UNDERSTANDING THE FORCES THAT AFFECT THE MARKET ORIENTATION OF THREE DIVERSE TEAMS: A MIXED-METHODS, LONGITUDINAL STUDY

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Abstract

Prior research has shown a relationship between market orientation and business performance. Relatively little research, however, has focused on antecedents to market orientation. Additionally, insufficient market orientation research has been conducted at the team level, specifically on new product development and customer teams, the groups closest to new product launches, which are critical to organizational success. There is also insufficient research on how a group's market orientation might change over time. Lastly, most past studies have used data collected from one or two employees to assess the market orientation of the entire organization. It is not clear how perceptions of market orientation might differ among employees, based on their role within the organization. This research seeks to address these gaps.

This research presents the findings from data collected over three years from three teams in the same organization. The teams' market orientation is viewed through three different lenses: the MKTOR scale developed by Narver and Slater, one-on-one interviews, and network analysis. The research presents a substantive theory that explains the data collected from all three teams and from all three data sources. The data suggests that market orientation is the coordinated effort to gather, disseminate, and respond to information in order to maintain and increase business with the customer, thus supporting an integration of the two primary conceptualizations of market orientation. Throughout the process the team faces ambiguity on many fronts, and the team must deliberately manage this ambiguity in order to be successful. Managing ambiguity, however, is not the same thing as *eliminating* ambiguity as resource limitations and team size restrict how much ambiguity can be removed. Clarifying communications, including developing a shared understanding of customer targets, serve to remove ambiguity in the team.

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Chapter 1: Introduction

1.1 Motivation

New product launches significantly affect overall organizational performance. The success or failure of new product launches affects profitability, stock prices, and competiveness (Gresham, Hafer, & Markowski, 2006). Strong sales for Viagra after only a week in the marketplace drove Pfizer stock to an all-time high in 1998, for example. Innovative new products beginning in 1998 with the iMac and continuing with the iPod, iTunes, iPhone, and iPad moved Apple from the brink of bankruptcy in 1997 to a market leading position today. In contrast, Blackberry's stock price dropped significantly after reports of weak sales and significant product returns for its new Z10 model. While having successful product launches is critical, the failure rate for new products is high (Ottum & Moore, 1997). For every four projects that enter development, only one makes it to the market, and approximately one out of three products fail after launch (Stevens & Burley, 1997).

Prior research at the organizational level shows a correlation between market orientation and business performance in a variety of industries and markets (Atuahene-Gima, Slater, & Olson, 2005; Baker & Sinkula, 2005; Ellis, 2006; Jaworski & Kohli, 1993; Kirca, Jayachandran, & Bearden, 2005; Narver & Slater, 1990; Slater & Narver, 1994). The majority of these studies in fact used new product performance as the measurement of business performance. Ellis concludes his meta-analysis of market orientation-performance studies by noting that "…Quantitative evidence verifying the universal nature of the link between market orientation and performance. The idea that firms can boost their performance by fostering a culture that responds to changing customer needs with solutions that are superior to rivals, is demonstrably generic. In any given setting, rewards will accrue to those companies that are more market oriented than their rivals" (Ellis, 2006:1101). In addition to conducting their own primary research, which supports a positive relationship between market orientation and new product performance, Baker and Sinkula (2005) examines eighteen studies that use new product performance as the measure of business success, and in all but one case a positive correlation between market orientation and new product performance is found. Baker and Sinkula notes, "A strong market orientation can directly influence NPD by creating a better fit between the benefits consumers seek and the benefits a firm provides its customers" (Baker & Sinkula, 2005: 496).

New product development teams and customer teams are clearly instrumental in new product launches. Product development teams are responsible for developing innovative products that will provide the organization with competitive advantage. Customer teams are responsible for selling new products to the organization's direct customers, managing product launches, and managing customer relationships. While market orientation has received considerable attention over the years, market orientation literature focusing specifically on product development and customer teams is lacking. Given the importance of product launches and the role that product development teams and customer teams play in these launches, it is theoretically interesting to understand market orientation in product development and customer teams. It is also of interest to practice to understand what can be done to improve the market orientation of product development and customer teams and, as a consequence, improve the likelihood that new product launches, so crucial to the organization, will be successful.

1.2 Theoretical framework for research

Market orientation was conceptualized in two seminal papers, which serve as the foundation for recent market orientation research. The first of which is Kohli and Jaworski (1990). Concepts such as "market orientation," "marketing orientation," and "customer orientation" had been used by both academics and those in practice since the 1950's. There was not, however, research defining the terms or clarifying whether the terms represented the same or different concepts. Similarly, while it was supposed that market orientation led to business performance, there was no research on how an organization achieves market orientation, nor was there research supporting the supposed relationship between market orientation and business performance. Kohli and Jaworski (1990) seeks to address these gaps. From data gathered through one-on-one interviews conducted in the USA Kohli and Jaworski proposes a definition of market orientation and puts forward a series of propositions regarding antecedents to and consequences of market orientation.

Kohli and Jaworski defines market orientation as, "Organization-wide generation of market intelligence pertaining to current and future customer needs, dissemination of the intelligence across departments, and organization-wide responsiveness to it" (Kohli & Jaworski, 1990: 6). Kohli and Jaworksi notes that market orientation crosses functional groups within the organization, i.e., it is not limited to the marketing functional group.

Kohli and Jaworski proposes a number of antecedents that potentially affect an organization's market orientation. Communication from senior manager signals to employees whether or not the organization values market organization. Coordination across functional is also essential to achieving a strong market orientation. Kohli and Jaworski also proposes that employee attitude, particularly being open to the ideas and opinions of others, positively influences the organization's ability to be market orientated. Interfunctional conflict, however, is proposed to negatively impact an organization's ability to be market oriented.

Additionally, Kohli and Jaworski proposes a number of potential consequences of market orientation. As assumed since the 1950's, higher customer satisfaction and stronger business performance are proposed consequences of a strong market orientation. Additionally, however, Kohli and Jaworski proposes that market orientation facilitates the development of consistent goals, objectives, strategies, and policies across the organization. Market orientation also has the potential to foster a strong esprit de corps or sense of group identity within the organization. Lastly, Kohli and Jaworski sets direction for future research on market orientation. There is a call to develop a tool for measuring market orientation and a call to test empirically the propositions put forward.

The second seminal article on market orientation comes from Narver and Slater (1990). The paper first summarizes the understanding of market orientation to-date as, "the organization culture that most effectively and efficiently creates the necessary behaviors for the creation of superior value for buyers and, thus, continuous superior performance for the business" (Narver & Slater, 1990: 21). Narver and Slater then offers a definition of market orientation that provides greater specificity on the concept. "Market orientation is a one-dimension construct consisting of three behavioral components and two decision criteria—customer orientation, competitor orientation, interfunctional coordination, a long-term focus, and a profit objective" (Narver & Slater, 1990: 22). Market orientation, consistent with Kohli and Jaworski, is presented as an organization-wide phenomenon, achieved through cross-functional coordination. In many ways Narver and Slater complements Kohli and Jaworski (1990). Narver and Slater (1990) and Kohli and Jaworski (1990) are similar in many ways. Both propose that market orientation is an organization-wide effort to understand and respond to customer needs in order to generate profit. There are, however, some interesting differences. While Kohli and Jaworski presents consistency in goals, objectives, and strategies as a consequence of market

orientation, Narver and Slater includes having a shared strategy as a scale item within the interfunctional coordination component of market orientation.

While Kohli and Jaworksi focuses on theory building, Narver and Slater focuses on theory testing. While Kohli and Jaworski proposes relationships between market orientation and various antecedents and consequences, Narver and Slater proposes a scale, called MKTOR, for measuring market orientation and uses it to test the relationship between market orientation and business performance. Narver and Slater uses the MKTOR scale to collect data from top managers of 140 SBUs of a single Western corporation. The research suggests that market orientation is an important predictor of business performance. Narver and Slater also proposes a number of directions for future research, including a call for a longitudinal study and studies to explore antecedents to market orientation and to propose strategies for organizations to improve their market orientation.

Since these foundational papers, Kohli and Jaworski, Narver and Slater have extended the theory presented in the original papers. Kohli and Jaworksi developed the MARKOR scale to assess market orientation as they conceptualized it and examined the antecedents and consequences proposed in the original paper (Jaworski & Kohli, 1993). Regarding proposed antecedents at the organizational level, the data supports a positive correlation between market orientation and management support for the concept as well as a positive correlation between market orientation and cross-functional coordination. Additionally, the data supports a negative correlation at the organizational level between market orientation and conflict. Regarding the proposed consequences of market orientation the data suggests a positive relationship between market orientation and business performance and that market orientation "…promotes a feeling of belonging to one big organizational family dedicated to meeting and exceeding market needs and expectations" (Jaworski & Kohli, 1993: 64). Jaworski and Kohli (1996), however, suggests that more work needs to done to provide those in practice with guidance on how to achieve higher levels of market orientation.

Narver and Slater extend their original research in market orientation by exploring how other orientations might affect market orientation and by addressing criticisms or their conceptualization of market orientation. Slater and Narver (1995) proposes that a learning orientation positively influences market orientation. An organizational culture

open to learning facilitates the process of gathering, disseminating, and developing a shared understanding of customer information. This is similar to the importance the Kohli and Jaworski research places on being open to the ideas of others. The steps outlined in Slater and Narver (1995) are also very similar to the process outlined by Kohli and Jaworski (1990) of information gathering, information dissemination, and responding to said information. Slater and Narver (1995) also suggests that developing a shared interpretation of information also facilitates conflict resolution often found in cross-functional work groups. Again, this supports Jaworski and Kohli (1993) and Kohli and Jaworski (1990).

Slater and Narver (1998a) addresses the criticism raised by Christensen and Bower (1996) that a customer orientation limits organizations to incremental innovation and, at-best, short-term competitive advantage. Slater and Narver (1998a) distinguishes between being "customer-led," meeting customers' expressed needs, and being "customer-oriented," meeting customers' latent needs, which leads to long-term competitive advantage. Following this, Narver, Slater, and MacLachlan (2004) extends the concept of market orientation to include both responsive and proactive elements. Responsive market orientation addresses the expressed needs of the customer, and proactive market orientation addresses the latent needs of customers. It is through a proactive market orientation that an organization long-term competitive advantage as competitors can readily imitate products that fulfill expressed customer needs. The addition of a proactive component to measuring market orientation is consistent with Narver and Slater's 1990 definition, which noted that market orientation included a "long-term focus" (Narver & Slater, 1990:22).

Kohli and Jaworski and Narver and Slater provide the foundation for the current market orientation literature. Each pair proposes a formal definition of market orientation, a process for achieving market orientation, and a tool for assessing market orientation. Each also presents data supporting a relationship between market orientation and business performance within the context of the research conducted and using certain measures of business performance. Their work served as a catalyst for market orientation research, and a significant market orientation literature has since been created, broadening our understanding of the phenomenon and its consequences.

Following Kohli and Jaworski and Narver and Slater, other researchers have offered alternate, but complementary, definitions of market orientation. Deshpande, Farley, and Webster (1993) suggests that the "market orientation" and "customer orientation" are interchangeable terms and offers a definition of customer orientation that is consistent with those of Kohli and Jaworski and Narver and Slater. "We define customer orientation as the set of beliefs that puts the customer's interest first, while not excluding those of all other stakeholders such as owners, managers, and employees, in order to develop a long-term profitable enterprise" (Deshpande et al., 1993: 27). Similar to Kohli and Jaworski, Ruekert defines a market orientation as: "…the degree to which the business unit: (i) obtains and uses information from customers; (ii) develops a strategy which will meet customer needs; (iii) implements that strategy by being responsive to customers' needs and wants" (Ruekert, 1992: 228).

Jaworski and Kohli (1996) summarize the common themes around definitions as follows: external orientation, i.e., a focus outside the organization's boundaries, primary focus on the customer, importance give to responsiveness to the customer, and additional focus on additional external groups, specifically competitors. Day synthesizes the Kohli and Jaworski (1990), Narver and Slater (1990), and Deshpande et al. (1993) definitions as follows, "Market orientation represents superior skills in understanding and satisfying customers. Its principal features are the following: a set of beliefs that puts the customer's interest first, the ability of the organization to generate, disseminate, and use superior information about customers and competitors, and the coordinated application of interfunctional resources to the creation of superior customer value" (Day, 1994: 37). Cadogan and Diamantopoulos (1995) makes a side-by-side comparison of the two definitions' similarities and differences and offers a synthesized definition of market orientation. "…Customer orientation and competitor orientation reflect the specific focus of the behaviours associated with the generation, dissemination and responsiveness to market intelligence. In turn, the manner in which the latter are actually performed is reflected in the coordinating mechanism component which steers the entire process" (Cadogan & Diamantopoulos, 1995: 49).

There is now a significant literature examining the consequences of market orientation. Baker and Sinkula (2005), for example, summarizes the findings of 100 market orientation studies intended to test the relationship between market orientation and

business performance. The overall findings of these studies support the relationship between market orientation and business performance, particularly when business performance is measured as new product success.

Some of the work testing the market orientation business performance relationship has been conducted to seeing if market orientation theory can be generalized beyond the context of western organizations. As noted above, Narver and Slater (1990) and Jaworski and Kohli (1993) test the relationship between market orientation and performance in western organizations. Examples of research examining market orientation in non-western environment include Kirca (2011), which examines market orientation in the Turkish subsidiaries of multi-national corporations, and Soehadi, Hart, and Tagg (2001), which examined market orientation in Indonesian retailers. Additionally, there has been some work to see how market orientation theory might apply outside of for-profit organizations. White and Simas (2008), for example, suggests how market orientation theory can be applied to churches.

There have also been a number of studies analyzing the tools used to assess market orientation, specifically the MKTOR and MARKOR scales. This includes examining which scale is more closely aligned with its associated definition (Farrell, 2002; Farrell & Oczkowski, 1997; Gauzente, 1999; Mavondo & Farrell, 2000; Siguaw & Diamantopoulos, 1995) and how well each scale predicts business performance (Deshpande & Farley, 1998). White and Simas (2008) shows how the MKTOR scale can be adapted for use among non-profits, and Deshpande et al. (1993) offers a new scale design to assess their conceptualization of customer orientation .

While much has been researched on the consequences of market orientation relatively little, however, has been written on the *antecedents* to market orientation. Also, research on market orientation antecedents has been primarily at the organizational level, and most of these studies test the antecedents originally put forward by Kohli and Jaworski (1990), rather than exploring possible new antecedents. The meta-analysis in Kirca et al. (2005), for example, supports the findings of Jaworski and Kohli (1993); top management emphasis, interdepartmental connectedness, and market-based rewards systems are important antecedents in implementing market orientation. Interdepartmental conflict and centralization impede market orientation.

Market orientation research began at the organizational level and as noted above most subsequent research has also been done at the organizational level. Gresham et al. (2006) and Hafer and Gresham (2008), however, examine the market orientation antecedents and consequences proposed by Kohli and Jaworski (1990) in cross-functional new product development teams. Their findings suggest that the antecedents and consequences found at the organizational level also apply within the new product development team, the group most directly responsible for new product success. Gresham et al. (2006) calls for additional research, including longitudinal studies, on cross-functional new product development teams to see if their findings can be generalized beyond the context of their research. More recently, there has been research examining market orientation at the individual level. Bodlaj (2012), for example, finds differences in the market orientation of general managers and marketing managers. Serviere-Munoz and Saran (2012) finds differences in the market orientation of small business owners and business managers.

1.3 Literature Gap & Research Questions

As outlined above, considerable research has been done on market orientation since the seminal works of Kohli and Jaworski and Narver and Slater. The majority of this research, however, has focused on understanding the relationship between market orientation and business performance. Relatively little research has focused on antecedents to market orientation. Additionally, insufficient market orientation research has been conducted at the team level, specifically on new product development and customer teams, the groups closest to new product launches within the organization. There is also insufficient research on how a group's market orientation might change over time. Lastly, most past studies have used data collected from one or two employees to assess the market orientation of the entire organization. It is not clear how perceptions of market orientation might differ among employees, based on their role within the organization. This research seeks to address these gaps.

This research seeks to answer the following questions in order to address the gap in the extant literature on antecedents to market orientation on new product development teams and customer teams. The overarching question to be addressed in this research is, "What forces affect the market orientation of cross-functional, cross-geographic product development and customer teams, i.e., teams that are charged with producing innovation and delivering profit?" There are a number of related questions that tie this research to the extant market orientation literature.

Jaworski and Kohli (1993) proposes and provides support for antecedents to market orientation at the organizational level. Subsequent research, primarily conducted at the organizational level, supports these findings. There is limited support that these same antecedents affect market orientation at the team level. More research is needed in this area. Therefore, this research seeks to answer the question, "Do forces affecting market orientation at the organizational level also affect the market orientation of cross-functional new product development and customer teams?"

The majority of market orientation studies have captured "moment in time" data gathered from a single survey. It is not possible to see from this type of research how market orientation might change over time or how managers might affect change in this regard. To address this gap, this research seeks to answer the question, "Does the market orientation of cross-functional new product development and customer teams change over time?" There are a number of related questions that are of particular interest to those in practice. What forces affecting market orientation are managers able to address directly? What forces affecting market orientation are managers able to influence? What forces affecting market orientation are beyond the manager's control?

In order to address what forces affect market orientation at the team level, it is beneficial to understand how the phenomenon itself at the team level compares to the existing definitions at the organizational level. Therefore, this research seeks to answer the following questions. At the team level how is market orientation similar to and different from the Kohli and Jaworski model? At the team level how is market orientation similar to and different from the Narver and Slater model? At the team level how is market orientation similar to and different from the Cadogan and Diamatapoulos synthesis model? In a similar vein, it would be interesting to know how consistent the perception of market orientation is throughout the team. Many past studies have used the perspective of one or two employees to assess the market orientation for the entire organization, i.e., it is unclear if the respondent represents the perceptions of the organization as a whole. This research seeks to answer the question, "Is team member perception of the team's market orientation, however, affected by the team member's role within the team, e.g., geographic position or functional group?"

Importance of research questions:

This research has the potential to benefit theory and practice in a number of ways. The primary benefit is that the research has the potential to provide greater understanding regarding antecedents to market orientation, a specific call to action in Narver and Slater (1990). There is potential to provide insight regarding whether antecedents to market orientation seen at the organizational level also apply at the team level. This also addresses the call for additional research into market orientation antecedents at the team level from Hafer and Gresham (2008). Along these lines, the research has the potential provide a greater understanding of market orientation within the groups most directly connected to new product success, addressing the direction for future research also put forward by Hafer and Gresham (2008). The research also has the potential to provide insights that can help groups develop a strategy for improving their market orientation, an area of needed research specified by Narver and Slater (1990).

Providing insights on how groups can improve their market orientation benefits practice as well as theory. As noted above, market orientation has been positively correlated to profitability but little is known about how product development teams and customer teams might achieve higher levels of market orientation. Answering the research questions has potential to provide managers with insights that will raise team-level market orientation and, in turn, increase the probability of successful new product launches. Market Orientation research at the organizational level primarily benefits those with responsibilities at the organizational level, i.e., senior managers/executives. Market orientation research at the team level has potential to benefit those working on the "front lines."

1.4 Research Subjects, Methods, and Data Collection

1.4.1 Research Subjects

I studied three teams from the same division of the same organization for this research. Similar to how Narver and Slater (1990) examined strategic business units within the same organization, this research examines three groups within the same strategic business unit. This offers the potential for meaningful comparisons while controlling for variables such as industry. The teams include one new product development team, responsible for delivering innovation, and two customer teams, responsible for delivering profit. The division in which the teams operate is a business-to-business operation that manufactures subsystems sold to manufacturers of consumer products. The division's products, i.e., the subsystems, are incorporated into the customers' products, which are then sold to end

users around the world. The teams studied are key to their division's success because of their role in new product launches. Throughout this study the organization is referred to as Parthenon. The new product development team is referred to as the Beta team, and the two customer teams are referred to as the Alpha and Gamma teams.

The teams are cross-functional, cross geographic teams. Each team includes members from at least six different functional groups and at least four different geographies. This provides the opportunity to explore the "interfunctional coordination" described by Narver and Slater (1990) and the "interdepartmental connectedness" described by Kohli and Jaworski (1990). The teams bring together the diverse perspectives that the organization's management and team leaders believe are necessary in order to develop and launch products that meet the needs of business-to-business customers and their consumers. They range in size from twelve to sixty members, and team tenure ranges from under two years to over twenty years.

1.4.2 Research Methods

This study uses three methods to study market orientation and possible antecedents to market orientation within new product development and customer teams. The methods are network analysis, qualitative data gathered from one-on-one interviews, and quantitative data, including MKTOR scale data, generated from a series of on-line surveys. Market orientation has primarily been studied using either the MKTOR or MARKOR scales developed by Narver and Slater (1990) and Kohli, Jaworski, and Kumar (1993) respectively. The majority of studies addressing antecedents to market orientation have focused on testing the relationships between variables proposed by Kohli and Jaworski (1990) rather than proposing new possible antecedents. This overall direction for market orientation research has perhaps limited our understanding of the overall concept. There have been, however, a limited number of qualitative market orientation studies, and these have generated fresh perspective on the concept of market orientation. Diamantopoulos and Cadogan (1996), for example, after conducting a series of one-on-one interviews, proposed that resources play a relationship between market orientation and resources in export firms – a new variable for consideration. I do acknowledge, however, that use of multiple methods creates a certain level of tension in the thesis. Each method is associated with a distinct epistemology. Researchers reading this thesis likely will be more comfortable with one method used and might have philosophical concerns regarding the other two.

The present research is essentially exploratory in nature as relatively little work has been done to study antecedents to market orientation at the team-level. The research seeks to understand how antecedents to market orientation at the organizational level might apply to the team-level. Additionally, however, this study seeks to explore additional possible antecedents to market orientation, those not previously observed at the organizational level. I believe that a mixed methods approach is appropriate for this type of research. It provides the opportunity to explore the research area through different lenses, each of which provides unique insights. It provides the opportunity to examine antecedent variables seen in the literature using the same method as was used in the original studies, making it easier to make comparisons. It also provides the opportunity to "uncover" novel antecedent variables through use of less frequently used or perhaps never before used methods. Lastly, it provides the opportunity to triangulate findings across methods, providing greater confidence in the research results. The role of each research method is outlined below.

Kohli and Jaworski (1990) and Kohli et al. (1993) discuss the role of networks in achieving higher levels of market orientation. "The greater the extent to which individuals across departments are directly connected (or networked), the more they are likely to exchange market intelligence and respond to it in a concerted fashion" (Kohli et al., 1993: 56). Despite the explicit reference to networks in Kohli and Jaworski's seminal paper, network analysis has not previously been used to study market orientation. Network analysis provides an opportunity to generate new insights into the concept itself as well as an opportunity to generate new variables that might affect market orientation. Following the Kohli and Jaworski conceptualization network analysis shows the interdepartmental connectedness necessary for a group to achieve market orientation. It shows from where information in generated, to whom it is disseminated, and whether or not the information generated a response. Following the Narver and Slater conceptualization, network has the opportunity to shed light on interfunctional coordination and both the team's customer and competitor orientations. Network analysis also provides a view of each team as a whole and shows how market orientation manifests itself in each team. Network analysis sheds light on the effect that individuals have on the team's market orientation. Additionally, network analysis data provides context for subjects' responses from qualitative data.

Qualitative data provides an in-depth understanding of the research area, appropriate for exploratory work. Overall, qualitative data on market orientation, particularly at the team level, is underserved in the market orientation literature. This research provides an opportunity to bolster the literature in this area. It connects to the method Kohli and Jaworski (1990) used initially to explore market orientation at the organizational level. It provides an opportunity to generate new antecedent variables. Additionally, qualitative data provides the "how and why" behind the network analysis data, helping us understand how team member perception of market orientation differs based on network position. Lastly, it provides an opportunity for research subjects to provide their own perspective on the research questions.

Use of quantitative data, including use of the MKTOR scale, provides the opportunity to compare findings from this research to findings from previous studies. It provides the opportunity to compare results find at the organizational level to findings at the team level. It provides the opportunity to compare results from the limited number of team level studies, thus addressing the direction for future research outlined by Gresham et al. (2006). Additionally, quantitative data provides the opportunity to provisionally test relationships suggested by the qualitative data.

The following provides an example of how the three methods described above work together in this study. Existing market orientation theory at the organizational level suggests that management support for the concept of market orientation positively influences the organization's market orientation (Kohli & Jaworski, 1990). Network analysis shows to whom on the team management is communicating and to whom this person(s) is communicating with on the team. Qualitative data show what messages from management are being communicated. Quantitative data shows the statistical relationship between management communication and the team's level of market orientation. Additionally, the quantitative data allows comparisons to existing market orientation theory at the organizational level.

