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CONVERSATIONAL DYNAMICS: DECISION MAKING AS DISCOURSE

DISSERTATION

A dissertation submitted in partial fulfillment of the
requirements for the degree of Doctor of Philosophy in the
College of Business and Economics
at the University of Kentucky

By

Zackary Robert Edens

Lexington, Kentucky

Director: Dr. Walter Ferrier, Professor of Management

Lexington, Kentucky

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ABSTRACT OF DISSERTATION

CONVERSATIONAL DYNAMICS: DECISION MAKING AS DISCOURSE

This dissertation examines decision making as discourse to capture subtle characteristics and processes within top management team discussions and examines their influence on decision outcomes. Additionally, this approach allows for exploration of decision making processes in real time by utilizing audio analysis techniques that can provide a more dynamic and integrative view of conversations and discussions as they relate to the dialogue and debate that goes on within top management teams, as well as providing an alternate pathway of study for top management team and group research, decision making studies, and the fields of communication and conversational analysis.

KEYWORDS: Decision making, strategy, conversational analysis, task performance, group dynamics

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CONVERSATIONAL DYNAMICS: DECISION MAKING AS DISCOURSE

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For Mom and Dad, I Love You

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CHAPTER ONE

INTRODUCTION

Strategic decisions are the essential deliverables that come from top management teams, the internal discussions and careful considerations that serve to shape the direction of an organization going forward and the reflections of what has been successful (and not successful) for the organization in the past. Any decision is, at its core, a confluence of problems, opportunities, experiences, perspectives, information, intuition, culture, creativity, bias, fear, and hope – each of which has a shared individual and group collective identity that is indicative of the worldview and attitude of those making decisions and serves as an embodiment of the people, teams, organizations and markets that exist to influence, and be influenced by, decision making. The parts of this confluence are all elements and contributing pieces to decision making, but they are each separate parts of a greater whole that includes intra-group dynamics and communications, a whole that is bounded and shaped by a process, and it is that process and its structure that provide a viable and intriguing area for exploration.

The foremost means by which structure matriculates into group communication processes is through the methods and means of communication that groups undertake. These communications can come in a variety of forms including written notes, messages, and electronic mail, but the most prominent form of communication that shapes key decisions and process advancements vital to the success and future of the organization is through face to face conversations. The structural components of conversations are vital to decision making and this study works to operationalize and expand our current understanding of the internal communication processes of a firm and will provide a

valuable added dimension to the existing decision making, top management team, and group process literature. By finding a way to elucidate the internal processes and procedures of decision making and shed light on previously underexplored processes that are difficult to observe in practice, this research plays a key role in gaining a better understanding of not only how important decisions are made, but also how the best, most successful, top management groups and decision making teams are able to make them. How some organizations are able to make decisions more effectively and more efficiently than their competitors, through more refined processes and distinct structural properties, is a key aspect of what differentiates successful firms from others that are not as successful.

CHAPTER TWO

THEORETICAL BACKGROUND

While competitive interactions between independent organizations are clear, definable, and externally directed, there still remains a significant need to assess the not easily observable internal aspects of strategic decision making that occur within an organization, most specifically the interactions that occur within the firm's top management structure that lead to the deployment of actions (and reactions) against other organizations (Child, 1972; Hitt & Tyler, 1991; D'Aveni, 1994; Finkelstein & Hambrick, 1996; Hambrick, Finkelstein, & Mooney, 2005; Clark & Maggitti, 2011). Prior research has found that individual group member satisfaction with a decision outcome can effect both the implementation of the decision (Mathieu, Maynard, Rapp, & Gilson, 2008; Priem, Harrison, & Muir, 1995) and whether or not the individual members of the group want to work with that same collection of group members again in future sessions (Schweiger, Sandberg, & Ragan, 1986). Thus, in addition to making an objectively high quality (logical, sound, and/or accurate) and strategically viable decision, both commitment to the process by which the decision was reached and subjective within group affective satisfaction (individuals' positive feelings toward other group members) are key outputs of the decision making process (Hackman & Morris, 1975; Gladstein, 1984; Isabella & Waddock, 1994, Knight et al. 1999).

Additionally, the works of Bourgeois (1980 & 1985; Bourgeois & Brodwin 1984; Bourgeois & Eisenhardt, 1988) suggest that agreement on goals without agreement on means correlates with poor performance and uncertainty; conversely Dess (1987) had findings that indicate that TMT consensus on EITHER objectives or methods is

positively related to organizational performance (but not agreement on both). Further, Priem (1990) and Priem, Harrison, & Muir (1995) found that pushes to make an earlier, quicker decision or to coerce rapid commitment can have detrimental effects on final performance outcomes and that the temporal relationship of consensus with performance is curvilinear. A number of studies (Baum & Wally, 2003; Dooley, Fryxell, & Judge, 2000; Perlow, Okhuysen, & Repenning, 2002; Kownatzki, et al. 2013) also demonstrate mixed results on the effect that speed of decision making has on final decision quality, thus there is still presently a lack of agreement on how exactly internal organizational processes and procedures impact final decisions and performance outcomes.

Dean and Sharfman (1996) found that decision making processes themselves are in fact key to the determinants of decision success, but the question of why some organizations are able to make “better” (have more optimal outcomes, or higher quality), faster, and seemingly more comprehensive decisions than their competitors still remains. Previous work has found that decision comprehensiveness is both positively (Fredrickson, 1984; Smith, Gannon, Grimm, & Mitchell, 1988) and negatively (Fredrickson & Mitchell, 1984) linked to organizational outcomes and performance, principally contingent upon the stability of the industry in which the organizations that were studied operated. Further, start up businesses operating in the technology sector whose top management teams engaged in significant dialogue and debate have been shown to make not only quicker, but also more comprehensive decisions (Talaular, Grundei, & Werder, 2005) and clear, open communication within and between groups (both interpersonal and informational (Colquitt, 2001), or as Bies & Moag’s (1986)

combined construct, interactional) is one of the hallmarks of positive perceptions of justice within organizations (Kernan & Hanges, 2002).

Previous studies (including Greenberg & Folger, 1983 and Bies & Shapiro, 1988) have shown that employee involvement in decision making engenders greater feelings of organizational justice and the underlying, colloquial assumption is that a commitment to rationally and thoroughly discussing relevant issues and engaging in measured, systematic debate before making a decision increases the likelihood of making a quality decision and improving organizational performance. But are more methodical, slower speed, extended dialogue and more procedurally driven groups truly better equipped to make higher quality decisions than faster speed, quicker interaction groups? Does the variety of types of statements within a conversation impact decision quality and limit (or potentially increase) counterproductive work behaviors (Cohen-Charash & Spector, 2001; Gruys & Sackett, 2003)?

These issues remain largely under-explored. The structural processes and procedures of decision making as a conversational construct are inherently core practices that remain internalized within individual groups and are thus difficult to collect data on; organizational group process research has yet to fully integrate discourse as a core tenet of study, as has decision making work, and while research in those areas is the proverbial “well-tilled soil,” conversational analysis remains a tool that has been largely left in the shed (Suddaby, 2006). At present there is still considerable need to open the black box of traditionally non-observable firm actions (such as private decisions made by discussions that take place out of the public eye) in order to explore not just what we see by way of externally directed actions, but also what underlying themes and dynamics occur within

individual firms, both those organizations that exhibit successful practices (through observation of achievements and realized goals) and those organizations that do not (Frederickson, 1984; Frederickson & Iaquinto, 1989; Eisenhardt & Zbaracki, 1992; Dean, Sharfman & Ford, 1993a and 1993b; Isabella & Waddock, 1994; Lawrence, 1997; Nokelainen, 2008).

While the black box of research varies considerably from another type of black box, the device found on commercial airplanes that serves as the cockpit voice recorder, the opening of the latter is a key component to opening the former in group process and decision making research. Speaking coach Joan Detz popularized the colloquial phrase “It’s not what you say but how you say it” as part of her successful advice series on public speaking, however, the manner of speaking, a process that seems inherently subconscious and rooted in individual differences, is perhaps more of a series of collective norms borne of socialization and culture (Cialdini & Trost, 1998; Nolan, Schultz, Cialdini, Goldstein, & Griskevicius, 2008) or sense making and pattern recognition (Weick, 1996; Simon & Kotovsky 1963; Simon & Sumner, 1968; Simon, 1972). Beyond assigned roles, the norms for communicating are largely consistent as part of an inter-organizational group dynamic, including but not limited to the pace, sequence, and timing of interjections; speaking out of turn carries with it the potential for admonishment or disregard of the speaker, in some cases overshadowing the relevance or brilliance of the contribution from a content perspective.

As an extension of discussion patterns, work in group development has focused on attempting to identify the different types of interactions across multiple potential phases of the decision making process, including Fisher’s (1970) “orientation, conflict,

emergence, reinforcement” and Poole’s series of works (1981; 1983a; 1983b; Poole & Roth 1989a; 1989b) on the different activity tracks, interspersed with breakpoints, that groups may employ (task, relation, and topic related). McGrath (1991) introduced the notion of a “satisficing/least effort” or default path for groups as part of his TIP theory (time, interaction, and performance) wherein groups may follow a number of different potential pathways through a general framework of four modes (inception, technical problem solving, conflict resolution, and execution) that further brings to light the need to explore the viability of optimal patterns compared to default ones. Wheelan (1990; 1994) further attempted to create a composite of group development in her integrated model, that was more linear in nature and focused largely on group maturation, that patterns of speaking are first established before moving into sequences of actual work or project related discussions. In essence, while “it’s not just what you say, it’s how you say it” is certainly of significance, perhaps an equally important consideration is substantially more integrative: it’s not just what you say and how you say it, but also when and where you say it within a group discussion setting.

Thus, the importance of not just finding the proper means of expression, but also the proper timing and manner of expression carries within it a substantial structural component that can be of utmost importance in decision making. One specific group that is likely to have collective norms borne of a socialization process would be a decision making team within an organization who has shaped and refined a framework of not just saying the “right/correct” or “provocative” things, but also communicating those things to each other in such a manner as to be consistent with the collective group’s perceptions and expectations of conversational structure, similar to work in upper echelons where

demographic characteristics of top decision making teams heavily influence a wide variety of processes within organizations (Hambrick & Mason, 1984; Wiersema & Bantel, 1992; Finkelstein & Hambrick, 1996, Knight et al. 1999). The proper structure of communication can be essential to making higher quality decisions, as well as insuring that the team is still able to work together amicably in the future (Schweiger et al., 1986; Schweiger & Sandberg, 1991; Schweiger, Sandberg, & Rechner, 1989; Smith et al., 1994).

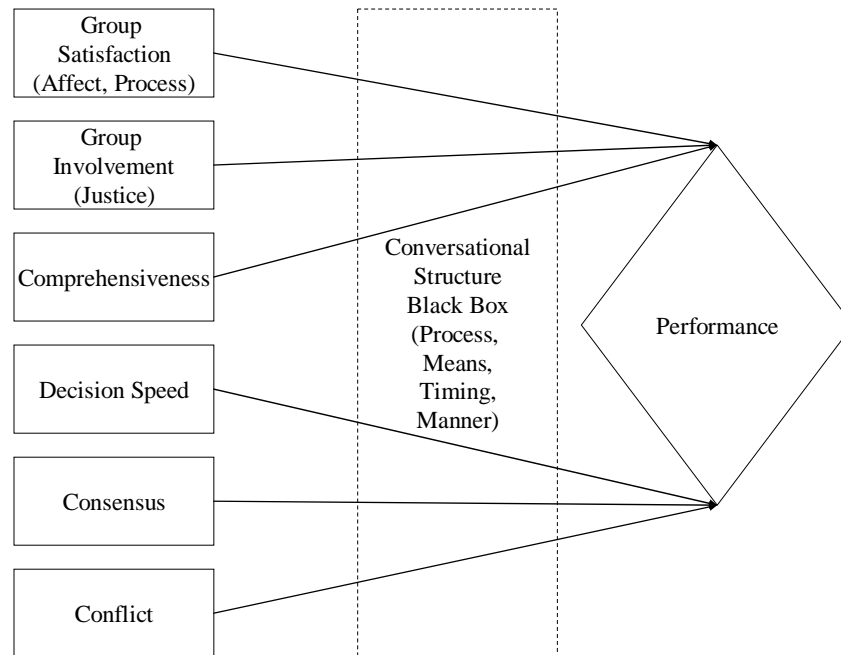
As such, it is important to be able to break open conversations, the means of intra-group communication, and examine what lies inside them as part of a deeper understanding of consistent long term group process and decision making (Gouran & Hirokawa, 1996), as studies dependent on top management team demographic data have lacked consistent findings (Certo, et al., 2006) and have struggled to demonstrate the same strength of relationships on metrics of heterogeneity (education, function, tenure) in longer tenured teams as in shorter tenured teams (Carpenter, 2002). As previous research has found, task conflict (disagreement over the best methods for completing an activity) is not inherently negative (Jehn, 1995; Poole & Gardner, 2006; Folger, Poole, & Stutman, 2009), as it can lead to better decisions and group satisfaction (with other members as well as the decision itself) but relationship conflict (conflicts between individual personalities, also widely referred to as affective conflict) can have a net negative influence on both decision quality and the decision making group's satisfaction with the outcome (Amason, 1996; Amason 1998; Eisenhardt, Kahwajy, & Bourgeois, 1997). Political and power seeking behaviors (including observable spoken communications, but also potentially covert actions or behaviors such as verbal utterances spoken in a veiled or

coded fashion) have also been shown to negatively impact firm performance when utilized within both formal and informal top management team discussion structures (Eisenhardt & Bourgeois, 1988; Tost, Gino, & Larrick, 2013).

While the aforementioned conflicts can occur in isolation, in long-term teams they can occur together (Amason, 1996; Simons & Peterson, 2000). As such, perhaps the best way to examine the impact of processes of internal firm actions on outcomes of performance is to utilize the “other” form of black boxes: audio recordings that capture the key meetings, moments, and conversations between an organization’s top decision making team members. Past research on decision making has relied primarily on post activity surveys taken after the conclusion of discussion and conversation flow has been analyzed as a function of email exchanges, with findings that moral conversation and contemplation lead to more ethical decisions (Gunia, Wang, Huang, Wang, & Murnighan, 2012). However, in none of those studies did the communication exchanges occur in a face to face discussion setting, limiting the essence of what can be truly construed as conversational exchange, particularly considering that conversations are intended to help shape group norms and to guide members to “make sense of what is appropriate or inappropriate” (Gunia, Wang, Huang, Wang, & Murnighan, 2012; Bettenhausen & Murnighan, 1991; Cialdini, Reno, & Kallgren, 1990; Milgram, 1963). A broad schematic of the role of conversational structure is seen below in Figure 2.1.

Figure 2.1: Permeation of Conversational Structure through Multiple Decision Making

Constructs



Thus, in sum, given that a conversation is “situated within specific contexts and designed with specific attention to these contexts”, the utilization of audio recordings presents a unique opportunity to investigate the decision making process as it occurs and evolves in real time as opposed to relying on self-reported participant follow up data (Goodwin & Heritage, 1990). Priem, Lyon, and Dess (1999) urged researchers to pursue more difficult (and potentially more rewarding) integrations of qualitative research methods into the existing quantitative landscape of top management and decision making team research and a deeper examination of conversations through audio recordings provides an avenue by which to engage in that pursuit. Prior research with questionnaires and post-decision interviews has lacked the ability to accurately assess decision making in the moment (Barr, Stimpert, and Huff 1992; Sandberg, Schweiger, and Hofer 1988);

while reflection on a decision can be useful, the analysis of the process through audio recordings may lead to different, not entirely participant response reliant, data and conclusions and provide an easier, more formulaic pathway by which to analyze a decision through the exact words and directives of the decision makers, a consideration that has thus far been under explored and exists as a gap within the literature. Further, the audio recordings also afford the opportunity to assess the more subtle elements of discussion, such as pacing and sequencing, that would not be as easily observable in post-activity administered surveys. Circumventing (and potentially eliminating) the need to rely solely on self-reported data is a significantly valuable component of developing and utilizing this methodology and helps to address the question of “how do higher performing teams make better decisions?” through an examination of the structures of conversation and group discourse.

CHAPTER THREE

RESEARCH OBJECTIVES

The characteristics of decision making can be affected by a wide variety of conversational attributes, but for this dissertation, the focus is upon categories of utterances and the structural properties and sequencing of comments, specifically the diversity of conversational elements, properties that come from an analysis of the categories of utterances and the processes of communication, not the direct content of what is being uttered. The foremost goal is to use those components to answer the central question of “How does the structure of a conversation impact the performance outcomes of the decision that results from that conversation?” in order to gain a better understanding of the “hows”, “wheres”, and “whens” of conversational structure, before delving into the specific “whats” of the discussions themselves.

The core objective is focused on further examining the key processes of decision making and integrating the fields of linguistics, communications, and conversational analysis with management and strategy research in order to examine “old” (or enduring) problems with a “new” (to the management and strategy fields) lens. Conversations are dynamic, they unfold over the course of intra-group communications and while time is an explicit property of conversational changes and patterns, no two conversations are exactly alike temporally or structurally, and as such are best viewed and explored in the moment and exhaustively as opposed to retrospectively and broadly. As noted, previous research has relied heavily on assessing the decision making process through post hoc reviews, usually through surveys following a meeting session, and analyzing conversations themselves would serve as an integration of new, dynamic methodology into existing

research, an augmentation and improvement on current established practices. While the post hoc approach has sufficed, it is not optimal and would significantly benefit from an augmentation by means of real time analysis of decision making conversations.

Thus, an inductive approach, similar to the seminal late 1980's works of Bourgeois and Eisenhardt (Eisenhardt & Bourgeois, 1988; Bourgeois & Eisenhardt, 1988; Eisenhardt, 1989), was adopted for this exploration; the ultimate goal being to utilize process driven approaches in order to elucidate testable and valid theories to expand the understanding of how conversational and communicational variances within decision making groups can influence and impact the ultimate successes and failures of group decisions. As such, the very nature of such a study is inherently iterative and in a constant state of construction, a building theme that consistently pervades the content and evolution of this study. Not only does this work look to shed new light on top management team decision making processes, but it would also introduce and employ new means and methods of doing so in strategic management and organizational studies, providing key methodological advancements in addition to expanding the existing knowledge base.

Structure and Sequencing

Previous research has shown that, similar to individuals, decision making groups can have prevailing cognitive processes, a phenomenon often referred to as group strategic consensus (Klimoski & Mohammed, 1994; Axelrod, 1976; Prahalad & Bettis, 1986). Broadly, these collective processes are generally considered to be a "good" thing in group decision making, as at least some degree of rational, grounded agreement is

assumed to be necessary to denote a logical, thorough, and adequately analyzed discussion that leads to a reasonable conclusion (Schweiger, Sandberg, & Ragan, 1986; Cosier & Rechner, 1985). Within each topic and across the entirety of the recorded decision making process, there is a course that the conversation itself follows. While it is simplistic to assert that words compose utterances which in turn compose conversations, conversational variety pervades each of the indispensable steps within the exchange of ideas and furthers the process of coming toward a consensus, also impacting decision speed, comprehensiveness, and quality.

Collectively, conversational utterances are the core inputs that team members perceive, interpret, and enact and those utterances shape the group decision making process as they are funneled, filtered, and shaped by the experiences, cognitions, and debates among the decision making team members. Thus, the decision conversation, as a sequence of those conversational utterances, is the fundamental process that filters, solidifies, and elaborates upon the raw decision inputs in order to produce decision outcomes. As the ideas and utterances enter into the forum of discussion, some are immediately disregarded, others are considered provocative and bantered about between group members as part of the broader conversation, and ultimately only a select few verbalized notions are able to overcome the obstacles and to be refined through discussion and elaboration to the point of agreement and worthwhile utilization as a decision outcome of the conversational process. There are barriers and hurdles to overcome, and the various forms of resistance are not inherently discouraging, but rather insular within the internal decision making process so as to facilitate a coherent, rational

discussion that ultimately creates an accepted conversational process that becomes pervasive throughout a group's patterns of communication with each other.

