drive, both of which will be password protected (the computer's hard drive will also be password protected in case of theft), until after the completion of the study. Audio recordings will be taken using a hand-held recorder and will be transferred to my external hard drive as soon as possible after they are created and deleted from the recorder. All audio recordings will be transcribed before analysis and destroyed after completion of the study. All other data will be maintained, without identifying information, in a private Google Docs folder after completion of the study to allow readers of the final write-up to track data back to its source. Readers will need to petition me to gain access to this data. This non-identifying information will be maintained indefinitely.

What if I decide I do not want to continue in this research?
If you decide you no longer want to be in this research after it has already started, you may stop at any time. You will not be penalized or criticized for stopping. You will not lose any benefits that you should normally receive.

Whom should I contact if I have questions?
The person conducting this study will be available to answer any questions concerning this research, now or in the future. You may contact the Principal Investigator, Robert Buchko, at 919-606-1975 at any time, or via email at buchko1@yahoo.com.

If you have questions about your rights as someone taking part in research, you may call the UMCIRB Office at phone number 252-744-2914 (days, 8:00 am-5:00 pm). If you would like to report a complaint or concern about this research study, you may call the Director of UMCIRB Office, at 252-744-1971.

Is there anything else I should know?
The data collected in this study will be reviewed by the business's executive team to ensure it does not violate organizational confidentiality and any data found to do so will be omitted.

I have decided I want to take part in this research. What should I do now?
The person obtaining informed consent will ask you to read the following and if you agree, you should sign this form:

- I have read (or had read to me) all of the above information.
- I have had an opportunity to ask questions about things in this research I did not understand and have received satisfactory answers.
- I know that I can stop taking part in this study at any time.
- By signing this informed consent form, I am not giving up any of my rights.
- I have been given a copy of this consent document, and it is mine to keep.

Participant's Name (PRINT) **Signature** **Date**

Person Obtaining Informed Consent: I have conducted the initial informed consent process. I have orally reviewed the contents of the consent document with the person who has signed above, and answered all of the person's questions about the research.

Person Obtaining Consent (PRINT) **Signature** **Date**

**********IMPORTANT INFORMATION**********

Continuing Review/Closure Obligation

As a investigator you are required to submit a continuing review/closure form to the UMCIRB office in order to have your study renewed or closed before the date of expiration as noted on your approval letter. This information is required to outline the research activities since it was last approved. You must submit this research form even if you there has been no activity, no participant s enrolled, or you do not wish to continue the activity any longer. The regulations do not permit any research activity outside of the IRB approval period. Additionally, the regulations do not permit the UMCIRB to provide a retrospective approval during a period of lapse. Research studies that are allowed to be expired will be reported to the Vice Chancellor for Research and Graduate Studies, along with relevant other administration within the institution. The continuing review/closure form is located on our website at www.ecu.edu/irb under forms and documents. The meeting dates and submission deadlines are also posted on our web site under meeting information. Please contact the UMCIRB office at 252-744-2914 if you have any questions regarding your role or requirements with continuing review.
http://www.hhs.gov/ohrp/humansubjects/guidance/contrev0107.htm

Required Approval for Any Changes to the IRB Approved Research

As a research investigator you are required to obtain IRB approval prior to making any changes in your research study. Changes may not be initiated without IRB review and approval, except when necessary to eliminate an immediate apparent hazard to the participant. In the case when changes must be immediately undertaken to prevent a hazard to the participant and there was no opportunity to obtain prior IRB approval, the IRB must be informed of the change as soon as possible via a protocol deviation form.
http://www.hhs.gov/ohrp/humansubjects/guidance/45cfr46.htm#46.103

Reporting of Unanticipated Problems to Participants or Others

As a research investigator you are required to report unanticipated problems to participants or others involving your research as soon as possible. Serious adverse events as defined by the FDA regulations may be a subset of unanticipated problems. The reporting times as specified within the research protocol, applicable regulations and policies should be followed.
http://www.hhs.gov/ohrp/policy/AdvEvntGuid.htm

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