1.4.3 Data collection

Data for this research was collected over a three year period, addressing the Narver and Slater (1990) call for a longitudinal study. Network analysis data was collected for three years for the Alpha team, two years for the Gamma team, and one year for the Beta team. The response rate for the network analysis ranges from 55% to 100%. Quantitative data

was collected for three years for both the Alpha and Gamma teams and for one year for the Beta team. The combined per year sample size ranges from fifty-nine to ninety-one. The per team response rate ranges from 55% to 100%. The network analysis data and quantitative data were gathered simultaneously through an online survey. Data collection for the Beta team was limited to one year as the division's management disbanded the Beta team shortly after the first round of data was collected. Qualitative data was collected for one year and was gathered through twenty-seven one-on-one interviews conducted with members from all three teams. As noted above, I gathered data from multiple team members for each of the three methods. This is in contrast to most previous market orientation studies in which one or two members of the organization assess the market orientation for the entire organization. I believe that the former approach provides greater depth of understanding of the concept, albeit at a cost of limiting generalization. It is, however, consistent with the approach taken with other team level market orientation research (Hafer & Gresham, 2008).

1.5 Scope of Research

This research generates theory to explain the data collected for this study. Specifically, the research generates theory on the antecedents to market orientation for the three teams studied. Theory developed from this study, however, can serve as basis for future research, which would test the theory in a broader context. This is consistent with case study research. As Eisenhardt and Graebner states, "The purpose of the research is to develop theory, not to test it, and so theoretical (not random or stratified) sampling is appropriate. Theoretical sampling simply means that cases are selected because they are particularly suitable for illuminating and extending relationships and logic among constructs" (Eisenhardt & Graebner, 2007:27). The new product development and customer teams chosen for this research are theoretically interesting for market orientation research because these groups are directly responsible for new product success, and prior research has shown a positive relationship between market orientation and new product success. Theory regarding antecedents to market orientation on these three teams can later be tested with other new product development and customer teams, thus contributing to the development of a general theory on market orientation antecedents for those groups directly responsible new product success.

As outlined above, considerable research has been done to study market orientation at the organizational level, and this research has shown a positive relationship between market

orientation and new product success. There has been some, although much less, research on antecedents to market orientation, mostly conducted at the organizational level. There also has not been sufficient research on the groups who work on the "front lines" of new product launches, i.e., on the new product development teams and customers directly responsible for these launches. Moreover, there is less research still on the antecedents to market orientation for these groups.

Additionally, while certain themes are common to the different conceptualizations of market orientation there is not agreement on the relationships between concepts. "Customer orientation," for example, is interchangeable with market orientation following Deshpande, Farley, and Webster (1993), but it is a component of market orientation following Narver and Slater (1990). Interfunctional coordination is an antecedent of market orientation following Kohli and Jaworski, but it is a component of market orientation following Narver and Slater (1990). Cross-functional dissemination of information is a core component of the Kohli and Jaworksi conceptualization, but it is a scale item within interfunctional coordination component of the Narver and Slater (1990) conceptualization.

As noted above, there has not been sufficient research on whether antecedents to market orientation found at the organizational level also apply to the team or group level. A number of the concepts associated with market orientation on the organizational level, however, have also been shown to affect the outcome of work groups, if not specifically their market orientation. For example, Kohli and Jaworski (1990) proposes that interdepartmental conflict hinders market orientation. On the team level, research suggests that conflict also affects work group outcomes. This research, however, identifies different types of conflict and suggests that different types of conflict affect work group outcomes differently (Jehn, 1997; Pelled, 1996). This raises the question if different types of conflict might similarly have differing effects on market orientation at the team level. Similarly, Kohli and Jaworski (1990) identifies cross-functional diversity as an antecedent to market orientation at the organizational level. Prior research has shown a relationship between cross-functional diversity and work group outcomes (Cummings, 2001, 2004; Hoegl, Ernst, & Proserpio, 2007; Homan et al., 2008; Jehn, Northcraft, & Neale, 1999). As with conflict, research suggests, however, that different types of diversity have differing effects on group outcomes. It is interesting to examine if different types of diversity have similarly different effects on market orientation at the

team level. Antecedents such as group identity and shared objectives have been proposed as consequences of market orientation at the organizational level (Kohli & Jaworski, 1990). These same forces have been proposed as antecedents to interfunctional coordination at the team level (Bagshaw, Lepp, & Zorn, 2007; Barczak & Wilemon, 2001, 2003; Katzenbach & Smith, 1993; Knouse, 2006; Pinto, Pinto, & Prescott, 1993). In the following chapter I will review in depth the concepts outlined here and propose a series of propositions regarding antecedents to market orientation in new product development teams and customer teams.

Chapter 2 – Literature Review

2.1 Introduction

As our understanding of the marketing concept has developed, research in marketing has moved to increasingly lower levels of abstraction. The definition of marketing evolved during the first half of the 20th century, moving from an internal, company-focused orientation to an external, customer-focused orientation. While the definition of marketing continues to evolve, key concepts have remained in place since the 1950's, allowing researchers to explore how to operationalize the marketing concept through research on market orientation. As noted in the previous chapter, there is no single definition of market orientation today. However, there is consistency and considerable overlap between the two major market orientation definitions. Additionally, there is now significant market orientation literature supporting the anticipated correlation between market orientation and business performance in a variety of contexts. Given this well-established literature, some of the most recent market orientation research has begun to move to yet a lower level of abstraction, exploring how market orientation is achieved and improved, both at the organizational and group levels (Gresham et al., 2006; Hafer & Gresham, 2008). The present research falls in this body of work.

2.2 Toward a Common Understanding of Marketing

The marketing concept initially had a company-centric orientation, which is perhaps best exemplified by the 1935 definition of marketing approved by the American Marketing Association. "(Marketing is) the performance of business activities that direct the flow of goods and services from producers to consumers" (Wilkie & Moore, 2007: 269). Keith (1960) notes that in 1930's marketing shifted from a production focus to a sales focus. While it was considered important to understand dealers and consumers in order to sell effectively, the focus was, however, on satisfying organizational needs as opposed to customer needs.

The focus, however, shifted in the 1950's from a company-centric orientation to a customer-centric orientation. The ultimate goal remained maximizing profits; satisfying customer wants and needs, however, became the recognized means to do this (Darroch, Miles, Jardine, & Cooke, 2004; Day, 1994; Felton, 1959; Keith, 1960) While the official AMA definition did not change until 1985, Lusch (2007) suggests that McKitterick's 1957 definition of marketing summarizes the shift in marketing philosophy from an internal, company-centric orientation to an external, customer-centric orientation in the

1950's. McKitterick states, "The principal task of the marketing function in a management concept is not so much to be skillful in making the customer do what suits the interests of the business as to be skillful in conceiving and then making the business do what suits the interests of the customer"(McKitterick, 1957, reprinted 1976: 19).

While a number of formal definitions of marketing have been introduced since the 1950's, the focus today remains focused on creating value for external audiences in order to meet organizational objectives. This can be seen, for example, in AMA definitions of marketing subsequent to 1935 (Dann, 2008).

- "Marketing is the process of planning and executing the conception, pricing, promotion, and distribution of ideas, goods, and services to create exchanges that satisfy individual and organizational objectives." AMA, 1985
- ''Marketing is an organizational function and a set of processes for creating, communicating and delivering value to customers and for managing customer relationships in ways that benefit the organization and its stakeholders'' AMA, 2004.
- "Marketing is the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large." AMA, 2007

2.3 Toward a Common Understanding of Market Orientation

Once the definition of the marketing concept stabilized, researchers began to answer the question, "How is the marketing concept implemented?" This body of literature suggests that organizations implement the marketing concept by developing a market orientation (Atuahene-Gima, 1996; Darroch et al., 2004; Hunt, 2007; Kohli & Jaworski, 1990; Shapiro, 1988). While the terms "market orientation" and "customer orientation" first appeared in academic and popular literature in the 1950's, there was no common understanding of the terms' meanings. Shapiro highlights this lack of clarity in the title of his 1988 article "What the Hell is 'Market Oriented?'" In response to the title question Shapiro (1988) proposes three characteristics of a market-driven organization:

- Information on all important buying influences permeates every corporate function. (page 120)
- Strategic and tactical decisions are made interfunctionally and interdivisionally. (page 121)

- Divisions and functions make well-coordinated decisions and execute them with a sense of commitment. (page 122)

Shapiro (1988), as with Deshpande et al. (1993) finds no meaningful difference between the market orientation and customer orientation and explicitly chooses to use the terms interchangeably. Shapiro (1988): 25 does not suggest a scale to assess market orientation but rather suggests a "checklist" that organization can use to self-assess their market orientation. This checklist includes answering the following overall questions: "Are we easy to do business with? Do we keep our promises? Do we meet the standards we set? Are we responsive? Do we work together?" Interestingly, Shapiro (1988) hints at both the responsiveness integral to Kohli and Jaworski (1990) and the interfunctional coordination integral to Narver and Slater (1990).

While Shapiro (1988) raises the question of what is meant by the term market orientation, the concept, as noted in the previous chapter, is fully conceptualized in the more frequently cited, seminal works of Kohli and Jaworski (1990) and Narver and Slater (1990). These two major definitions, presented in the previous chapter, have much in common. Jaworski, Kohli, and Sahay notes that while there are differences between the definitions of market orientation, the overall "philosophy generally means learning about market developments, sharing this information with appropriate personnel, and adapting offerings to a changing market" (Jaworski, Kohli, & Sahay, 2000: 45). Gauzente conducts a content analysis of each definition and scales and notes, "The components of market orientation are apparently similar" (Gauzente, 1999: 4) and "Strictly speaking, in terms of the most frequent words and themes, the two scales exhibit similarities; the most frequently used words, for instance, are overlapping" (Gauzente, 1999: 5). Day (1994) and Cadogan and Diamantopoulos (1995) cite certain themes that cross market orientation definitions. Market orientation is a cross-functional effort; it is not solely a function of the marketing department. Market orientation focuses outside the organization's boundaries. Focus is primarily on the customer and includes responsiveness to the customer and satisfying customer needs. There is additional focus on other external groups, specifically competitors.

Revised definitions from both sets of researchers reflect consideration of the other's conceptualization. Kohli et al. (1993) expands the original 1990 Kohli and Jaworksi definition, incorporating Narver and Slater's interfunctional coordination. "Market orientation refers to the organization wide generation of market intelligence pertaining to

current and future needs of customers, dissemination of intelligence within the organization, and responsiveness to it. Key features of this integrated view are (1) an expanded focus on market rather than customer intelligence, (2) an emphasis on a specific form of *interfunctional coordination* with respect to market intelligence and (3) a focus on activities related to intelligence processing rather than the effect of these activities" (Kohli, Jaworski, and Kumar, 1993: 468, emphasis added). Similarly, Slater and Narver (1995) revises the original Narver and Slater (1990) definition to include concepts such as responsiveness to market information found in the Kohli and Jaworski conceptualization. "Market orientation is the culture that (1) places the highest priority on the profitable creation and maintenance of superior customer value while considering the interest of other key stakeholders ; and (2) provides norms for behavior regarding the organizational development and responsiveness top market information " (Slater & Narver, 1995: 67).

As discussed in the previous chapter, others, e.g. Deshpande et al. (1993), Ruekert (1992), have introduced alternate definitions of market orientation. These definitions, however, complement the more frequently cited definitions proposed by Kohli and Jaworksi and Narver and Slater. As noted previously, Ruekert defines a market orientation as: "…the degree to which the business unit: (i) obtains and uses information from customers; (ii) develops a strategy which will meet customer needs; (iii) implements that strategy by being responsive to customers' needs and wants" (Ruekert, 1992: 228). This definition shares two components with Kohli and Jaworski: gathering intelligence and responding to that intelligence. Ruekert (1992) also notes that market oriented organizations make decisions interfunctionally, complementing the interfunctional coordination component found in the Narver and Slater definition. defines the concept as, "The set of beliefs that puts the customer's interest first, while not excluding those of all other stakeholders such as owners, managers, and employees, in order to develop a long-term profitable enterprise" (Deshpande et al., 1993: 27). This complements Narver and Slater's "profitable creation and maintenance of superior customer value" cited above. Deshpande and Farley offers a revised definition of market orientation, "the set of cross-functional processes and activities directed at creating and satisfying customers through continuous needs-assessment" (Deshpande & Farley, 1998: 213). This again complements Narver and Slater, inferring both interfunctional coordination and the creation of customer value. As noted previously, both Day (1994) and Cadogan and Diamantopoulos (1995) have synthesized the major definitions of market orientation. As with the definition of marketing itself, there is no single definition of market orientation.

It is reasonable to state, however, that there is a commonly understood understanding of the concept, and therefore market orientation research can move delve into new areas.

2.4 Comparing the Major Conceptualizations and their Assessment Scales

The Kohli and Jaworski conceptualization centers around three overall behaviors: gathering, disseminating, and responding to market-related information. The behaviors, however, show the value the organization places on understanding customers and competitors and, therefore, suggests a certain organizational philosophy. The customer orientation and competitor orientation components of the Narver and Slater conceptualization focus on an organizational philosophy, i.e., the market-oriented organization adopts a certain attitude or approach with regard to its customers and competitors. The third component, interfunctional coordination, however, can be seen as behavioral. The market-oriented organization coordinates customer and competitor-related activities across departments. Thus both conceptualizations include both philosophical and behavioral components.

Examining the primary scales used to assess market orientation provides additional insights on the similarities and differences between the Kohli and Jaworksi and Narver and Slater conceptualizations. A comparison of the scales highlights nuances in the conceptualizations not otherwise seen. Additionally, examining the overall strengths, weaknesses, and validity of each scale suggests which might be most appropriate to use in a particular piece of research.

Mavondo and Farrell (2000) suggests that the Kohli and Jaworski and Narver and Slater models are theoretically equivalent, which explains why they have been used interchangeably by researchers. Indeed, a direct comparison of the Narver and Slater's MKTOR scale and Kohli and Jaworski's MARKOR scale shows considerable overlap. For example, while "gathering intelligence" is one of the three core components of Kohli and Jaworski's MARKOR scale, the MKTOR scale also includes intelligence gathering: Our top managers from every function visit our current and prospective customers.

Similarly, the MARKOR scale also includes a number of scale items that are similar to items found within the "customer orientation" component of the MKTOR scale: We periodically review our product development efforts to ensure that they are in line with what customers want.

Gauzente (1999) and Siguaw and Diamantopoulos (1995), however, both note that Narver and Slater's MKTOR scale more accurately assesses customer orientation rather the broader concept of market orientation. Therefore, the MKTOR scale is only partially consistent with its associated definition of market orientation. (In contrast, Gauzente finds that the MARKOR scale is consistent with the associated Kohli and Jaworksi definition of market orientation.) Additionally, Siguaw and Diamantopoulos (1995) findings suggest that while customer and competitor orientation are distinct components within the MKTOR, the items under interfunctional coordination are actually a subset of customer orientation. Indeed, three of the four scale items make explicit reference to the customer.

2.4.1 Differences in Time Orientation

While there is considerable overlap between the two major conceptualizations of market orientation, the MKTOR scale seems focused on the present whereas the MARKOR scale assesses both present and future behavior (Gauzente, 1999). Focusing on the present might lead to short-term competitive advantage but will not lead to sustainable, long-term advantage (Christensen & Bower, 1996; Uncles, 2000). As Baker and Sinkula further clarifies, "Firms with strong market orientations are more likely to recognize the importance of balancing adaptive-incremental approaches with generative-radical approaches and to minimize their dependence on gleaning-imitative approaches. An enhanced market orientation appears to lead firms to investigate customers systematically but to listen selectively, to examine what has worked in the past but to question whether it will work in the future" (Baker & Sinkula, 2007: 329).

While the MARKOR and MKTOR scales themselves show a difference in time orientation, the difference is not necessarily seen when looking at the intent of the respective set of authors. While not included among the core components of market orientation, Narver and Slater (1990) discusses the importance of having a long-term horizon. "A market orientation has primarily a *long-term focus* both in relation to profits" (Narver & Slater, 1990: 22, emphasis original). Slater and Narver explicitly addresses criticism that their conceptualization of market orientation has short-term focus, stating, "A market-oriented philosophy, goes beyond satisfying expressed needs to understanding and satisfying customers' latent needs and, thus, is longer term in focus and proactive in nature" (Slater & Narver, 1998b: 1001).

Additionally, Narver et al. (2004) extends the measurement of market orientation to include both reactive proactive elements, recognizing that earlier assessments did not adequately measure the full concept. "For any business to create and to sustain new-product success, a responsive market orientation is not sufficient and, thus, that a proactive market orientation plays a very important positive role in a business's new-product success" (Narver et al., 2004: 334). A responsive market orientation addresses the customer's current needs. A proactive market orientation addresses the customer's future needs. For example, "We help our customers anticipate developments in their markets" is a proactive market orientation scale item (Narver et al., 2004: 346). Note how the immediacy issue discussed above has been addressed. The scope goes beyond the direct customer to the market as a whole and beyond the present into the future. While the proactive market orientation scales items have not been widely adopted, acknowledging the need for both present and future orientations suggests that conceptually that the differences between Narver and Slater and Kohli and Jaworksi are not significant. Inclusion of the proactive market orientation scale items would seem to address the time orientation criticism of the MKTOR scale.

2.4.2 Differences in Strategic vs. Tactical Emphasis

There is another significant difference between the scales worthy of note. The Kohli and Jaworkski model can be seen as operating at a tactical level whereas the MKTOR scale might be seen as more strategic (Mavondo & Farrell, 2000). Kohli and Jaworksi emphasize specific tactical behaviors, i.e., gathering intelligence, disseminating intelligence, and responding to the intelligence. In contrast, the Narver and Slater conceptualization includes not only specific behaviors but also a cultural perspective, i.e., developing orientations. Compare the following scale items from the MKTOR and MARKOR scales. Each deals with satisfying customer needs. The MKTOR item, however, presents a philosophy that objectives are driven by customer satisfaction. The MARKOR scale item, in contrast, presents a tactic of meeting with customers to determine future needs.

- Our business objectives are driven by customer satisfaction. (MKTOR)
- In this organization, we meet with customers at least once a year to find out what products or services they will need in the future. (MARKOR)

2.4.3 Difference in Cross-cultural Validity

Additionally, Mavondo and Farrell (2000) suggests that the Narver and Slater model is equivalently understood different populations, making it the stronger choice for those engaged in cross-cultural and/or cross-functional research. The research suggests that different populations interpreted the Narver and Slater constructs the same way, making it possible to make meaningful comparisons between populations. The same was not true for the Kohli and Jaworksi model. In essence, the populations in the study were responding to different constructs, making comparisons meaningless. "On the basis of these findings we would urge researchers investigating market orientation across distinctly different populations to choose the Narver and Slater model, since it is likely to provide consistent across-group results. For those who consider the models theoretically equivalent, these results provide one criterion for choosing the model to use (other things being equal)" (Mavondo & Farrell, 2000: 242).

2.4.4 Recent Tools for Assessing Market Orientation

As noted previously, the MKTOR and MARKOR scales are the de facto scales used to assess market orientation, despite the fact that issues have been raised with both scales. Farrell and Oczkowski states, "It can be argued that the respective measures have been accepted in blind faith by the majority of researchers" (Farrell & Oczkowski, 1997: 4). Other scales have been proposed, but these are largely derivations of one or both of these scales. Farrell notes, "Little advance has been made in the endeavor to develop alternative measures of market orientation….The measures developed have been composed by combining, and factor analyzing the items from several scales. This empiricism has resulted in scales that prima facie appear to meet the requirements of content validity. However, the lack of theory and proper conceptualization that was applied to the original measures is lacking" (Farrell, 2002: 9). Farrell notes one exception to this: the scale developed by Lado, Olivares and Rivera (1998). This scale, Farrell continues, has not been adopted by others, most likely because it includes 36 items and is therefore cumbersome to implement.

Deng and Dart (1994), for example, conceptualizes market orientation as having four components: customer orientation, competitor orientation, interfunctional coordination, and profit emphasis. The first three components come directly from Narver and Slater, and likewise the majority of the scale items used to measure these components comes from the MKTOR scale. Deng and Dart (1994), introduces a limited number of new

items to these components. For example, "We encourage customer comments—even complaints—because they help us to do a better job" is added to customer orientation and "In our company, the marketing people have a strong input into the development of new products" is added to interfunctional coordination. Pelham (1997) accepts the overall definitions of market orientation offered by Kohli and Jaworksi and Narver and Slater and begins development of a "new scale" that integrates items from both MKTOR and MARKOR. This work begins with a preliminary scale that includes 47 items. (Interestingly, this scale was ultimately reduced to a nine item scale, eight items of which come from the MKTOR scale.) White and Simas (2008) combines the customer orientation, competitor orientation, and interfunctional coordination components from Narver and Slater with the responsiveness component from Kohli and Jaworski. The scale items, however, have been adapted to the context for this particular study, churches. For example, the interfunctional coordination item "All of our business functions (eg. marketing/sales, manufacturing, R&D, Finance/accounting, etc.) are integrated in serving the needs of our target markets" has been adapted to "Multiple Ministry Areas work together on the needs of our members" (White & Simas, 2008: 164).

While both the MKTOR and MARKOR scales have limitations, one advantage in their continued use is that it makes cross-study comparisons easier. This has been particularly important in addressing the key question as to whether or not market orientation affects business performance. Further insights gained from qualitative research, however, might lead to the development of a new, theoretically-based tool to assess market orientation, moving beyond the "superficial contribution" noted by Farrell (2002). As discussed in the previous chapter, relatively few researchers have conducted qualitative market orientation studies, which conceivable might add new insights into market orientation, as have past qualitative studies. Kohli and Jaworski (1990), based on a qualitative study, plays a significant role in defining market orientation. Cadogan and Diamantopoulos (1995) and Diamantopoulos and Cadogan (1996) propose a synthesis of market orientation definitions and explored market orientation in an international contexts. Similarly, qualitative research has the potential to provide the necessary depth of information needed to examine market orientation in a new context, e.g., within new product development and customer teams. A qualitative study also has the potential to provide new insights regarding how groups achieve and/or improve higher levels of market orientation. No research to date has used network analysis to assess market orientation despite Kohli and Jaworski's explicit reference to the importance of networks

(Kohli & Jaworski, 1990; Kohli et al., 1993). Such a study has the potential to offer an entirely new, theoretically based means to assess market orientation, again addressing Farrell (2002). Network analysis also has the potential to offer entirely new insights regarding how market orientation is achieved and might be improved.

2.5 Market Orientation and Business Performance

There had been an assumed relationship between market orientation and business performance since the 1950's (Shapiro, 1988). Considerable research has focused on testing the market orientation-performance relationship, beginning with Narver and Slater (1990). This research examines the effect of market conditions, industry, and culture on the market orientation-performance literature. Overall, the research supports market orientation-performance relationship across a variety of contexts. Ellis concludes his meta-analysis of market orientation-performance studies by noting that "…Quantitative evidence verifying the universal nature of the link between market orientation and performance. The idea that firms can boost their performance by fostering a culture that responds to changing customer needs with solutions that are superior to rivals, is demonstrably generic. In any given setting, rewards will accrue to those companies that are more market oriented than their rivals" (Ellis, 2006: 1101).

The relationship between market orientation and business performance was first tested by Narver and Slater (1990), using the then newly developed MKTOR scale. The studied examines the effect of market orientation on business performance in 140 SBUs of a single American corporation. The data from this study suggests that market orientation positively influences profitability for both commodity and non-commodity businesses. "From the theory of market orientation and the implications of our research, we hold that market orientation is relevant in every market environment…The appropriate question is not market orientation *per se,* but rather what a business perceives to be its optimal degree of market orientation within its current and expected market environment" (Narver & Slater, 1990: 33). Slater and Narver (1994) reinforces the positive correlation between market orientation and profitability, sales growth, and new product success and specifically examines the effect that competitive environment has on the relationship. Slater and Narver (1994) finds little support that competitive environment significantly affects the market orientation-performance relationship or that there is a benefit in emphasizing one orientation (customer or competitor) over the other based on market conditions. "The benefits of a market orientation are long term though environmental

conditions are often transient, and thus being market oriented is cost-effective in spite of any possible short-term moderating effects of the environment" (Slater & Narver, 1994: 64).

Jaworski and Kohli (1993) uses the then newly developed MARKOR scale to tests the market orientation-business performance relationship. Additionally, Jaworski and Kohli (1993) examines the possible moderating effect of market turbulence, competitive intensity, and technological turbulence. Jaworski and Kohli summarizes the findings as follows, "The findings of the study suggest that the market orientation of a business is an important determinant of its performance, regardless of the market turbulence, competitive intensity, or the technological turbulence of the environment in which it operates" (Jaworski & Kohli, 1993: 64).