Within a group, the sequence of a conversation is likely to be expected to follow a general pattern, which will vary contingent upon the type of conversation and the nature of the group or organization within which it is occurring. Some cultures may be strictly business, others may prefer a lighthearted beginning to a conversation, and still others may be more free flowing between directly relevant topics and tangentially related subjects. Conditions such as roles, specialization, and the nature of the meeting itself (regularly scheduled, emergency, etc.) can all impact the flow of conversation – the more frequent the interaction, the greater the likelihood of an expected flow led by the individual charged with leading the discussion (including a higher likelihood of strategic consensus (Finkelstein, Hambrick, & Cannella, 2009)), while a less frequent interaction could entail a more complex, unexpected topic and/or dynamic resolution that is driven by a source other than the individual at the top of the hierarchy.

Essentially, with increased repetition of tasks comes the expectation of less conversational utterance variety, and the less routine the conversation itself (such as a high level, strategy focused, top management team planning session), the greater the likelihood of a more dynamic and inherently less static conversation – a characteristic which could impact or perhaps even supercede traditional roles, norms, and conversational expectations. Thus, examples from previous literature, coupled with the integration of conversational analysis techniques such as those utilized by Holmes (1995), Holmes & Sykes (1993), Goodwin & Heritage (1990), Schweiger, Sandberg, & Ragan (1986), Cosier & Rechner (1985), Abbott (1990) and Simons, Pelled, & Smith

(2000), worked to shape the construct of conversational variety, the attribute of sequencing examined here. Conversations that do not feature a high degree of utterance repetition (little successive matching or sequencing between the same consecutively repeated type of utterance) would be high in conversational variety, but conversations that do see a large degree of utterance repetition (though not necessarily always in direct sequences as mentioned with optimal matching) would see conversational simplicity, low separation of verbal utterances, and a general lack of conversational variety.

CHAPTER FOUR

METHODS

Research Setting and Sample

The setting for the study was an experimental design involving MBA students participating in a case study decision making simulation. Each team was provided with an identical case study focused on a large American supermarket chain (Whole Foods Market) facing increasing challenges from competitors and a changing consumer demand environment as well as an identical subset of required, open-ended questions to answer pertaining to the assumptions, strategic initiatives, and potential avenues through which to implement suggested changes. The teams were charged with taking on the roles of outside consultants to Whole Foods and given broad windows of time in which to complete their recommendations on how the supermarket should approach the planning surrounding their growth strategies and future prospects. The teams were not tightly constrained in how long or short their conversation had to be, recording commenced as the students entered their discussion room and ceased as they exited; average length of discussion was 29.69 minutes, median 29.91, standard deviation 8.46 minutes, all teams within two standard deviations.

Whole Foods has a uniquely constructed brand identity that focuses on a welcome and exciting in store experience for consumers shopping for organic and natural food products and a corporate culture that focuses on teamwork and organizational and store fit for employees, while also discouraging unionization. While the chain has been very successful, it has also faced increased competition from both similar (organic and natural food centric) chains and larger grocers such as Kroger, Wal-Mart, and Safeway who have

expanded their organic and natural product offerings in addition to continuing to carry a more traditional mix of non-organic and processed food items. As a result of the increased competition, Whole Foods has faced a number of strategic challenges such as considering expanding their product offerings into clothing, continuing their premium pricing, and maintaining food quality standards, all challenges that the student teams considered when recommending strategies and implementation plans for the future of the supermarket chain.

The sample of students contained 16 teams of 3-4 students each and each of the students was already part of an existing work group as part of their required MBA program curriculum. The groups had already worked together extensively for over four months, were each of mixed gender compositions (although Verdi & Wheelan (1992) found that gender composition has no influence on group development patterns), and had both familiarity with each other individually and previous experience completing work team simulations, making this experimental design an ideal one given those previous projects. Previous studies by Gersick (1988, 1989) and Jehn (1997) have also utilized qualitative techniques with small numbers (six-eight total) of teams or work groups.

The audio recordings were collected as a running dialogue from each of the groups by laptop computer and smart phone microphone recordings and were then uploaded to the research team database before being transcribed into document form. The verbal utterances of the conversations were used as the primary unit of observation to establish the sequential patterns of conversation and to better capture the process of decision making as it occurs in real time. Operationalizing the conversations themselves

as the core unit of analysis provides an easier, more formulaic pathway by which to analyze a decision through the exact words and directives of the decision makers.

Mixed Methods Approach

A mixed methodological approach was selected for this study to assess both qualitative and quantitative aspects of conversations and their impact on assessed team performance. Utilization of both aspects was done in order to provide a more complete assessment of findings and to mitigate the limitations of the individual types (principally the challenge of generalizability with qualitative methods and the loss of detail with quantitative methods) (Creswell & Clark, 2011, p. 8). Qualitative assessment is essential in order to clearly capture the variety of the individual teams' conversations, an element which is of critical importance to this study (Ragin, 1987).

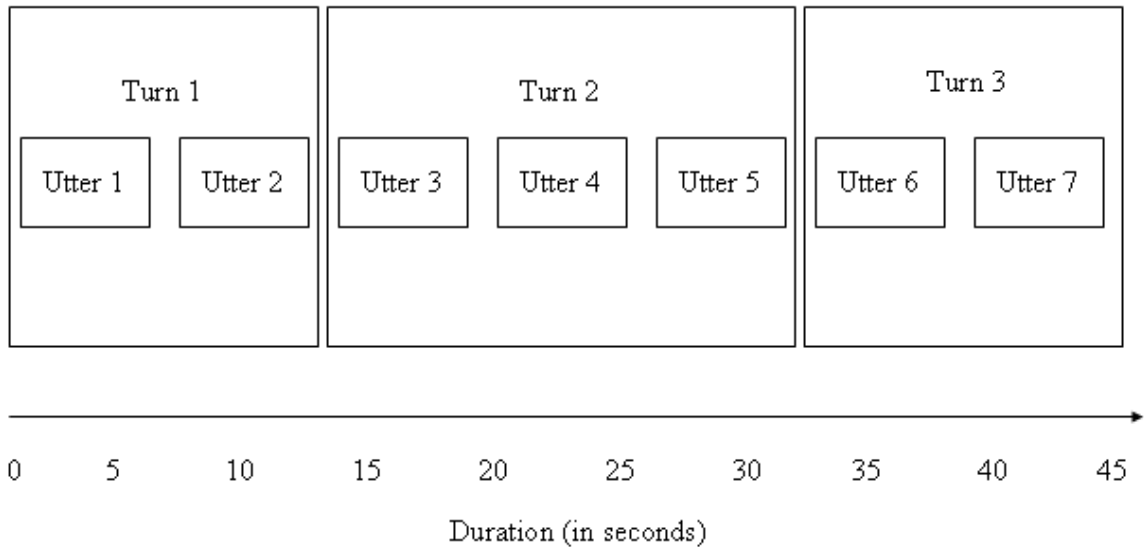
Broadly, there are two primary types of mixed methodological studies: "mixed data-collection studies, which combine two or more kinds of data; and mixed data-analysis studies, which combine two or more analytical strategies, examine qualitative data with quantitative methods, or explore quantitative data with qualitative techniques" with this exploration focusing on the mixed data-analysis approach, specifically assessing qualitative data with both qualitative and quantitative methods (Small, 2011, p. 57). Given the very nature of speech itself, a conversation is highly qualitative and interactive in nature, beholden to the interpretations of the individuals participating in the interactions and those outsiders who may observe the conversation without directly participating in it. As such, and coupled with each individual utterance being used as a unique unit of observation for this study, it is necessary to assess the dynamics of the

spoken sequences in multiple methodological ways, with quantitative analysis supporting qualitative observations as noted by Small (2011), who used quantitative surveys to support qualitative interview findings, and Creswell and Clark (2011) who stated: “it is best to explore qualitatively to learn what questions, variables, theories, and so forth need to be studied and then follow up with a quantitative study to generalize and test what was learned from the exploration” (p. 9).

Dimensions of Conversations

The basic dimensions of descriptive characteristics were broken down into several measurable variables including counts of total utterances, total turns, and total length of conversation in minutes. The counts of utterances were done irrespective of utterance type; every sentence that was spoken was counted as a separate unit for analysis. Turns were counted as the number of consecutive (uninterrupted by another speaker) sentences spoken by a group member, again irrespective of the type or types of utterances spoken in that turn. As these are the foremost building blocks of conversations, generating a baseline understanding of the outermost skeleton of the conversations themselves is vital to better understanding the more complex inter-workings of dialogue. An illustrative example of these dimensions is seen below in Figure 4.1.

Figure 4.1: Basic Dimensions of Conversation



From those utterance, turn, and minute length counts, several descriptive ratios were then calculated: Utterances per turn, Utterances per minute, Turns per minute, and Average duration of turn (in seconds). Each of these ratios were calculated as the titles would suggest, respectively; the number of total utterances of a team’s discussion was divided by the number of total turns, the number of total turns was divided by the length of the conversation in minutes, the number of turns was divided by the length of the conversation in minutes, and sixty seconds was divided by the average number of turns per minute to give an average of the length of each uninterrupted spoken turn.

Utterance Categorization Methodology

The categories of utterances were delineated through a series of integrative steps building upon each other and refining the number and classifications of categories across multiple steps. An initial group of categories outlined below in Table 1, influenced by Schegloff’s conversational analysis techniques (Schegloff, 1984; Schegloff, 1987; &

Schegloff, 2007), was taken from a pilot study simulation conducted by this exploratory study's research supervisor that was related to, but separate from, this study. In that pilot study, student groups were asked to work together in a strategic, multifunctional task to create a new type of car out of Lego building block pieces, considering elements of marketing, strategic positioning and car features, and then build a functional Lego prototype of their design. The decision making sessions were recorded on audio files and the resulting coding in Table 4.1 was utilized to provide a baseline from which to build a set of utterance categorizations to be used in this analysis.

Table 4.1: Initial Categories

| Categories and Examples of Verbal Utterances | | |
|--|-----------------------------|--|
| Utterance Type Code | Utterance Type | Example Utterance from Pilot Study |
| NEW | New Idea | <i>"Based on the marketing reports, I think we should offer a really big luggage compartment."</i> |
| ADV | Idea Advocacy | <i>"Oh, yea. We can cut manufacturing costs even more by outsourcing almost all our parts."</i> |
| INQ | Idea Inquiry | <i>"What do you mean by customer voice?"</i> |
| CHAL | Idea Challenge | <i>"I just don't get it. Why would customers care about dealer margin?"</i> |
| DEF | Idea Defense | <i>"I don't know about you, but I think we should go ahead with a big luggage rack."</i> |
| ACQ | Idea Acquiescence | <i>"I guess. Maybe we can't really get the car to do all that in a 5-minute demonstration."</i> |
| REA | Process Reassurance | <i>"I think we're on the right track."</i> |
| DOUBT | Process Doubt | <i>"There's no way the audience will see these all little parts."</i> |
| TRAN | Process Transition | <i>"Can we talk about how to get this done before 3:00 p.m.?"</i> |
| AGR | Agreement-seeking Statement | <i>"Anybody else wanna go for this?"</i> |
| HUM | Humor | <i>"It's like we're a bunch of first-graders playing with Lego?"</i> |
| SMALL | Small Talk | <i>"I need a caffeine jolt to keep going."</i> |

Those pilot study categories were subsequently compared to additional prior work from management research and the fields of linguistics, psychology, speech and language, and communications, including Leary, Knight, & Johnson (1987), Ting-

Toomey (1983), Bales (1950), Poole, Folger, & Hewes (1987), Hewes (1979), Poole, Seibold, & McPhee (1985), and Chang, Bordia, & Duck (2003). Further, the Group Working Relationship Coding System (GWRCS) developed in Poole (1983) and Poole & Roth (1989) (as well as used extensively (and most pertinently to this study) in Poole & Dobosh's (2010) work on the conflict management processes and interactions that occurred within a group of jury deliberations) was utilized as a guiding framework for both category development and study design. The GWRCS (which includes categories of: focused work, critical work, opposition, open discussion, capitulation, tabling, and relational integration) was used in Poole & Dobosh (2010) as a means of studying within group interactions, particularly focusing on confrontations or conflicts between members during discussions, and coded those interactions in 30-45 second segments. That style was adapted here from a set temporal unit to single utterances as the unit of investigation in order to generate more frequent and voluminous data, as well as more specific and finely grained measurements. A composite coding scheme of the groups detailed above was created to reconcile the approaches into a single framework of potential categories for this investigation.

Once the overlaps and discrepancies between the approaches were noted, the broad findings were presented to an exploratory coding group of five doctoral students for discussion and brainstorming. Those five students were then asked to independently create their own coding scheme for a sample audio file, based in part on the presented categories but also with integration of any additional categories that the individual coders felt should be included that were not represented in the preliminary categories. The number of independently constructed categories ranged from five to thirteen between

individual exploratory group members and those categories were then submitted to the primary researcher and overlaid by the primary researcher in a consecutive rolling format, first comparing two members' categorizations, then comparing that coupled composite to another member's categorizations, then comparing that new three member composite to the fourth member's categorizations and so forth. The rolling format allowed for a consistent, multi-faceted and multi-tiered approach that sought both general consensus on terminology, as well as consensus on the type of utterance; for example, if both parties of coders considered a given utterance to be an "A" type of statement, that utterance was categorized as an "A" statement, and if every "B" statement for one party was called an "C" statement by another party (overarching agreement on categorization but utilization of a different terminology by an individual), then for internal consistency all "C" statements were recoded as "B" statements so as to provide clarification without losing richness.

Remaining reconciliations, necessary when disagreements persisted beyond direct agreements and terminological clarifications, were then assessed by the primary investigator who qualified each remaining disagreement, in some cases combining categories constructed by exploratory coders and in others creating a new category to combine two of the exploratory coder's categories. Upon completion of the composite set of categories, another meeting with the five member doctoral student coding group was convened and the composite set was presented for their discussion, debate, and approval, and at the conclusion of that meeting and completion of the remaining reconciliations, seven categories were submitted by the primary investigator to the exploratory group for their approval. Final adjustments were made to reflect group consensus on the

categorization title and defining parameters of each utterance type and the developed coding scheme was then submitted to a separate, independent coding pool who was not involved in the category construction process for categorization of all audio files according to the developed coding scheme.

Categories of Utterances

Across the multiple team samples, certain categories of utterances become more obvious and displayed consistency as part of the decision making process. Reflecting the rolling coding format and subsequent reconciliations, the following seven categories were selected and then approved by the preliminary five doctoral student coding group for the final coding scheme, with definitions, parameters, and broad examples included to serve as guidelines for subsequent transcript coding:

Agreement: Phrases such as “I agree” “I like that” “I feel the same way” and “I couldn’t have said it better myself” or a direct restatement of another speaker’s assertion in the affirmative all serve to encourage a speaker to continue with the expression of their ideas and to demonstrate that those ideas have the support of other members, facilitating an increase in the idea sharing process.

Challenge: Phrases such as “I don’t know about that” “That doesn’t seem right” “I’m afraid that’s wrong” and “How can that be?” all serve to call into question the validity of the point of an initial speaker. While not inherently negative, these phrases can serve to drive the conversation forward and potentially alter the direction if at least one party isn’t comfortable with the path one group member is heading down in regards to the direct topic of discussion at the moment.

Elaboration: Phrases such as “I feel that this makes sense due to...” “I think it is option A because...” “I considered two choices but felt this one was the best in light of...” and “What I was trying to say at first was...” all serve to more clearly elucidate the initial topic matter for continued discussion; from a contextual perspective, elaboration statements serve to support a central theme, which could be affirmative of, or contradictory to, an initial statement, and are a type of utterance that provide additional insight beyond just a direct response or introduction of a new idea.

New Idea: Phrases such as “One of my ideas was...” “Maybe we should consider...” “Building on that previous point, another direction we could explore is...” and “I’m just throwing this out there, but...” all serve to introduce a new initial topic and to facilitate discussion around that topic, with possible reconsideration or affirmation of previous topics that could be related to the new idea. While a new idea could have some elements of overlap with prior discussions, it presents enough of a departure from an existing stream of conversation to serve as a new focus and central discussion point for the subsequent flow of conversation that follows it.

Proceeding: Phrases such as “Alright, the first thing we should discuss...” “The next item on the agenda” “I think we should come back to that” and “It’s time for us to rank our options” all serve administrative functions to keep the discussion group on course and focused on the central goals of the discussion itself. Requests for tabling or a re-examination of a previously closed topic of discussion are also considered proceeding statements as they are inherently procedural and deal with moving the discussion forward but also serve as a reminder of the focal components of the conversation, to reach a consensus decision that each of the group members is on board with.

Questioning: Phrases such as “What if we...?” “How do we justify...?” “Are you holding out on us?” and “Which ones do you mean?” all serve to stimulate further conversation and draw the participants deeper into the discussion. These phrases are utilized to stimulate conversation, incite emotions or reactions, and to create a response, thereby facilitating a more impassioned debate over the issue at hand.

Relational Integration: Phrases such as “Did you see the game last night?” “I saw the cutest puppy this morning” “I really love your sweater, I have one just like it” and “We should all get together and share a pizza sometime” all serve to engender positive emotions for the decision making team and to increase camaraderie amongst the group’s members. Instances of small talk, off topic conversation, and the utilization of humor through either stories with anecdotes or group inside jokes all have the purpose of providing brief (and in some cases, sustained) moments of levity to the discussion itself, facilitating intra-group engagement beyond just the tasks at hand and humanizing the group members as they work towards their collective goal.

Categorization by Independent Coders

Upon establishing the final coding scheme and seven categories, three independent graduate student coders from a diversity of campus programs (educational psychology, diplomacy, and merchandising) were selected, trained, and given access to the complete set of audio file transcripts. The coders were trained by the primary investigator in accordance with the established coding guidelines and each of the three worked independently to code each of the sixteen teams’ audio files in their entirety across the seven categories of utterances. The three coders’ independent assessments

were then compared to create a single composite file that was used in subsequent analyses; out of 6577 total verbal utterances across all 16 teams, all three coders agreed on categorizations in 2672 (40.63%) instances and at least two of the three agreed in 6133 (93.25%) instances. The remaining 444 (6.75%) cases were then assessed by the primary investigator and dissertation committee chair to reach consensus on which category those utterances best fit into, giving every coded utterance a 2/3 or 3/5 majority decision for successive analysis. For all 6577 utterances, Fleiss' Kappa score was .455, Cohen's Kappa .459, and Krippendorff's Alpha .455.

The reconciled independent coder assessments of each utterance were then tabulated by individual type, creating a sum total of each category of utterance for each team, building on the construct of utterances by specifying which types were most and least represented in the population. Subsequently, the category counts were then divided by the teams' total utterance counts to provide a standardized percentage of the given team's discussion population of each utterance type. These coded utterances were then utilized in examining the quantitative variety measures.

Variety Measures - Quantitative

Variety scores for each team were calculated in an iterative manner, using a rolling assessment of total utterances of a given type as a percentage of the number of elapsed utterances of the conversation to that point of the discussion. Conversational utterance variety contains elements of dialogue that mirror competitive actions and holistic Gestalt psychology (as applied by Rindova, Ferrier, & Wiltbank, 2002 and Rindova, Ferrier, & Wiltbank, 2010), and an aggregated set of verbal utterances that can

reveal trends within a conversation, with tempo serving as a consistent standard for temporal observations (Chen, Smith, & Grimm, 1992; Ferrier, Smith, & Grimm, 1999; Miller & Chen, 1996). This aggregated set of spoken utterances over the duration of a team's conversation compares favorably to action-repertoire analysis (Ferrier, 2001; Ferrier & Lee, 2002) as well as the sequential analysis of pattern recognition and unfolding (Schegloff, 1984, 1987, & 2007; Simon & Kotovsky, 1963; Simon & Sumner, 1968; Simon, 1972; Abbott, 1990; Pettigrew, 1992a & 1992b; Van de Ven, 1992).