Further studies suggest that the market orientation-business performance relationship can be generalized across cultures, industries, and firm size. For example, Selnes, Jaworski, and Kohli (1996), using the MARKOR scale, finds a positive relationship between market orientation and performance among Scandinavian companies. Kumar, Subramanian, and Yauger (1998), using a variation of the MKTOR scale, finds a positive correlation between market orientation and organizational performance in the health care industry. Pelham (1997), using a variation of the MKTOR scale, finds a strong positive relationship between market orientation and profitability in smaller, US industrial firms. As Baker and Sinkula states, "Firms with strong market orientations are more likely to recognize the importance of balancing adaptive-incremental approaches with generative-radical approaches and to minimize their dependence on gleaning-imitative approaches. An enhanced market orientation appears to lead firms to investigate customers systematically but to listen selectively, to examine what has worked in the past but to question whether it will work in the future" (Baker & Sinkula, 2007: 329). Strong market orientations might help firms develop new products that better fit consumer wants and needs, but other factors can hinder firms from capitalizing on this, e.g., supportive channels or effective promotion. A highly customer oriented organization understands not only its direct customers but the entire value chain of customers and customers' customers. Furthermore, the highly customer oriented organization seeks to understand this value chain not only as it exists today but also how it might look in the future (Narver et al., 2004).

Baker and Sinkula (2005) examines the findings of 39 past studies that examine the relationship between market orientation and performance. The past studies under consideration use either the MKTOR or MARKOR scale and measure business performance through new product success, profitability, and/or market share. This examination suggests that the market orientation–new product success relationship is stronger than the market orientation–profitability relationship, which in turn is stronger than the market orientation–market share relationship. "A strong market orientation can directly influence NPD by creating a better fit between the benefits consumers seek and the benefits a firm provides its customers" (Baker & Sinkula, 2005: 496). This suggests a benefit in more deeply exploring market orientation in the context of new product development. Baker and Sinkula further notes that market orientation directly impacts profitability by "building long-term customer relationships through superior customer service, customer retention management, cross-selling efficiency, and promotional programs, all of which lead to higher profit margins" (Baker & Sinkula, 2005: 496). This suggests a benefit in a closer examination of market orientation in the context of customer relationship management.

Ellis (2006) provides a meta-analysis of 56 studies conducted in 28 countries. The meta-analysis includes studies that use MKTOR scale as well as well studies that use the MARKOR scale and finds that market orientation is a general determinant of organizational performance, although the market-orientation-performance relationship weakens somewhat for organizations whose home market is more culturally distant from the USA. Ellis states that the meta-analysis verifies "the universal nature of the link between market orientation and performance. The idea that firms can boost their performance by fostering a culture that responds to changing customer needs with solutions that are superior to rivals, is demonstrably generic" (Ellis, 2006: 1101). Kirca et al. (2005) also provides a meta-analysis on the market orientation-performance relationship, and the overall findings are similar. Market orientation has a positive impact on organizational performance. This relationship appears somewhat stronger in manufacturing firms, however, than service firms. Additionally, Kirca et al. (2005) suggests that the market orientation-performance relationship is stronger in low power distance countries and low uncertainty avoidance countries, such as the United States.

There is now general acceptance in the literature on the market orientation-performance relationship, acknowledging differing impact based on industry and culture. Research on

this relationship continues, most frequently examining how the relationship as affected by culture, e.g., Chen and Hsu (2013), which examines the relationship in Chinese non-profits and Keelson (2012), which examines the relationship in Ghana-based organizations. This early market orientation question, however, has been largely addressed, allowing focus to now shift to other market orientation questions.

2.6 Antecedents to Market Orientation

Kohli and Jaworski propose antecedents to market orientation in their seminal 1990 article. Market orientation antecedents and how to improve market orientation, however, have received less attention in the literature than has the consequences of being market oriented (Kirca et al., 2005). This is possibly because questions such as "What is market orientation?" and "Does market orientation lead to business performance?" were more fundamental for early market orientation research, i.e., one first needed to determine the benefits of market orientation before expending effort to determine how one achieves and/or improves market orientation. As discussed above, these two fundamental questions have largely been addressed. As there is now an overall understanding of what is meant by the term "market orientation" and as the market orientation-business performance relationship is now generally accepted, research can shift to addressing the questions "What factors lead to market orientation?" and "How can market orientation be improved?"

Kohli and Jaworski (1990) proposes a number of antecedents to market orientation that are tested in Jaworski and Kohli (1993). These antecedents divide into three groups: top management perspective, interdepartmental dynamics, and organizational systems. Top management further divides into two areas: emphasis and risk aversion. Kohli and Jaworski suggest that an organization is more likely to be market oriented if top management emphasizes the importance of market orientation, i.e., gathering, disseminating, and responding to market-related information. Responsiveness to customer needs often involves introducing new products, and new products have a higher risk of failure. Therefore, top management must communicate a willingness to accept the risk of failure in new products in order for the firm to be market oriented. Interdepartmental dynamics divides into two areas: conflict and connectedness. Greater interdepartmental conflict reduces intelligence dissemination and responsiveness. Interdepartmental connectedness increases intelligence dissemination and responsiveness. Organizational structure includes four areas: formalization, centralization,

departmentalization, and reward systems. Greater formalization in an organization (rules determining roles, authority relations, communications, norms and sanctions, and procedures) reduces intelligence generation, dissemination, and responsiveness. Centralized decision-making is also proposed to reduced intelligence generation, dissemination, and responsiveness as is departmentalization, the number of departments into which activities are distributed. Lastly, use of market-based rewards systems is proposed to increase intelligence generation, dissemination, and responsiveness.

The results of Jaworski and Kohli (1993) suggest that top management emphasis and risk tolerance are positively correlated with market orientation as is interdepartmental connectedness. As anticipated, the study finds that interdepartmental conflict is negatively correlated with market orientation. Among the four areas within organizational structure, rewards systems and decentralization were positively correlated with market orientation, while the relationships between market orientation and both formalization and departmentalization were not strong. Jaworski and Kohli suggests that the content of the rules and nature of interdepartmental relations likely has more of an effect rather than the existence of rules or sheer number of departments involved in organizational activities.

The majority of subsequent studies examining market orientation antecedents have focused on generalizing Jaworski and Kohli's findings, rather than exploring possible new antecedents. Opeda, Jaiyeoba, and Donatus (2011), for example, investigates the correlation between Jaworski and Kohli's proposed market orientation antecedents and business performance in small and medium sized manufacturing firms in Botswana. Ghani and Mahmood (2011) uses the antecedents proposed by Jaworski and Kohli when examining market orientation in the microfinance industry in Pakistan. Pulendran, Speed, and Widing II (2000) tests the relationship between Jaworksi and Kohli's antecedents and market orientation in Australian firms, and Hafer and Gresham (2008) explores how the Jaworski and Kohli antecedents apply to new product development teams.

Findings from subsequent research are generally consistent with Jaworski and Kohli (1993). Top management emphasis, interdepartmental connectedness, and market-based rewards systems are positively correlated with market orientation, while interdepartmental conflict and centralization are negatively correlated with market

orientation (Ghani & Mahmood, 2011; Hafer & Gresham, 2008; Kirca et al., 2005; Pulendran et al., 2000).

While somewhat different than antecedents, Gebhardt, Carpenter, and Sherry (2006) suggests cultural values associated with market orientation. "We find that firms creating a market orientation embrace six cultural values: trust, openness, keeping promises, respect, collaboration, and viewing the market as the raison d'être. The first five values encourage individuals to act as a cohesive whole in addressing the market. The market as the raison d'être provides individuals a rationale to collaborate toward a common purpose, thus supporting and reinforcing the other five values" (Gebhardt et al., 2006: 38).

Similarly, while not proposing antecedents per se, Slater, Narver, and Tietje (1998) suggests that there are two approaches that firms can take to create and improve market orientation. Businesses can create education programs to instil in employees the desire to continuously create superior value for their customers. Businesses can continuously learn from current in-market efforts to create customer value, continuously evolving from customer experiences. The research suggests that both approaches contribute to increasing market orientation, and the combination of both strategies is more effective than either approach taken independently.

As so much effort has focused on testing the relationship between Kohli and Jaworski's proposed antecedents and market orientation, there seems to be a need to research additional antecedents to market orientation. Also, as prior research has focused on testing the relationship between these antecedents and the Kohli and Jaworski conceptualization of market orientation, it would be interesting to examine the relationship between these antecedents and the Narver and Slater conceptualization.

2.6.1 Market Orientation at the Team Level

Market orientation was first studied at the organizational level, and the vast majority of subsequent studies have also been conducted at the organizational level. Since 1990 research has examined market orientation in a variety of industries and countries. As a consequence of this considerable body of research, there is today reasonable consensus on the definition of market orientation and reasonable consensus on the correlation between market orientation and business performance at the organizational level. There is also

now some understanding of likely antecedents to market orientation at the organizational level, although this area warrants additional attention.

There are some groups within the organization, however, that are particularly responsible for the development and sale of new products, and, as noted previously, organizational success depends heavily on the performance of new products. In other words, there are some groups within the organization who are directly responsible for a significant factor in determining an organization's success. I am specifically referring to the new product development teams that develop the products and the customer teams responsible for selling those products to the organization's direct customers. It is therefore particularly interesting to understand market orientation within these groups. How does market orientation in these groups compare to market orientation at the organizational level? Is there a correlation between market orientation and these groups' business success? Are the antecedents to market orientation for these groups the same as the antecedents to market orientation at the organizational level? Gresham et al. (2006) and Hafer and Gresham (2008) examine the antecedents and consequences proposed by Kohli and Jaworski (1990) in cross-functional new product development teams and find that the antecedents and consequences found at the organizational level also apply within the new product development team. Gresham et al. (2006) cites the need for additional research on cross-functional new product development teams in order to see if their findings can be generalized beyond the context of their research. New product development clearly plays a dominant role in the success of new products. The customer teams responsible for selling those products also play a significant role, and to date little if any research has studied the market orientation of these important groups.

2.6.2 Examining Possible Antecedents at the Team Level

While there has been little research on antecedents to market orientation at the work group level, many of the key concepts associated with market orientation at the organizational level have also been found to affect team performance. For example, Kohli and Jaworski (1990) proposes that interdepartmental conflict hinders market orientation at the organizational level. There is also significant research on how conflict affects performance at the work group level. While Kohli and Jaworski (1990) discuss conflict as a single phenomenon, research at the group level proposes that there are different types of conflict, e.g., affective and substantive, each affecting groups differently (Jehn, 1997; Jehn et al., 1999; Pelled, 1996). This suggests the possibility that

the role that conflict plays in market orientation might be more nuanced than suggested by Kohli and Jaworski (1990) proposes. Different types of conflict might have different effects on market orientation both at the organizational and team levels.

There are a number of concepts that appear in the various conceptualizations of market orientation as well as in the literature on work group and team performance. The relationships among these concepts frequently differ, however. "Customer orientation," for example, is interchangeable with "market orientation" following Deshpande et al. (1993). Narver and Slater (1990) proposes that "customer orientation" is one of the components of market orientation as is interfunctional coordination. Kohli and Jaworski (1990), however, proposes that interfunctional coordination is an antecedent to market orientation. The same basic concept, coordination, is frequently used as a measure of group performance (Hackman, 1990). Similarly, Kohli and Jaworski (1990) proposes that group identity and shared objectives are antecedents to market orientation. These same factors have been proposed as antecedents to interfunctional coordination at the team level (Bagshaw et al., 2007; Barczak & Wilemon, 2001, 2003; Katzenbach & Smith, 1993; Knouse, 2006; Pinto et al., 1993). These concepts and their possible relationships will be explored in greater depth in the following sections.

2.6.3 Diversity within the Team

Kohli and Jaworski (1990) identifies cross-functional diversity as an antecedent to market orientation at the organizational level. Prior research has shown a relationship between cross-functional diversity and work group outcomes (Cummings, 2001, 2004; Hoegl et al., 2007; Homan et al., 2008; Jehn et al., 1999). Diversity among members increases the pool of potential information and perspectives from which the group can benefit (Cummings, 2001; Homan et al., 2008; Jehn et al., 1999). A primary objective in creating a team of diverse individuals is to access the perspectives of each member in order to create a unique and innovative coordinated output. Ideally, the diverse information and perspectives transfer from the team's individuals to the team as a whole. Indeed as Hoegl et al. states a primary motivation behind the creation of diverse teams is "to capture the knowledge potential" of team members (Hoegl et al., 2007: 158).

There are a number of different types of diversity that have a potential impact on the market orientation of teams. Pelled (1996), for example, distinguishes between "low job-related" diversity factors such as age, gender, and race from "high job-related" diversity

factors such as group and organizational tenure, education, and functional background. Pelled (1996) proposes that low and high job-related diversity have different effects on team performance. The findings of Pelled, Eisenhardt, and Xin (1999) shows a correlation between functional diversity and performance of teams engaged in non-routine tasks. This correlation does not exist for low job-related diversity factors. Haon, Gotteland, and Fornerino (2009) introduces the term "competence diversity," which includes functional, expertise, and experience diversity. Cummings (2004) expands the concept of high job-related diversity when introducing the term "structural diversity," which includes not only functional diversity, but also geographic and manager diversity. The results from his 2004 sturdy suggest that structural diversity is more strongly associated with team performance than demographic diversity, which correspond to Pelled's low job-related diversity.

Ancona and Caldwell (1992a) examines the role of network diversity in teams, a concept distinct from the high and low job-related diversity reviewed above. Each team member not only brings to the team his or her own bundle of information and perspective but also access to additional information through his/her network of contacts. This research shows that how a team as a whole uses its external networks affects the team's performance. In writing about structural diversity, Cummings (2004) notes the importance of knowledge sharing outside the group and cites Ancona and Caldwell (1992a) in doing so. The importance of network diversity is also suggested by Reagans and McEvily (2003) in their discussion of network range as a key factor in knowledge transfer.

Siebdrat, Hoegl, and Ernst suggests that the geographic diversity also plays a role in team performance, noting that dispersed teams that are able to coordinate their work outperform comparable co-located teams, and that "…teams with excellent teamwork harness dispersion as an important source of diversity and expertise" (Siebdrat, Hoegl, & Ernst, 2008: 2). As Hackman (1998) points out, however, not all teams reach their potential. Diversity, while increasing the amount of information potentially available to a team, has been shown in some cases to inhibit the transfer of that information from the individual to the team (Ancona & Caldwell, 1992b; Dahlin, Weingart, & Hinds, 2005; Knouse, 2006; Webber & Donahue, 2001). Pinto et al. (1993), however, suggests a correlation between physical proximity and cross-functional cooperation, something by definition missing in cross-geographic, virtual teams. This, as demonstrated by Siebdrat

et al. (2008) and Hoegl et al. (2007), also applies to geographic diversity. These studies suggest that quality of teamwork can deteriorate as cohesion is more difficult to achieve in cross-geographic teams. In other words, the team's collective information for consideration is not simply an aggregate of each individual's knowledge and perspective. As illustrated in Figure 3, certain factors facilitate the incorporation of individual information into the team, whereas others hinder it.

Geographic diversity is a defining characteristic of virtual teams, which DeSanctis and Monge define as follows. "A virtual organization is a collection of geographically distributed, functionally and/or culturally diverse entities that are linked by electronic forms of communication and rely on lateral, dynamic relationships for coordination" (DeSanctis & Monge, 1999: 693). DeSanctis and Monge (1999) also notes that few pure virtual forms exist; however, aspects of "virtuality" occur in many organizations. Similarly, Maznevski and Chudoba defines virtual teams this way: "Global virtual teams are groups that (a) are identified by their organization(s) and members as a team; (b) are responsible for making and/or implementing decisions important to the organization's global strategy; (c) use technology-supported communication substantially more than face-to-face communication; and (d) work and live in different countries" (Maznevski & Chudoba, 2000: 473).

Each individual has a bundle of attributes shaped by the factors outlined above that influences how the individual views the world and frames problems, informing the individual's work output. It is this unique perspective that can potentially benefit the team. This bundle is developed from:

- Organizational knowledge/perspective, shaped by institutional memory and the firm's leadership. To a greater or lesser extent, this is shared by all employees in the firm.
- Functional knowledge/perspective, likely shared by all in a given functional area, e.g., marketing, finance, engineering.
- Personal knowledge/perspective, shaped by individual's own experiences. This is unique to each individual.
- Personal network, both internal and external. This network provides access to information/perspectives outside of the team and provides an outlet for disseminating information from the team to the organization. There is likely some overlap with some network contacts among team members.

Differences among team members or subgroups within a team can be viewed as "faultlines," and it is difficult for information and perspective to cross the divides created by them (Jehn, 1997; Jehn et al., 1999). Lau and Murnighan (2005) suggests that in groups with strong faultlines team members are more likely to communicate with others in their own subgroup, indicating that that they identified more with their own subgroup than with the team as a whole. Lau and Murnighan (2005) notes that strong faultlines might contribute to a negative output from the group. "The development of an 'us versus them' mentality within a group can make the idea of an effective, cohesive team increasingly unattainable" (Lau & Murnighan, 2005: 657). Similarly, diversity in a team can be seen as causing "representational gaps," gaps in team members' understanding and framing of a problem (Cronin & Weingart, 2007; Weingart, Todorva, & Cronin, 2008). These studies suggest that representational gaps lower a team's potential to develop innovative solutions.

Individuals in different functional areas, for example, have different frames of reference and perspective. They understand and value different types of information. They speak different functional "languages," and, as Bechky states: "This language may be inexplicable to members of other communities" (Bechky, 2003: 327). This creates boundaries separating one group from another. Information is blocked if the intended recipient does not understand the sender's "language," if the information cannot cross the boundary from one group to another. Carlile states: "…knowledge is localized, embedded, and invested within a function and how, when working across functions, consequences often arise that generate problematic knowledge boundaries" (Carlile, 2002: 442). Carlile further notes that the more distance between individuals' practice, the more difficult it is to communicate embedded knowledge. Bechky observes: "…meaning in organizations is heterogeneous. Given that we each construct our understanding of the world on the basis of our experience and interaction in it, the constructions we create will be different, and sometimes unclear to others" (Bechky, 2003: 328).

Cronin and Weingart (2007) suggests that different functional groups can also perceive the team's task differently because they interpret and value information differently. This suggests different problem-solving approaches to different subgroups within the team, which leads to conflict. Cronin and Weingart also notes that the functional perspective of one team member might not be valued by a member from a different functional area.

Those with functional backgrounds in the majority are more likely make the decisions; those with functional backgrounds in the minority were more like to be on the team's periphery (Bunderson, 2003; Randel & Jaussi, 2003). For example, the sole marketer on a team might not be comfortable or motivated to share her perspective with those in the majority. As noted previously, each of the three teams studied is functionally diverse and therefore I entered the field sensitive to the issues that might arise from this type of diversity.

2.6.4 Conflict within the Team

Diversity can inhibit the transfer of information by creating conflict, the perception of incompatibilities among two or more people (Greer & Jehn, 2007; Jehn, 1997; Pelled, 1996). If diversity has the potential to increase the information and perspective the team considers, possibly increasing the team's market orientation, then it is interesting to consider how conflict, which inhibits the transfer of information and perspective, might affect market orientation. Jehn (1997) and Pelled (1996) identify two major types of conflict: affective and substantive. Affective conflict is based on emotions and personality clashes, while substantive conflict is task related. Jehn (1997) further divides substantive conflict into task conflict and process conflict. As its name implies, task conflict is directly related to the task or work assignment, whereas process conflict is related to the process and resources associated with the task. Pelled's breakdown of conflict types is illustrated below. Similarly, Cronin and Weingart (2007) differentiates between information conflict and move conflict. Information conflict involves people's differing perceptions of a situation. Move conflict involves differing opinions regarding what should be done. Move conflict is akin to Jehn's task conflict and can be beneficial as it provokes discussion weighing the relative pros and cons of each option.

Pelled (1996) and Pelled et al. (1999) associate affective conflict with low job-related diversity factors such as age gender and race, whereas substantive conflict comes from high job-related diversity factors such as education and functional area. Substantive conflict, if not channeled, can also lead to affective conflict. This research therefore associates affective conflict with demographic diversity factors and substantive conflict, specifically task-related conflict, with structural diversity and network diversity. It is important to note, however, that Webber and Donahue (2001) finds little evidence to support the theory that type of conflict influences team cohesion and/or performance. This research suggests that either the influence of cohesion and work group performance

have been overstated in previous studies or that perhaps the impact of diversity and conflict type was moderated by the length of time that these particular teams existed.

Weingart et al. (2008) suggests that if conflict can be managed representation gaps can stimulate deeper debate and critical thinking, which in turn can lead to greater creativity. Task-related conflict in interdependent teams performing non-routine tasks has the potential to lead to more innovative solutions than if no conflict had existed (Jehn, 1997). The team considers all information and through discussion incorporates the strongest ideas; often novel solutions develop during the debate. There are, however, no benefits associated with affective conflict as it distracts the team from the task at hand. Task-related and process-related conflict must be managed, however, so that they do not devolve into affective conflict.

Virtual teams report more affective and task conflict than co-located teams (Hinds & Mortensen, 2005). This is perhaps not surprising as DeSanctis and Monge (1999) notes that comprehension in virtual teams is more difficult, making it more difficult to reach consensus and address both negative and potentially beneficial conflict.

If faultlines and, as a consequence, unproductive conflict are potential negative consequences of diversity, then managers must look for ways to span the boundaries over these faultlines in order to bring cohesion to a group, enabling it to reach its potential. In order to be mutually understood knowledge must be not only transferred but also transformed through the creation of a common language (Bechky, 2003). This can be done by looking for "common ground" that can transform understanding from one group to the next. "It is the transformation of understanding into the new context that makes it possible for it to be used across the organization" (Bechky, 2003: 327). Similarly, Carlile states, "Transforming knowledge refers to the process of altering current knowledge, creating new knowledge, and validating it within each function and collectively across functions" (Carlile, 2002: 442). Prior to reviewing the literature for factors associated with cohesion, coordination, and conflict resolution, however, I believe it is important to discuss how one might evaluate a team's effectiveness.

2.7 Propositions

This research proposes that management support, clarifying communications, clarifying communications, market-oriented objectives, and individual attitude positively affect each

of the four components of a team's market orientation: customer orientation, competitor orientation, proactive orientation, and interfunctional coordination. As detailed below, management support, clarifying communications, and individual attitude have been shown to affect market orientation at the organizational level. Additionally, these factors have previously been shown to positively affect overall team performance. Therefore, this research proposes that these factors will positively impact market orientation at the team level. This research also proposes that customer and competitor identification and market-oriented objectives also positively affect market orientation as they can be seen as market orientation specific variants of clarifying communications.

This research differs from past studies in that it examines the affect of these factors on each individual component of market orientation rather than on market orientation as a whole. Customer, competitor, and proactive orientations, as discussed above, represent parts of an overall organizational philosophy whereas interfunctional coordination represents a series of behaviors. It is possible that a factor positively affecting one philosophy-based component might not affect the behavioral component and vice versa. Therefore, each of the five major propositions presented below includes four sub-propositions, each dealing with one of the four components of the Narver and Slater market orientation conceptualization.

2.7.1 Management Support

As noted above, management support for the market orientation concept has been shown to increase the likelihood of the organization achieving market orientation (Narver et al., 2004; Slater & Narver, 1994). Similarly, prior research suggests that management support positively affects the performance of work groups and teams. This includes, for example, providing rewards based on team performance (Barczak & Wilemon, 2001; Gupta, Raj, & Wilemon, 1986; Hackman, 1998), communicating the importance of the team's work (Barczak & Wilemon, 2001), and allocating sufficient resources to meet objectives (Barczak & Wilemon, 2003; Hackman, 1998; McComb, Kennedy, Green, & Compton, 2008). As management support positively influences market orientation at the organizational level and affects behaviors and performance at the team level, I propose that management support also positively affects market orientation at the team level, specifically customer orientation, competitor orientation, proactive orientation, and coordination. This includes communicating the importance of achieving a high level of

market orientation and providing sufficient resources for doing so. This formalized in the following propositions.