Using the Herfindahl-Hirschman Index, the percentages were then squared and summed, and the square root of that total was subtracted from one (1) in order to achieve a running assessment of how similar the value was to itself over the course of the discussion; the lower the running total, the less varied (similar to itself) the conversation was to that point. Longer sequences of "sameness" would drive the variety score lower (branding the conversation as more simple), as the total score would reflect higher concentrations of fewer categories, and more varied distributions of utterances across categories would drive the variety score higher as a result of the increased variance in utterance types spoken. The groups' final variety scores, the scores as of the last utterance of a specific group's conversation, were used to assess the overall variety of their conversations. Two example conversation slices and transcripts, one of lower and one of higher variety, are shown in Figures 4.2 and 4.3.

Figure 4.2: Example of Simple (Lower Variety) Conversation

| Utterance Type | | Total |
|------------------------|---|-------|
| Relational Integration | | 0 |
| Proceeding | | 0 |
| New Idea | | 0 |
| Agreement | D | 1 |
| Challenge | | 0 |
| Elaboration | B C E F G | 5 |
| Questioning | A | 1 |
| | 1 2 3 4 5 6 7 | |

Utterance A (Questioning): “Which one do we think would generate the most new customers?”

Utterance B (Elaboration): “None of them are really focused on generating more customers.”

Utterance C (Elaboration): “They’re more on improving what we already do to make it better.”

Utterance D (Agreement): “You’re right.”

Utterance E (Elaboration): “I forgot one of the objectives was customer focus.”

Utterance F (Elaboration): “A big objective is a strategy for the whole store.”

Utterance G (Elaboration): “It depends on how you rank them.”

Figure 4.3: Example of Diverse (Higher Variety) Conversation

| Utterance Type | | Total |
|------------------------|---------------|-------|
| Relational Integration | | 0 |
| Proceeding | A | 1 |
| New Idea | B | 1 |
| Agreement | G | 1 |
| Challenge | D | 1 |
| Elaboration | C E | 2 |
| Questioning | F | 1 |
| | 1 2 3 4 5 6 7 | |

Utterance A (Proceeding): “So we need to make a list of strategic recommendations.”

Utterance B (New Idea): “I think the most important thing is more TV advertising.”

Utterance C (Elaboration): “They’re not reaching their customers with the radio ads.”

Utterance D (Challenge): “But TV advertising is more expensive.”

Utterance E (Elaboration): “They’re trying to cut costs, not add them.”

Utterance F (Questioning): “But don’t TV ads have a broader customer reach?”

Utterance G (Agreement): “They do, that helps offset the additional cost.”

The variety scores were further used to calculate an overall average of all conversational variety values for each group, a range between highest and lowest variety score within

each team (controlling for the elapse of the first 10% of the conversation), and a time to conversational flat-line (determined by constructing an overall 5% range, between 2.5% above and 2.5% below, the final variety score and establishing at which number of utterance, and thus percentage of the total conversation, the given team's discussion was last outside that range – vis-à-vis that the discussion had “flat-lined” similar to a heart monitor when a heartbeat stops).

Variety Measures – Qualitative

Sequential time series variety score plots were utilized to provide a qualitative component of analysis to augment the quantitative calculations. Adapting qualitative techniques developed by Monge (1990), the sequenced plots were classified by their exhibition of an overall directionality of the conversational trend over time (decreasing variety, “U” shaped (sustained period(s) of decreasing followed by sustained increasing) variety, consistent (largely flat, low variation) variety, and increasing variety) and the smoothness of pattern interchange between sequential series of utterances (contrasting a rough, jagged, or saw tooth like pattern to a smoother, less jagged, or sinusoidal pattern). The plots were then grouped by visual similarities along these parameters, fitted to a collective trendline with their other similar plots, and the grouped plots were then compared to their requisite teams' performance scores and ranks.

The plots were grouped in order to determine if any similarities between the plots' patterns and trends also lent themselves to similarities in assessed group performance success or lack thereof, to examine the degree that process conformity may play in group decision making success, as explored in Deephouse (1999) as well as the general

principles of Gersick's (1988, 1989, 1991) theory of punctuated equilibrium, which, similar to this study, used natural workgroups and problem solving groups in a laboratory based setting. If the groups demonstrated decision making processes similar to Gersick's model, it would be expected to see long periods of inertia (herein an initial decrease of conversational variety score toward a simpler, more similar conversation type and a general maintenance of that "sameness" in lack of utterance variety) punctuated by periods of radical change (a rapid influx of utterance types not initially utilized by a given group) as the discussion focused on the key decision elements that required greater thought, discussion, and discourse between group members. By assessing the variety scores in a qualitative manner, performance comparisons can be made both between groups, for uniformity of performance measures, as well as to the punctuated equilibrium model to assess the merit of punctuated conversational change as opposed to consistent variety of conversational discourse throughout the entirety of a group's recorded discussion.

Performance Ratings by Independent Expert Assessors

Concurrent with the student coders completing their categorizations of the team responses, four expert performance raters (two business faculty members and two area business professionals) were selected to assess the action plans and strategic recommendations of the sixteen student groups. As part of the exercise, the student groups were asked to provide a list of the assumptions they considered when making their strategic recommendations, and from those assumptions and strategic recommendations to create an implementation plan of action for the case study firm. The assumptions,

strategic recommendations, and implementation plan were the core deliverables from the student teams and each team was rated independently on each of those three categories by each of the four expert performance raters on a 1-5 scale, with one being “ineffective, infeasible, or irrelevant” and five being “effective, feasible, and relevant” to the core task of organizational strategic planning. A brief example is seen below in Figure 4.4; the core questions that appeared on the student handouts and the individual team assumptions, recommendations, and implementation plan responses for each team are included in Appendix A, while the template for the expert raters is included in Appendix B.

Figure 4.4: Example of Core Questions and Team Responses

Core Questions on Student Handouts

1. What are the assumptions that your team considered about the situation Whole Foods (Grocery chain) finds itself in?
2. List your strategic recommendations and rank in order of importance and potential impact.
3. What exactly will it take to implement your most important, highest ranked strategic recommendation?

Team 1 Responses

Assumptions

1. People will want organic foods if it's available; there's a large market for all organic products, not just foods because at the end they started with the organic clothing or whatever.

Strategic Recommendations

1. Have cards, similar to Kroger, that track what customers are buying to make sure that they have the products that the customers want

Implementation Plan

1. The Kroger card idea, given that customers are already used to that technology. We can gather a lot of data on what the customers are doing and individualize our direction more.

The performance scores for each team were then averaged across the four expert raters for each individual category and totaled for an overall score, as well as ranked using a simple points system where the team receiving the highest score for each coder was awarded 16 points, the second highest 15, and so forth. Ties were grouped into tiers; if one performance rater had a tie for highest score, both of those student teams were awarded 16 points, with the third highest score still receiving 14 points (with subsequent tiers evaluated in the same fashion) and the individual raters' scores then being totaled to achieve a composite team ranking score with the final rankings determined by team point totals sorted from highest to lowest (highest scoring team being ranked number one). In the event of ties in the composite team rankings, the overall (raw, non-ranked) average scores were used to break the ties in the rankings.

Additionally, establishing a set of performance rankings allows for the utilization of Spearman's rank correlation in addition to Pearson's. This is a key consideration for a study of this nature where the relationship between group performance ratings and the other variables of interest may not be linear, as Spearman's rank correlation is less sensitive to outliers than Pearson's and provides a nonparametric coefficient that can still provide the positive or negative directionality of the relationship (Spearman, 1904; Myers and Well, 2003). Preserving that directionality is essential given the potential for large outliers within the performance score averages. The raters' performance score averages, point totals, and rankings can be seen in Table 4.2. Total score, total points, and total rank signify the composite score of assumptions, strategic recommendations, and implementation plans, with the individual comparisons for assumptions, strategic recommendations, and implementation plan denoted by the first letter of the type.

Table 4.2: Raters' Scores, Point Total Averages, and Rankings

| Team | Total Score | Total Points | Total Rank | A Score | A Points | A Rank | S Score | S Points | S Rank | I Score | I Points | I Rank |
|---------|-------------|--------------|------------|---------|----------|--------|---------|----------|--------|---------|----------|--------|
| 1 | 2.92 | 43 | 7 | 2.25 | 30 | 15 | 3.25 | 50 | 3 | 3.25 | 52 | 7 |
| 2 | 2.83 | 35 | 10 | 3.25 | 50 | 6 | 3 | 48 | 5 | 2.25 | 33 | 10 |
| 3 | 3.08 | 46 | 6 | 2.5 | 32 | 14 | 3.5 | 59 | 8 | 3.25 | 53 | 4 |
| 4 | 2.42 | 26 | 13 | 2.5 | 35 | 13 | 2.75 | 41 | 6 | 2 | 31 | 11 |
| 5 | 3.42 | 57 | 1 | 3 | 47 | 8 | 3.5 | 59 | 9 | 3.75 | 60 | 1 |
| 6 | 3.33 | 51 | 3 | 3 | 48 | 7 | 3.5 | 58 | 1 | 3.5 | 56 | 2 |
| 7 | 2.83 | 40 | 9 | 3.75 | 61 | 1 | 2.75 | 45 | 2 | 2 | 30 | 12 |
| 8 | 3.42 | 56 | 2 | 3.5 | 54 | 3 | 3.5 | 59 | 7 | 3.25 | 52 | 5 |
| 9 | 3.25 | 51 | 4 | 3 | 50 | 5 | 3.25 | 54 | 16 | 3.5 | 55 | 3 |
| 10 | 1.58 | 6 | 16 | 1 | 5 | 6 | 2 | 22 | 4 | 1.75 | 26 | 14 |
| 11 | 3.08 | 48 | 5 | 3.5 | 53 | 4 | 2.5 | 37 | 15 | 3.25 | 52 | 6 |
| 12 | 2.42 | 26 | 14 | 3 | 47 | 9 | 2.5 | 36 | 11 | 1.75 | 25 | 15 |
| 13 | 2.50 | 27 | 12 | 3.5 | 59 | 2 | 2.25 | 28 | 12 | 1.75 | 26 | 13 |
| 14 | 2.00 | 13 | 15 | 2.75 | 41 | 12 | 1.75 | 18 | 13 | 1.5 | 21 | 16 |
| 15 | 2.50 | 31 | 11 | 2.75 | 43 | 11 | 2.5 | 39 | 10 | 2.25 | 38 | 9 |
| 16 | 2.83 | 41 | 8 | 2.75 | 45 | 10 | 2.75 | 43 | 14 | 3 | 45 | 8 |
| Average | 2.78 | 37.31 | | 2.88 | 43.75 | | 2.83 | 43.50 | | 2.63 | 40.94 | |
| Median | 2.83 | 40.50 | | 3.00 | 47.00 | | 2.75 | 44.00 | | 2.63 | 41.50 | |
| St Dev. | 0.52 | 14.91 | | 0.65 | 13.55 | | 0.56 | 13.13 | | 0.78 | 13.43 | |

CHAPTER FIVE

ANALYSIS

The primary quantitative variables of interest fall into three major categories: Basic Dimensions of Discussion Descriptive Characteristics, Counts of Utterance Types, and Conversational Variety Structure Constructs (which include both quantitative and qualitative measures). Each of these three broader categories, as well as the individual variable components that comprise them, are compared to both each other and the aforementioned performance scores and rankings in order to assess the outcomes of group decision quality and the implementation viability of each individual team's suggested strategic recommendations. Additionally, while the primary qualitative assessments of variety are also considered conversation structure constructs, they will be explicated in a separate section.

Quantitative Assessments

Basic Dimensions of Discussion Descriptive Characteristics

The basic dimension measures were utilized to provide a baseline for subsequent analysis and to compare the lengths of the group conversations in both absolute and standardized ways, given that the groups had significantly varied lengths of discussion durations and amounts of both utterances and turns. These measures can be seen in their entirety in Table 5.1.

Table 5.1: Descriptive Measures

| Team | Utter | Turn | Utter/Turn | Utter/Min | Turn/Min | Turn Duration | Min |
|----------|--------|-------|------------|-----------|----------|------------------|------|
| 1 | 403 | 217 | 1.9 | 9.8 | 5.3 | 11.4 | 41.2 |
| 2 | 414 | 259 | 1.6 | 13.9 | 8.7 | 6.9 | 29.8 |
| 3 | 570 | 352 | 1.6 | 14.8 | 9.1 | 6.6 | 38.5 |
| 4 | 288 | 172 | 1.7 | 16.7 | 10.0 | 6.0 | 17.2 |
| 5 | 287 | 90 | 3.2 | 7.3 | 2.3 | 26.2 | 39.4 |
| 6 | 324 | 128 | 2.5 | 11.8 | 4.7 | 12.9 | 27.5 |
| 7 | 271 | 187 | 1.4 | 15.8 | 10.9 | 5.5 | 17.2 |
| 8 | 265 | 144 | 1.8 | 9.5 | 5.2 | 11.6 | 27.8 |
| 9 | 454 | 248 | 1.8 | 15.8 | 8.6 | 7.0 | 28.8 |
| 10 | 327 | 222 | 1.5 | 15.4 | 10.4 | 5.7 | 21.3 |
| 11 | 450 | 228 | 2.0 | 15.0 | 7.6 | 7.9 | 30.0 |
| 12 | 422 | 264 | 1.6 | 14.0 | 8.7 | 6.9 | 30.2 |
| 13 | 229 | 139 | 1.6 | 14.5 | 8.8 | 6.8 | 15.8 |
| 14 | 795 | 438 | 1.8 | 20.1 | 11.1 | 5.4 | 39.6 |
| 15 | 620 | 368 | 1.7 | 16.0 | 9.5 | 6.3 | 38.7 |
| 16 | 458 | 243 | 1.9 | 14.3 | 7.6 | 7.9 | 32.0 |
| Average | 411.1 | 231.2 | 1.9 | 14.0 | 8.0 | 8.8 | 29.7 |
| Median | 408.5 | 225.0 | 1.7 | 14.6 | 8.7 | 6.9 | 29.9 |
| St. Dev. | 150.86 | 93.38 | 0.44 | 3.12 | 2.49 | 5.18 | 8.46 |

Counts of Utterance Types

The overall sum percentages of the teams' discussion population utterance counts, similar to Poole & Dobosh's (2010) distributional structure construct, can be seen in their entirety in Table 5.2.

Table 5.2: Percentage of Team Discussion by Utterance Count

| Team | Relational Integration | Proceeding | New Idea | Agreement | Challenge | Elaboration | Questioning |
|----------|---------------------------|------------|-------------|-----------|-----------|-------------|-------------|
| 1 | 0.04 | 0.08 | 0.08 | 0.16 | 0.05 | 0.48 | 0.10 |
| 2 | 0.25 | 0.06 | 0.11 | 0.12 | 0.04 | 0.36 | 0.07 |
| 3 | 0.29 | 0.05 | 0.09 | 0.14 | 0.05 | 0.32 | 0.07 |
| 4 | 0.36 | 0.05 | 0.08 | 0.11 | 0.03 | 0.31 | 0.05 |
| 5 | 0.03 | 0.07 | 0.14 | 0.06 | 0.02 | 0.59 | 0.08 |
| 6 | 0.05 | 0.04 | 0.13 | 0.10 | 0.02 | 0.60 | 0.06 |
| 7 | 0.17 | 0.13 | 0.10 | 0.12 | 0.03 | 0.34 | 0.12 |
| 8 | 0.07 | 0.06 | 0.12 | 0.08 | 0.09 | 0.50 | 0.09 |
| 9 | 0.03 | 0.06 | 0.10 | 0.11 | 0.03 | 0.57 | 0.10 |
| 10 | 0.29 | 0.06 | 0.06 | 0.09 | 0.12 | 0.31 | 0.08 |
| 11 | 0.11 | 0.03 | 0.09 | 0.10 | 0.02 | 0.60 | 0.05 |
| 12 | 0.15 | 0.07 | 0.10 | 0.11 | 0.03 | 0.43 | 0.11 |
| 13 | 0.44 | 0.05 | 0.07 | 0.12 | 0.01 | 0.28 | 0.03 |
| 14 | 0.11 | 0.04 | 0.06 | 0.07 | 0.05 | 0.59 | 0.08 |
| 15 | 0.12 | 0.04 | 0.05 | 0.14 | 0.02 | 0.55 | 0.09 |
| 16 | 0.12 | 0.03 | 0.08 | 0.09 | 0.01 | 0.58 | 0.09 |
| Average | 0.17 | 0.06 | 0.09 | 0.11 | 0.04 | 0.46 | 0.08 |
| Median | 0.12 | 0.05 | 0.09 | 0.11 | 0.03 | 0.49 | 0.08 |
| St. Dev. | 0.13 | 0.02 | 0.03 | 0.03 | 0.03 | 0.13 | 0.02 |

Conversational Variety Structure Constructs

The variety calculations can be seen in their entirety in Table 5.3. The rolling, sequential variety scores were also then plotted as a time series in order to create a set of visualizations for qualitative assessments (discussed further in a subsequent section).

Table 5.3: Variety Calculations

| Team | End Variety | Average Variety | Flatline Percent | Range |
|----------|-------------|-----------------|------------------|-------|
| 1 | 0.47 | 0.49 | 0.56 | 0.11 |
| 2 | 0.52 | 0.47 | 0.74 | 0.10 |
| 3 | 0.53 | 0.49 | 0.49 | 0.08 |
| 4 | 0.49 | 0.52 | 0.77 | 0.07 |
| 5 | 0.38 | 0.38 | 0.24 | 0.12 |
| 6 | 0.38 | 0.37 | 0.83 | 0.10 |
| 7 | 0.55 | 0.53 | 0.39 | 0.11 |
| 8 | 0.46 | 0.46 | 0.71 | 0.20 |
| 9 | 0.40 | 0.41 | 0.28 | 0.20 |
| 10 | 0.54 | 0.54 | 0.32 | 0.07 |
| 11 | 0.37 | 0.32 | 0.66 | 0.15 |
| 12 | 0.50 | 0.46 | 0.80 | 0.23 |
| 13 | 0.46 | 0.45 | 0.47 | 0.13 |
| 14 | 0.38 | 0.34 | 0.69 | 0.19 |
| 15 | 0.41 | 0.43 | 0.48 | 0.12 |
| 16 | 0.39 | 0.38 | 0.72 | 0.18 |
| Average | 0.45 | 0.44 | 0.57 | 0.13 |
| Median | 0.46 | 0.46 | 0.61 | 0.12 |
| St. Dev. | 0.07 | 0.07 | 0.19 | 0.05 |

Quantitative Insights

From the variables of interest noted above, correlations with the assessed performance ratings of score and ranking were run with each of the variables, in order to see what metrics could be used to build an underlying theory of what conversational processes and characteristics could be predictors of successful (higher quality, better rater assessed performance) decision making. Given the iterative nature of the aforementioned building blocks of conversational process, each of the team discussion descriptive characteristics, the utterance type counts, and the conversation structure constructs were compared to the performance assessments and all of the quantitative assessment types were then used as part of the qualitative comparisons. For each set of correlations, all

sixteen teams were included in the analysis, which with a two tailed test would denote fourteen degrees of freedom and critical values of .623 at the .01 level (denoted by *** in the tables), .574 at the .02 level (**), and .497 at the .05 level (*). Those correlations and the insights they provide are further detailed below in this section within the subcategories mirrored from the variables of interest section, as well as an additional section discussing the cross sectional comparisons of the variables. Score, points, and rank signify the correlations between the average score, total points, and point rank for each dimension, with the individual comparisons for assumptions, strategic recommendations, and implementation plan denoted by the respective first letter of the specific type.

Basic Dimensions of Discussion Descriptive Characteristics

The Pearson product moment and Spearman rank correlations between performance scores and the descriptive characteristics appear in Table 5.4.

Table 5.4: Team Discussion Descriptives/Performance Correlations

| | Utter | Turn | Utter/Turn | Utter/Min | Turn/Min | Turn Duration | Min |
|----------|--------|-------|------------|-----------|----------|------------------|----------|
| Score | -0.27 | -0.43 | 0.56* | -0.64*** | -0.72*** | 0.56* | 0.23 |
| Points | -0.27 | -0.44 | 0.56* | -0.66*** | -0.73*** | 0.58* | 0.25 |
| Rank | -0.20 | -0.44 | 0.68*** | -0.59** | -0.81*** | 0.81*** | 0.14 |
| A. Score | -0.17 | -0.23 | 0.14 | -0.12 | -0.17 | 0.11 | -0.15 |
| A. Total | -0.17 | -0.24 | 0.17 | -0.10 | -0.18 | 0.11 | -0.16 |
| A. Rank | -0.55* | -0.41 | -0.15 | -0.10 | -0.08 | 0.08 | -0.68*** |
| S. Score | -0.34 | -0.44 | 0.48 | -0.72*** | -0.70*** | 0.56* | 0.24 |
| S. Total | -0.30 | -0.40 | 0.46 | -0.67*** | -0.66*** | 0.53* | 0.24 |
| S. Rank | -0.48 | -0.41 | -0.26 | -0.26 | 0.00 | 0.00 | -0.26 |
| I. Score | -0.15 | -0.36 | 0.65*** | -0.66*** | -0.78*** | 0.63*** | 0.41 |
| I. Total | -0.13 | -0.34 | 0.64*** | -0.65*** | -0.77*** | 0.62** | 0.43 |
| I. Rank | -0.06 | -0.37 | 0.68*** | -0.51* | -0.77*** | 0.77*** | 0.19 |

One of the foremost findings of the descriptive analysis was that more conventional methods of measuring length of conversation were ultimately not significant predictors of high performance. Length of discussion in either minutes or total number of utterances or turns did not correlate significantly with assessed performance, demonstrating that neither conversational brevity nor long windedness have a higher expected assessed performance outcome. However, the more specific descriptive ratios each had strong and statistically significant correlations with each of the three composite performance assessment metrics, with the overarching themes of the findings being that more utterances per turn, longer turns in temporal duration, and fewer turns and utterances per minute of conversation, were significant predictors of high performing teams (particularly in regards to strategic recommendations and implementation plans), while the teams that had more utterances and/or more turns per minute tended to perform less effectively.

Taken in totality, the descriptive correlation findings suggest a broader theme that centers around a general construct; teams that have less rapid dialogue exchanges tend to perform better. This would appear to suggest that patience in turn taking is a critical component of decision making success, that allowing members of a group the time and comfort to be able to make clear, uninterrupted presentations of their ideas and suggestions for consideration by the other group members is more beneficial than engaging in quicker, back and forth, and fastidious debate or banter on a particular topic. A longer turn (in temporal duration) would allow for greater fluidity within a given minute of group interaction, suggesting a lower amount of dialogue interruption, a characteristic that served as a central hallmark of the three most successful teams (5, 6,

and 8). Those were also the three teams with the fewest turns per minute and the fewest utterances per minute.

Further, fewer interruptions by group members (as denoted by longer turns) suggests a more passive engagement by the other, not speaking at the moment, group members. More active, quicker verbal exchange, groups tended to be poorer performers, with the bottom half of performers all having turns per minute above the average and turn duration below the average, with seven of the eight above the turns per minute median and below the turn duration median. In total, the top half of performers averaged 3.47 fewer turns per minute than the bottom half, had turns that lasted on average 5.23 seconds longer, spoke 3.51 fewer utterances per minute, and had .47 more utterances per turn.

However, while the characteristics of longer in duration turns and more utterances per turn suggests a passive engagement by the non-speaking members of the group, the overarching construct is better denoted as active listening. The results here suggest support for previous calls in medicine where it has been suggested that physicians who practice active listening techniques in attempts to find clues in patients' descriptions of their illnesses are more likely to better engage with and treat their patients (Lang, Floyd, & Beine, 2000; Lang, McCord, Harvill, & Anderson, 2004). By not engaging in the more fast paced sequences of verbal interactions, the other group members can focus more on absorbing and processing the content of what their colleagues are saying, a variation on the colloquialism of "listening instead of waiting to talk" that serves to better facilitate understanding and mutual respect for the contributions of each group member, as well as leading to better performance outcomes and increased group decision making effectiveness.

Proposition 1: Longer conversational turns (in both number of utterances and temporal duration) facilitate more opportunities for active listening by non speaking group members and higher assessed performance.

Counts of Utterance Types

The Pearson product moment and Spearman rank correlations between performance scores and the counts of utterance types appear in Table 5.5.

Table 5.5: Counts of Utterance Type/Performance Correlations

| | Relational Integration | Proceeding | New Idea | Agreement | Challenge | Elaboration | Questioning |
|----------|---------------------------|------------|-------------|-----------|-----------|-------------|-------------|
| Score | -0.51* | 0.05 | 0.79*** | 0.00 | -0.38 | 0.41 | 0.12 |
| Points | -0.55* | 0.07 | 0.76*** | -0.01 | -0.35 | 0.44 | 0.16 |
| Rank | -0.64*** | -0.01 | 0.75*** | -0.13 | -0.23 | 0.51* | 0.12 |
| A. Score | -0.16 | 0.17 | 0.45 | -0.08 | -0.62** | 0.19 | 0.03 |
| A. Total | -0.19 | 0.15 | 0.43 | -0.09 | -0.68*** | 0.24 | 0.05 |
| A. Rank | 0.03 | 0.15 | 0.35 | -0.20 | -0.29 | -0.05 | 0.02 |
| S. Score | -0.39 | 0.14 | 0.78*** | 0.14 | -0.11 | 0.17 | 0.19 |
| S. Total | -0.42 | 0.16 | 0.78*** | 0.13 | -0.16 | 0.20 | 0.23 |
| S. Rank | 0.14 | 0.53* | 0.23 | 0.26 | 0.38 | -0.34 | 0.00 |
| I. Score | -0.60** | -0.14 | 0.64*** | -0.04 | -0.17 | 0.54* | 0.08 |
| I. Total | -0.59** | -0.15 | 0.61** | -0.01 | -0.16 | 0.53* | 0.06 |
| I. Rank | -0.58** | -0.12 | 0.63*** | -0.05 | -0.21 | 0.46 | -0.01 |

The foremost takeaways from the comparison of utterance counts to performance assessments are that generating more new ideas (as a percentage of total utterances) and engaging in less relational integration ultimately served to bolster a group’s performance and saw groups demonstrating those characteristics score higher on all three composite metrics of performance assessment measured here. The statistically significant correlation with new ideas was particularly stirring; the three highest performing groups (5, 6, and 8) were also the three groups with the highest concentration of new ideas in their discussions and generation of new ideas had the strongest positive (and overall)

correlation with performance. The same three highest performing groups were also among the five with the lowest relational integration concentration, suggesting that those groups tended to stay on topic more than other groups, and avoided longer duration deviances from the core discussion.

The relationship between higher performance and avoidance of relational integration or off topic utterances is consistent with previous findings in the justice literature, specifically in regards to counterproductive work behaviors. Deviations from the relevant topic of discussion (in this case anything not directly related to Whole Foods Market) directly conflict with the pre-assigned goal of task completion, and previous work by Zoghbi-Manrique-de-Lara & Verano-Tacoronte (2007) has demonstrated that conflict between organizational expectations and group behaviors can lead to negative performance implications. Extended periods of relational integration could be indicative of loafing or withdrawal from participation in the assigned task, and as such, a decline in assessed performance, demonstrating that an over abundance of relational integration can do more harm than good within a group discussion.

Results were more mixed for the other five category types. Questioning and proceeding statement concentrations had low, not significant correlations with the performance assessments, but also had low concentrations overall, each accounting for less than 10% of total utterances across all teams. Elaboration concentration had a statistically significant moderate positive relationship with performance, but elaborating statements also composed nearly half of all total utterances across all groups, mitigating the differentiating impact that those types of utterances were likely to have on performance. Despite comprising fewer than 5% of all total utterances across all teams,

challenge concentration demonstrated a moderate (but not significant) negative correlation with performance, suggesting that even in small amounts disagreement with, and aversion to, presented ideas can be detrimental to group success, while agreement concentration had virtually no correlation with performance. Both the challenge and agreement findings were surprising results that suggest high quality assertions and ideas by group members don't necessarily need to be verbally championed by other discussants, only not challenged, and thus allowed to become part of the group's collective canon without need for extensive legitimizing through affirmative group discussion.

Proposition 2: New ideas inhibit counterproductive work behaviors and increase performance; relational integration encourages counterproductive work behaviors and decreases performance.

Conversational Variety Structure Constructs

The Pearson product moment and Spearman rank correlations between performance scores and the conversation structure constructs appear in Table 5.6.

Table 5.6: Conversation Structure Construct/Performance Correlations

| | Ending Variety | Average Variety | Flatline Percentage | Range |
|----------|----------------|-----------------|---------------------|----------|
| Score | -0.34 | -0.32 | 0.00 | 0.13 |
| Points | -0.35 | -0.31 | -0.06 | 0.13 |
| Rank | -0.45 | -0.39 | -0.13 | 0.16 |
| A. Score | -0.21 | 0.19 | 0.38 | -0.34 |
| A. Total | -0.28 | 0.16 | 0.43 | -0.37 |
| A. Rank | 0.00 | -0.07 | -0.25 | 0.24 |
| S. Score | -0.05 | -0.04 | -0.12 | 0.02 |
| S. Total | -0.06 | -0.04 | -0.09 | 0.00 |
| S. Rank | 0.49 | 0.58* | 0.16 | -0.71*** |
| I. Score | -0.46 | -0.14 | 0.03 | -0.38 |
| I. Total | -0.46 | -0.16 | -0.01 | -0.36 |
| I. Rank | -0.44 | -0.34 | -0.15 | -0.03 |

Perhaps the most surprising results among the quantitative assessments were the ones coming from the conversation structure constructs. Increased variety of conversation (both ending and overall average) had a moderate, not significant, negative correlation with performance, suggesting that “more” (increased quantity of) variety may not inherently be better, showing similarity to the descriptive findings on overall discussion length (total minutes, utterances, and turns). The flatline percentage and range of variety metrics each had weak to little correlation with the three composite group decision making quality assessments, denoting no verifiable association between performance and early or late heightened intensity group discussion activity with the exception of a strong negative correlation between a broad range of conversational variety scores and the rank of strategic recommendations.

Given that the structural constructs are composed of the total and sequential diversity of the utterance counts, it would appear that conversational variety doesn't necessarily lead to group decision making success, and can potentially even be detrimental. For example, utterance types such as proceeding and questioning add variety

to a discussion because they are "different" types and occur in comparatively smaller quantities, but they don't necessarily add true substance in terms of contributing to, or promoting, relevant ideas or concepts. As seen in the utterance count/performance correlations, relational integration and challenge statements can even negatively impact assessed decision making quality, so while the inclusion of those types would increase total conversational variety (again, simply by virtue of being different types of utterances) that greater, more diverse collection of utterances can be detrimental to overall performance.

Proposition 3: Independently, quantitative measures of conversational variety do not exhibit significant effects on assessed performance.

Cross Sectional Comparisons

The Pearson product moment correlations between the counts of utterance types and the descriptive characteristics appear in Table 5.7, the Pearson product moment correlations between the counts of utterance types and the conversation structure constructs appear in Table 5.8, and the Pearson product moment correlations between the descriptive characteristics and the conversation structure constructs appear in Table 5.9.

Table 5.7: Counts of Utterance Type/Basic Dimension Descriptives Correlations

| | Relational Integration | Proceeding | New Idea | Agreement | Challenge | Elaboration | Questioning |
|-------|---------------------------|------------|-------------|-----------|-----------|-------------|-------------|
| U/T | -0.53* | -0.16 | 0.65*** | -0.48 | -0.28 | 0.61** | -0.08 |
| U/M | 0.39 | -0.19 | -0.71*** | 0.07 | -0.06 | -0.18 | -0.14 |
| T/M | 0.55* | 0.06 | -0.73*** | 0.21 | 0.12 | -0.48 | -0.02 |
| TD | -0.47 | 0.06 | 0.70*** | -0.39 | -0.10 | 0.42 | 0.05 |
| Min | -0.59** | -0.27 | 0.05 | 0.08 | -0.05 | 0.59** | 0.26 |
| Utter | -0.23 | -0.42 | -0.48 | 0.08 | -0.06 | 0.39 | 0.11 |
| Turn | -0.01 | -0.29 | -0.63*** | 0.23 | 0.06 | 0.10 | 0.14 |

There are several interesting observations taken from this comparison, most notably the dynamics that emerge within the relational integration and new idea populations. As utterances per turn increase, relational integrations decrease and new ideas increase, suggesting that new ideas facilitate fewer utterances per minute and longer turns (in both number of utterances and turn duration) and in turn greater performance while higher instances of relational integration engender more rapid turn taking and more turns per minute, characteristics that are negatively related to high quality decision making outcomes. Additionally, broader trends also emerge, such as the high correlation between elaboration and utterances per turn, which coupled with the new idea findings, suggest that longer turns that include both new ideas and elaborations on those ideas by the same speaker have a higher likelihood of contributing to a team’s positive performance.

Proposition 4: New ideas facilitate more opportunities for active listening by stimulating longer turns (in both number of utterances and temporal duration); relational integration engenders shorter turns (in number of utterances) and decreases opportunities for active listening.

Table 5.8: Counts of Utterance Type/Conversation Structure Construct Correlations

| | Relational Integration | Proceeding | New Idea | Agreement | Challenge | Elaboration | Questioning |
|----------|---------------------------|------------|-------------|-----------|-----------|-------------|-------------|
| EndCom | 0.58** | 0.58** | -0.12 | 0.41 | 0.43 | -0.89*** | 0.18 |
| AvgCom | 0.53* | 0.57** | -0.17 | 0.46 | 0.47 | -0.86*** | 0.20 |
| Flatline | 0.02 | -0.35 | 0.05 | -0.03 | -0.14 | 0.11 | -0.23 |
| Range | -0.48 | -0.11 | 0.08 | -0.32 | -0.15 | 0.51* | 0.41 |

Further, both relational integration and proceeding statements are highly correlated with increased variety, giving additional support to the suggestion in the conversation structure constructs section of some categories contributing to

conversational diversity but not necessarily conversational quality. Elaboration is also highly negatively correlated with variety, which is consistent with expectations given the high percentage of the discussion population that is composed of elaborating statements. Similar to the performance measurements, agreement, challenge, and questioning statements demonstrate no significant correlations with either the descriptive or structural metrics and the structural constructs of flatline percentage and variety range also show no significant effects.

Proposition 5: Both relational integration and preceding utterances increase ending and average conversational variety.

Table 5.9: Team Discussion Descriptives/Conversation Structure Construct Correlations

| | End Variety | Average Variety | Flatline Percentage | Range |
|----------|----------------|--------------------|------------------------|-------|
| U/T | -0.65*** | -0.59** | -0.13 | 0.02 |
| U/M | 0.10 | 0.01 | 0.11 | 0.03 |
| T/M | 0.46 | 0.37 | -0.01 | -0.08 |
| TD | -0.40 | -0.33 | -0.25 | -0.01 |
| Min | -0.42 | -0.45 | -0.01 | 0.22 |
| Utter | -0.30 | -0.41 | 0.13 | 0.26 |
| Turn | -0.01 | -0.12 | 0.10 | 0.18 |
| EndCom | | 0.93*** | -0.08 | -0.40 |
| AvgCom | | | -0.21 | -0.47 |
| Flatline | | | | 0.18 |
| Range | | | | |

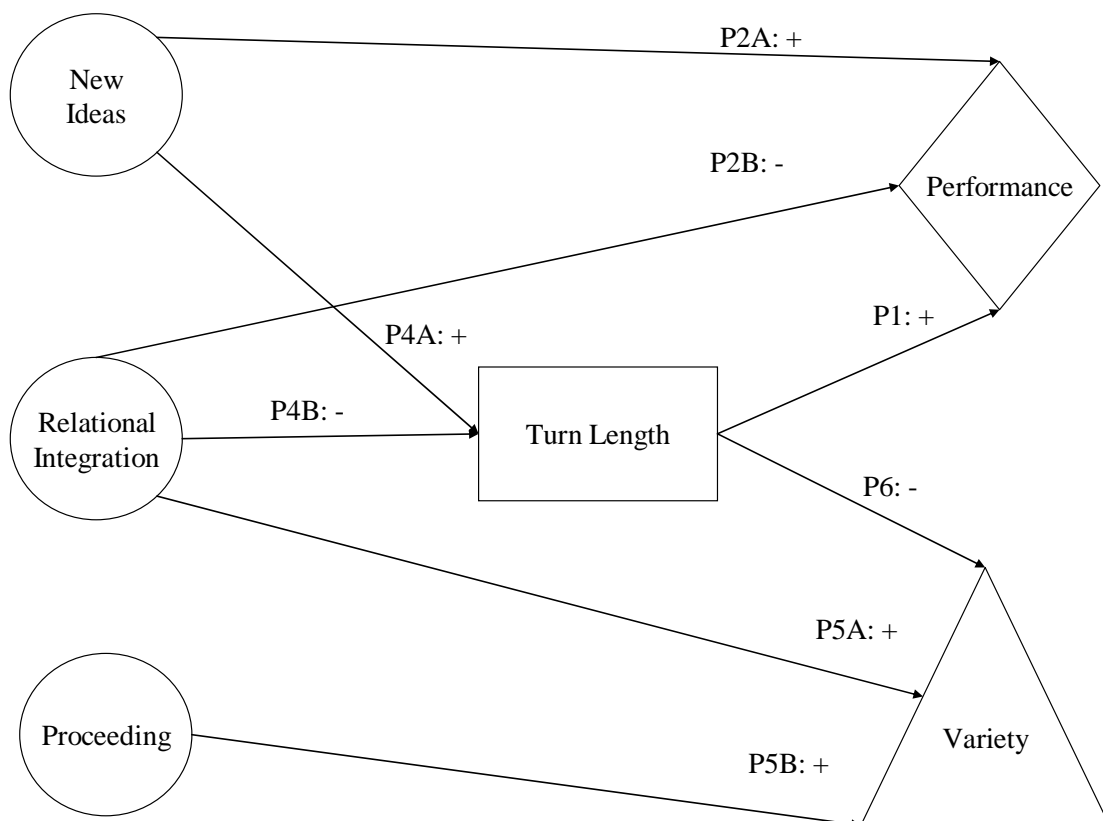
Utterances per turn are significantly negatively correlated with both measures of variety, suggesting that shorter turns (in number of utterances) increase a conversation's variety, which further supports the other findings that higher variety may not lead to optimal performance and that higher variety is strongly influenced by greater diversity of utterance types, not all of which are inherently linked to success. Thus, the continued theme of utterance type breadth and quantity not denoting discussion quality is

further supported; variety for diversity's sake does not in of itself lead to positive outcomes, and in this study actually creates moderately negative effects on performance (see Table 8). As before in other sections, so again here, flatline percentage and variety range demonstrate no significant correlations.

Proposition 6: Fewer utterances per turn increase both ending and average conversational variety.

A brief summation of the quantitative findings is depicted below in Figure 5.1.

Figure 5.1: Quantitative Findings Summation



Qualitative Assessments

Both sets of the grouped (with trendlines) and individual variety score plots can be seen in Appendix C.