*P1A: **Management support** for the concept of customer orientation, which includes providing sufficient resources to achieve higher levels of customer orientation, positively affects the customer orientation of teams.*

*P1B: **Management support** for the concept of competitor orientation, which includes providing sufficient resources to achieve higher levels of competitor orientation, positively affects the competitor orientation of teams.*

*P1C: **Management support** for the concept of proactive orientation, which includes providing sufficient resources to achieve higher levels of proactive orientation, positively affects the proactive orientation of teams.*

*P1D: **Management support** for coordination within the team, which includes providing sufficient resources to achieve higher levels of coordination, positively affects coordination within teams.*

2.7.2 Clarifying Communications

Shared objectives have been proposed as consequences of market orientation at the organizational level (Kohli & Jaworski, 1990). Research suggests that clarifying communications within the team positively affect team performance, particularly coordination within among team members. Shared goals, for example, have been shown to increase team collaboration (Bagshaw et al., 2007; Barczak & Wilemon, 2001, 2003; Katzenbach & Smith, 1993; Knouse, 2006; Pinto et al., 1993). Hackman (1998): 28 states, "Having a clear direction helps align team efforts with the objectives of the parent organization, provides members with a criterion to use in choosing among various means for pursuing those objectives, and fosters members' motivational engagement." Similarly, defined processes have also been shown to affect team collaboration (Hackman, 1998; Hinds & Mortensen, 2005; Pinto et al., 1993). Cooke, Kiekel, and Helm notes "…that acquisition of effective team process behavior may be a prerequisite to successful team performance and situation awareness" (Cooke, Kiekel, & Helm, 2001: 312). Defined roles and responsibilities within the team likely increases collaboration within a team (Ayers, Dahlstrom, & Skinner, 1997; Barczak & Wilemon, 2003; Knox,

Savage, & Harvey, 2006). Hackman notes, "It is nearly impossible for members to learn how to interact well within a flawed or underspecified team structure" (Hackman, 1998: 28). Todorva, Argote, and Reagans (2008) notes that teams exhibiting "transactive memories systems," i.e., knowing to whom to turn for information in specific situations, outperform teams without such systems. Similarly, identifying customer and competitor targets is a logical preliminary step in developing customer and competitor orientations. Regular communications, both formal and informal, have also been shown to reduce conflict and increase coordination in teams (Hinds & Mortensen, 2005; Hoegl & Gemuenden, 2001; Maznevski & Chudoba, 2000).

As coordination is an antecedent to market orientation in the (Kohli & Jaworski, 1990) conceptualization and a core component of market orientation in the (Narver & Slater, 1990) conceptualization, it is reasonable that factors affecting coordination the team level might also affect the other three components of market orientation as conceptualized by Narver and Slater.. Therefore, I propose the following.

P2A: ***Clarifying communications*** *among team members positively affects the customer orientation of the team.*

P2B: ***Clarifying communications*** *among team members positively affects the competitor orientation of the team.*

P2C: ***Clarifying communications*** *among team members positively affects the proactive orientation of the team.*

P2D: ***Clarifying communications*** *among team members positively affects the coordination of the team.*

2.7.3 Customer and Competitor Identification

Narver and Slater (1990) notes the need to understand current and potential customers, both direct and indirect, in order to achieve a high level of market orientation at the organizational level. This can be seen as a form of clarifying communications, i.e., clarifying the customer targets. I propose that customer identification also positively

affects market orientation at the team level. Additionally, I propose that identifying current and potential future competitors likewise positively influences each component of market orientation at the team level. This is formalized in the following propositions.

*P3A: **Customer and competitor identification** positively affects the customer orientation of the team.*

*P3B: **Customer and competitor identification** positively affects the competitor orientation of the team.*

*P3C: **Customer and competitor identification** positively affects the proactive orientation of the team.*

*P3D: **Customer and competitor identification** positively affects the coordination of the team.*

2.7.4 Market-oriented Objectives

As noted above, prior research shows a positive relationship between defined objectives and general coordination among team members. If, following Cadogan and Diamantopoulos (1995), coordination is viewed as mechanism for gathering, disseminating, and responding to customer and competitor information, having defined objectives might not be sufficient for achieving a higher level of market orientation. The group might need to define market-orientated objectives in order to develop strong customer, competitor, and proactive orientations as well as strong coordination within the team. I therefore propose the following.

*P4A: Having defined **market-oriented objectives** positively affects the customer orientation of the team.*

*P4B: Having defined **market-oriented objectives** positively affects the competitor orientation of the team.*

*P4C: Having defined **market-oriented objectives** positively affects the proactive orientation of the team.*

*P4D: Having defined **market-oriented objectives** positively affects the coordination of the team.*

2.7.5 Individual Attitude

Group identity has been proposed as consequences of market orientation at the organizational level (Kohli & Jaworski, 1990). Prior research shows that the attitude and approach of the individuals on the team can impact team performance (Bagshaw et al., 2007; Barczak & Wilemon, 2003; Cadogan & Diamantopoulos, 1995; Cross, Ehrlich, Dawson, & Helferich, 2008; Hackman, 1998; Homan et al., 2008; Siebdrat et al., 2008; Van Vianen & De Dreu, 2001). Individual attitude encompasses many traits, including: the ability to listen to others, flexibility, high learning capacity, a willingness to accept responsibility, self-reflection, and honoring commitments. Indeed, group identification has been used as part of the definition of team (Cohen & Bailey, 1997). Simply assigning a person to a group can create some level of in-group favoritism (Ashforth & Mael, 1989). Shared ownership for performance, a common sense of purpose, delivering on commitments, and a collaborative spirit all increase the sense of being a "team" (Katzenbach & Smith, 2003; Katzenbach & Smith, 1993). Members identifying themselves as part of a team can increase coordination within the team, increasing the likelihood that group members will follow group values and norms (Ashforth & Mael, 1989; Hackman, 1990; Hinds & Mortensen, 2005; Homan et al., 2008).

As member attitude, including identification with the group, affects both coordination, a component of market orientation, and the likelihood of embracing group values, including the market orientation concept, it is reasonable that the individual attitude of team members might affect each component of market orientation of the team as a whole.

*P5A: The **individual attitude** of team members, including the level to which they identify themselves as group members, affects the customer orientation of the team.*

*P5B: The **individual attitude** of team members, including the level to which they identify themselves as group members, affects the competitor orientation of the team.*

*P5C: The **individual attitude** of team members, including the level to which they identify themselves as group members, affects the proactive orientation of the team.*

*P5D: The **individual attitude** of team members, including the level to which they identify themselves as group members, affects the coordination of the team.*

There is an interesting relationship between these categories and the person or people in the organization most likely responsible for or able to influence their implementation. Generally, the factors centering on "support" come from the organization's management. Management, for example, ultimately determines the resources allocated to a team, although the team leader can perhaps influence this decision. The factors dealing with "clarifying communications" occur at the team level and are most likely the responsibility of the team leader. The team leader, for example, is the person most likely to be responsible for defining roles and responsibilities, processes, and roles and responsibilities, although team members might have some influence or might be asked to provide input. While management likely sets the overall goals for the team, the team leader is probably responsible for disseminating these goals throughout the team. Hackman (1990) makes clear that it is management's responsibility to determine the goals. It is the team's responsibility to determine the means of reaching those goals. The "individual attitude" of each team member ultimately, as the term implies, comes from within the individual team member. The team leader, however, might have the ability to choose members for her/his team that have certain attitudes. The team leader also might work with her/his team to influence individual attitudes.

The relationship between the independent and dependent variables is summarized in Figure 1 below. Each of the five independent variables (management support, clarifying communications, customer and competitor identification, market-oriented objectives, and individual attitude) is proposed to positively affect each of the four components of team's market orientation: customer orientation, competitor orientation, proactive orientation, and interfunctional coordination. Clarifying communications, customer and competitor identification, and market-oriented objectives are grouped together as each deals with forms of defined communications within the team.

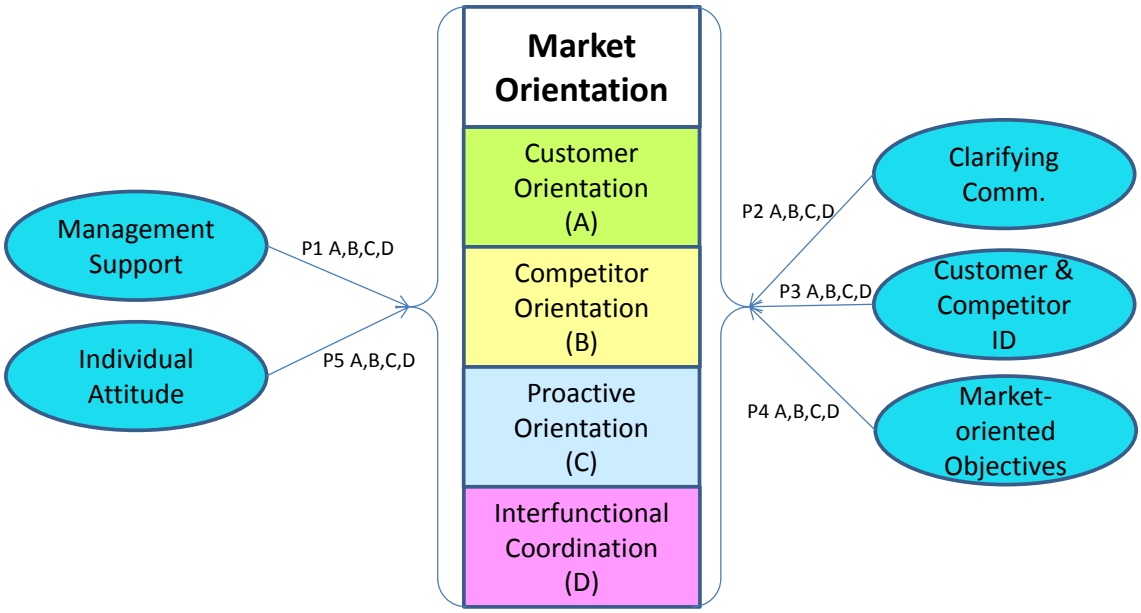


Figure 1: Conceptual model developed from literature review

2.8 Chapter Conclusion

Research examining the market orientation of product development and customer teams is a natural evolution in the research of marketing. General consensus on the definition of the marketing concept led to research on market orientation, which operationalizes the marketing concept. A significant body of research followed that tested the relationship between market orientation and business performance at the organizational level. This research suggests the market orientation-business performance relationship can be generalized across cultures, industries, and firm size. This body of research also examines the relative strengths and weaknesses of the two most widely accepted tools for measuring marketing orientation: the MKTOR and MARKOR scale. While not without its critics, research suggests that Narver and Slater's MKTOR scale operates at higher level of abstraction than Kohli and Jaworksi's MARKOR scale. Additionally, research suggests that the MKTOR scale is understood equivalently by different populations, making it the stronger choice for those engaged in cross-cultural and/or cross-functional research.

While there is a tremendous market orientation literature, there are still a number of underexplored areas. In their seminal paper Kohli and Jaworski discuss the important role that networks play in developing a market orientation, yet network analysis has not yet been used to study the phenomenon. While considerable research has been done on the

consequences of market orientation, relatively little has been done on the antecedents. While considerable research has been done on market orientation at the organizational level, relatively little has been done at the team. This area is particularly interesting, however, when one considers the role that certain types of team play in organizational success. I refer here specifically to new product development teams and customer teams.

Interestingly, the same concepts appear in both the Kohli and Jaworski and Narver and Slater conceptualization of market orientation as well in the literature on work group performance. This includes diversity, conflict, coordination, management support, team member attitude, and group identification. The relationships between concepts, however, differ. Coordination, for example, is a antecedent in Kohli and Jaworski, a component of Narver and Slater's conceptualization, and a measurement of performance in some research on work groups and teams. This chapter puts forward a number of proposition regarding possible antecedents to market orientation in teams. Management support, clarifying communications, customer and competitor identification, market-objectives, and individual attitude are proposed to have a positive effect on each of the four components of Narver and Slater's market orientation – customer orientation, competitor orientation, proactive orientation, and coordination.

These propositions will be explored using network analysis, qualitative data gathered from one-on-one interviews, and quantitative data gathered from surveys. Data for this research was collected over a three year period from three cross-functional, cross-geographic teams from the same organization. I present details on these teams and the methods used to study them in the next chapter.

Chapter 3. Methodology and Methods

This research uses three methods to examine market orientation in teams: network analysis, one-on-one interviews, and a survey using Narver and Slater's MKTOR scale. While much has been done to examine market orientation at the organizational level, little has been done to examine it at the team level (Gresham et al., 2006; Hafer & Gresham, 2008). The combination of network analysis, survey, and one-on-one interviews provide a reasonably comprehensive view of the phenomenon at the team level. Given that the research focuses on three relatively small teams, however, it cannot be assumed that the theory presented in subsequent chapters can be generalized. The theory does, however, explain the data collected and can serve as the foundation for future researchers. This chapter presents the epistemology that provides an overall lens for the research, an introduction to the three teams studied, and detail on the research methods used.

3.1 Epistemological Considerations

Johnson and Duberley (2000) notes that fundamental choices such as how the research question is phrased and why a particular methodology and methods are selected can be traced to the researcher's epistemological beliefs, regardless of whether these beliefs have been articulated or indeed even consciously examined. They continue that management researchers are increasingly expected to reflect on their own epistemological position.

Different methods provide distinct lenses for viewing the same phenomenon. Each method provides distinct insights. Each method, for example, provides a different view of concepts such as "coordination" and "customer orientation." In some cases, insights from one method complement what is seen in another method; in other cases, contradictions appear. Apparent contradictions between different methods in the same study, however, lead researchers to expand theory in order to explain these differences and build knowledge overall.

Each member of the teams studied has a unique and valuable perspective, representing the reality of the team for that individual. In this research I have tried to understand how team member perspectives are similar and different and what might account for these similarities and differences. Is it, for example, geography, functional area, team objectives, or position in the team's network? I had a unique vantage point, seeing some things that team members did not and, I am sure, missing some things that they took for

granted. I provide a distinct perspective, informed by my education, experiences, and by the perspectives of those I have studied. While I have tried to be neutral in my interpretation of the data, I most likely have been influenced to some degree by these factors.

I do not believe that it is possible to complete a truly exhaustive study of an organization or even on specific phenomena within subgroups of an organization like the teams studied in this research. Human interactions and motivations are simply too complex. Following this, I do not believe that a single theory or piece of research can provide the definitive explanation of a given phenomenon, such as a team's market orientation. Even if it was possible to develop such a comprehensive theory, it would likely be too detailed to be of any practical value, particularly for practitioners in search of "the bottom line." It is possible, however, to develop theories and relatively simple models or metaphors that help academics and practitioners understand certain aspects of a phenomenon. These provide a common language for discussing and comparing organizations. They provide a common language for discussing how organizations can improve. Conceptual models can be a particularly valuable way to illustrate a theory succinctly and make a theory accessible.

Johnson and Duberley (2000) proposes an interesting means to reflect on your philosophical position by creating two axes, intersecting to create four quadrants. The vertical axis represents ontology, and the horizontal represents epistemology. "West" of the ontology axis fall objectivist ontological views, and "east" of this axis fall subjectivist ones. Similarly, "north" of the epistemology axis fall objectivist epistemological views, and "south" of the axis fall subjectivist views. Therefore, for example, someone with objectivist views on ontology and epistemology would be in the "northwest" quadrant. I would place myself in the "southwest" quadrant of this matrix. While I do not deny the possibility that there is an objective reality, albeit one that is incredibly complex, I believe that a researcher, despite conscious efforts at objectivity, is unavoidably influenced by culture, education, and past experiences. I believe my research ultimately is a subjective interpretation of a part of these three teams' reality. According to the Johnson and Duberley model, my approach is most consistent with that of the critical realists. Regarding critical realism, Johnson and Duberley states, "As the term implies, critical realists emphasize a metaphysical ontology which states that social and natural reality consist of intransitive elements which exist independently of our human

knowledge…Those entities may not be observable and different people may apprehend different (i.e. transitive) realities according to the varying paradigmatic, metaphorical or discursive conventions deployed through their human agency" (Johnson & Duberley, 2000: 154). Johnson and Duberley futher states, "…the role must be one of facilitating subjects' ability to comprehend themselves and their problems in new ways…," suggesting that critical realism is consistent with action research (Johnson & Duberley, 2000: 190)

Others looking at these teams might have interpreted the same data somewhat differently because the data would have been viewed by someone with a different perspective. The list of methods used in this research, however, is not exhaustive. One can reasonably suppose that researchers using still other methods might generate additional insights. As a consequence they might see different categories and different relationships, leading them to develop different theory and, if fitting with their research approach, a different model. Team leaders and team members involved this study confirmed that my interpretations made sense to them. They did not, however, state no other valid interpretations could exist.

Theory from this research is validated from extension and further refinement by academics and practitioners, not through wholesale acceptance. Academics and practitioners might adapt the methods used in this study to meet the particular needs of their own research or their own organizations or to suit their own preferred approaches. My objective is not for others is not to see the things the same way but to see things in a complementary way and to see value in the perspective provided in this research. Some aspects of the theory presented in this thesis might resonate more than others with certain people or at certain times. As suggested above, I do not assume that the theory and model developed in this research necessarily has explanatory power beyond the organization in which it was developed, nor do I assume that they will continue to have explanatory power in the future, even in the organization of its origin. It is possible, however, that patterns seen in one organization might also apply to other organizations. It is possible for others to gain insights from this research. This might help academics build theory that explains phenomena observed in their own research and help practitioners enhance the performance of their organizations.

3.2 Defining "Team"

It would be good to define the term "team" in the context of this research since it is used liberally in today's business environment. As Hackman (1990) points out anyone who works in an organization has at one point or another been on a "team" of some sort. The teams studied for this research have the following characteristics:

- Cross-functional
- Cross-geographic
- Full- and part-time members
- On-going
- Collectively responsible for producing an output for a target audience outside the organization

Katzenbach and Smith (1993) divides what are commonly called teams into two categories: "teams" and "working groups." Team is defined as "a small number of people with complementary skills who are committed to a common purpose, set of performance goals, and approach for which they hold themselves mutually accountable" (Katzenbach & Smith, 1993: 162). Working groups might exhibit teamwork, i.e., "listening and responding constructively to views expressed by others, giving others the benefit of the doubt, providing support, and recognizing the interests and achievements of others" (Katzenbach & Smith, 1993: 163). Members of working groups, while they might share information and advice, maintain individual goals and are responsible solely for their own work output. Following the Katzenbach and Smith definitions, the staff of a marketing department, each working on separate product lines, would be a working group. A group of employees working together to develop and/or to sell-in a new product, such as the teams studied here, would be considered a "team." Katzenbach and Smith (1993) identifies three broad categories of teams: "teams that recommend things," "teams that make or do things," and "teams that run things." Katzenbach and Smith also note that effective teams typically have between two and twenty-five members, although they state that it is theoretically possible for a team to have fifty or more members. Small size is a "pragmatic guide" rather than a necessity, however. Large groups, states Katzenbach and Smith, face difficulties working together constructively.

Cohen and Bailey (1997) in a meta-analysis of research on teams from 1990 to 1996 synthesize general definitions of "team" and divide teams into four overall categories:

work teams, parallel teams, project teams, and management teams. The study defines team as "a collection of individuals who are interdependent in their task, who share responsibility for outcomes, who see themselves and are seen by others as an intact social entity embedded in one or more larger social systems (for example, business unit or the corporation), and who manage relationships across organizational boundaries" (Cohen & Bailey, 1997: 241). Cohen and Bailey include four general types of teams:

- Work teams produce goods or provide services and are characterized by stable, full-time team membership.
- Parallel teams are tasked with making recommendations to solve specific problems or improve specific areas within the organization.
- Management teams provide direction to their organization.
- Project teams are typically cross-functional and produce one-time outputs such as a new product or service.

There are three teams studied in this research: Alpha, Beta, and Gamma. The Alpha team, depending on the year, has approximately 30 members, the Beta team 12 members, and the Gamma team 60 members. Therefore, the Gamma team is somewhat large to be considered a true team according to Katzenbach and Smith. The teams studied in this research fall under the "teams that make or do things" category, which Katzenbach and Smith define this way, "These teams include people at or near the front lines who are responsible for doing the basic manufacturing, development, operations, marketing, sales, service, and other value-adding activities of a business. With some exceptions, such as new-product development or process design teams, teams that make or do things tend to have no set completion dates because their activities are ongoing" (Katzenbach & Smith, 1993: 170).

Following Cohen and Bailey, the teams studied in this research are closest to "work teams," although many of the team members have responsibilities outside the team, i.e., they are not "full-time." Two of the teams studied, Alpha and Gamma, are customer teams. Customer teams are responsible for the development, marketing, and sales of specific subsystems sold to their respective customer. These teams are named after their customer, i.e., the Alpha team's customer is Alpha Corporation; the Gamma team's customer is Gamma Corporation, i.e., the teams name themselves after their customer. The third team, Beta, is a product development team. Product development teams develop the individual components that are combined by the customer teams to form the

subsystems. Product teams might also develop concepts for complete subsystems, which the customers teams can then adapt to meet their customer's particular needs.

3.2.1 Detail on the Teams Studied

New product success plays such a critical role in overall organizational success (Gresham et al., 2006). The three teams examined for this research were chosen because of their pivotal role in the new product development process. One team is a product development team, and the other two teams are customer teams responsible for selling new products to their company's business-to-business customers. All three teams come from the same division of the same company. This allows for meaningful comparisons while controlling for variations due to industry or corporate culture. The teams range in size from 12 to 60 members, providing opportunities to compare differences due to team size. The Alpha and Gamma teams were founded over 20 years ago, while the Beta team was founded about year prior to the start of this research, providing the opportunity to explore the effect of team tenure on market orientation.

All three teams studied in this research come from the same consumer electronics firm, which has it global headquarters in the USA. The company has sales and sales subsidiaries in multiple countries worldwide. The company's annual revenue is approximately two billion USD. The company employs 7,500 - 10,000 people worldwide. The company has multiple divisions, each with its own distinct target audience and/or product line. The teams examined in this research come from the same division of this firm.

The division in which the teams operate is a business-to-business operation that manufactures subsystems sold to manufacturers of consumer products. The division's products, i.e., the subsystems, are incorporated into the customers' products, which are then sold to end users around the world. The division's products include both hardware and software components. Like the company as a whole, the division maintains global headquarters in the USA. It has additional offices elsewhere in the USA as well as in China, France, Germany, Italy, and Japan. I present company statistics below in ranges in order to protect company confidential information. The division has between 250 and 500 employees and annual revenue of between 250 and 500 million USD. The division has five to ten key customers, whose headquarters are in the USA, Europe, and Asia.

Manufacturing for the division's products is done at both firm-owned and supplier-owned plants. Employees report to functional managers, such as sales, marketing, and engineering. In addition, many division employees are also assigned to one or more cross-functional, cross-geographic customer and/or product development teams. Employees also frequently identify themselves as being part of a geographic team, functional team, and customer team, e.g., the German team, the marketing team, and the Alpha team.

Each team studied has its own team leader. The Alpha and Gamma team leaders report to the same executive. All three teams include both full-time and part-time members. In fact, some people belong to more than one team in this study. No team members report to a team leader. Members report to functional managers. The team leaders did not participate in the research altruistically; they were interested in using the research to improve the effectiveness of their own teams. One condition of participation was that teams wanted the research data to understand their team's strengths and weaknesses so that they could target specific areas for improvement. This was particularly important to the Alpha team leader. He incorporated an area for improvement based on the research results into his team's annual goals. For example, based on the network results he determined that the team was not gathering enough information from certain customer subsidiaries. He and his team then created and executed an action plan to accomplish this goal. They then looked at the following year's network results to see if the team had made improvements in this area.

The Alpha team leader was particularly interested in the network data, and we used this data primarily as a catalyst for discussion, focusing attention on nodes at the periphery of the network. Was it logical for a given team member to be at the network's periphery or not? In some cases, the team leader concluded that the person was truly a part of the extended as opposed to core team. In one case in particular, he realized that this person should be brought closer to the team's center. I also examined the ratio of information coming into the team from customers versus sources from within the organization. This latter analysis moved the Alpha team leader to create a specific team objective around gathering more information from the customer's key subsidiaries.

Team leaders needed to see a positive "price/value" equation for the teams' time at each step in the process. They viewed time as a scarce commodity. Time spent taking a

survey, reviewing study results, or working on improvements in areas suggested by the research was time not spent on job-related tasks. Therefore, each year's survey was designed to take no more than twenty minutes. One-on-one interviews were designed to take one half-hour. This meant omitting some questions that would have been theoretically interesting. Results presentations to the team should be no more than fifteen slides long. Written reports should not exceed one-and-a-half pages. There was a risk that the presentation of results would be superficial or subject to misinterpretation. Furthermore, the Alpha team leader exerted some influence on the survey questions asked. I wanted to delete some questions in the later iterations of the survey in order to explore new areas. It was, however, very important for the Alpha team leader to benchmark the team's performance year to year, i.e., that the majority of questions remain the same year-to-year.

Team-to-team comparisons were not shared among the team leaders in order to protect the confidentiality of each team. That said, data analysis was shared with the supervisor shared by the Alpha and Gamma team leaders, i.e., while these team leaders did not see the other's data, their supervisor did see both and could compare these two teams.

3.2.2 Alpha Team

The Alpha team has supplied products to its customer for over twenty years. The team's customer is based in Japan, and a number of years ago the division opened a satellite office in the same city in order to provide a higher level of customer service. A number of team members work from the customer's facility rather than in a Parthenon office. Team members are also located at the division's headquarters in the USA, the division's regional Japanese office, and satellite offices in China and Germany. There were around thirty people on the team for each of the years studied. The time horizon for the team's work ranges from the present (working on programs currently in production) to approximately three-to-five years into the future (selling new programs to their customer). Products sold by the team tend to be more evolutionary than revolutionary. The cross-functional team seems to see itself as something of an underdog in the division. For many years its sales were relatively weak and peers in the division believed the products they sold were of lesser quality than those sold by other customer teams. Over the last period of time, however, sales have improved significantly, and Alpha Corporation is now the division's third largest customer. Therefore, one can reasonably state that the

team is successful. There still remains, however, a sense among members that they are a small team that needs to prove itself.

3.2.3 Beta Team

The Beta team was one of the division's five product development teams. The team was responsible for developing specific types of components and/or subsystems that the customer teams could sell to the division's customers. The team was formed in 2009, one year prior to the team's inclusion in this research. The cross-functional team included twelve members, located at three USA offices and the division's German office. The team leader was based at the division's global headquarters. The team was specifically charged with developing revolutionary products that would "disrupt" the marketplace, i.e., unlike the customer teams the Beta team's primary objective was to create revolutionary, not evolutionary products. The team focused its efforts on developing products that would ideally go into production five-to-ten years in the future. Shortly after the first round of data was collected the division's management disbanded the team in order to focus resources on the other product development groups. No product concept developed by the Beta team had been sold to a customer. One can therefore argue that the team was ultimately not successful.

3.2.4 Gamma Team

The Gamma team is the second customer team included in this research. The team was formed over twenty years ago and includes sixty members from a variety of functional areas. Team members are located at multiple offices in the USA as well as offices in China, France, Germany, and Japan. The team's customer is based in Japan, and the division's main Japanese office is relatively close to the customer's global headquarters. Similar to the Alpha team, the Gamma team has members whose work station is at the customer's facility. As with the Alpha team, the time horizon for the team's work ranges from the present to approximately three-to-five years into the future. Again, similar to the other customer team, the products that the Gamma team sells tend to be more evolutionary than revolutionary. The Gamma team's customer is the division's largest, and the team continues to increase revenue, taking conquest business from other suppliers. From a sales perspective the team is quite successful.

3.2.5 Similarities and Differences among Teams

The teams are similar in many ways. They work for the same division of the same company and therefore share the same overall corporate culture and management team. They are all cross-functional and cross-geographic. They use the same combination of methods for intra-team communications. They each have full and part-time members. Alpha and Gamma, however, are long-standing teams; the Beta team was formed just a year prior to this research. The Alpha and Gamma teams have similar objectives and work with the same time horizon. The Beta team has somewhat different objectives and has a different, more future-oriented time horizon. The teams have a different number of members, ranging from twelve to sixty people. The Alpha and Gamma teams are considered successful by the division. The Beta team was not. The Alpha team made use of this research. The Gamma and Beta teams did not.

Each of the three teams examined in this research exhibited multiple types of diversity. At least four geographic locations and six functional groups were represented on each team. Tenure in the organization spans at least ten years. The majority of people in each office were nationals of the country where the office was located, e.g., the Japanese offices were staffed by Japanese citizens, and the Chinese office was staffed by Chinese citizens. Each team has both male and female members, although males are certainly in the majority, and each team has members ranging in age from their twenties to their fifties. From a hierarchy perspective, however, the teams are relatively flat. Members do not report into the team, rather they report to supervisors in their respective functional departments. All teams make use of face-to-face meetings for subgroups within the team and weekly teleconferences and daily emails to communicate information to the team as a whole. There are cross-functional, cross-geographic communications as well as geography-specific and function-specific communications.

Table 1 summarizes many of the teams' similarities and differences. The teams are similar in that all three include members from multiple functional groups, offices, and countries. Following the literature cited above, this suggests that all three teams have the diversity that increases the likelihood of developing innovative products that will meet the needs of customers globally. While the Alpha and Gamma teams are considered very successful, i.e., they appear to be realizing their potential, the Beta team did not realize its potential; it was disbanded. It then becomes important to focus on the areas in which the teams are different. Two differences stand out. As noted above, Alpha and Gamma teams

are long-standing, whereas the Beta team was recently formed. Also, the number of members differs on each team. The Beta team is relatively small, and the Gamma team is relatively large. This suggests that it would be interesting to explore how team age and team size might affect market orientation. Might the fact that the Alpha and Gamma teams have existed for over 20 years positively influence these teams' market orientation? Might the fact the Beta team was less than two years old negatively impact that team's market orientation? How might team size affect market orientation?

	Alpha	**Beta**	**Gamma**
Team Type	Customer	NPD	Customer
Team Age (Years)	20+	1.50	20+
Number of Members	29	12	60
Number of Functional Groups	7	6	7
Number of Offices	6	4	8
Number of Countries	4	2	5
Median Organizational Tenure (Years)	7	8	6
Median Team Tenure (Years)	5	1	5

Table 1: Team Comparisons

The customers for these teams are not single monolithic entities. Each department within the customer's organization, e.g., engineering, purchasing, marketing, has distinct wants and needs. Likewise, each of the customer's subsidiaries, located in many countries around the world, has distinct wants and needs. These subsidiaries in turn sell their products, which include the subsystems produced by the teams I studied, to resellers around the world. These resellers have distinct wants and needs from the subsidiaries and, given that they operate in different markets, from each other well. These resellers in turn sell the product to end consumers, the people who actually consume the goods. These consumers likely divide into many segments based on market, demographic characteristics, and psychographic characteristics. In short, understanding the "customer" for the teams in this research is an extremely complicated affair. This does not even take into consideration how changes in the marketplace might affect customers in the future.

Understanding the "competitor" is likewise complicated. The organization needs to understand the capabilities and strategies of both current and potential future competitors (Narver & Slater, 1990). The teams have both direct and indirect competitors. They compete directly against other suppliers to win a piece of business with a customer. They compete indirectly with the companies that supply product to its customers' competitors. In both cases, they not only need to understand the current situation but also need to anticipate possible new competitive entries in order to have the highest level of competitor orientation.

3.2.6 Team Membership

Team leaders determined who was a member of their respective teams. Determinants of team membership were not consistent across the three teams. In other words, a position that qualified for team membership on the Alpha team was not necessarily considered a team member position on the Gamma team. Additionally, team membership was not always consistent from year-to-year within a team. The Alpha team leader, for example, added his supervisor to the list of members after year one. The Gamma team leader removed one person from the roster of team members after year two.

3.3 Data Sources

This research uses quantitative, network analysis, and qualitative data. An inferential survey was used to collect quantitative data on various variables. Network data was captured through the same survey capturing the variable data. The research includes two types of qualitative data. Most qualitative data comes from one-one-one interviews with members of the three teams studied. I also had opportunity to observe team member interaction at both face-to-face and virtual meetings.

As will be detailed below, data was collected in successive rounds over the course of three years. Each data type helped answer the overall research question regarding the nature of market orientation within teams as well as questions regarding forces impacting a team's level of market orientation. Each data type served three purposes in answering these questions: provisionally test the theory as it existed at that point, provide context to other data types, and generate new ideas to explore and provisionally test in subsequent data collection.

3.3.1 Quantitative Data

This research seeks to understand antecedents to market orientation at the team level. It is therefore beneficial to use an accepted operationalization of the concept when testing possible relationships. The MKTOR scale has been shown to be the stronger choice for those engaged in cross-cultural and/or cross-functional research, which is the case here (Mavondo & Farrell, 2000). Therefore, this research uses Narver and Slater's MKTOR scale rather than Kohli and Jaworksi's MARKOR scale.

The quantitative data was also crucial for securing permission to study the teams. The team leaders all viewed this type of data as the most "scientific," and therefore it was the data source they trusted the most. Team leaders initially had misgivings about interview data. It required interpretation, which they thought was not "scientific" and therefore not reliable. They only gave permission to interview team members after they themselves saw questions arising from the survey results, e.g., "Why did team members respond this way?" The team leaders had simply never heard of network analysis, and, therefore, while they found it intriguing it could not be the "lead" source of data. As noted above, the variable data helped me visualize relationships among individual concepts and between categories. It provided the framework on which to hang potential relationships, which could then be translated into visual models. Additionally, researchers traditionally measure market orientation using either the MKTOR or MARKOR scales. Using one of the two accepted scales also provides an opportunity for comparison with prior research. As noted previously, prior research suggests that the MKTOR scale was stronger with cross-functional, cross-geographic groups such as those used in this study, and therefore the MKTOR scale was chosen for this research.

There are a number of limitations with this data type for this research, however. The sample size for each team is relatively small. Therefore, it is not possible to make important between-team and year-to-year comparisons that would have been potentially beneficial. Additionally, this data set by it nature is not designed to generate new concepts. Therefore, if it had been the sole data source the research would have been limited to exploring concepts solely coming from the literature.

3.3.2 Qualitative Data

Interview data provides the opportunity to learn how participants themselves define key concepts such as market orientation, customer, customer orientation, and conflict. New concepts not seen in the preliminary literature review such as customer and competitor orientation and market-oriented objectives were initially generated from the qualitative data. Additionally, the interviews revealed that resources, a component of management support, merited greater consideration than originally thought. Insights garnered from the interviews broadened the number of categories considered as possible forces affecting the teams' market orientation. There was also the opportunity to observe the teams and subgroups within the teams interact with each other on task-related business. This data shows how the teams coordinated their work and how customer orientation manifested itself on specific projects. Observational data also sparked new ideas and directions for the research. For example, direct observation of team members broadened my perspective on the clarifying communications category. Initially, I thought of clarifying communications as a means to reduce conflict in the team by addressing macro issues such as overall objectives, strategies, and roles and responsibilities. The observational data shows that the successful teams also use clarifying communications on the micro level, on specific projects. Team members used weekly teams meetings to discuss the status of all projects in development. Team members assigned to particular projects also met weekly to review the status for all aspects of the project. This data also allowed me to make meaningful comparisons among the teams, thus generating new ideas on possible relationships among categories.

3.3.3 Network Data

The network analysis provides a unique perspective in that it is the only data source that provides a view of the team as a whole. Like the qualitative data it provides the opportunity to make comparisons among the teams. It also provides a unique view of market orientation, showing how market orientation manifests itself on each of the three teams. Importantly, as noted previously, Kohli and Jaworski specifically call out the importance of networks in achieving higher levels of market orientation (Kohli & Jaworski, 1990; Kohli et al., 1993), yet a network study has not been done to examine market orientation. Network analysis also shows synergy in the two conceptualizations of market orientation. It shows in one view Kohli and Jaworski's gathering, dissemination, and response to information and Narver and Slater's customer orientation,

competitor orientation, and coordination. It provides a fascinating lens because it shows the specific customer contacts with whom the team is engaging. It shows from where customer and competitor information is gathered and to whom on the team it is disseminated. It also can be used to see who on the team responds to this information. When combined with the qualitative data, it also provides unique insights into how a member's position in the network affects the individual's market orientation.

Network data was particularly useful for the Alpha team leader. It provided him with specific areas for improvement on his team. When he viewed the network of team members in year two, for example, he noted that one of his primary goals for the team was to make inroads in China, but the one member located in China was only loosely connected to the rest of the team. When looking at the total network, including those outside of the team, we discussed the relatively small percentage of information coming from customer contacts. He selected as this as an area for improvement between year two and year three data collection, i.e. , the goal was to increase the amount of information coming to the team from the customer. This initiative proved successful. The percentage of information coming into the team from customer contacts increased year-to-year from 34% to 57%.

3.4 Data Gathering Instruments

Data for this research was gathered through use of a survey for the quantitative and network data and one-on-one interviews for the qualitative data. The sections below provide detail on the development and content of both the survey and interview guide.

3.4.1 Survey

The final survey included items to build the following constructs: coordination, customer orientation, competitor orientation, proactive orientation, support, clarifying communications, individual attitude, customer and competitor identification, and market-oriented objectives. The items for the four market orientation components (coordination, customer orientation, competitor orientation, and proactive orientation) were taken directly from Narver and Slater (1990) and Narver et al. (2004). With one exception noted below, the constructs support, clarifying communications and individual attitude were built using factors associated with coordination and/or market orientation in the literature.

Support

The construct of support includes the following items. The original sources from the literature for these items are provided in parentheses.

- This team has the resources it needs to get the work done.
    - (Barczak & Wilemon, 2003; Hackman, 1998; McComb et al., 2008)
- The division sees this team's work as important.
    - (Barczak & Wilemon, 2001)
- Team members are rewarded for the work that they do on this team.
    - (Barczak & Wilemon, 2001; Gupta et al., 1986; Hackman, 1998)
- The division believes that it is important for this team to understand its customers.
    - (Narver & Slater, 1990)
- The division believes that it is important for this team to understand its competitors.
    - (Narver & Slater, 1990)

Based on the one-on-one interviews, particularly with members of the Gamma team, it became clear that "resources" was more important and more nuanced a concept than previously thought. Each of the teams has scarce resources, both in terms of budget and labor, and this seems to affect the teams' market orientation. Specifically, Gamma team members interviewed stated that they barely had resources to understand customer needs but did not have sufficient resources to understand the competition. The original item on resources was therefore divided into two items.

- On this team, we have the resources to meet our customer's current needs.
- On this team, we have the resources to understand our current competitors.

Clarifying Communications

Similar to support, the majority of scale items used to build the construct clarifying communications came from the literature. The original sources from the literature for these items are provided in parentheses.

- This team has well-defined objectives.
    - (Bagshaw et al., 2007; Barczak & Wilemon, 2001, 2003; Katzenbach & Smith, 1993; Knouse, 2006; Pinto et al., 1993)
- The team has a well-defined strategy to meet its goals.

    - The Alpha team leader and I discussed that there was a potential difference between having goals and having a strategy to reach those goals and therefore included this scale item.
- I am clear about who does what on this team.
    - (Ayers et al., 1997; Barczak & Wilemon, 2003; Knox et al., 2006)
- I know to whom to go to get the information that I need for my work on this team.
    - (Todorva et al., 2008)
- Deadlines for this team's projects are well-defined.
    - During the meeting in which I presented the Alpha team with the results from their year one survey team members discussed that a lack of clarity on project deadlines caused conflict within the team. Therefore this scale item was added.
- This team has well-defined processes for accomplishing its work.
    - (Cooke et al., 2001; Hackman, 1998; Hinds & Mortensen, 2005; Pinto et al., 1993)
- On this team, we know how to resolve disagreements that occur between team members.
    - (Hoegl & Gemuenden, 2001; Lovelace, Shapiro, & Weingart, 2001)

Individual Attitude

The construct individual attitude was also built using items that came from the literature. Again, original sources from the literature are provided in parentheses.

- People on this team have a "can-do" attitude.
    - (Barczak & Wilemon, 2003)
- During high demand periods or when a particular need arises team members respond with a definite sense of urgency.
    - When designing the first year survey I witnesses how members of the Alpha team came together when faced with a quality issue. Resolving the issue became the top priority for subset of the team, and I was very impressed by how quickly each person worked to do her/his part to resolve the issue. Based on this experience, I added this item to the individual attitude construct.
- People on this team listen to the ideas and opinions of others.

    - (Katzenbach & Smith, 1993)
- There is a common sense of purpose within this team.
    - (Katzenbach & Smith, 1993)
- There is a strong sense of delivering on commitments to others on this team.
    - (Katzenbach & Smith, 1993)

Customer and Competitor Identification

During the one-on-one interviews with Beta team members it became clear that the team had not reached agreement on either target markets or target business-to-business customers for their product concepts. Members in the USA believed the team should focus on products developed for new customers in India. European team members thought the team should focus on existing European customers and the European market. As suggested by Pelled (1996) and Pelled et al. (1999), substantive conflict from this disagreement devolved into affective conflict. This suggested to me that identifying and agreeing upon customer targets is an important component of market orientation. A team can not be customer oriented if it does not know who its customer is. In contrast, the Alpha and Gamma teams had identified specific people in different functional and geographic as key customer targets and developed initiatives to influence these targets. Additionally, Alpha team members targeted specific customer subsidiaries each year, developing initiatives to understand these groups wants and needs better. Based on these findings, I believed that the relationship between customer identification and market orientation should be explored with quantitative data and therefore should be added to the survey. In some regards, customer identification can be considered a form of clarifying communications, much like defined goals or defined processes. Customer is, however, very complicated as customer includes multiple functional groups and multiple geographies. It also includes both direct and indirect customers in the value chain. Therefore I decided that customer and competitor identification should be its own construct. This construct was built with the following items in the survey:

- On this team we have identified the internal customers that we need to influence in order to meet our team objectives.
- On this team, we have identified the specific people and groups within the [customer's] organization that we need to influence in order to meet our team objectives.

- On this team, we have identified the groups outside [Parthenon] and the [customer's] organization that we need to influence in order to meet our team objectives.
- On this team, we have identified the competitors who threaten our current business.
- On this team, we have identified the potential competitors who might threaten our business in the future.

Market-oriented Objectives

Slater and Narver (1994) and Narver et al. (2004) state that management support for the market orientation concept positively influences an organization's level of market orientation. As noted above, there are a number of sources in the literature that note the importance of well-defined goals (Bagshaw et al., 2007; Barczak & Wilemon, 2003; Katzenbach & Smith, 1993; Knouse, 2006; Pinto et al., 1993). I did not see in the literature explicit mention of the importance of the team having goals specifically related to market orientation as a factor influencing market orientation. The quantitative and qualitative data gathered in year two, however, suggested a connection. The Beta team had specific team goals centered on understanding the competition, and the team was relatively strong in competitor orientation. The Alpha and Gamma teams each had specific team goals around understanding the customer, and they were relatively strong in customer orientation. These teams, however, did not have any team goals around understanding the competition, and competitor orientation was relatively weak for both teams. Therefore, I added the construct market-oriented objectives in year three. This construct was built using the following scale items.

- This team's strategies include understanding the customer.
- This team's strategies include understanding competitors.
- This team's strategies include coordinating work among different functional groups.
- This team's strategies include understanding how the market might look in the future.

3.4.1.1 Network Questions

The original survey included four network analysis questions, which are listed below. These questions were designed to capture, from a network perspective, two components of the Kohli and Jaworski (1990) conceptualization of market orientation: the generation

and dissemination of information throughout the team. These questions were also used to gain a network perspective on two components of the Narver and Slater conceptualization: coordination and customer orientation.

- In the past three month, have you received work-related information from each of the following person on the [name] team? Information can be received during meetings, by telephone, and/or by email.
    - Respondents were provided with a list of team member names and could tick either a "yes" or "no" box next to each name.
- Please enter the name(s) and organization(s) of anyone else from whom you have received information related to your work on the [name] team. These people can be employees of [the company], the customer, and/or a supplier. Information can be received during meetings, by telephone, and/or by email. You may list as many individuals as you want. Please indicate the name and organization of each individual.
    - Respondents were provided with a box within which they could write their responses.
- In the past three month, have you provided work-related information to the following people on the [name] team? Information can be provided during meetings, by telephone, and/or by email.
    - Respondents were provided with a list of team member names and could tick either a "yes" or "no" box next to each name.
- Please enter the name(s) and organization(s) of anyone else to whom you provided information related to your work on the [name] team. These people can be employees of [the company], the customer, and/or a supplier. Information can be provided during meetings, by telephone, and/or by email. You may list as many individuals as you want. Please indicate the name and organization of each individual.
    - Respondents were provided with a box within which they could write their responses.

These questions also provide the opportunity to explore two dimensions of market orientation as defined by Narver and Slater (1990). The questions show how coordination manifests itself on the team through the transfer of information among members. The team's customer orientation can be explored by examining with which specific customer contacts information is being transferred to and from the team. There is also the

opportunity to compare the percentage of information coming into the team from customer contacts compared to information coming into the team from other sources, such as from other departments within the team's own organization, suggesting the relative weight that customer-generated information has within the team.

The network questions were further modified in the third year of the study to capture data on components of both market orientation conceptualizations not studied in the prior two years. Specifically, the questions were modified to on the team's competitor orientation and to provide insight regarding whether or not members responded to information received. For each fellow team member respondents were asked whether they received customer-related information from the person and if they responded to the customer-related information. The respondents were also asked whether they received competitor-related information from each fellow team member and if they responded to the competitor-related information.

3.4.2 Interviews

For the initial interviews, I reviewed with the respondent the results from her/his team's survey and asked the respondent to help me understand what was behind the numbers. The quantitative data by itself provides a glimpse of what is happening on each team. I asked the respondents to provide some of the *why* behind those numbers. For example: Based on your experience with this team, does this result make sense to you? Why or why not? Can you provide me with an example to illustrate your point-of-view? As the research progressed, however, I wanted to learn how those "on the front lines" defined key market orientation terms such as customer, customer orientation, competitor, competitor orientation, and coordination for themselves. Based on their own definitions, I wanted their perspective on how their team performed on each of these parameters. I also wanted to hear about the respondent's perspective on why the team performed as it did on each parameter. Their definitions and examples provided insights into how concepts were interwoven. For example, as will be detailed later, respondents' definition of the term "customer oriented" brought together the Narver and Slater (1990) and Kohli and Jaworski (1990) definitions of market orientation. To be customer oriented was the never-ending process of listening to the customer, communicating what was learned throughout the team, and then responding to the information with products and service.

As shown in Table 1 below, interview respondents came from all three teams and represent most geographies, offices, and functional groups for each team. The full interview guide can be found in Appendix 1.

Name	Team	Geography	Office	Function
CHALI	Alpha	USA	USA 2	Manufacturing
CHAL	Alpha	China	China	Marketing
TOCH	Alpha	USA	USA 1	Sales
MAHI	Alpha	Japan	Japan 1	Marketing
KNJU	Alpha	Germany	Germany	Marketing
THLI	Alpha	USA	USA 1	Engineering
NAMA	Alpha	USA	USA 1	Sales
CYRE	Alpha	USA	US 1	Marketing
OKYA	Alpha	Japan	Japan 2	Engineering
PRCA	Beta	USA	USA 2	R & D
BRJE	Beta	Germany	Germany	Engineering
PEJO	Beta	USA	USA 1	Engineering
HIMI	Beta	USA	USA 1	Legal
MOUL	Beta	Germany	Germany	Sales
ABSH	Gamma	Japan	Japan 1	Marketing
GIAN	Gamma	USA	US 4	Marketing
KRBE	Gamma	USA	USA 1	Engineering
SHBR	Gamma	USA	USA 1	Engineering
FRCA	Gamma	USA	USA 1	Sales
LUCH	Gamma	USA	USA 3	Engineering
HODO	Gamma	USA	USA 1	Engineering
MAJO	Gamma	USA	USA 1	Engineering
SCMA	Gamma	USA	USA 1	Sales
NAMA	Gamma	Japan	Japan 1	Engineering
CAOL	Gamma	France	France	Marketing
HUVI	Gamma	Japan	Japan 1	Quality
NAYU	Gamma	Japan	Japan 1	Marketing

Table 2: Interview Subjects

3.5 Data Collection

Data for this study was collected over a period of three years. Qualitative data was collected in year one from all three teams. Quantitative was collected all three years from the Alpha and Gamma teams, one year from the Beta team. Network data was collected three years from the Alpha team, two years from the Gamma team, and one year from the Beta team. Data was collected from the Beta team only in year one as the team was disbanded shortly after year one data collection. The data collection instruments were

modified over the course of the research to reflect learnings from prior rounds of data collection and analysis. For example, the first interviews suggested that customer and competitor identification and market-oriented objectives, constructs not considered prior to the development of the first survey, play an important role in each of these team's market orientation. Therefore, the survey was then modified to include these new constructs prior to the next round of data collection.

The research includes three teams, which are in the same division of the same company. Studying three teams from the same organization offers a distinct advantage; a number of variables, e.g., industry and corporate culture, have been controlled. The corresponding disadvantage is that is difficult to make a case for generalization. The overarching objective, however, is to build substantive theory that explains the data collected. I or other researchers can expand or adapt the theory as additional data from other sources is added in the future.

There were two separate rounds of data collection in year one. Three types of data were collected: survey, network analysis, and interview. Survey data was first collected from the Alpha and Beta teams. The survey was sent to twenty-nine people on the Alpha team, all of whom completed it. The survey was sent to twelve people on the Beta team, eleven of whom completed it, a 92% response rate. In addition to the MKTOR scale items, the survey included items used to construct the following constructs: support, clarifying communications, and individual attitude. The survey also included four network analysis questions. Respondents were asked from whom on the team they received information, from whom outside the team they received information, to whom on the team they provided information, and to whom outside the team they provided information. These questions provide network insights into coordination and customer orientations, two dimensions of Narver and Slater's conception of market orientation, as well as two dimensions of Kohli and Jaworksi's conceptualization, gathering and disseminating information.

A second round of quantitative data was collected in year one to add the Gamma team to the research. The survey was expanded to include items used to build the construct market oriented objectives. These questions were added based on insights gained from Alpha and Beta team interviews. Fifty-one of the sixty Gamma team members identified completed the survey. There were slightly fewer usable responses for the network

analysis as a few team members misidentified themselves at the beginning of this section of the survey.