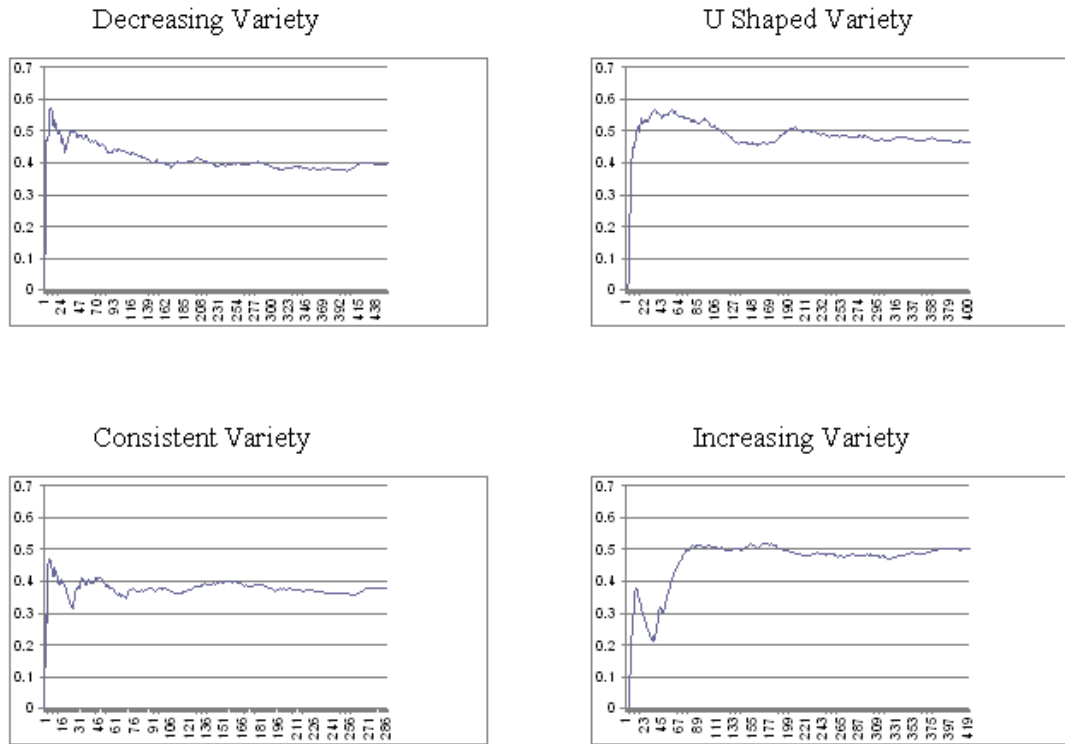
Qualitative Insights

In addition to the quantitative insights, there are also several interesting findings that arise from an examination of the plots of the variety charts. While the variety calculations had unexpectedly mixed results in the correlations, the visualized charts provide a different view of the composition of the conversation and the patterns and trends that are interwoven into the group dynamics, shedding light on the phasing of the individual groups, as well as similarities that exist between them. In some cases, there is substantial grouping of overall trends that coincide with group performance scores, suggesting that there may be patterns that are more conducive to success than others, and that those may be “teachable” in the sense that groups could be coached to alter their discussion patterns to attempt to mirror or replicate successful discussions in order to perform better and produce higher quality decision making process outcomes.

Directionality of Trend

As mentioned in the methods section, the overall directionality of trend led to four primary groupings: increasing variety, decreasing variety, “U” shaped (sustained period(s) of decreasing followed by sustained increasing) variety, and consistent (largely flat, low variation) variety. Examples of the major types are seen in Figure 5.2.

Figure 5.2: Overall Directionality Examples



By those parameters, the sixteen teams were distributed as follows:

U Shaped Variety: Teams 1, 2, and 14 (Average performance rank: 10.7)

Decreasing Variety: Teams 4, 9, 10, 15, and 16 (Average performance rank: 10.4)

Increasing Variety: Teams 3, 7, 11, and 12 (Average performance rank: 8.5)

Consistent Variety: Teams 5, 6, and 8 (Average performance rank: 2.0)

Team 13 (Performance rank: 12) demonstrated unique characteristics that did not easily fit within any of the four categories, largely as a result of an extended period of uninterrupted relational integration (53 consecutive out of their 229 total utterances).

The overall directionality of variety trend does appear to have some predictive capacity of performance ranking, as the three groups with the highest performance scores also displayed trend similarities with each other with relatively even diversity throughout

the entire sequence of their conversation. Any period of decreasing variety had a negative impact on performance scores (either as an overall decreasing pattern or as part of a U shaped pattern) while increasing variety denoted an approximately average performance ranking. While the numerical differences were relatively slight, the average differences in ending and average variety for the U shaped, decreasing, increasing, and consistent groupings were .025, -.012, .035, and .004, respectively, lending quantitative support to the qualitative observations of the overall trends.

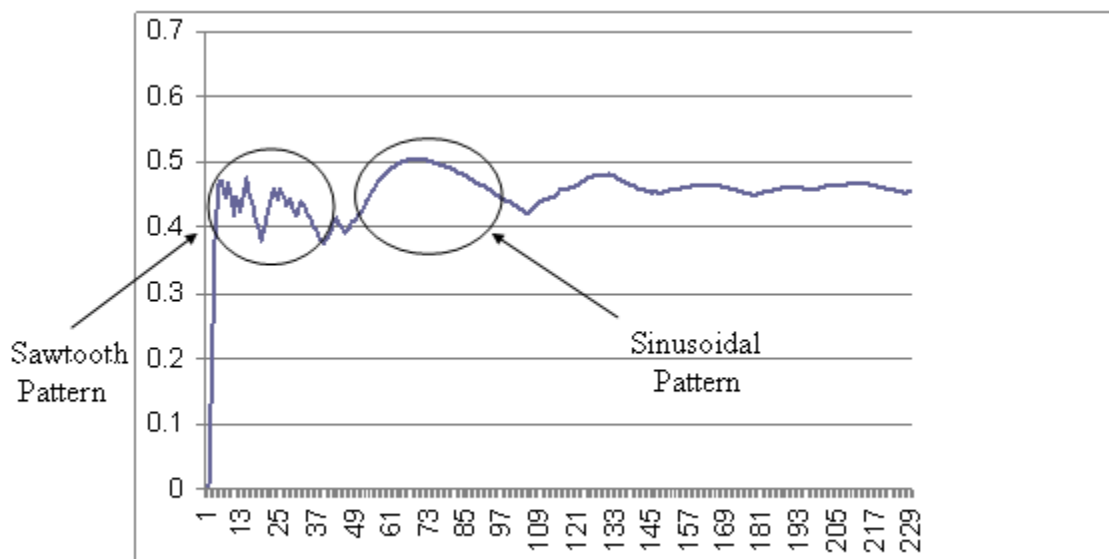
These findings contrast with Gersick's punctuated equilibrium model. Here, an overall consistent trend (one marked by a mixture of utterance types that doesn't deviate into a single one predominantly) is optimal, a characteristic that punctuated equilibrium would classify as a type of stasis ("mixed" in terms of utterance variety) without a midpoint transition of upheaval into a heightened state of performance. However, a decline into an overall decreasing state of utterance variety is also inertial, but in a "singular" form of variance, where one type of utterance is predominant compared to the others in the conversation. As a compliment to punctuated equilibrium, the overall qualitative trends do show evidence that, compared to an inertia characterized by a single type of utterance creating a decrease in utterance variety, an increase in utterance types (a form of midpoint transition or upheaval of the existing conversational structure) is favorable, but that a group that is consistently engaged from the beginning of the conversation, and thus does not undergo a midpoint transition, employs the optimal discussion style.

Proposition 7: Consistent variety is the optimal conversational directionality trend; while suboptimal, increasing (punctuated) variety is favorable to sustained decreasing variety.

Smoothness of Interchange

Upon closer examination of the grouped variety plots, one particular micro level characteristic stood out, the degree of smoothness between shorter (in number of utterances) exchanges, as seen in Figure 5.3.

Figure 5.3: Smoothness of Interchange Examples



Of particular note were the rougher, more frequently up and down periods that had a saw tooth like appearance, or quick increases in variety followed closely by quick decreases, a repetitive pattern in nature which ultimately was characteristic of an overall consistent, even trend as seen in the highest performing groups. Upon further analysis, the saw tooth pattern is indicative of more rare utterance types (such as new ideas,

challenges, or questions) being followed sequentially by more common utterance types (such as elaborations or relational integrations) but not for an extended period before another rarer type was spoken in the conversation.

Repeated, sustained periods of the saw tooth characteristic ultimately led to a more even variety appearance over time which, as noted, was consistent with the most successful teams who also had the highest instances of new ideas (a rarer utterance type) and among the lowest populations of relational integration utterances. The other grouped variety plots were more mixed, demonstrating longer periods of increasing and decreasing variety, displaying smoother, sinusoidal undulations which denote longer extended periods of uninterrupted utterance type groupings (dramatically so in Team 13 where there was such a long sequence of relational integrations that initially the inclusion of those utterances was “different” enough within that team’s discussion to create an increase in conversational variety, but eventually so saturated the conversation that it smoothly crested like a wave and became less varied as the relational integration continued).

Thus, at a more micro level, consistent, sustained variety is visualized as a finer, saw tooth pattern and consistent, sustained simplicity (largely uninterrupted streams of a predominant utterance type) is exhibited by smoother temporal declines. Sustained saw tothing leads to a steady discussion pattern that remains close to the mean variety and denotes subtle (not intense) variation as a key predictor of higher performance, a pattern seen in the highest scoring teams (5, 6, and 8). Additionally, rapid (as well as sustained) increases in variety are suboptimal, although still preferable to marked decreases, as seen in the average rankings of the requisite grouped plots.

Proposition 8: Micro level conversational variety (sawtooth patterning) predicts higher assessed performance; lack of variety (smoother, sinusoidal patterning) predicts lower assessed performance.

CHAPTER 6

DISCUSSION AND THEORY BUILDING IMPLICATIONS

This chapter is composed of four sections. First is a summation of results including a deeper examination of the findings presented in the preceding section and followed by a discussion of potential limitations of the existing data and categorization framework. Those sections are followed by a discussion of possible future avenues of exploration and managerial implications and then closed by the conclusion.

Results Summary

The foremost finding from the collective assessments run is that it is truly a composition of elements, a combination of descriptive, structure, and utterance types, that comprise decision making discussion success. What the evidence collected here shows is that there is a convergence of patterns that are predictive of both high and low performance; more (duration, variety, utterance diversity) is not necessarily better, but rather moderation is key and how, the manner in which, a group conducts its discussion is significantly important. Thus, the results here provide both quantitative and qualitative support that it's not just what you say, but how you say it.

Qualitative Patterns

The qualitative aspects of the results in particular lead to a variety of observations that provide unique insights into the conversational patterns of both the successful and the unsuccessful teams. One specific element that presented itself was the sawtooth patterning, (quick increases in variety followed closely by quick decreases) that many of the teams demonstrated. In a general sense, variety increases as a result of

rare/different/unique (in terms of existing group conversational composition) utterances being introduced into the conversation and decreases as a result of the more common types continuing to be added, but it is the quick interchange of the utterance types and the ability of certain groups to perpetuate that sawtooth pattern over longer periods in their conversations that demonstrated higher performance assessments.

In addition to the micro level patterning, the broader macro level patterns of the conversational varieties were key components as well. As alluded to with the sawtooth patterning, an increase in variety would have a visual rise to the overall time series plot, an expansion of the diversity of utterances, while a repetitive contraction or devolving (slipping into the same utterance type over and over) of the conversation is evidenced by visual decline in variety. While the results demonstrate that expansion is preferable to contraction (though not optimal), there were no significant correlations between the structural variety components and performance, and ultimately the best performing teams were ones that were able to sustain the sawtooth pattern in a relatively flat structure, a consistent slow and steady approach that was not given to substantial swings in change of magnitude. Thus, as a true structural component, a variety that is stable at the macro level but highly varied at the micro level is one that appears strongly conducive to performance success and a more comprehensive decision making process.

Utterance Types, Negative and Positive

While being different and diverse appears to be good in moderation, being same and simple in any extended iteration is detrimental. Such is the case often seen with relational integration statements, which in some groups had a tendency to snowball and even sometimes outright avalanche as groups continued to spend more time and

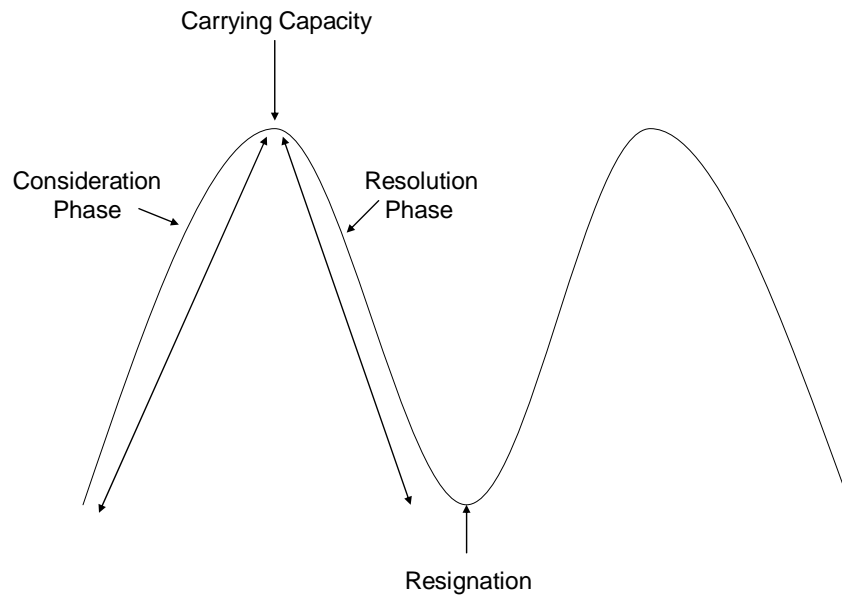
utterances discussing topics that were not directly related to the task at hand. While a degree of relational integration could serve as a uniting element for team morale, extensive digression was a common denominator of lower performing teams with six of the eight lowest ranked performers over the median relational integration value (and one other within one hundredth of it) and the four best performing teams (by rank) among the five with the fewest relational integrations per total team utterance population. Thus, much like salt in a gourmet meal, relational integration is best utilized only sparingly, as an inundation of either can overwhelm and overtake the focal point of the meal or discussion.

On the other end of the spectrum, surprisingly only new ideas were consistent predictors of group performance success, with none of the other utterance types (with the exception of elaboration to performance rank) demonstrating a significantly positive relationship. Given the promising findings in previous work dedicated to debate, dialectical inquiry, consensus building, and comprehensiveness, it seems curious that discussion elements such as challenges and questions would not serve to advance conversations toward more integrative and higher performing outcomes. However, when coupled with the most successful groups also having among the longest turns (in both seconds and utterances per) and fewest utterances per minute, there is the distinct possibility that teams engaging in greater listening behaviors allowed each speaker to more clearly present ideas that thus required less debate around them. Initially, diversity of utterance types was considered to be a key tenant of expected success, but the results here seem to suggest that, like measures of duration, more is once again not necessarily better in conversation.

Integrative Implications of Theory Development

Perhaps what the longer discussion turns and their composition denote are an overall repeated periodicity (at the micro level) to decision making conversations, that, like biological communities, can have a carrying capacity (or crest) that reaches a height of variety and a resignation point at which the conversation reaches a lull and then begins to build back toward another point, a type of wave that permeates the entirety of a discussion. An example depiction is seen in Figure 6.1.

Figure 6.1: Example Periodicity Depiction



Listening, as detailed as a construct here, is likely best seen as a part of the consideration phase, the increases in variety that are accrued as a part of the development of new ideas and the potential they have to further the decision making process. As a broader framework, listening and consideration could be viewed as containing many of the already established theories surrounding key decision making concepts (such as debate,

dialectical inquiry, devil's advocacy, consensus seeking, and comprehensiveness seeking) within the management literature.

Conversely, once the carrying capacity of a portion of a conversation was reached, the group members, and topics themselves, demonstrated a tendency to cycle down in a resolution phase that ultimately reached a trough in a resignation that the topic of pertinence had been completed for the time being and that it was necessary to move on to a new topic. Typically, proceeding phrases were utilized as the utterance devices to move the conversation forward in this manner, usually one group member using the case study prompt to advance the group discussion from the completion of point number one onto point number two and so forth, but a critical ability of successful teams was to have shorter resolution phases (with less relational integration) that more quickly transitioned back into consideration phasing, using the resignation point as an opportunity to reignite the conversation. The capability to more quickly initiate reemergence into consideration phases from the previous carrying capacity point was instrumental to the highest performing groups' success and enabled them to more readily move forward to pertinent discussion topics in comparison to other teams. Additionally, while accounting for a universally low percentage (around 5%) of all utterances across teams, proceeding statements as phase markers may be a key component of examinations going forward, as their relatively infrequent appearances could make them prime candidates for deeper analytical exploration.

The phasing element is important to positive performance, as both sustained inertial growth and decline of overall conversational trend demonstrated suboptimal performance outcomes. Teams exhibiting either increasing or decreasing variety as an

overall qualitative trend with a smooth (non saw tooth) appearance were not as successful as teams that demonstrated the rougher, more saw tooth pattern in a series of periodic interactions that ultimately remained mostly flat (consistent) over the duration of the discussion. Again, as with duration, moderation in conversational variety and utterance diversity is key and the most successful groups were the ones who were best able to establish a conversational pattern that both ebbed and flowed without too much of either proliferating the discussion in extended sequences.

Thus, as a construct, the evidence shows that the theory of decision making is an integrative one that is a function of a number of factors converging to create both high and low performance. Foremost among the conversational factors for group decision making success are discussions composed of a higher percentage of new ideas and a lower percentage of relational integration, longer turns, fewer utterances per minute, and an overall pattern that is consistent, periodic, and sawtooth, allowing for frequent micro level variety crests and troughs while preserving an overall stable pattern at the macro level. Groups that could achieve a balance of those elements were more likely to find assessed performance success, while groups that deviated from those principles tended to experience less favorable evaluations and a general lower quality of decision making.

Limitations

There are three primary factors that serve to limit this research. The aspects of technological process, recording methodology, and the data sample composition are each parameters that were sufficient for this inductive study, but would benefit from

improvement in subsequent work that seeks to build upon the ideas initiated in this dissertation. Each of these will be explored further in this section.

Technological Process

The variety calculations for this dissertation were done sequentially, by an iterative, rolling comparison of one to one utterance groupings, in that variety at a single time/utterance point ebbed and flowed contingent upon the direct utterance type of the single statements preceding and following the specific utterance of examination. While this approach suffices, it would be augmented and improved by an enhanced capacity of sequence length analysis, from beyond dyadic interactions to triadic and longer ones. The opportunity to examine longer sequences (and more true phases) would allow for a deeper exploration of the aforementioned chunking aspect of sequential conversation patterns, in that repetition of longer, not necessarily immediately consecutive (potentially interrupted briefly by different utterance types), sequences would provide a richer, more nuanced understanding of the broader patterns of conversation flow and which phase groupings may be predictors of high performance or lack thereof.

One possibility would be to utilize WinPhaser software (although complicated by the program's lack of updates since the 1990's), a similar phase analysis program, or a matrix algebra application to further examine more intricate and extended dialogue sequences. While sequence calculation is primarily a methodological issue, there is also the theoretical development consideration of what would comprise a phase boundary (possibly a type of utterance, a break in sequence, a collection of utterances, or an alternate boundary marker) and how to adapt to a lack of uniformity across those potential phases. The lack of phase sequence examination was not a limitation of results

for this dissertation, but as a potential extension of the findings here it does serve as a natural progression and extension of the variety and other quantitative calculations.

Recording Methodology

Another limitation of this data collection was the methodology for recording conversations. While effective for this inductive, process driven dissertation, to be able to layer on additional elements such as confirmation of individual speakers for every utterance would be extremely useful in subsequent studies and would likely require either individual microphones for each user or the utilization of video taping to record the discussion. While the goal of establishing the foundational aspects of what compositions of conversations (specifically utterances said when and where) are more likely to lead to higher performance outcomes was achieved, the addition of confirming “who” within the dialogue would add a substantial integrative element.

However, the use of video could present an issue of reluctance to fully engage by the participants. Collecting only audio data does allow for a degree of anonymity, which may increase the likelihood of engagement and willingness to openly share and debate ideas and suggestions. The existing model of data collection does allow for a deeper aural linguistic assessment of how each speaker verbalized their thoughts (including inflection and tone) and a greater focus on that as an augmentation may be of significant reward while mitigating the potential loss of richness that could occur as a result of videotaping. Further, audio and voice analysis software could also possibly be used to isolate the vocal patterns of the involved individuals, thereby eliminating the need to video tape altogether, and might be the best avenue to fully mine this data set.

Data Sample Composition

The composition of the data pool is also a limitation that could be improved in subsequent studies. All of the discussion group members were MBA students as opposed to true organizational top management team members which suffices for an initial inductive study but future examinations using (and building upon) the methodology championed here in a true managerial setting would provide deeper insights into the internal discussion patterns of groups that have been together for longer periods of time and have more regimented, clear cut goals with both higher rewards for improved performance outcomes and higher costs for decision making failures. While the structure of the case study for the students was clearly defined and had specific objectives to be completed, ultimately it was still a simulated exercise, and capturing real time data subject to the substantial fluctuations and environmental issues facing firms competing in the economic marketplace could shed new insights on these results, as well as additional opportunities for further refinement of the processes and procedures within this research stream.

Future Research

The use of conversational analysis within management provides many potential new avenues of study, principally in top management teams and project management teams. In their purest form, the results and techniques presented here can continue to be further extended and refined to increase the effectiveness of the methodology in facilitating a deeper understanding of the decision making process itself and more specifically which processes demonstrate higher levels of success. Additionally, the

results have substantial implications for managers at all levels and can also be applied to organizational work settings with more day to day, front line, or short term planning orientations, as opposed to the long term planning and strategizing aspect that was explored in the particular case study that was used as the basis for this exploration. Potential implications and opportunities for those settings will also be discussed.

Refinement of Technique

As noted in the limitations section, there are certainly opportunities to improve both the technological process rigor and methodology of conversation sample recording. While those improvements are most likely to come as a result of broader improvements in technology (considering that even in the early 2000's this study would have been significantly more difficult to conduct in the period preceding the proliferation of long form smart phone audio recording and cloud based data management for the large data files) there are significant other aspects of the study that could be improved and moved forward by virtue of a continued commitment to refining the technique of conversational analysis in management research. As in all fields, the process of creating a truly integrative approach to a method of study is a journey not a destination, and this inductive exploration is hopefully only the first step toward setting a long fruitful journey in motion.

One of the most significant areas for continued refinement is in the categorization of utterances. As shown in the Utterance Categorization Methodology section, the categories selected here for final analysis were the result of a systematic approach that built off of previous research in an attempt to find categories that were as clearly defined as possible with little ambiguity between them to facilitate high agreement between

multiple coders on identification of each utterance as one of the seven types. The returns on that approach (as a first step with an initial group of graduate student coders exploring these themes for the first time) were promising here, with all three coders agreeing on categorizations in 2672 (40.63%) instances out of 6577 total verbal utterances across all 16 teams, and at least two of the three in agreement in 6133 (93.25%) instances.

However, that does still leave room for improvement, potentially through increased training of coders on the existing utterance types to insure that additional key phrases (in addition to those outlined in the Categories of Utterances section) could be identified as utterance type signals or markers as a result of, and response to, continued analysis of the conversations recorded for this study in much the same way that the initial categories were established based on previous works.

Further, there is also an opportunity to create more structured delineations and boundaries between the categories themselves. As a general observation, the high percentage of elaboration utterance types is a logical one when considering that most speakers (particularly ones utilizing longer turns) tended to make an initial point and then all subsequent statements made in that speaker's turn were in support and further elucidation of their initial statement (be it a new idea, a challenge, and so forth). However, there may be an opportunity to further examine that large population of elaborations and to create subcategories within it to give a greater diversity of categories in order to dig deeper into the specific nuances of the elaborations and thus enhance the richness of what is currently the largest category (by a significant margin) of utterances in this work.

Similarly, there may also be a greater need in future work to examine the finer nuances of relational integration. Herein, all types of off topic conversation were lumped together as relational integration utterances in an effort to reduce the overall workload of the coders and provide fewer categories for them to negotiate, particularly given the nature of reading through the transcripts and the potential perceptual challenges of differentiating small talk that fosters group harmony (and is thus potentially beneficial) from small talk that does not have a direct application to group processes (and is thus potentially detrimental). Similar to the extension of the elaborations mentioned in the preceding paragraph, it would likely be best to develop subcategories of relational integration utterances and assess them upon completion of the initial coding, as opposed to during, in order to preserve the seven broad categories introduced here but to also create the opportunity to more finely explore within the second largest category of utterances.

Conversely, the small proportion of utterances coded as challenges brings to light the potential of an overwhelming aversion of the student groups to task conflict, or, more likely, the category being too fine grained to produce clearly measurable results. The observed inequality between the number of challenges and the rest of the categories is not in and of itself problematic or indicative of an experimental design issue but it does call into question why challenges are so deeply in the conversational minority. One possibility going forward could be to re-examine the questioning category and determine the degree of overlap between it and the proceeding and challenge categories, as some questions could conceivably be more procedural or more challenging in nature, and the loss of efficacy from not having the questioning type could be minimal. Thus, the process

of categorization refinement is one that is necessary to continue to pursue in order to explore each of the potential elaboration, relational integration, and questioning category changes and the impact they may have on the predictive power of utterance category populations on performance ratings.

Additionally, further work is needed to address the construct of within-team variance in regards to turn length. Currently, a situation in which a single speaker takes four long (many utterances, extended temporal duration) turns is structurally equivalent in this study to four separate speakers each taking one long turn each. As such, those turns are quantitatively equal given the current measures, but qualitatively they come from different sources, which could bear a significant impact on the nature and flow of the given team's conversation. In addition to the aforementioned utterance category refinements, this closer examination of the roles specific speakers play in driving (or delaying) the entirety of the conversation would be a valuable extension that would work to further elucidate the underlying constructs of group decision making and the impact that a dominant voice can have on the progress and performance outcomes of a team's discussion.

Managerial Implications

As first mentioned in the Team Discussion Descriptive Characteristics section of the results, listening (by virtue of allowing group members the opportunity to take longer, uninterrupted turns to share their thoughts in discussion) is a key component of conversational oriented decision making and is a construct that holds significant value in both top and lower level management settings. The concept of minimizing the prevalence of fast paced sequences of verbal interactions within group discussion is one that

managers of all levels can employ as a practiced group normative behavior that has the potential to expedite group activities by reducing the opportunities for off topic (or relational integration) tangents. As the pacing of turns slows and temporal turn duration increases, there are fewer opportunities for group members to steer the discussion off course, and thus the likelihood of completing necessary (but not exciting) meetings in a short amount of time increases, a result that could serve to increase collective group morale. Additionally, a commitment to this approach as a true socialized group norm would likely serve to facilitate greater respect for, and appreciation of, the contributions of each group member, and enable the discussion to better encapsulate “listening” to what others have to say as opposed to just “hearing” them.

Such an approach is already seen in groups that utilize a round table or talking circle approach, which requires every group member to participate. However, such required participation (simply going around the table and making each participant speak in turn) may create a different group dynamic than elective participation, and thus an alternative method of promoting listening without truly structured turn taking could be through use of a talking stick, similar to the practices of some indigenous groups in the northwestern coastal region of the United States who only allow the holder of the talking stick (or similar object) to speak at a given time. Such a procedural implementation could foster increased discourse and consideration and enhance group decision making efficiency and effectiveness through promotion of active listening techniques.

Regardless of the direct technique undertaken or utilized, the true contribution of conversational analysis to managers is to build better processes at all levels, for all tasks and types of organizations. Thus, being able to expand this research stream into

additional organizational work environments for the continued evolution of our collective understanding is critical to the future of this type of work. One particular area that is of significant importance to managers is how to improve on conversational processes over time, and while in the existing student sample the groups had previous exposure to, and experience with, working with their classmates, it is significantly difficult to replicate a truly long term working environment (that could persist for years or even decades) with MBA students who are well aware from the first day they set foot in the business school building the relatively short length of the semester and year they will spend together with their classmates within the confines of the program curriculum.

As such, the most natural extension of this research stream, as it pertains to managers, is to pursue working with an organization over an elongated time period to record multiple meetings and compare the differences between each session and the progress made toward a predetermined goal or outcome, either competitively with an outside firm or internally based. A multi-session, same team approach would provide a necessary augmentation by examining the stability of within team conversational dynamics over time, as well as providing an opportunity to assess the existing categorization framework in a repeated setting and the potential implementation of changes as outlined in the Refinement of Technique section. For managers, the ability to track the success, or lack thereof, of discussion forum processes is a valuable skill to have, and with continued efforts this framework would be well positioned to provide such a utility.

Conclusion

My dissertation serves to enhance the proliferation of conversational analysis in the fields of management and strategy and demonstrates several promising results that provide opportunities for further research and exploration, while also laying a foundation for those future pursuits that is both integrative and accessible. Inductive research into conversation structure and processes is a journey, not a destination, and similar to the classic Lao Tzu quote "A journey of a thousand miles begins with a single step", a conversation of a thousand or more statements begins with a single utterance, and gaining a deeper understanding of those single utterances that comprise that conversation is essential to increasing our collective understanding of the dynamics of decision making processes and strategies. Those utterances and the structural components of their arrangement demonstrate decision making processes as discourse and that the dynamics of group conversations are a key consideration of how organizations can pursue and achieve high performance.

Appendix A: Team Responses for Assumptions, Recommendations, and Implementation Plans

Core Questions on Student Handouts

1. What are the assumptions that your team considered about the situation Whole Foods (Grocery chain) finds itself in?
2. List your strategic recommendations and rank in order of importance and potential impact.
3. What exactly will it take to implement your most important, highest ranked strategic recommendation?

Team 1

Assumptions

1. People will want organic foods if it's available; there's a large market for all organic products, not just foods because at the end they started with the organic clothing or whatever.
2. Store appearance is very important to the consumer. Consumers like large stores.
3. People are willing to pay a large premium for specialized good that they can't get elsewhere or that are all in the same place instead of going to a lot of stores.
4. I also had the downturn in the economy.

Strategic Recommendations

1. Have cards, similar to Kroger, that track what customers are buying to make sure that they have the products that the customers want
2. Continue their campaign to promote their image of caring about the environment and sustainability, being organic, and to continue using renewable energy.

3. For goods they don't get locally, improve the supply chain to reduce cost and lower the premium that they charge
4. Determine how important it is to the customer to have six foot aisles something smaller...then you'd lower your cost.

Implementation Plan

1. The Kroger card idea, given that customers are already used to that technology. We can gather a lot of data on what the customers are doing and individualize our direction more.
2. Since we buy most products locally, there might be some local products that we're missing that customers are asking for and we could do referrals, like if you bring somebody else that's never been to a class, you get a discount on your class price or something like that.

Team 2

Assumptions

1. Whole Foods is trying to grow at the same rate it's always grown; it's using the same business model that it's used since inception and sees no need for change.
2. They do have a successful business model.
3. Their product is imitable and other companies are starting to carry organic foods; these organic foods are reasonably priced and might overtake Whole Foods.
4. The premium pricing that had brought high returns in the past is becoming a thorn a weakness now because other companies are seeing that Whole Foods made money and are offering better prices for similar products.

5. Overestimate the brand power, the power of ambiance

Strategic Recommendations

1. Study cheaper competitors.
2. Cut costs from ambiance.
3. Analyze business model being used yearly and make changes.
4. More vertical alignment. Own farms and insure quality.
5. Hire consultants.
6. Spend some on advertising.
7. Open restaurants outside of stores.
8. Continue to acquire competition.
9. Online grocery.
10. Reduce square footage.

Implementation Plan

1. Study competitors and vertical alignment... need manpower and time
2. Basically just a feasibility study...To see if it really would impact the bottom line.
3. Maybe take over some of the farms that aren't producing like they should so you can get them going; you'd also have to have a pretty high capital expense for vertical alignment.

Team 3

Assumptions

1. They can just continue to do their same strategy, sort of sticking with the attitude that they're going to stick with what they're doing and continue to be successful.
2. Whatever they do, they shouldn't lower their prices.

3. They didn't give enough credit at all to anybody possibly being able to copy their image.

4. A lot of companies are entering into the organic business.

Strategic Recommendations

1. Keep their prices the same.

2. Local advertising.

3. Reevaluate the product categories.

4. Include that other section of more green friendly stuff.

5. Talk to their customers.

6. Use more strategy in their store placement.

Implementation Plan

1. Implement advertising at local level by having a local representative.

2. Establish a budget at the corporate level.

3. Marketing plan approved by corporate.

4. Talk to customers, monitor sales to insure effectiveness of advertising.

5. Create partnerships with local farmers in order to advertise.

Team 4

Assumptions

1. Consumers hold organics and humane treatment of animals in the same high regard and are willing to pay a premium for those products.

2. The ambiance is what brings people to Whole Foods; it's possible that's simply the concept and that Wal-Mart could easily emulate it.

3. If Wal-Mart enters the market, Whole Foods' market share would decrease.

Strategic Recommendations

1. Don't compete with Wal-Mart on price
2. Don't make the stores too big
3. Get more involved with the local community which also helps with advertising

Implementation Plan

1. Just keep things the same, basically.
2. Come up with a way to compete in other ways.
3. What they're doing is working now.
4. Alter their awareness path and advertise in a way that is unique to Whole Foods that would fit into their culture.

Team 5

Assumptions

1. People will buy what they offer almost regardless of what they charge for it because they're going after a certain clientele.
2. Whole Foods has kind of pigeon holed themselves into this idea that no one's going to go anywhere else, but now that the other places are starting to offer some of these things, it might be a problem for them.
3. They are banking a lot on their brand, they assume people will just stick with them no matter what.

Strategic Recommendations

1. Lower prices
2. Integrated supply chain

3. New products
4. In store prepared foods to smaller market
5. E-commerce in their larger markets
6. Development and charity partnerships.

Implementation Plan

1. Efficient in the store brand supply chain.
2. Coordinate regional supplier negotiations.
3. Not get high rent store space.
4. Centralize your distribution in the region.

Team 6

Assumptions

1. Whole Foods offers organic foods at premium prices and are unwilling to lower prices. However, they are facing increasing competitions from places like Wal-Mart who can offer organic food along with other products at a cheaper price. Though Whole Foods offers premium products, those products also are a luxury, which in an economic downturn are the first things to go.
2. There's an increase in the organic trend and Whole Foods is still taking losses and they also rely heavily on their ambiance which when losing profits may have to be the first cutback and thus what do they have to really offer then.

Strategic Recommendations

1. Slow down expansion
2. Start a rewards program

3. Utilize social media in like advertising
4. Smaller stores
5. Slack off on the ambiance

Implementation Plan

1. Renegotiate contracts, put some on hold, see if they can get out of any. Even if they have to pay a fee, in the end it's probably going to help them. Also, if they do expand make sure they're expanding in the right area.

Don't put in Podunk Kentucky towns.

2. Rewards program, set up a system to track...give a card that tracks sales. Offer rewards and coupons on things people buy.
3. Utilize Social media.
4. For smaller stores, remove clothing line.

Team 7

Assumptions

1. They were the first mover into this market. The market leader.
2. They've built a unique culture that is very important to them. Welcoming.
3. The ambiance of their stores
4. They gave their employees and staff a lot of freedom.

Strategic Recommendations

1. Expand globally.
2. Institute social media to their advertising.
3. Drop the clothing line.
4. Have natural/organic health and beauty.

Implementation Plan

1. Research foreign markets, potential entries...Supply chain type of stuff and how that would work.
2. Localize our stores to whatever global market that we're going to.
3. Make sure the supply chain is in place.

Team 8

Assumptions

1. People are going to pay for this "premium" product where they could get the same thing as we talked about at a Walmart or a Kroger for a lower price.
2. It's almost as much about the experience as it is about the products.
3. Bigger is better which might not be the case, especially if you're going for a home environment with the service...the atmosphere.

Strategic Recommendations

1. Advertise their brand now that they're a national company in order to differentiate themselves from other similar types of stores.
2. Focus on core competencies (aka, food, wine, etc.).
3. Promote the fact that their food is locally sourced so that local residents will be aware of the fact that they're supporting local farmers.
4. Stop carrying things like clothing.

Implementation Plan

1. Strategic planning about advertising.
2. Build a team because they're so team-centric. Choose members who have the skills to create a marketing campaign from various regions.
3. Advertise local foods.

4. Don't look like Walmart; Whole Foods customers are anti Walmart.
5. Remove clothing and make-up to remove the general goods aspect.

Team 9

Assumptions

1. There is going to be a high demand for these organic foods at a premium price.
2. But there's going to be stiff competition from other grocers.
3. Most consumers still view these products as luxury goods, so their sales are going to be closely tied to the state of the economy for most people.

Strategic Recommendations

1. Tailoring their stores to the needs of the community, by size and content, is probably one of the biggest cost factors.
2. Integrating with the farmers markets.
3. Give an extra discount for paying to be a member like Sam's Club; it's already a luxury style place.

Implementation Plan

1. A good deal of market research.
2. For the farmers market, dedicated space. Do a futures contract that next season we'll buy a given amount.
3. Build local relationships before the store moves in.
4. Continue brand imaging.
5. Tailor to demographics. If it's an area that has a large Indian or Chinese population, etc.

Team 10

Assumptions

None

Strategic Recommendations

1. Lower prices.
2. Show no fear. This has worked for the last 20 years. Keep doing it.
3. Continue building the idea that Whole Foods is more than a grocery store. It's a marketplace where you go and like hang out and go eat at their café.
4. Advertise.

Implementation Plan

1. Lowering prices is going to drive away people who think they're getting value by paying premium prices.
2. If you keep the prices higher you have to continue promoting Whole Foods as a place where people go to do more than shop.
3. If "it's more than just a grocery store", then put it new stores in densely residential areas.

Team 11

Assumptions

1. Make sure that they're not getting cannibalized by the larger chains that can afford to offer lower prices, maybe it's the same good but at a lower price.
2. They've got more competition who can do it more cheaply.
3. Remind their customers why they shop there instead of Wal-Mart, like to market their sustainability – their green methods.

4. Their biggest competitive advantage is their customer experience.
5. Their expanding market has garnered appeal to other competitors.
6. They have fast followers who can provide similar products at cheaper prices.

Strategic Recommendations

1. If you have a monthly gym fee instead of a yearly gym fee, people are more likely to come in and use it. So copy that to some kind of service to increase the customer satisfaction.
2. An app to show where all their food comes from.
3. Market and remind the customers of the experience and expand on that experience so that it comes part of their lifestyle, not just an in store.
4. Its an in store and an out of store experience which they can do through the implementation of programs and apps.

Implementation Plan

1. Maintain the high quality customer experience they are known for. Expand that to create a comprehensive feel, food tracking, recipes, nutrition.
2. Interface in store and out of store.
3. Differentiation from competition.
4. Make sure the end user experience is of high quality.
5. The interaction between employees and customers should increase. If a customer help with something, the employees know the answer.

Team 12

Assumptions

1. They've had a lot of trial and error in the past, but they've been successful until this latest downturn.
2. More competitors. Huge scale companies like Wal-Mart are looking to add organic lines to tap into their market share.
3. Other companies are looking to emulate sources of core competency that's made Whole Foods successful, like ambiance and personability. That would enhance the company's image and enforce its image as being an environmentally friendly corporate responsible sustainable company.