After survey results were communicated to each team, I conducted one-on-one interviews with team members. The Alpha and Beta team interviews were conducted prior to the distribution of the Gamma team survey. There were nine one-on-one interviews with members of the Alpha team, five with members of the Beta team, and thirteen with members of the Gamma team. Interview respondents included members from every geographic area and most functional groups on each of these teams. The majority of interviews were conducted face-to-face. In many cases, this was also possible for respondents living outside of the USA as interviews were scheduled for times during team member business trips to the USA headquarters. In a few cases, interviews were conducted over the phone.

Data was collected in year two from the Alpha and Gamma teams. The Beta team had been disbanded between year one and year two data collection. Data collection for year two included both the survey and the network analysis questions. Based on input from the earlier Gamma team interviews, additional items were added to the survey to build the construct customer and competitor identification. Twenty-six of the thirty Alpha team members responded to the survey for an 86% response rate. Thirty-three of the sixty Gamma team members responded to the survey for a 55% response rate. I do not consider this response rate high enough to report on the network data collected for the Gamma team from this data collection.

In year three data was collected from both the Alpha and Gamma teams. This included both survey and network data. Survey data included the MKTOR scale items as well as items to build the following constructs: support, clarifying communications, individual attitude, customer and competitor identification, and market-oriented objectives. Network questions were expanded to gather data on competitor orientation and response to information gathered and disseminated. Thus, in year three it was possible to use network data to examine all three components of both the Narver and Slater and Kohli and Jaworksi conceptualizations. Network questions were not given to the Gamma team, however, as the team leader wanted to reduce the time it took to complete the survey. The response rate for the Alpha team was X%. The response rate for the Alpha team was 72%, and the response rate for the Gamma team was 78%.

Response rates for the survey and network data are summarized in Table 3. Information on interview subjects can be found in Table 3. The final version of the survey can be found in Appendix 1.

	Alpha Team		Beta Team		Gamma Team	
	N	Response Rate	N	Response Rate	N	Response Rate
Year One	29	100%	11	92%	51	85%
Year Two	26	87%	0	0%	33	55%
Year Three	21	72%	0	0%	46	77%

Table 3: Response Rates

3.5.1 Ethical Considerations

There were ethical obligations to both the organization studied and to the individual people who participated in the research. These issues included: securing permissions, preserving anonymity, and providing research results. When confronted with ethical issues, the default position was to protect the interests of the individual team members, the team leaders, and the organization as a whole.

For the organization, permission to conduct the research was secured by the organization's human resources, legal, and public relations departments. It was important to the organization that its anonymity be protected. Therefore, the organization's name and the names of its customers have been disguised. Information regarding the organization's industry, products, office locations, number of employees, and sales figures has been left vague. Permission was also necessarily secured from the team leaders, one of whom had initially approached me to do the research. Prior to the start of the research, each team leader was given a presentation that included a summary of the literature review and an overview of the emergent theory as it existed at that time. Teams leaders were told that the theory was as yet untested, i.e., not to construe the theory as "fact." Leaders were given team-specific results from data collected each year.

Participation in the research was voluntary for team members. They were invited to take the survey, and some were asked to be interviewed, but it was not required of them by the

team leader. A number of team members, in fact, chose not to participate. Team leaders were not told who completed the surveys, nor did they know who was interviewed. Data was presented to team leaders at the team level only. Team leaders did not see individual responses, nor did they see subgroups within the team, e.g., responses from a particular office or functional group. Team members could opt out of the survey at any time. If a team member opted out of the survey, the responses given up to that point were automatically discarded. Team leaders were given an overview of the themes emerging from the one-on-one interviews. To remove the possibility of identifying individual team members, team leaders were not shown actual quotes. Respondents were asked, however, to give permission to use quotes from the interview in this paper. In all cases, permission was granted. Team results were with one exception shared with all team members in group meetings and through email distribution. The Gamma team leader chose not to distribute his team's second year results.

I maintained regular, two-way communications throughout the research process with both team leaders and team members. Consistent communication throughout the process was necessary to meet my ethical obligations to the organization, the team leaders, and the team members. Communication of findings was important to the team leaders. Receiving consistent feedback from team leaders and members at each stage of the research was invaluable to the theory's development.

As part of the process to secure each team's participation in the research, I provided each team leader with an overview of the theory behind the research as it existed at that time. I tried to clearly differentiate between theory coming from published academic literature, e.g., theory behind market orientation, and theory that I was developing, e.g., factors associated with higher levels of market orientation. I provided team leaders with an update on the developing theory at the start of each research cycle. I believe, however, that team leaders did not always distinguish between published theory, my developing theory, and "fact." The team leaders wanted to know precisely what to do improve their respective teams. For example, while I might have said, "Past research shows a positive relationship being defined objectives and team coordination," I believe that the team leaders might have heard, "If you define team objectives, you will achieve greater coordination." This remained a concern for me throughout the research process.

At the beginning of each cycle, I reviewed the survey with each team leader. Team leaders had the opportunity to provide feedback on the survey instrument. This included the variable-based scale items as well as the network questions. The Alpha team leader was the only one to take advantage of this, and I incorporated much of his feedback into the survey.

After each survey closed, I shared with the leader his team's results, making year-to-year comparisons when available. Survey results for the Alpha and Gamma teams were next presented to the supervisor shared by these teams' leaders. After review by team leadership, with the exception already noted, results were communicated to all team members. The Alpha and Beta teams held virtual, global team meetings at which I communicated survey results. Each of these meetings included remarkably open discussions about the "why" behind the results and what could be done to make improvements. Many participants gave specific examples to illustrate their points. Survey results were distributed to Gamma team members via email. The Gamma team leader chose not to discuss results in a team meeting as I had suggested. Network analysis results were shared with the team leaders, not with the team as a whole. The team leaders and I were concerned that some team members would be uncomfortable if they saw themselves on the team's periphery.

Each year, the Alpha team leader, based on input from me, his supervisor, and members of the team, chose an area to target for improvement. The targeted areas for improvement were incorporated into the team's official objectives for the year. This document was distributed to all team members. Progress toward these objectives was discussed regularly throughout the year at global teleconferences. The Beta team was disbanded while the team leader and I were discussing what to target for improvement. The Gamma team leader did not use the study results to target and area for improvement after either year of data collection for his team.

I played a dual role in this research. I was, on the one hand, a researcher interested in developing theory regarding factors associated with market orientation in cross-functional, cross-geographic teams. On the other hand, I was asked by the three team leaders to provide meaningful guidance on how to improve his respective team's effectiveness. In this latter role, I was not a dispassionate by-stander clinically observing

these teams. I wanted these teams to succeed and proactively worked with the team leaders to help them improve.

From a theoretical perspective it was interesting when the Beta team was disbanded. It provided a fascinating point of contrast. One team studied had failed, while the other two were from a sales perspective increasingly successful. What differentiated the failing team from the two successful ones? This line of questioning led to exploration of the role of internal customers and competitors as well as the role of resources. That said, as a consultant to the Beta team it was disheartening to witness this failure first-hand. To a certain extent, I felt that I had failed the team. Similarly, it was difficult to tell the Gamma team leader that year-to-year his team's results dropped in many key areas. It was, however, interesting to explore why the Gamma team's results went down while the Alpha team had improved.

It was possible for these dual roles to be in conflict, creating an ethical dilemma. There were opportunities to place my needs as a researcher ahead of the teams' interests in improvement. For example, it would have been convenient if the Alpha team each year chose for improvement an area that was for me an independent variable, making it possible to suggest causality between dependent and independent variables. My recommendations to the team, however, were to focus improvements on the area or areas that I sincerely believed would be of greatest benefit to the team. For example, my recommendation to the Alpha team after the results from the first network analysis was to increase the percentage of information coming into the team from the customer's major subsidiaries, i.e., make a direct improvement to a "dependent variable," as opposed to improving "customer identification," a "predictor variable," in order to see if there was a corresponding change in the team's customer orientation.

3.6 Data Analysis

This research follows many tenets of grounded theory. It was an iterative process with an overall goal of developing theory to understand the market orientation of the three teams under study. Data, particularly the qualitative data, was collected, coded, and analyzed nearly simultaneously. The theory and related model were modified to account for data newly collected. Cases and interview subjects were chosen based on their potential to add depth to and challenge emergent theory and related hypotheses. Effort was made to remain open to new ideas, concepts, categories, and relationships throughout the process.

Grounded theory has been interpreted very differently by different scholars, including its originators Glaser and Strauss, each of whom represent distinct schools. In the Glaserian school, a theoretically sensitive researcher trusts that theory will emerge unforced from the data (Glaser, 1992). The Straussian school is associated with more formal, procedural rounds of coding to help the theory emerge. The rigidity associated with Strauss and severely criticized by Glaser (1992) is perhaps somewhat unfounded. Strauss and Corbin (1990) states while procedures and techniques are suggested, they do not suggest that people should rigidly adhere to them. There is, as Suddaby (2006) notes, tension in grounded theory between creativity and technique. Glaser's school represents the creativity, while Strauss represents the application of technique. The Glaserian school is perhaps better suited to the more confident, experienced researcher, while the Straussian provides tools to guide the less-experienced researcher through the theory-building process. In short, there is no single formula or correct way for doing a grounded theory study. There are rather many legitimate ways to put grounded theory into practice. The two schools represent two ends of a continuum but share the same overall intent: generating theory through theoretical sensitivity, constant comparison, and theoretical sampling. This is consistent with the intent of this research.

Goulding (2002) notes a further difference between the Glaserian and Straussian schools; Glaser believes that the emergent theory should only explain the phenomenon studied whereas Strauss believes one can conceptualize beyond the immediate area of study. Generality increases as diversity in data increases (Glaser & Strauss, 1967). Data for this research comes from the same basic substantive area in order to focus on a few key areas of differentiation. While the teams differ in terms of objectives, size, tenure, and perceived level of success, they come from the same division of the same organization. The teams are similar in terms of functional and geographic diversity. The goal for this study is to develop theory that explains the data collected for this research. While this research might start as a launching point for future research, there is no immediate attempt to generalize beyond the teams studied.

Eisenhardt notes an overlap between grounded theory and use of the case study, defined as "a research strategy which focuses on understanding the dynamics present within single settings" (Eisenhardt, page 534). Case studies involve in-depth, longitudinal study of an individual unit, be that unit a person, group, or event. Yin elaborates, "As a

research strategy, the distinguishing characteristic of a case study is that it attempts to examine: (a) a contemporary phenomenon in it real-life context, especially when (b) the boundaries between phenomenon and context are not clearly evident" (Yin, 1981: 59). The present research falls into the category of case study, seeking to understand the forces affecting the market orientation of three specific groups over a period of up to three years. Market orientation is the phenomenon studied, and it is studied in the context of three teams. Case study data is analyzed both within the case and across cases. Eisenhardt states that the process begins by understanding the individual case, stating, "The overall idea is to become intimately familiar with each case as a stand-alone entity. This process allows the unique patterns of each case to emerge before investigators push to generalize patterns across cases" (Eisenhardt, 1989: 540). By adding cases, researchers are provided with additional opportunities for comparison, and this can lead the researcher to see patterns emerge in the data, which in turn can help develop the emergent theory. The research began with the Alpha team, and the Beta and Gamma teams were added to the study to provide opportunities for comparison. Comparisons are made within each team in order to understand and theorize about the dynamics within that team. Additionally, I compare the teams, seeking to theorize what might account for similarities and differences.

Eisenhardt further states that beginning the research with an initial specification of constructs, perhaps atypical in theory building research, is valuable as it allows researchers to measure these constructs more accurately. Eisenhardt notes, however, that it is best to view these constructs as tentative, stating, "No construct is guaranteed a place in the resultant theory, no matter how well it is measured" (Eisenhardt, 1989: 536). As noted above, I entered the field with initial constructs developed from the literature review. These constructs, however, evolved over the course of the research, and new constructs, specifically customer and competitor identification and market-oriented objectives, were developed from the research. As will be discussed in a subsequent chapter the concept of managing ambiguity also emerged from the qualitative data. While case studies are most closely associated with qualitative research, Eisenhardt (1989) and Yin (1981) also note that case studies can use qualitative data, quantitative data, or a combination of the two. As stated previously, this study uses three methods: quantitative data, qualitative data, and network analysis data.

Creswell and Plano Clark (2011) states that quantitative and qualitative methods used in combination within a single study, most commonly referred to as mixed methods research, provide a better understanding of research problems than either approach used alone. This also includes mixing the philosophical positions embedded in within a method, e.g., the positivist ontology underlying quantitative data and constructionist ontology underlying qualitative data. Methods can be used either sequentially, most typically qualitative followed quantitative, or concurrently. The rationale behind mixed methods research is that through this approach the researcher gains a greater depth of understanding than is possible through use of a single data type. The researcher has the opportunity to corroborate findings across data sources. Also, the limitations of one method can be offset by the advantages of the others. Qualitative data offers great depth of understanding, but the opportunity to generalize can be limited. Quantitative data offers strong breadth of understanding but significantly less depth.

This research makes use of three distinct lenses to view market orientation: quantitative data generated from surveys, qualitative data generated from one-on-one interviews, and network data generated from surveys. Each of the three methods offers distinct insights. The qualitative data provides context for the quantitative and network data. It allows those studied to provide their own perspective on key issues. The quantitative data is an effective means to provisionally test possible relationships as they emerge. The network data provides an opportunity to view the team as a whole. Making comparisons both within and across cases was made easier through use of multiple data sources. I could use the qualitative data to look for patterns both within and across cases. The quantitative data was best for looking at patterns emerging across cases. Similarly, the network data was best for looking at each group in isolation. The use of mixed methods also offers an additional opportunity to make meaningful comparisons. In addition to making comparisons within and across cases, a mixed methods approach allows the research to make comparisons across data sources. In what ways do the data show similar findings? In what ways are the findings different? What accounts for these similarities and differences?

Data collection was done sequentially in multiple phases. There were three rounds of data collection, one round of data collection each year over the course of three years. Quantitative and network data in years two and three were collected concurrently. The qualitative data and the quantitative/network data were collected sequentially, allowing

data from the quantitative data, for example, to inform subsequent qualitative data collection and vice versa. I did not view data from one method in isolation from the other two. Looking at an interview respondent's network position helped me understand the respondent's perspective. Follow-up conversations with team members helped me interpret network results. I believe that each of three methods used in this study provide unique and valuable insights and that the research would have suffered if any of the methods had not been included. That said, I believe that I give some priority to the qualitative data because of the depth of understanding provided. Additionally, it is through the qualitative data that the respondents most clearly communicate their own experiences.

Greene, Caracelli, and Graham identifies five purposes for mixed methods research: triangulation, which "seeks convergence, corroboration, [and] correspondence of results"; complementarity, which "seeks elaboration, enhancement, illustration, [and] clarification of results"; development, which "seeks to use the results from one method to help develop or inform the other method"; initiation, which "seeks the discovery of paradox and contradiction" between methods; and expansion, which "seeks to extend the breadth and range of inquiry by using different methods for different inquiry components" (Greene, Caracelli, & Graham, 1989: 259).

The overall objective of the research is to develop a comprehensive, substantive theory that explains the market orientation of these three teams as observed in the data from all three methods. Thus, the objective is to triangulate among the three methods to develop a substantive theory. This research also uses mixed methods for complementarity as the quantitative and qualitative data "measure overlapping but also different facets of the phenomenon" (Greene et al., 1989: 258). The qualitative data provides a deep understanding of various factors affecting market orientation while the quantitative data sheds light on the relationships between these factors. Development was an important purpose for using mixed methods in this research. Results from one method helped inform how research with another method developed through subsequent rounds. The concept of market-oriented objectives, for example, originated in the qualitative research but was subsequently explored in the quantitative research. Greene, Caracelli, and Graham notes that expansion is the most frequently cited reason for using mixed methods. Through the quantitative and qualitative methods I study market orientation through constructs and categories, which share somewhat similar characteristics. Network

analysis, however, provides a radically different perspective on market orientation, extending my view of the phenomenon. Initiation was an original expectation for using mixed methods. Contrary to expectations, however, I did not see contradictions in the data.

Data was analyzed in successive rounds as data was collected. Comparisons were made between years within a given data source. For example, how did the Alpha team's performance change year-to-year when looking at the network data? I also compared similarities and differences among the teams within a given data source, looking at, for example, differences in team characteristics such as size, age, and objectives to explain differences in the qualitative data among the Alpha, Beta, and Gamma teams. Lastly, I compared data between the different data sources. How can differences seen among interview subjects be explained using network data? This was an iterative process. Concepts, for example, that emerged in the first interviews were then explored in the next survey, and then further explored in subsequent interviews. The primary objective of the data analyses was to challenge the theory as it existed at that point and generate ideas on how the theory needed to evolve in order to accommodate similarities and differences seen in the data. The analyses were performed in the second year of the study and repeated in the third years as the data became richer.

3.6.1 Network Data

Kohli and Jaworski discuss the role of networks in achieving higher levels of market orientation, but network analysis has not previously been used to study market orientation (Kohli & Jaworski, 1990; Kohli et al., 1993). Examining market orientation using network analysis therefore addresses a gap in the literature. Network data was used to gain insights on both Kohli and Jaworski's and Narver and Slater's market orientation conceptualizations. For Kohli and Jaworski's conceptualization, network drawings were used to visualize specifically from whom information was gathered and to whom it was disseminated. Team members, particularly the team leaders, provided insight regarding whether the team was gathering information from all needed customer contacts and whether this information was being distributed to the right people within the team. Year three data allowed the opportunity to see when team members responded to the information received or if the information was "for your information" only.

For Narver and Slater's conceptualization, density and average density were used to assess the team's level of coordination. Two measures were used to assess customer orientation. First, I calculated the percentage of information coming into the team from customer contacts and compared this to the percentage of information coming into the team from other sources, e.g., from elsewhere within the company. Using data from the third year of data collection, I examined the density and average distance of the networks created when looking at information coming into the team that was customer-related. Similar to the above and again using data from year three data collection, I examined the density and average distance of the networks created when looking at information coming into the team that was competitor-related. There was no absolute measure of goodness for balance of percentages among customer-related, competitor-related, and company-related information. Rather, the customer-related and competitor-related networks were discussed with the Alpha team leader to if he believed the right people were involved in the flow of information.

Through discussions with team members I determined the roles that information brokers, boundary spanners, central connectors, and peripheral specialists play in the teams' market orientation. Centrality was calculated to explore which functional groups were most involved in the flow of information. This analysis suggested that certain functional groups, e.g., engineering and sales, were dominant in the flow of information while another, marketing, had far less influence. Interview data was also matched with network data to explore how a person's position in the network affected perspective on coordination, customer orientation, competitor orientation and resources. Details on the network analysis are presented in chapter four.

3.6.2 Qualitative Data

Following grounded theory, collecting and analyzing data were not discrete steps (Glaser & Strauss, 1967; Strauss & Corbin, 1990). After completing each of the twenty-nine interviews impressions were captured in a journal, fitting what the respondent said with what I had heard from the previous interviews. This helped the emerging theory evolve as the theory was adapted to fit the new data.

The interview data was coded using NVIVO software. Ninety codes created during the initial round of analysis. Interview data in many cases was captured under more than one code, e.g., "group identity" and "small team size." Following Saldana (2009), these initial

codes were "structural codes." Saldana defines a structural code as "a concept or conceptual phrase representing a topic of inquiry to a segment of data that relates to a specific research question used to frame the interview" (Saldana, 2009: page 66). A number of these initial codes came from the original constructs developed through the literature review, e.g., individual attitude. In some cases, the initial codes were clearly redundant, e.g., "customer preferences" and "customer wants." In other cases, initial codes were facets of the same overall concept, e.g., "due to large team size" and "benefit of being a small team" were two ends of the same continuum.

Categories from these initial structural codes were built during the next round of coding. The goal was to create codes that had properties allowing each data point to be located along a specific point along a continuum, thus making it easier to see patterns between and among categories (Strauss & Corbin, 1990). Conflict within the team, for example, can be low, moderate, or high. Clarity of objectives, processes, and roles can be poor, moderate, or strong. Teams were then plotted against each continuum for each category. The second coding process also suggested expansion of constructs developed during the initial literature review. Clarifying communications, for example, included defined team objectives, strategies, processes, and roles and responsibilities. The qualitative data, however, suggested that clarifying communications also play an important role at the project level.

In addition to categories anticipated from the literature review, new categories emerged from the qualitative data during the second coding process: customer and competitor identification and market orientated objectives. As with clarifying communications, each involves the team creating definition and thus reducing ambiguity and the potential for misunderstanding and/or misalignment among members. Clarifying communications seems associated with coordination, however, while customer and competitor identification and market-oriented objectives seem to have greater affect on customer orientation and competitor orientation. The possible relationships between these new categories and market orientation were subsequently added to the study's research propositions and further explored with the quantitative data. Additionally, resources emerged from the qualitative data as the most influential aspect of management support. Lastly, an important relationship between resources and customer and competitor identification emerged. No team has sufficient resources to bring clarity to all areas that are ambiguous regarding direct and indirect customers and competitors. It seems to

reduce stress among team members, however, if the team makes conscious decisions to bring clarity to certain areas while deliberately allowing other areas to remain ambiguous.

Relationships among the market orientation categories, e.g., customer orientation, competitor orientation, coordination, gathering information, disseminating information, and responding to information, were examined to understand the nature of market orientation within the three teams. Relationships between categories were then used to examine the propositions presented in chapter two. Lastly, the relationships seen among categories were applied to each of three teams in a series of "team stories" that attempt to explain the market orientation of each team. The qualitative analysis is presented in chapter five.

3.6.3 Quantitative Data

Quantitative data was collected for each of the three years. Unlike the network and qualitative data, which explores both the Narver and Slater and Kohli and Jaworski conceptualizations, the quantitative data solely uses Narver and Slater through the MKTOR scale. SPSS was used to test the initial propositions developed through the literature review and to test provisionally possible new relationships that emerged from other data sources, e.g., the effect of market-oriented objectives on each market orientation component. Data from each year was analyzed separately. Using .7 as the standard for acceptability, I looked at the Cronbach's Alpha to see if the scale items used likely represented facets of the same overall construct. I also explored how different constructs could be built with different logical combinations of variables. For example, how was "customer orientation" affected if customer-related variables from "proactive orientation" were added to the construct? I next ran the Pearson's correlation for each pair of constructs. In addition to the independent variables presented in chapter two, team tenure, functional group, and geography were also examined to see if possible relationships existed with each market orientation component. Construct-to-construct correlations above .4 were viewed as weak, correlations above. 5 as moderate, and correlations above .6 as strong. I next ran linear regressions to test the model as whole. Similarly, an R square for a given model of .4 was considered weak, above .5 moderate, and above .6 as strong. Given the small sample sizes it is difficult to make a case for generalization. The findings do, however, explain the data collected for this research and provide a foundation for future studies.

I created models throughout the process as a method to visualize relationships. Models made it easier to see how constructs or categories might be related. Models also made it possible to communicate emergent theory succinctly with team members in order to solicit their perspective on the work. Models are, of course, inherently simple, omitting nuances in constructs and in the relationships between them. There is also implied causality between constructs in a model. I present details on the quantitative data analysis and the findings from the testing of hypotheses in chapter six.

I present results of this research in four sections. Each of the first three sections is devoted to a different data type: network, qualitative, and quantitative. The fourth section seeks to integrate these three sources into a single theory that explains the market orientation and forces affecting the market orientation for these three groups. It is important to note, however, that while the results are presented sequentially by data type, it was an overlapping process of data gathering, analysis, and theory refinement.

Chapter 4: Presentation of Network Analysis

4.1 Introduction:

Prior research has shown a correlation between market orientation and business performance as measured through new product success. Market orientation has traditionally been measured through the MKTOR and MARKOR scales developed by Narver and Slater (1990) and Kohli et al. (1993) respectively. In this chapter, I examine if there might be a different, complementary way to study market orientation. Kohli and Jaworski (1990, 1993) discuss the role of networks in achieving higher levels of market orientation, but network analysis has not previously been used to study market orientation. "The greater the extent to which individuals across departments are directly connected (or networked), the more they are likely to exchange market intelligence and respond to it in a concerted fashion" (Kohli et al., 1993: 56). Following Kohli and Jaworski (1990), network analysis can show how information is gathered, disseminated, and responded to within a group. Following Narver and Slater (1990), network analysis can be used to examine customer orientation, competitor orientation, and coordination.

Importantly, however, the network analysis provides views of market orientation that combine components from Kohli and Jaworski and Narver and Slater. One sees, for example, coordination, a component from Narver and Slater's conceptualization of market orientation, used to gather and disseminate information, components from Kohli and Jaworski's conceptualization. One sees the gathering and disseminating of information, components from Kohli and Jaworski, inseparable from the group's customer orientation, a Narver and Slater component. The view of market orientation provided by this network analysis is therefore comparable to that suggested by Cadogan and Diamantopoulos (1995), which suggests a coordinating mechanism for the gathering, disseminating and response to customer and competitor information. I find a possible association between the organization's structure and its level of coordination, and that certain roles within the group facilitate increased customer orientation within the team. The research also suggests that information flows differently in the team depending on whether the information is customer or competitor related. This research suggests that network analysis, particularly when managers participate in the interpretation of results, can be an effective means for identifying and correcting issues hindering a team's market orientation. This research contributes to theory by showing an alternate, complementary way to study market orientation and suggests factors that contribute to a group's level of

market orientation. This research contributes to practice by providing managers with a practical to measure to improve their organization's market orientation, thus increasing the likelihood of new product success.