Strategic Recommendations

1. Staying with their business model underlies all of them. That's the overall strategy that encompasses all of our suggestions.
2. I think complete extensive analysis, they're outgrowing themselves.
3. Continue to make new stores and keep going
4. Start selling the organic non food items
5. Analysis to determine a right number, right size, and profitability
6. Partner with local farmers.
7. Increase the advertising.

Implementation Plan

1. So profitability, review of each store, and maybe do it by community too because if you have a really profitable store and another not so profitable store in a community that really likes Whole Foods, you might want to keep that store and figure out what's going on with it.

Team 13

Assumptions

1. The assumptions are that Whole Foods is losing the market share.
2. Their competition is going way up.
3. They're diversifying into potentially unprofitable areas. They're not strategically aligned with what they are.

Strategic Recommendations

1. They should abandon the organic clothing because there's already too many competitors.
2. They can't competitively price their stuff.
3. They should eliminate some of the frills and get rid of low selling products because it seems like they're stretching themselves pretty thin. Then they can concentrate on more profitable items
4. They shouldn't expand stores.

Implementation Plan

1. Have the top management really decide what it is that Whole Foods wants their competitive advantage to be and focus on that.
2. It seems like they're like being pulled in all these different ways. They need to pick what they're good at and stick to it.

Team 14

Assumptions

1. The status symbol in the market place
2. They've fallen short of sales goals but are relevant with overall sales

3. The switching cost associated with people switching to Wal-Mart and vice versa
4. The need to be mindful of where they will expand into
5. They will always be ahead of other organic food markets
6. Their customer base fits the profile perfectly.

Strategic Recommendations

1. Deli brochure recipe receipt.
2. Expansion into the right markets.
3. The product line that we explained over here (deli) is a third one.
4. Charging stations and biodiesel.

Implementation Plan

1. The brochure for the deli thing like “paying” for samples, I think that would be the way to go. Visit the recipe. Visit WholeFoods.com so it’s like there’s a recipe but it’s not exactly what I’m eating.
2. They can implement this idea on a nationwide level...and then leave it to the individual stores to tweak it, how they want it.

Team 15

Assumptions

1. They’ve reached a natural market cap.
2. Their natural market has shrunk because of the fact that no one has jobs.
3. People are catching on more to products like this.
4. There’s people moving in on their space and there’s people that are better at doing it cheaper.
5. Whole Foods has a different set of corporate values.

Strategic Recommendations

1. Personalize stores to the locality.
2. Open a lower end – lower price point store under a different name (i.e., Fairfield Inn by Marriott)
3. Merge with Trader Joe's
4. Open smaller stores

Implementation Plan

1. The story of the local farmer...they should focus more on that and local sports teams and local events. They seem to have a lack of focus right now.
2. The fact that they're thinking about getting organic clothing is kind of silly. They need to figure out what they do, because organic clothing doesn't really fit into their organizational goals.

Team 16

Assumptions

1. Bigger players are entering onto their turf with organic foods coming at lower prices, such as Walmart, Meijer, Kroger.
2. It's questionable whether their ambience and a lot of what they've done for the higher prices is going to be sustainable.
3. We're assuming that their (Whole Foods) food is good.

Strategic Recommendations

1. Advertising in a variety of mediums.
2. Cutting cost/lowering prices/offering affordable options.
3. Shopper rewards.

4. Community involvement.

Implementation Plan

1. They'll get money from cuts, like the surplus to employees and ambiance. Cut that to advertise.
2. That might be a misaligned incentive; if you don't spend money and can disperse it, are you going to buy extra cleaning stuff?
3. Target middle income households.
4. Downsize stores. With the information from shopper rewards, they could eliminate products.
5. Realign the company values and culture.

Appendix B: Expert Raters Scorecard Template

Assumptions

Strategic Recommendations

Implementation Plan

Five Point Evaluation Scale: 1(Lowest) to 5 (Highest)

1 =Off base or irrelevant 1 = Ineffective or irrelevant 1 = Infeasible or ineffective

5 = Real, relevant, important 5 = Effective, relevant, bold 5 = Feasible,
coherent, clear

Team 1

Team 2

Team 3

Team 4

Team 5

Team 6

Team 7

Team 8

Team 9

Team 10

Team 11

Team 12

Team 13

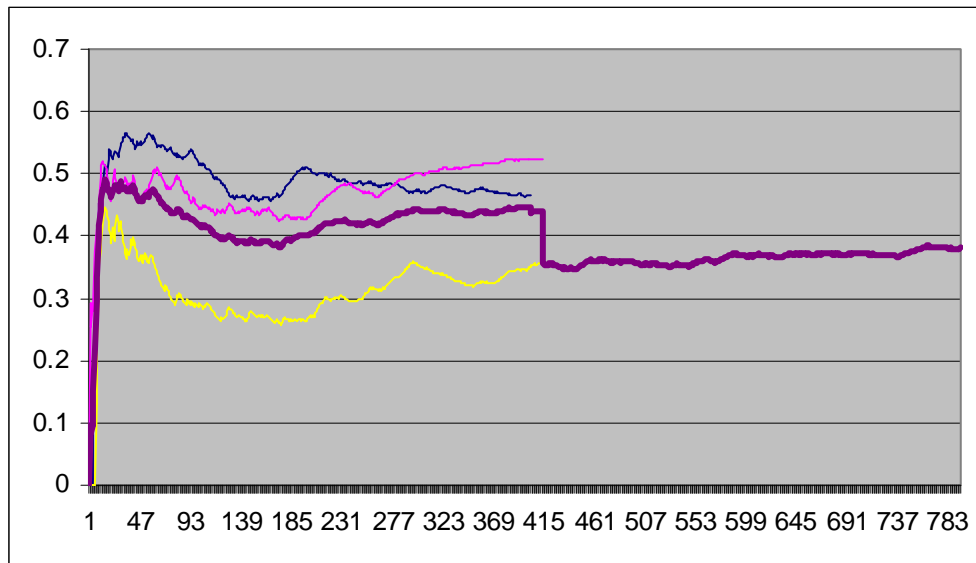
Team 14

Team 15

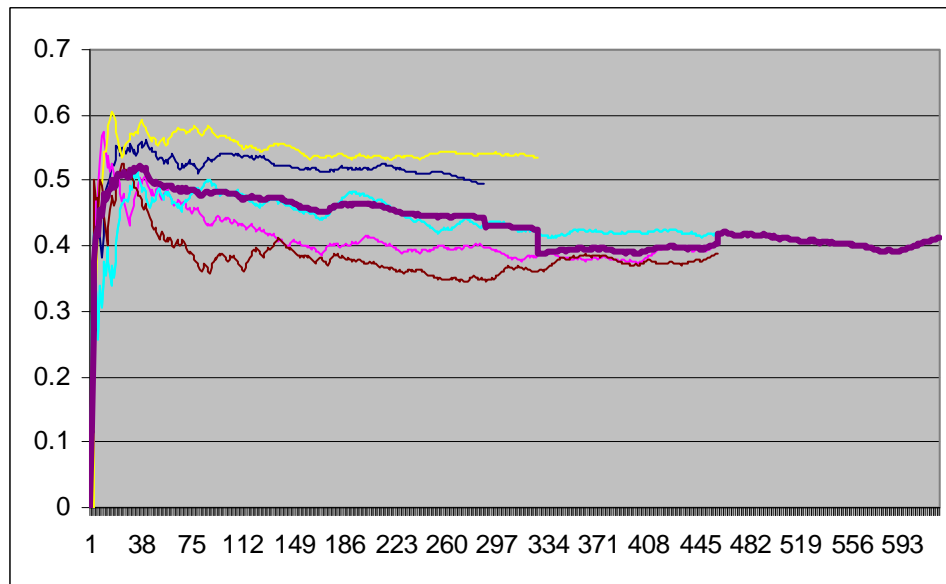
Team 16

Appendix C: Variety Score Plots

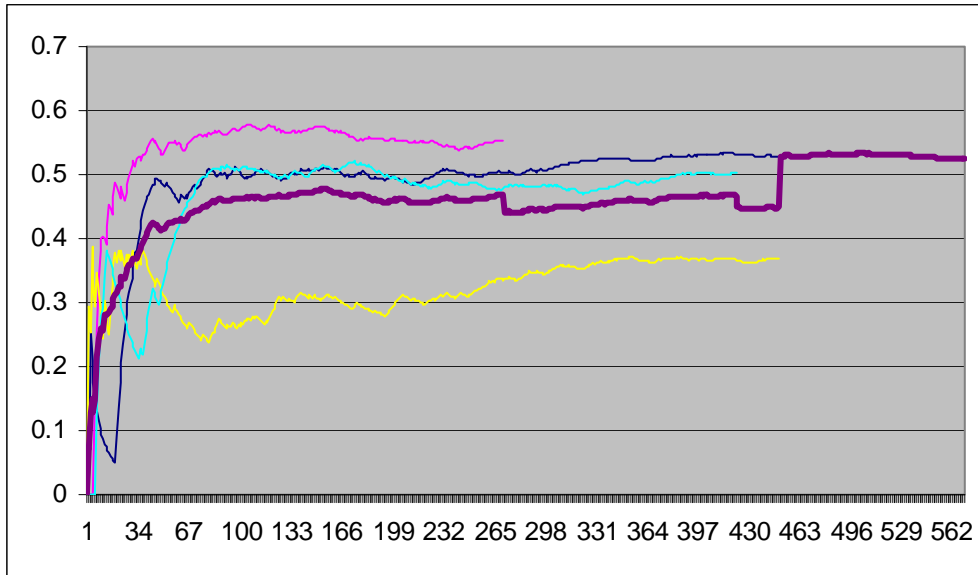
Grouped 1, 2, and 14



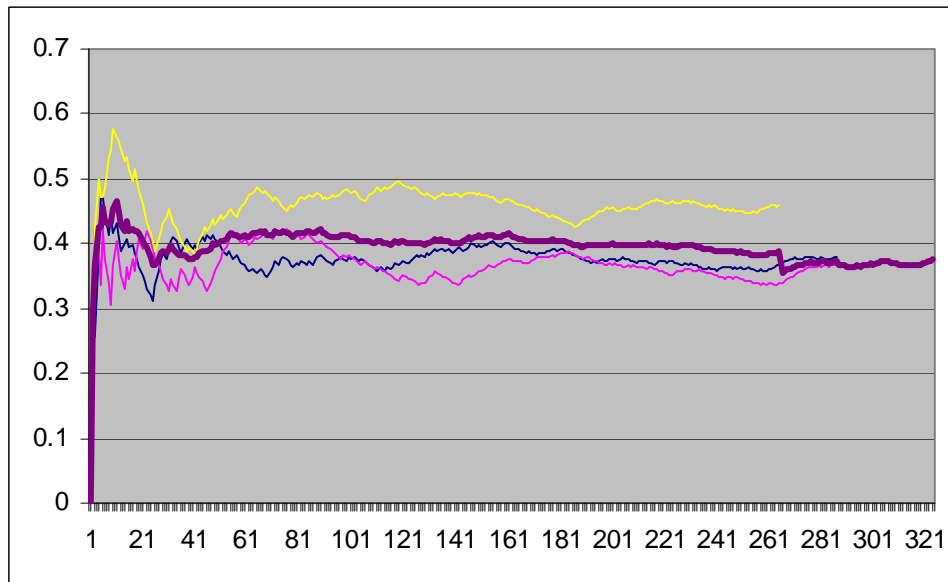
Grouped 4, 9, 10, 15, 16



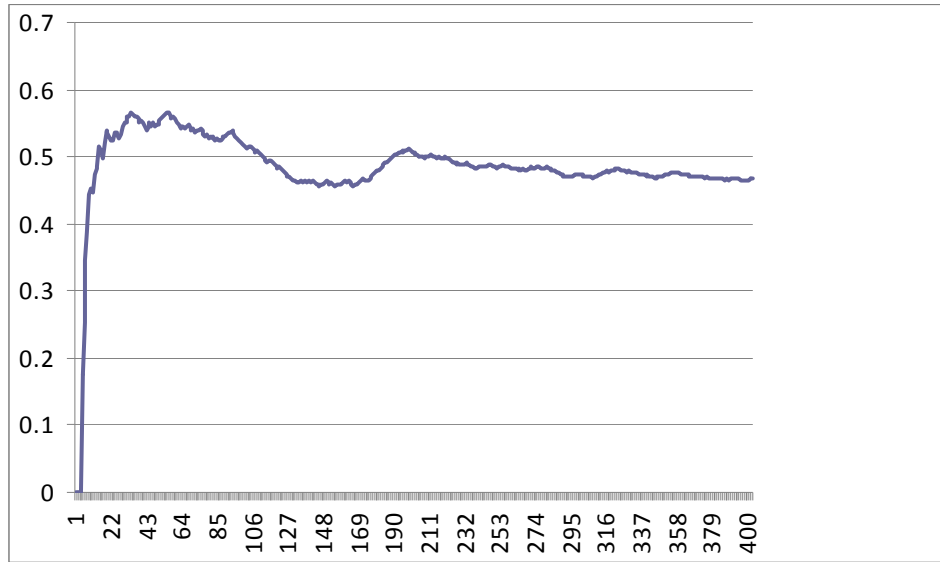
Grouped 3, 7, 11, 12



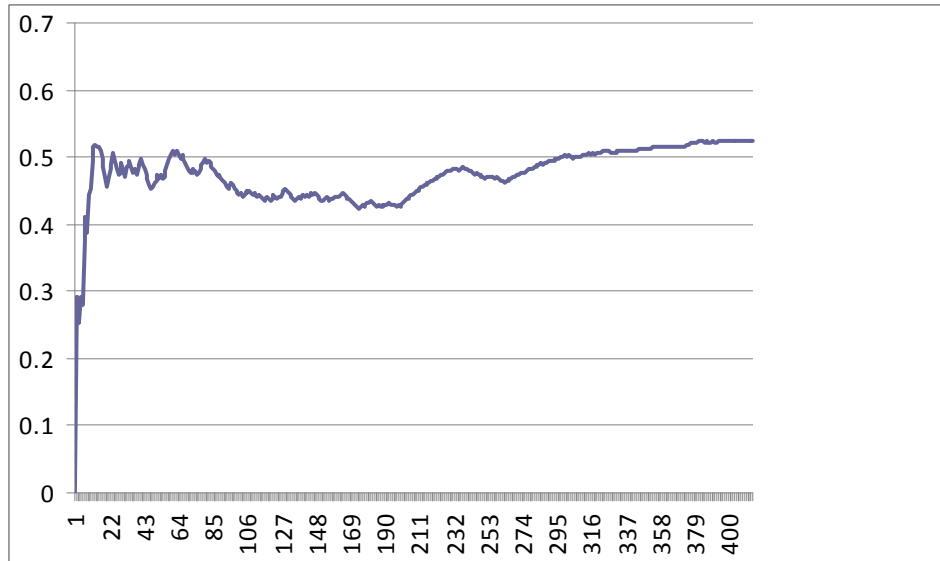
Grouped 5, 6, 8



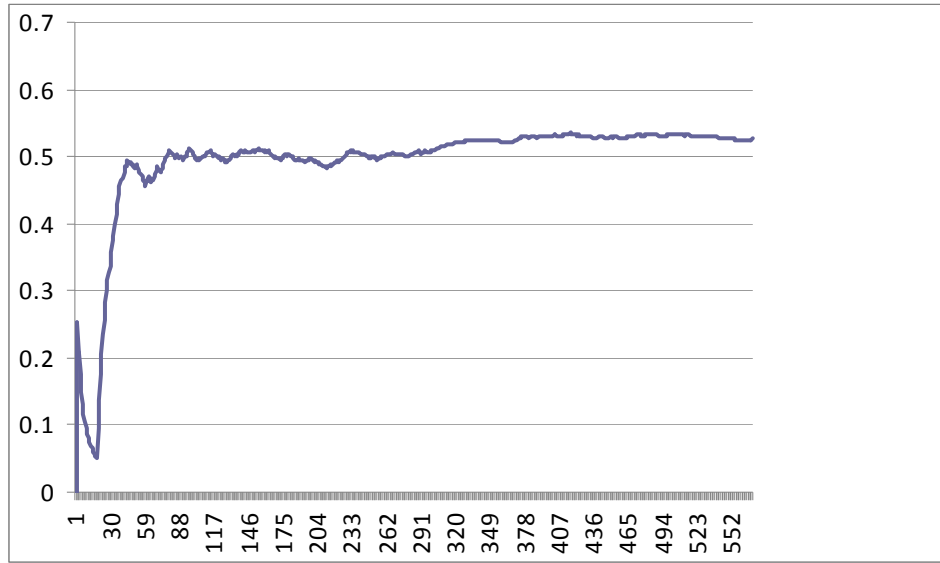
Team 1



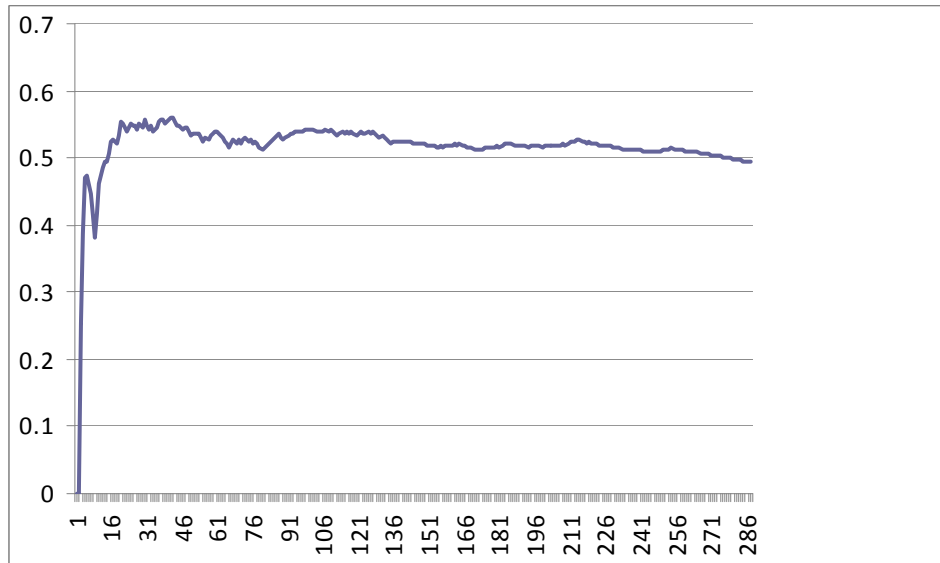
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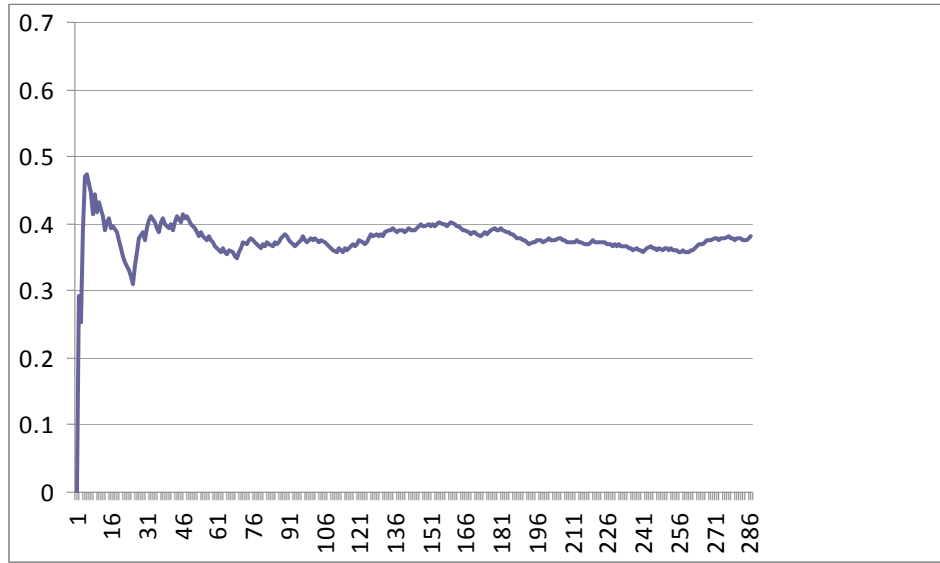
Team 3