4.2 Using Network Analysis to Explore Market Orientation

I believe that network analysis provides unique and valuable insights regarding a team's level of market orientation, complementing what can be learned through the MKTOR and MARKOR scales. Network analysis enables one to view a community of people. This is quite different from scale data, which provides information, however valuable, on abstract concepts. If you will, scale data provides insight as to what is happening in a group. Network analysis not only provides different insights as to what is happening it also provides insights regarding where it is happening and, if you will, who is making it happen. We can use network analysis to view how coordination manifests itself in an organization through the flow of information to and from members. We can use network analysis to see specifically from whom intelligence is gathered, and to whom intelligence is disseminated. This research can be seen as an extension of the work done by Cross et al. (2008), which used network analysis to measure team effectiveness and coordination, a dimension of market orientation. Cross et al. states that network analysis can be used to "assess leverage points for performance improvement," examining the quality of relationships among team members, between the team and the customer, and between the team and the overall organization" (Cross et al., 2008: 84).

This research is concerned with understanding how product development and customer teams can increase the probability of achieving high levels of market orientation and new product success. It seeks to understand factors that facilitate or hinder the transfer of information and perspective from the individual to the team. Network theory and network analysis contribute to this understanding in a number of ways. It provides a theoretical framework for understanding how and why information of various types is likely to move among members of a given community. It therefore provides an interesting perspective on the gathering, dissemination, and response to information within the team, the three dimensions of Kohli and Jaworski's market orientation. (Kohli & Jaworski, 1990) Similarly, network theory can help develop theory regarding possible antecedents and consequences of the three dimensions of Narver and Slater's market orientation: coordination, customer orientation, and competitor orientation (Narver & Slater, 1990). It helps visualize coordination in a given team, shedding light on where

coordination is manifested through the sharing of information. Similarly, network theory provides an interesting means to study customer orientation, showing to and from whom among customer contacts information flows. Network analysis also provides a means to study to whom on the team information on competitors goes. Network theory provides a possible explanation as to why information is or not moving between and among team members and between team members and customer contacts. Importantly, network analysis shows the synergy between the two majors view of market orientation. Much like Cadogan and Diamantopoulos, network analysis brings together the Narver and Salter and Kohli and Jaworski definitions of market orientation, reinforcing that they are complementary lenses for viewing the same phenomenon. For example, we see coordination through the gathering and dissemination of information among people in the community. We see customer orientation thought the gathering of information from and dissemination to customer contacts.

Network theory supposes that structural relations are more influential determinants on an individual's behavior than demographic characteristics (Knoke & Yang, 2008). Network theory seeks to uncover patterns in social ties, the conditions under which these patterns emerge, and the consequences of these relationships on the individual actors and community as a whole (Freeman, 2004). The teams studied in this research are comprised of multiple sub-networks within an overall network. For example, there is the sub-network containing the ties that team members have with one another, and there are the sub-networks that each member has with those outside the team, whether they be within or outside the company. Examining the sub-network composed solely of team members provides insights into the team's level of coordination, the gathering and dissemination of information within the team, while examining the sub-network that includes customer contacts provides insights into the team's customer orientation.

Cross and Prusak (2002) defines roles within a network, and the execution of these roles might influence the teams' market orientation. This includes boundary spanners, defined by Cross and Prusak as "roving ambassadors, people who serve as the group's eyes and ears in the wider world. These boundary spanners nurture connections mainly with people outside the informal network – for instance, they communicate with people in other departments within a company, at different satellite offices, and even in other organizations" (Cross & Prusak, 2002: 109). They might also be seen as ambassadors and scouts, representing the group to others and bringing back information on customer

activities (Ancona & Caldwell, 1992a; Ancona & Caldwell, 1992b). Prior to the start of this research, I anticipated that teams with boundary spanners connecting the team to key external groups, most importantly within the customer's organization, would outperform teams without such connections as they are more likely to receive the information needed to be customer oriented.

"Information brokers" relay information between various subgroups within the network. Cross and Prusak, in fact, states that, "Without these information brokers, the networks as a whole wouldn't exist" (Cross & Prusak, 2002: 110). They bridge holes within the teams, connecting functional groups and geographies. I anticipated that information brokers would connect sub-networks within the team, bridging the "faultlines" caused by functional and geographic diversity within the team, thus facilitating the transfer of information within the team, reducing the likelihood of conflict, and increasing coordination (Jehn, 1997; Jehn et al., 1999).

Burt (2004) explains why boundary spanners and information brokers have such potential to benefit their teams. Burt argues that "people who stand near the holes in a social structure are at higher risk for having good ideas" (Burt, 2004: 349). While ideas developed within a group tend to be homogenous, ideas between different groups tend to be heterogeneous. Therefore, a person connecting two groups is likely exposed to a greater volume of new ideas compared to a person only connected within one group. The best of these new ideas can be synthesized into the person's overall perspective. By extension one can argue that the team as a whole has potential to benefit from having among its members those who stand near these holes. Conceivable, teams with more "hole-bridging" members will outperform teams who do not have members bridging structural holes. Boundary spanners, bridging the hole between the team and its customer, will bring into the team the customer's perspective, enhancing the team's overall customer orientation. Similarly, I anticipated that information brokers, those connecting sub-networks within the team, would play an important role in coordination, bridging holes between functional and/or geographic groups and balancing the potentially disparate perspectives of different subgroups.

Tortoriello and Krackhardt (2009) argues that not all ties are equally effective in transferring knowledge. Their research examines how third-party bridging ties increase the likelihood that information will successfully span the boundary between two groups.

A bridging tie is one that connects two otherwise separate groups. A third-party bridging tie connects two otherwise separate groups through a triad, rather than a dyad. Third-party bridging ties increase the likelihood that interested parties will be willing to invest time in transferring knowledge that the knowledge will be comprehensible. If the team members' ties to their respective network connections are weak third-party ties would increase the likelihood that network connections would respond to team member requests for information thereby increasing the pool of information that the team potentially use. I anticipated that third-party bridging ties, whether connecting the team to the customer through boundary spanners or connecting subgroups within the team through information brokers, would increase the likelihood of information transfer, strengthening customer orientation when connecting the team to the customer and enhancing coordination when connecting subgroups within the team.

Cross and Prusak also defines "peripheral specialists," stating, "Large or small, every informal network has is outsiders. Although they operate on the periphery, these people play a vital role in the network by serving as experts. They possess specific kinds of information or technical knowledge – for instance, research data, or software skills, or customer preferences – that they pass on to the other members of the group whenever it is needed" (Cross & Prusak, 2002: 111). I anticipated that teams that identify and connect with potential peripheral specialists, tapping into their expertise, have the potential for greater market orientation as they are able to access information that might benefit their customer.

Network analysis and theory can also be used to identify specific breakdowns in coordination and information transfer and the possible causes for these breakdowns. This can be used to suggest how changes in team dynamics and/or structure can improve organizational performance (Cross, Borgatti, & Parker, 2002; Cross et al., 2008; Cross, Katzenbach, & Canner, 2009). Managers can modify team structure and process in order to improve market orientation. For example, the team leader might serve as the coordinator for team communications and might also be the team's representative with management. If the team leader is not well-connected to management, the team might suffer from management's poor understanding of the project's needs and/or progress. Network analysis can identify this weakness, which can then be addressed.

Following Gould and Fernandez (1989), we might also expect team members serve as representatives for their respective functions and/or geographies. If the team's marketing representative is not well-connected to the team, for example, the marketing perspective might not be considered by the team as a whole and consequently the team might have a low customer orientation. Network analysis can lead to recommendations on how changes in team dynamics can improve market orientation and product success.

There are parallels between specific items in the MKTOR and MARKOR scales and what can be seen through network analysis. The MKTOR scales, for example, includes within coordination, "information shared among functions" and "inter-functional customer calls"; customer orientation includes, "Understand customer needs" (Narver & Slater, 1990, page 4). The MARKOR scale (Kohli et al., 1993, page 476) includes:

- In this business unit, we meet with customers at least once a year to find out what products or services they will need in the future.
- Individuals from our manufacturing department interact directly with customers to learn how to serve them better.
- We poll end users at least once a year to assess the quality of our products and services.
- We often talk with or survey those who can influence our end users' purchases (e.g., retailers, distributors).
- There is minimal communication between marketing and manufacturing departments concerning market developments. (A reverse coded item.)

While network analysis does not necessarily show the nature of the communication, e.g., if the customer communication was about future products or current level of service, it does provide the distinct benefit of showing precisely who in the organization communicated with whom in the customer's organization.

I believe that the most effective use of network data in understanding a group's market orientation comes from specific conversations regarding the group's individual results. Network data can show a person's position in the community, but only through a community-specific conversation can we determine if that position is optimal. In some cases, for example, a specific person on the network's periphery might be a cause of concern. In other cases, however, this position might be appropriate.

Similarly, network data can show from which external sources information is being brought into the community, but through discussion we see if the information is coming from the right or from sufficient external sources. Network analysis, for example, can identify information coming from a specific customer contact but does not necessarily place a value on the likely importance of the information. This also holds true for competitive information.

Regarding benefit to practice, managers can, for example, see whether or not intelligence is being gathered from specific, desired areas within their own organization or from specific points along the customer value chain. Managers can also see if information is being disseminated effectively to all members within the team. Managers can then use network data to target specific areas for improvement, conducting the study again at a later date to see if desired changes were realized.

4.3 Results

I will begin by exploring coordination within the team, studying information provided to and received from team members. I will first present results that were seen independently in the data. This will be followed by a presentation of how the data was interpreted working collaboratively with the Alpha team leader. Similarly, I will then present as one measure of customer orientation the flow of information among both team members and people external to the team. Again, this will be followed by how the data was interpreted with the Alpha team leader. This is followed by a look at second approach to examining customer orientation. This approach is also used to examine competitor orientation. I conclude with how the Alpha team responded to this customer-related and competitor-related information. Terms such as information broker, peripheral specialist, and boundary spanner developed by Cross and Prusak (2002) will be used to identify roles found across the teams in the study.

4.3.1 Coordination

As shown in Table 4 below, in each team of the three teams we see relatively dense networks and short average distances between team members.

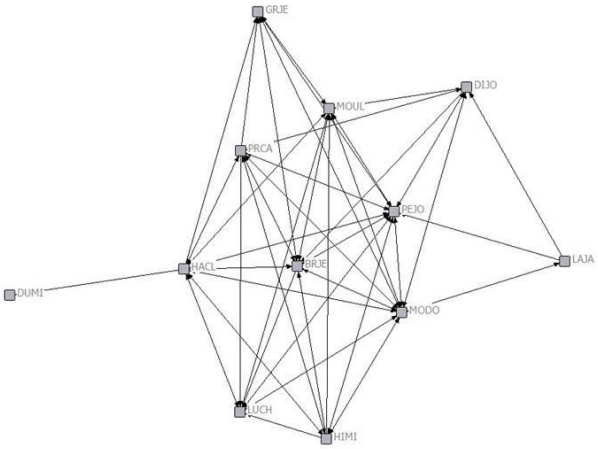
Team	Network Analysis	Information Type	Density	Average Distance

	Year			
Alpha	One	Received From	0.60	1.40
Alpha	One	Provided To	0.49	1.50
Alpha	Two	Received From	0.49	1.40
Beta	One	Received From	0.66	1.30
Beta	One	Provided To	0.54	1.40
Gamma	One	Received From	0.32	1.50
Gamma	One	Provided To	0.28	1.60

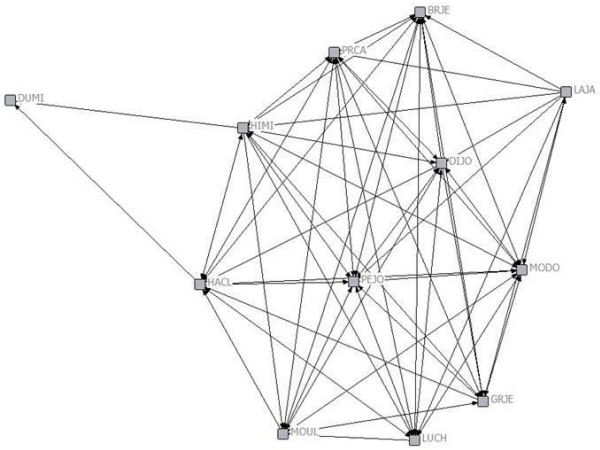
Table 4: Comparison of Network Density and Average Distance

In each team the network for information received is denser than the network for information provided, and the average distance between nodes for information received is shorter than the average distance between nodes for information provided. I had expected that the "information provided to" would have been denser than the "information received from" network, supposing that people were not necessarily absorbing all of the information sent to them. What might account for this different than expected result? In follow-up interviews team members stated that this was likely due to the nature of team communications. Information was generally shared in a group meeting, most typically in a weekly teleconference. While member A provided member B with information during a meeting, all the other members on the call also received the information. Position in the network is comparable when looking at "Provided To" and "Received From" data. Additionally, the name generators produced comparable "Provided To" and "Received From" results as members stated that there was typically an exchange of information provided and received in communications with contacts outside the team. Therefore, I will focus on the "Received From" data so as not to be redundant. I provide a comparison of "Information Received" and "Information Provided" in Graph 1Graph 1 below in order to illustrate the similarities.

Beta team – "Information Provided To"



Beta team – "Information Received From"



Graph 1: Comparison between "Provided To" and "Received From"

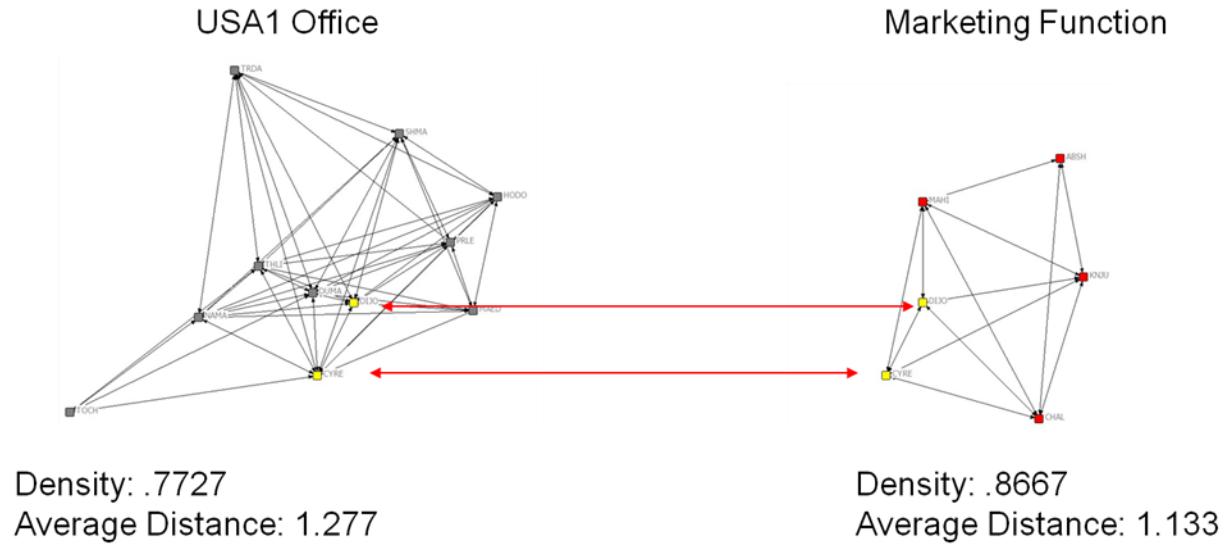
Information Brokers The data suggests that the coordination of information within the teams might be influenced by the teams' matrix structure. Using the Cross and Prusak (2002) terminology, information brokers connect their functional and geographic groups, bridging the hole between the two groups and thus enabling information to flow between them. Most team members belong to both a cross-functional, geography-based "sub-team" and a cross-geographic, function-based "sub-team." These sub-teams in all but one case have a greater density than the team as whole. This is presented in Table 5 below.

Team	Information Type	Group	Density	Average Distance
Alpha	**Received**	**Whole**	**0.60**	**1.40**
Alpha	Received	Engineering	0.81	1.19
Alpha	Received	Marketing	0.87	1.13
Alpha	Received	Sales	1.00	1.00
Alpha	Received	USA 1	0.77	1.23
Alpha	Received	Japan 1	0.92	1.08
Alpha	Received	Japan 2	0.94	1.06
Alpha	**Provided**	**Whole**	**0.49**	**1.53**
Alpha	Provided	Engineering	0.81	1.33
Alpha	Provided	Marketing	0.97	1.03
Alpha	Provided	Sales	0.92	1.08
Alpha	Provided	Japan 1	0.92	1.08
Alpha	Provided	Japan 2	0.89	1.11
Alpha	Provided	USA 1	0.63	1.38
Beta	**Received**	**Whole**	**0.66**	**1.28**
Beta	Received	Engineering	1.00	1.00
Beta	Received	R&D	0.50	1.25
Beta	Received	Germany	1.00	1.17
Beta	Received	USA 1	0.87	1.13
Beta	**Provided**	**Whole**	**0.54**	**1.44**
Beta	Provided	Engineering	0.83	1.17
Beta	Provided	R&D	0.50	1.25
Beta	Provided	Germany	1.00	1.00
Beta	Provided	USA 1	0.73	1.27
Gamma	**Received**	**Whole**	**0.32**	**1.53**
Gamma	Received	Engineering	0.43	1.34
Gamma	Received	Logistics	0.33	1.00
Gamma	Received	Marketing	0.84	1.16
Gamma	Received	Quality	0.36	1.17
Gamma	Received	Sales	0.83	1.03
Gamma	Received	USA 1	0.66	1.28
Gamma	Received	Japan 1	0.35	1.41
Gamma	**Provided**	**Whole**	**0.28**	**1.64**
Gamma	Provided	Engineering	0.41	1.40
Gamma	Provided	Logistics	0.33	1.00
Gamma	Provided	Marketing	0.79	1.21
Gamma	Provided	Quality	0.21	1.18
Gamma	Provided	Sales	0.81	1.06
Gamma	Provided	USA 1	0.55	1.41
Gamma	Provided	Japan 1	0.32	1.44

Table 5: Density and Average Distance within Sub-groups

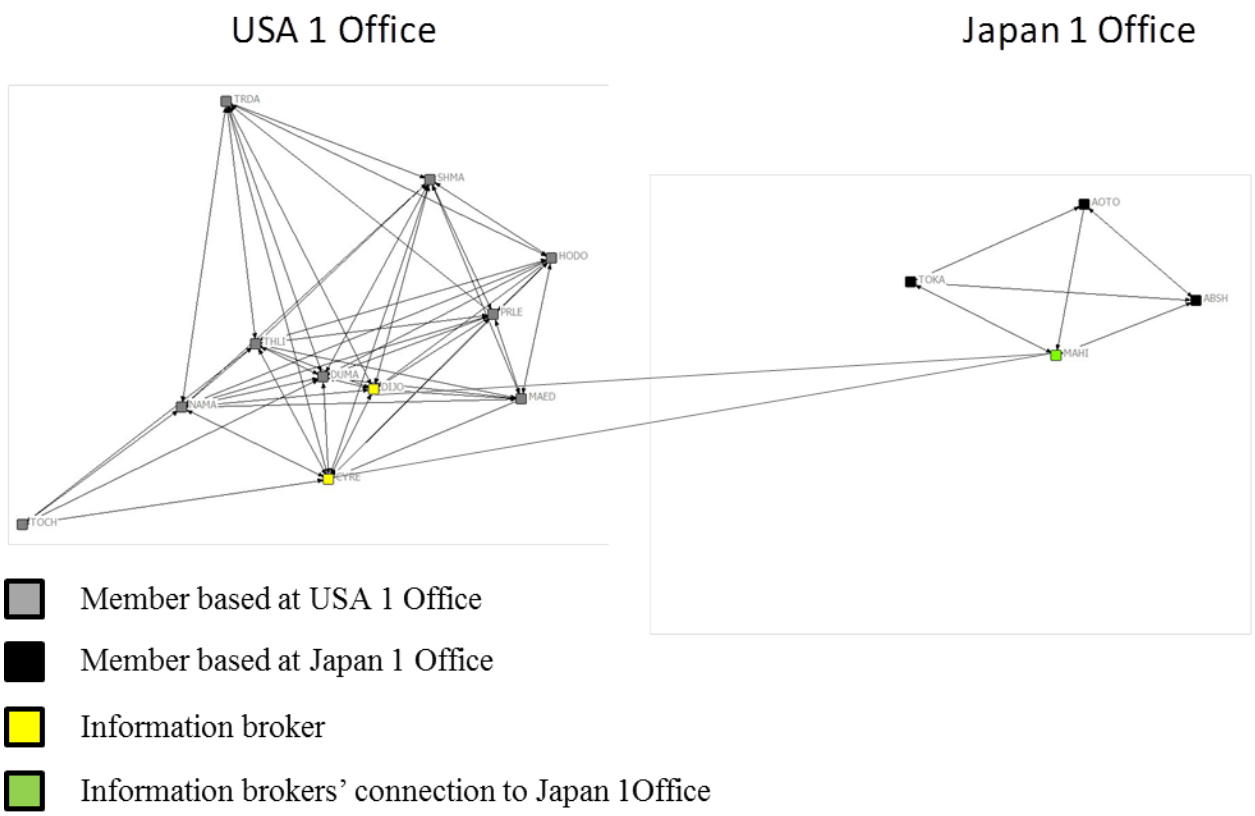
It is not remarkable that groups composed of people from a single geography or functional group have a higher density than groups that are both cross-geographic and cross-functional. What is interesting is that certain team members serve link the

geographic sub-team to the functional sub-team. For example, as shown in Graph 2 below, for example, CYRE and DIJO, represented in yellow, are in both the geographic group USA 1 and the functional group Marketing. They bring these groups together, providing pathways for information between USA 1 and other geographies through the marketing functional group. Following Gould and Fernandez (1989) they represent their functional group in geography based interactions, and they represent their geography in functional group interactions. Through their position in these two different subgroups they help move information from one group to the other.



Graph 2: Information Brokers Join Two Sub-groups

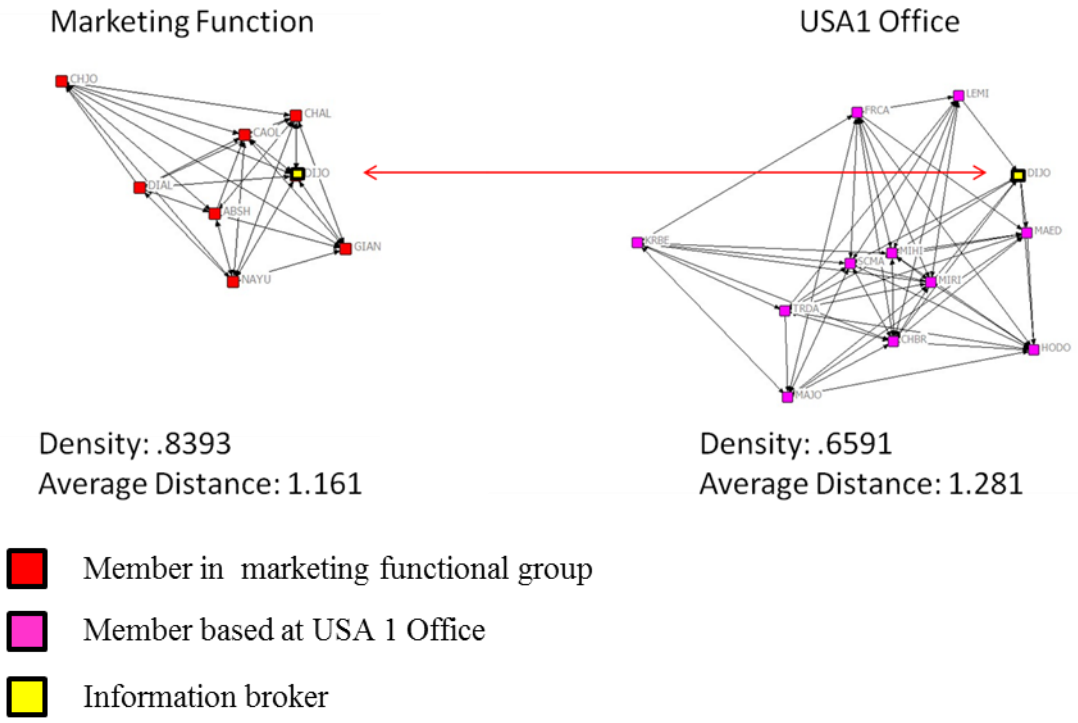
In addition to connecting the USA 1 office to the global Marketing functional group, CYRE and DIJO, represented in yellow, also connect the USA 1 office through MAHI, represented in green, to the Japan 1 office, which is shown in Graph 3.