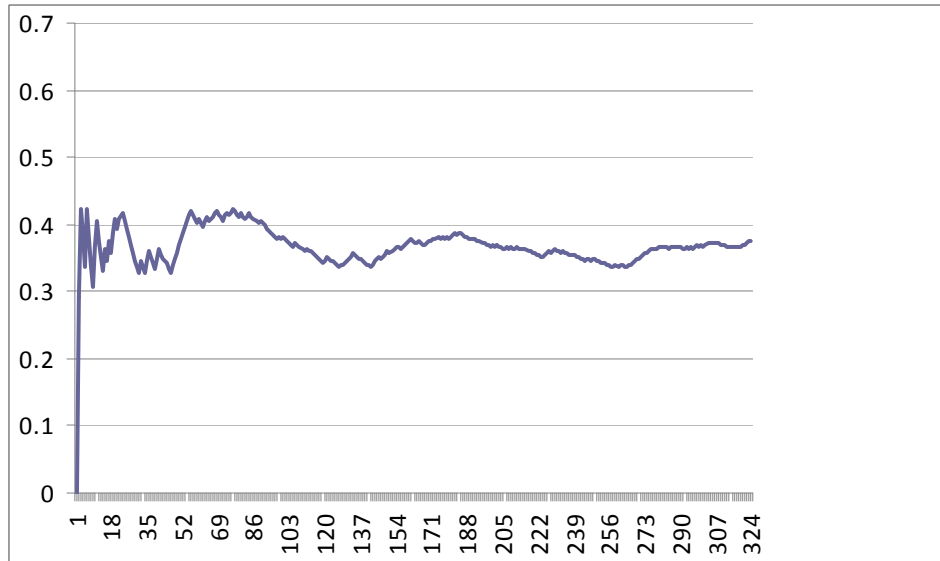
Team 4



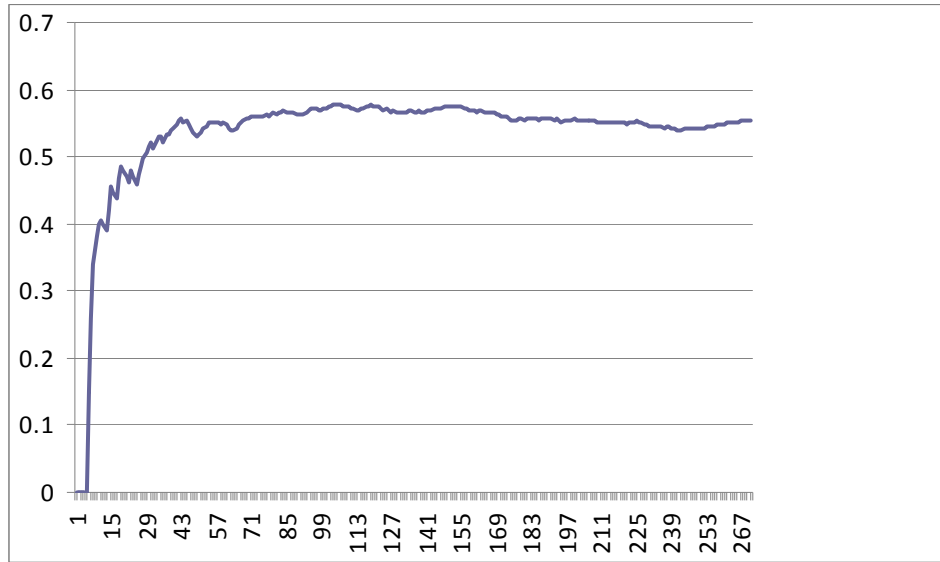
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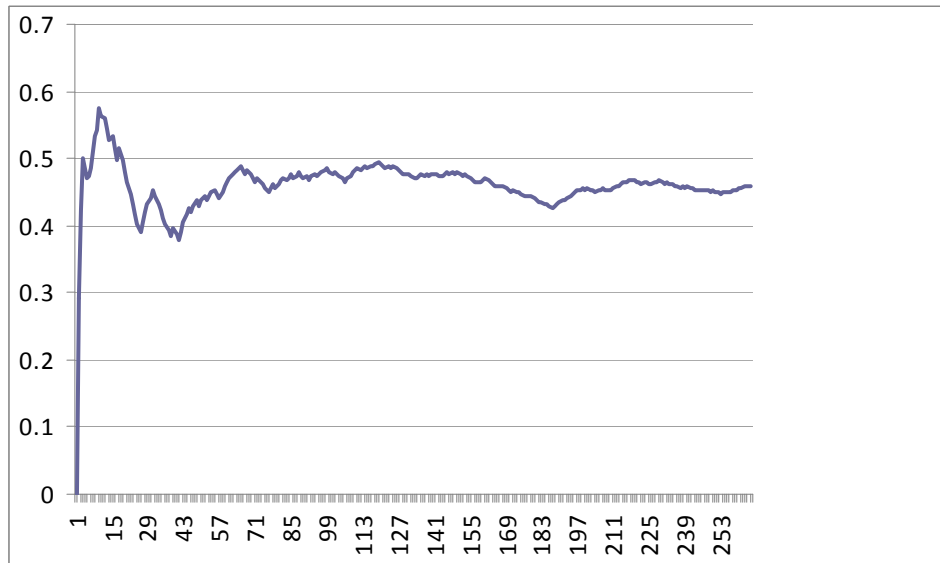
Team 6



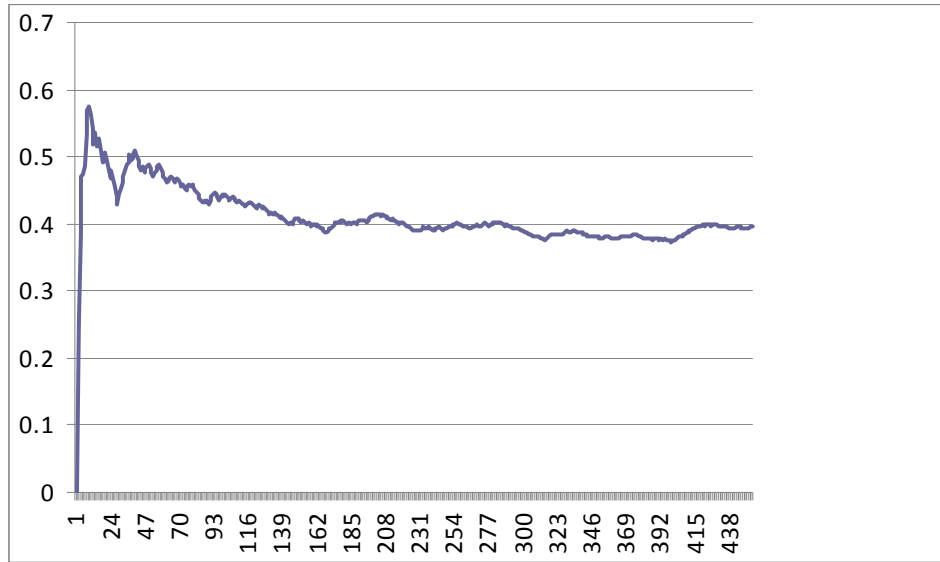
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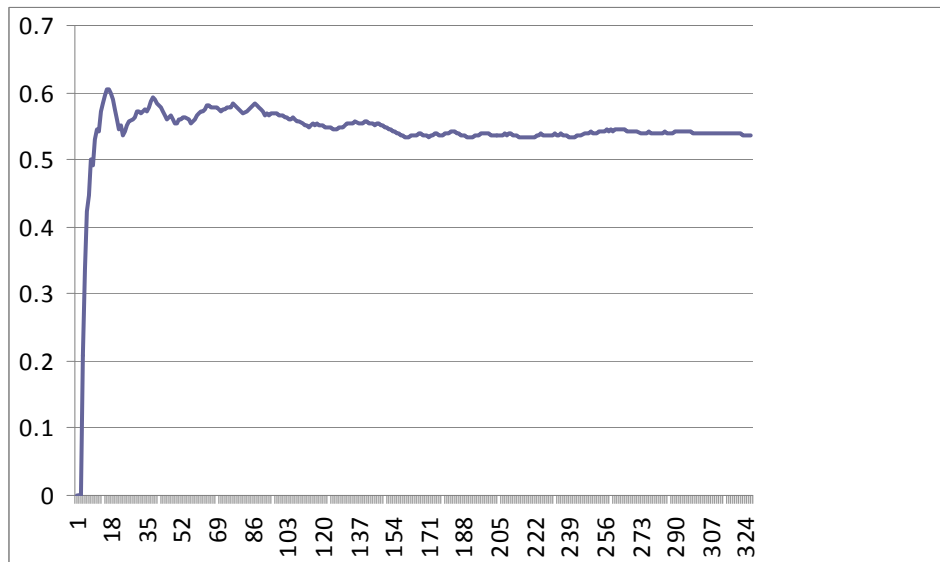
Team 8



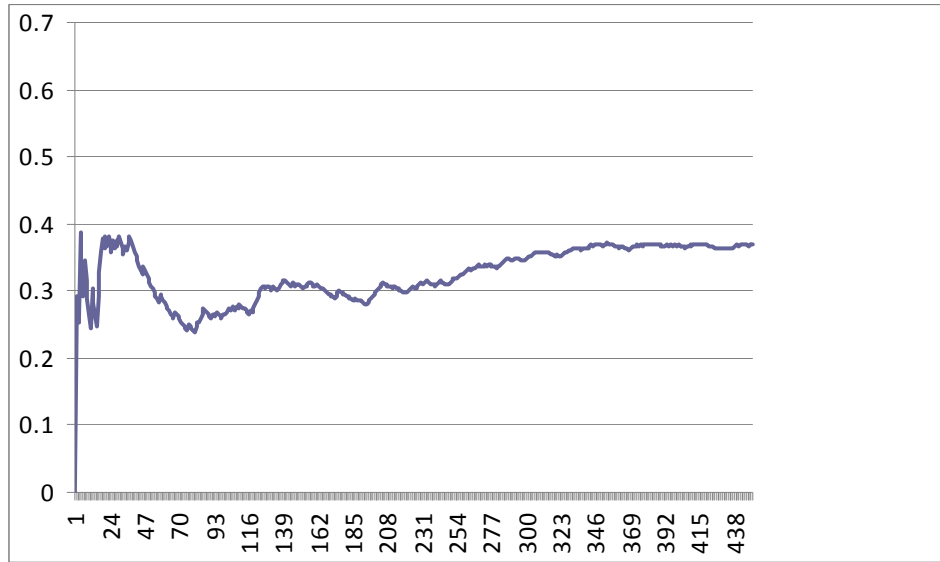
Team 9



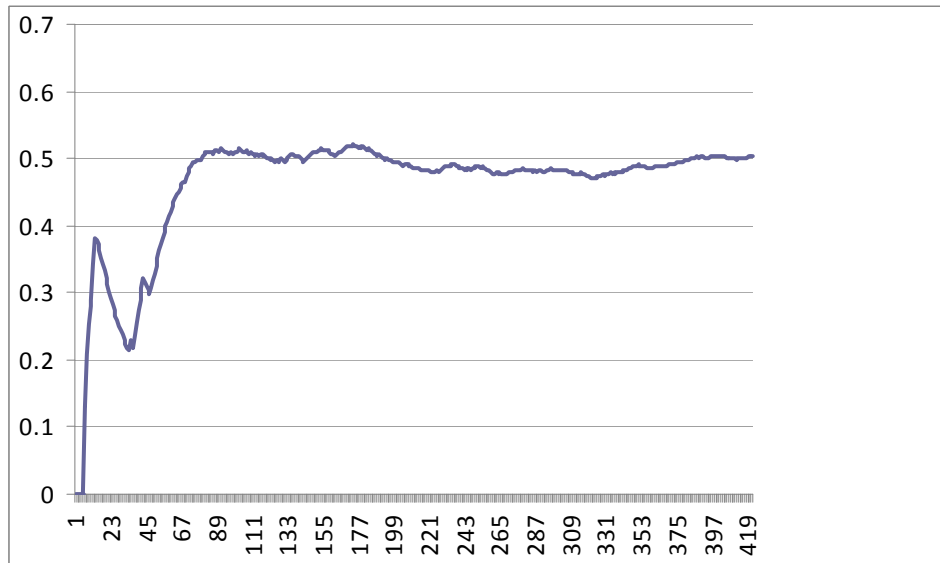
Team 10



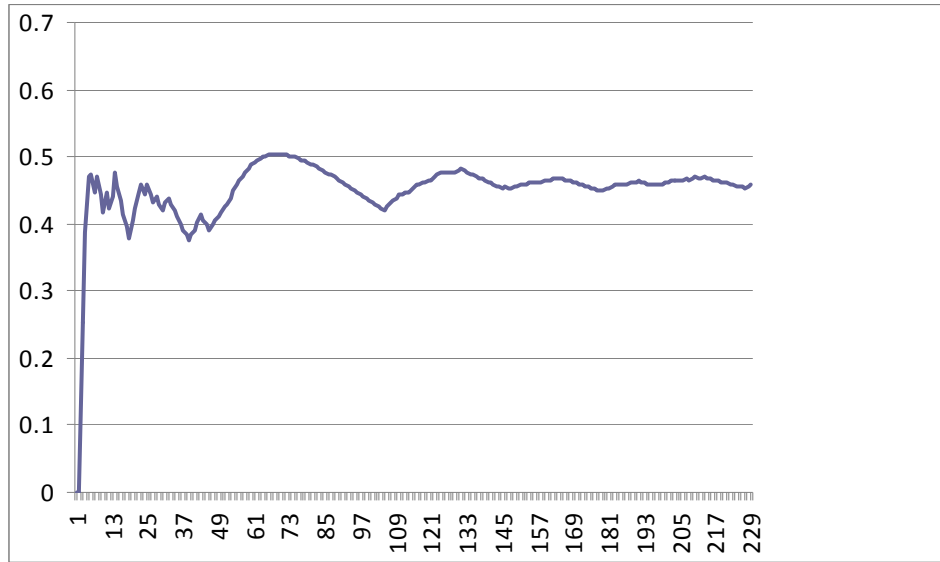
Team 11



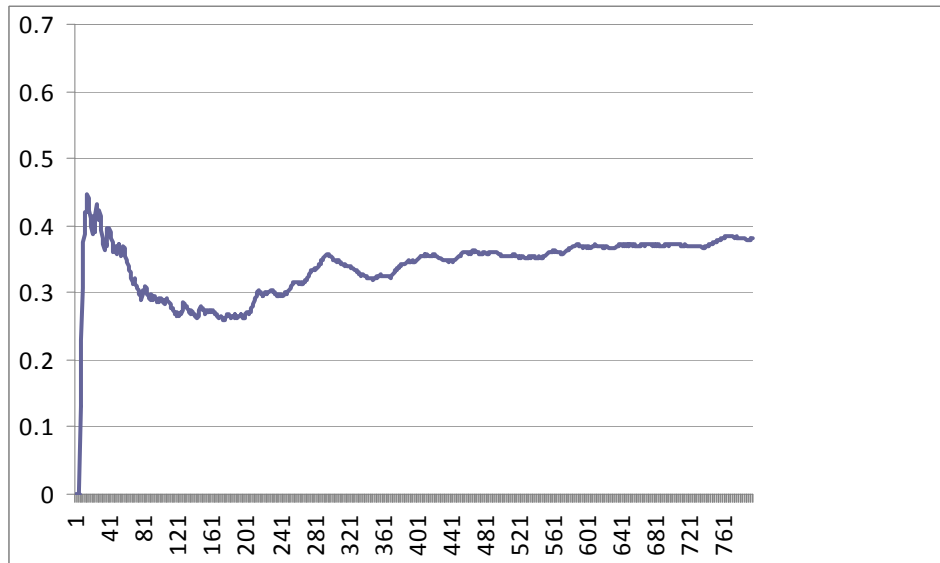
Team 12



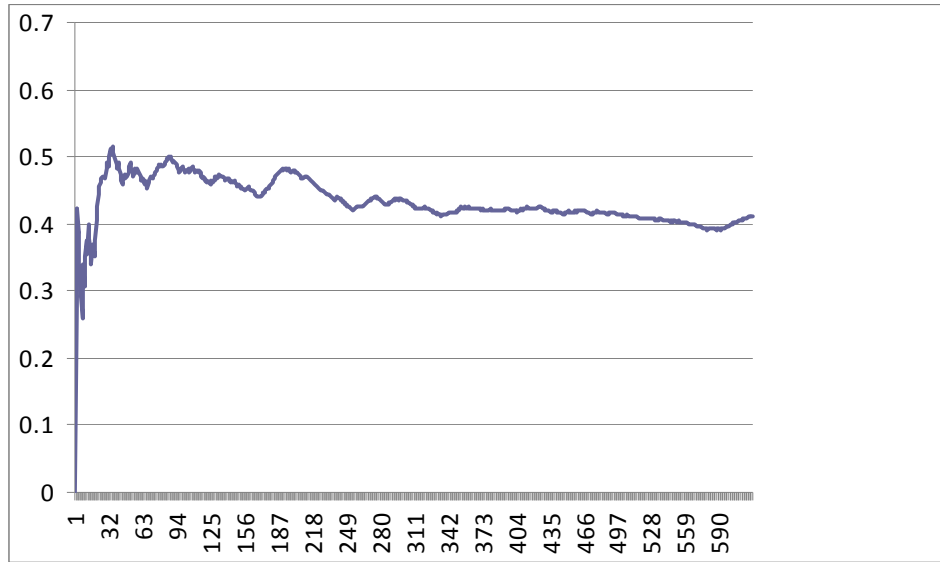
Team 13



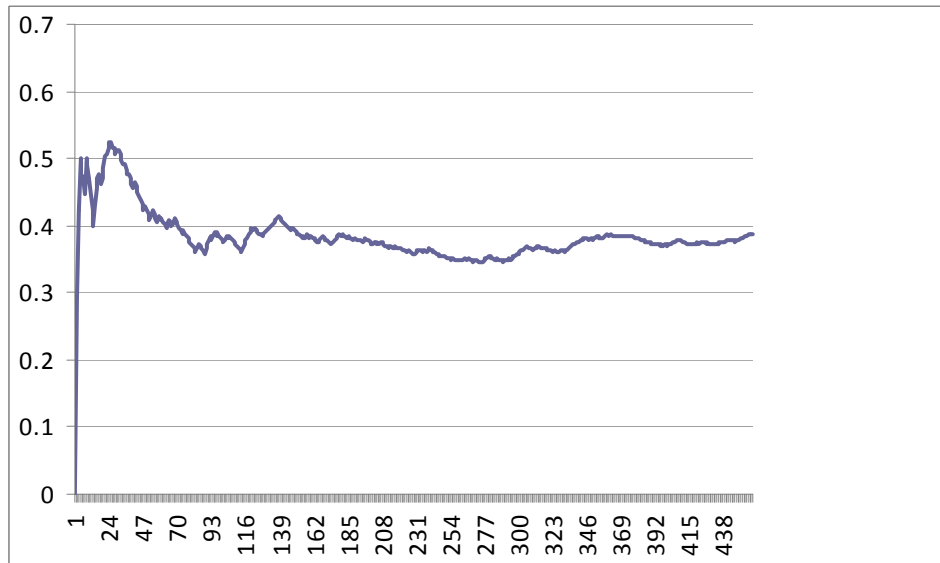
Team 14



Team 15



Team 16



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