Graph 3: Marketing Team Members Connect USA 1 and Japan 1 Offices

It is noteworthy that there is redundancy in the boundary spanning role presented above. In this case redundancy is not likely a negative. Redundancy increases the likelihood that information not only moves from one group to another and the likelihood that the information is internalized by the recipient. Also, the redundancy in role provides the team with a safeguard if one of the two boundary spanners leaves the group, which in fact is what happened in this team. Shortly after the data was collected CYRE left the Alpha team for a position in another division within the company. Information flow between the USA 1 geography and global marketing group was not hindered, however as DIJO maintained the same boundary spanning position within the Alpha team network. The preceding example shows how the geographic locations are connected through the marketing functional group. Other functional groups, such as engineering and sales, in a similar way also connect the team's different offices. Because of these cross-functional, cross-geographic interconnections, there are no dominant central connectors on the team; the majority of team members move information to and from their geographic and functional subgroups.

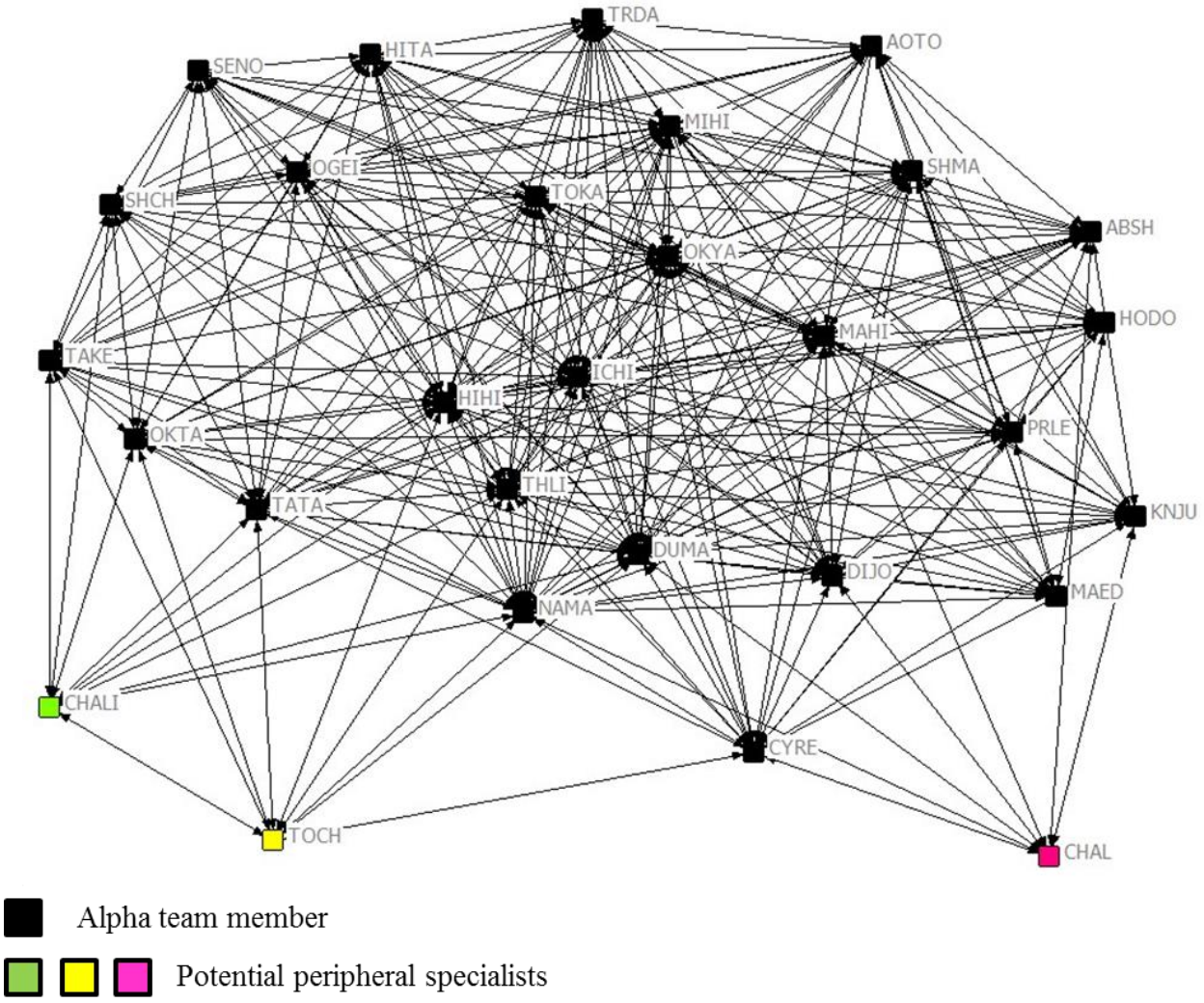
We see a comparable phenomenon when looking at the Gamma team, which has the same matrix structure. Once again DIJO, represented in yellow, a member of both the Alpha and Gamma teams, bridges the cross-functional USA1 location and the cross-geographic marketing functional group, which in turn through DIJO's connection to NAYU connects the USA 1 and Tokyo 1 offices. These connections are seen in Graph 4.



Graph 4: Information Brokers in the Gamma Team

Peripheral Specialists As seen in Graph 5, CHALI (represented in green), TOCH (represented in yellow), and CHAL (represented in red) are on the periphery of the Alpha team's network in the first year we conducted the network analysis. Perhaps not surprisingly, two of these three are either functional and/or geographic isolates. CHAL is the sole team member based in China. CHALI is the sole member to work in the USA 2 office and is the sole team member to work in manufacturing. Network analysis in of itself, however, does not show whether the position of these three individuals is good or not. The visualization, however, provoked a very interesting conversation with the Alpha team leader. According to the team leader CHALI and TOCH are what Cross and Prusak (2002) call "peripheral specialists." CHALI serves as the liaison between the team and Parthenon's manufacturing division. TOCH processes customer orders and processes invoices to the customer. They are also what Ancona and Caldwell (1992b) call a task-coordinating function, coordinating activities between the team and other groups within Parthenon. Based on their function within the team, the leader stated that it was not

necessary for CHALI and TOCH to have a deep understanding of team's objectives, strategies, customers, and competitors. In other words, the team leader believed that their position in the network was appropriate. This was not the case for CHAL. The team leader expressed a level of concern that this person was on the network's periphery as CHAL was the team's sole representative in China, a fast-growing and strategically important market.

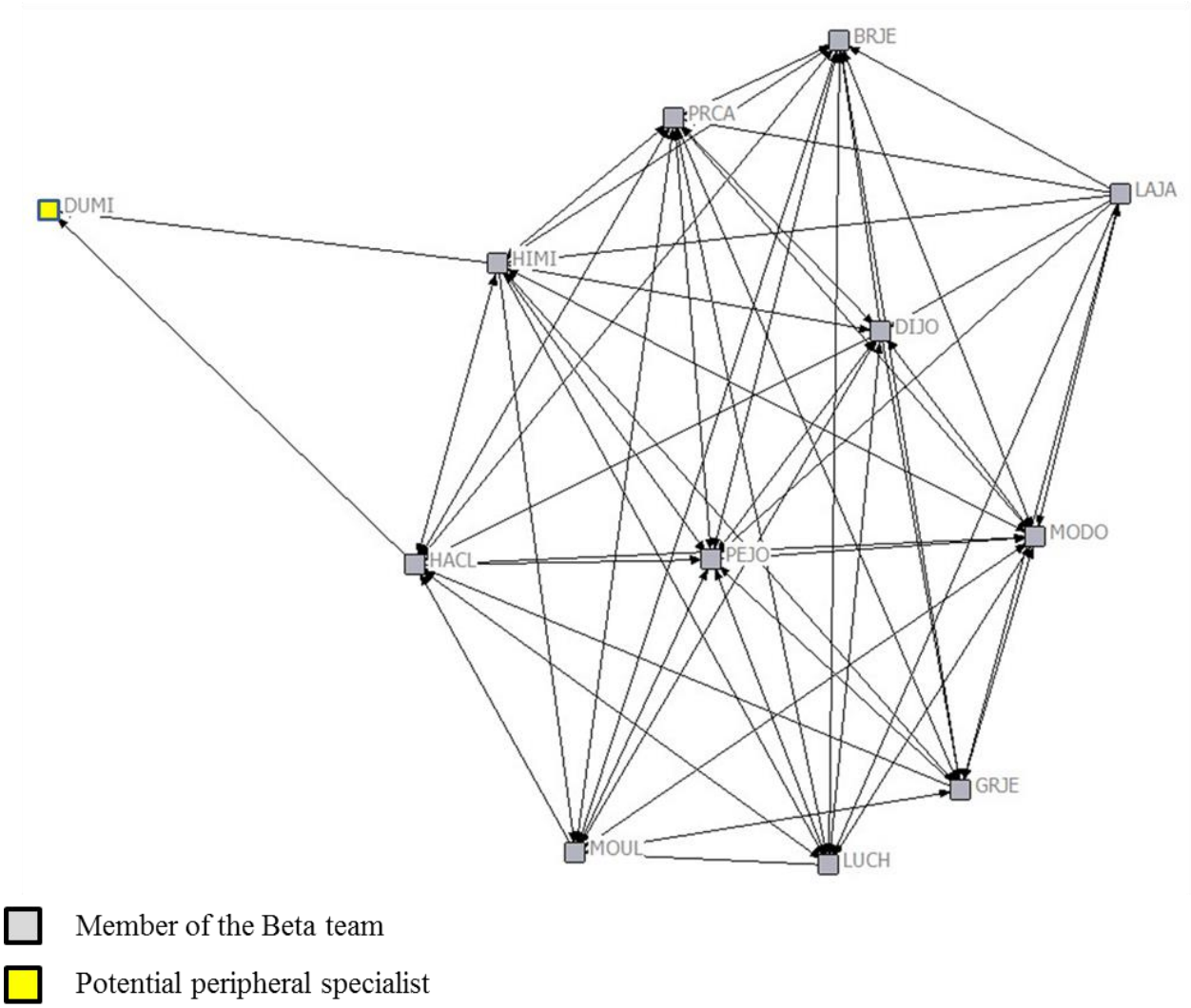


Graph 5: Peripheral Players in the Alpha Team

Note that CHAL and CHALI were "geographic isolates within the team." CHAL was the only member in China, and CHALI was only member based in USA 2. CHALI, the only team member in the manufacturing department, was also a "functional isolate," the only member of the team in manufacturing. While integrating CHAL was not made an explicit team objective following the network analysis, CHAL's connections to other team members increased from seven to ten in the second year of the study. New connections for CHAL included the team leader and the head of the Japan 2 office, which is located in

the same city as the customer's global headquarters, i.e., CHAL became connected to the team's leaders. CHALI and TOCH did not experience a similar increase in their number of connections within the team. In fact, CHALI's number of connections to the team decreased from ten to six, and TOCH's number of connections decreased from nine to seven.

We find a comparable example of peripheral specialist on the Beta team. As seen in Graph 6 below, DUMI, represented in yellow, is on the Beta team periphery, with only one connection to the team when looking at "information provided to" and with two connections to the team when looking at "information received from." DUMI position in the network is highlighted in the figure below. In discussing roles within the team, however, a number of members pointed out that DUMI was involved in the very advanced R&D work and it would be a poor use of his time to attend general informational meetings. Members felt it was more efficient to channel targeted communication to this person through a single point of contact, CLHA.



Graph 6: Beta Team: Highlight of Peripheral Player

4.3.2 Centrality

I used degree centrality to see how information flows within the teams and to gain insights regarding the relative influence of the geographic and functional sub-groups within the teams. For the Alpha team, looking at "information received from" data from the first year of the network analysis, the five team members with the highest degree centrality were HIHI, NAMA, DUMA, THLI, and ICHI. The first four members are each connected to twenty-seven other members, and the fifth, ICHI, is connected to twenty-six. Perhaps not surprisingly, the network for these five people has a density of 1; each is connected to the other four. As a group these highly connected people create redundant paths for information flow to nearly all other team members. Redundancy in this context is likely a positive as it increases the likelihood that information will be internalized by recipients. All five members work full-time on the team and include the customer team

leader, the head of the satellite office in the same city as the customer's headquarters, the sales lead, and the engineers responsible for commercializing product concepts.

It is interesting to note that the marketing member with the highest degree centrality is DIJO with twenty connections, making him the eleventh most connected team member out of twenty-nine total members. The team (and the division as a whole) has a philosophy that engineering, sales, and marketing should work together as equally important components in customer engagement. Degree centrality suggests that the marketing group as a whole is less influential than the better connected engineering and sales groups in the customer engagement "triumvirate" as the individuals in marketing are not as well-connected as their engineering and sales counterparts. In other words, coordination among the three functional groups is not as balanced as the division's philosophy espouses. Degree centrality for the Alpha team the following year is similar. ICHI is no longer in the top five, having been replaced by another engineer from the office, OKYA. DIJO remains the marketing member with the highest degree centrality, remaining eleventh out of thirty in degree centrality for the team overall. The results for the Gamma team are quite similar. The most connected team members are in the engineering and sales groups, while the most connected marketing member is the twenty-second position out of sixty members. Through one-on-one interviews team members from the Alpha and Gamma teams stated that marketing as a functional group was not as well-integrated as their stated philosophy suggested. It was more peripheral in the product development process, spending more time working on product launches. While coordination for the team overall appears to be quite high, marketing has perhaps a less influential voice in the coordination. In contrast, the balance of influence among geographies suggested by degree centrality was more in line with expectations and team goals. The most influential members of both the Alpha and Gamma teams were spread relatively evenly between the company's global headquarters and the satellite office closest to the customer. The Alpha team leader believed that this created a balance between seeing issues from the company's perspective and seeing issues from the customer's perspective.

4.3.3 Customer Orientation

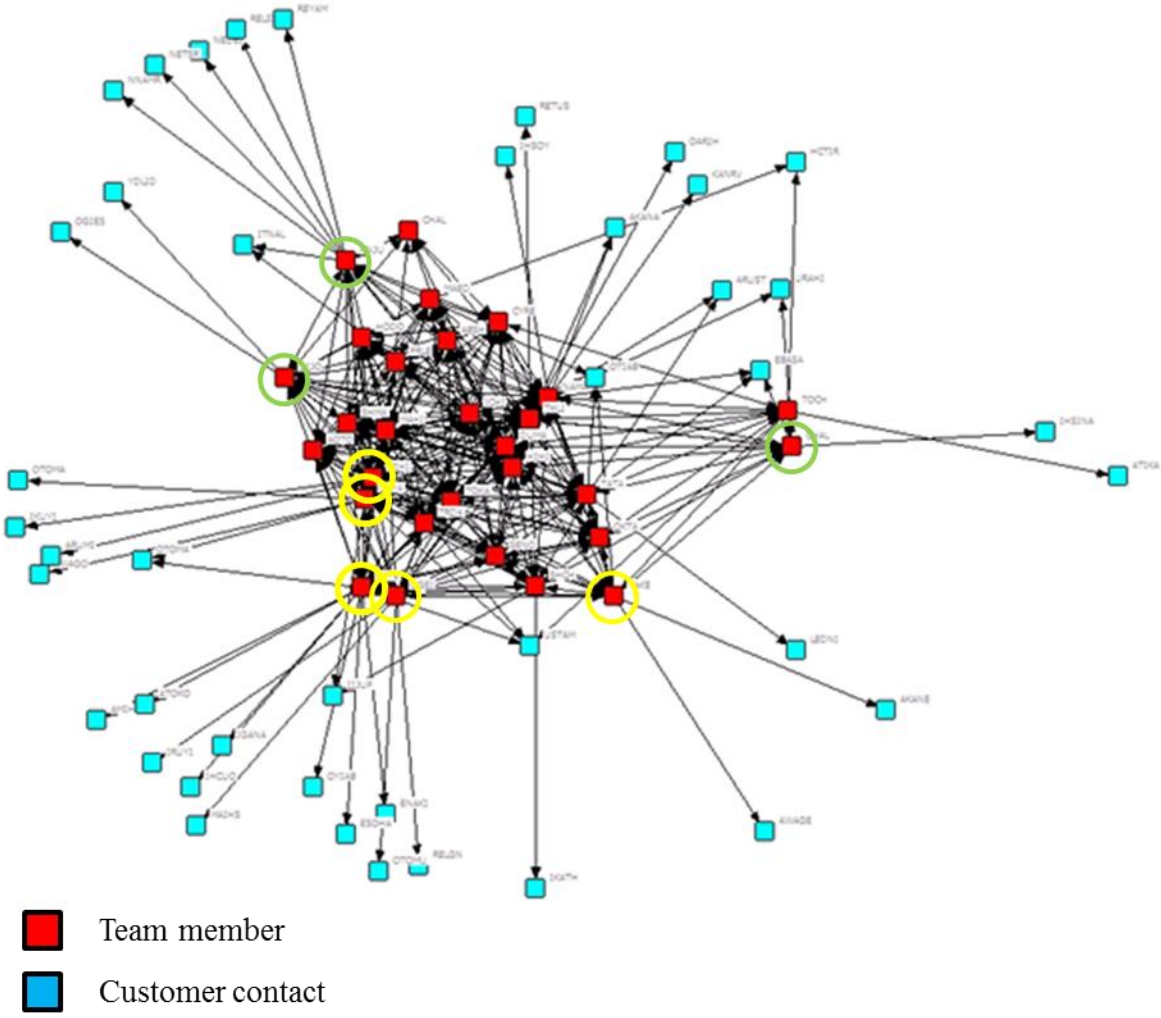
We next turn out attention to information flowing into the team from the outside. Using a name generator, team members identified the following sources of external information: other Parthenon employees, customer contacts, Parthenon vendor contacts, and contacts

at the customer's vendor. For the Alpha and Gamma teams, the majority of information flowing into the team, approximately 60%, comes from Parthenon employees outside the team. A significantly lower percentage, approximately 35%, of information comes into the team from customer contacts. The percentages for the Beta team were 75% and 25% respectively. This is summarized in Table 6 below.

Source of Received Information	Alpha Team Year One Network Analysis Percentage of Information Received	Beta Team Year One Network Analysis Percentage of Information Received	Gamma Team Year One Network Analysis Percentage of Information Received
Parthenon	62%	75%	60%
Customer	34%	25%	35%
Parthenon's Vendor	2%	0%	5%
Customer's Vendor	2%	0%	0%

Table 6: Year One: Sources of Information Flowing into the Team

Boundary Spanners Parthenon maintains a satellite office in the same city as the customer's global headquarters. In Figure 8 below, Alpha team members are represented in red, customer contacts are represented in below. Alpha team members HITA, MIHI, OGEI, OHYA, TAKE, circled in yellow, interface directly with their functional counterparts in engineering, logistics, quality, and sales on the customer side. In other words, there are multiple points of contact between the team and the customer. From follow-up interviews, I learned that they are "scouting" for information from the customer (Ancona & Caldwell, 1992b) and transferring information from the team to key customer contacts. They are "boundary spanners," connecting the team to its customers (Cross & Prusak, 2002). As shown in Graph 7 below, team members CHAL, DIJO, and KNJU, circled in green, are the primary, in some cases only, conduit of information between the team and the customer's subsidiary offices in China, USA, and Europe. They serve boundary spanners between Parthenon and its customer's subsidiaries. These people are in a unique position, creating a bridge over the structural hole between the team and a particular subgroup within the customer's organization. They bring together the knowledge and perspective from the customer and the team. This network position gives them the potential to develop innovative solutions that meet the wants and needs of both groups.



Graph 7: Alpha Team, Y1: Information Received from the Customer

Based on dialogue with the team leader, a reasonable amount of information was coming into the team from the customer's global headquarters, i.e., he believed that the connectivity with the customer as seen in the network analysis was sufficient. The team, however, was only receiving information from two contacts from the customer's largest subsidiary. DIJO was the sole point of contact between this subsidiary and the team. These contacts were valuable but did could only provide information on a limited number of key programs. KNJU served an important role on the team as the information broker between the team and the customer's second largest subsidiary. The team leader noted, however, that prior to KNJU all information from this subsidiary came through a single team member. When this member left the organization, the team had to establish all new relationships. Therefore, the team leader saw it as a risk that KNJU was the sole point of contact between the team and the customer subsidiary. Similar to the situation with the

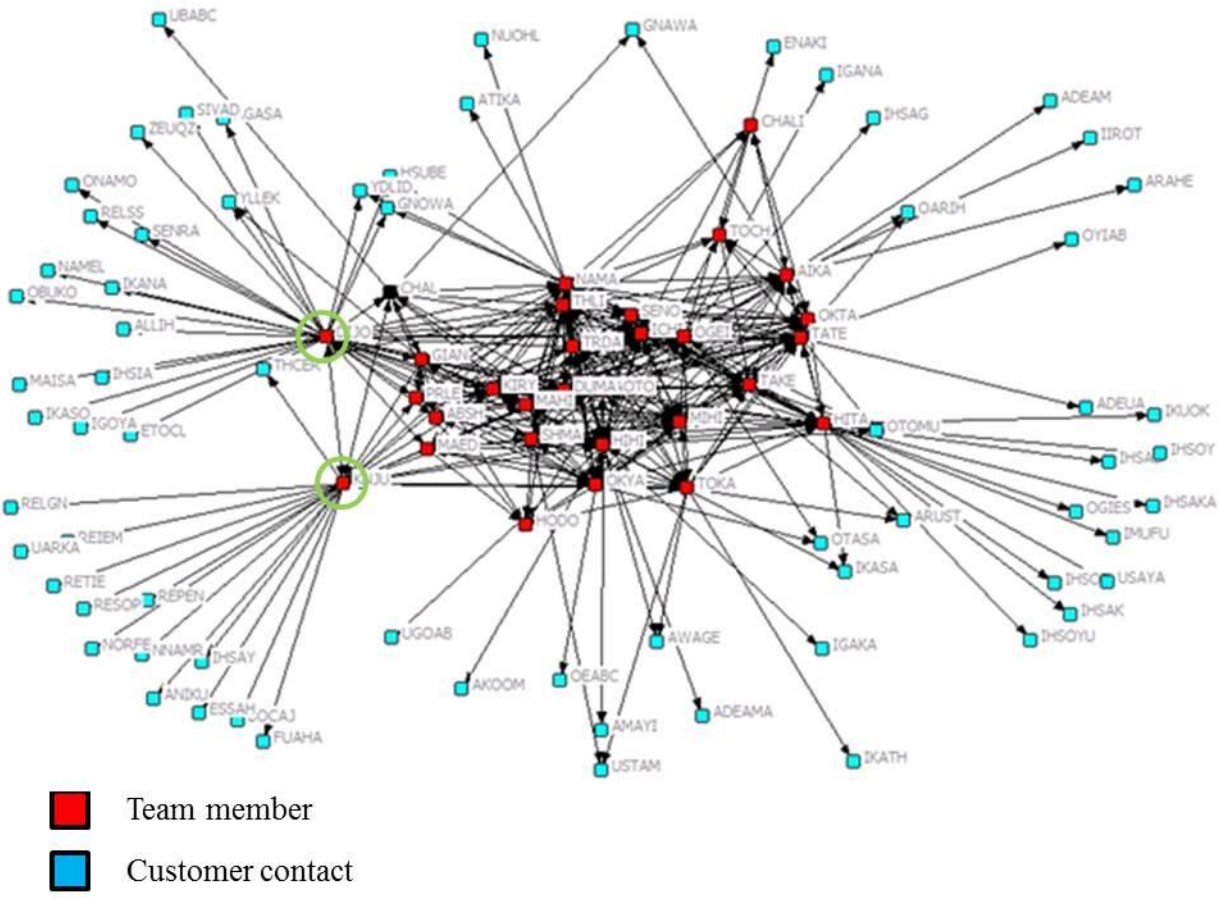
customer's largest subsidiary, there was only a single source of information coming into the team through CHAL from the customer's fastest growing market.

Based on the network analysis the team leader established as one the team's yearly objectives increasing the amount of information coming into the team from the customer, particularly from the customer's largest subsidiary. One activity planned to help the team meet this objective was to develop a series of "technology fairs" at which ten team members would present technology concepts to 25-40 customer contacts. These fairs were held at the global headquarters and it first and second largest subsidiaries. Follow-up meetings were held with subsets of customer attendees and team members in each of these markets.

In the follow-up study we see that the percentage of information coming into the team from customer contacts increased from 34% to 57%. This is shown in Table 7 below. Additionally, we see in Graph 8 below that information coming into the team from the customer's largest subsidiary through DIJO, again circled in green, increased from two to 20 sources. The number of sources coming from customer headquarters and other subsidiaries remained relatively constant, i.e., still relatively strong for information coming from the customer's headquarters and the second largest subsidiary and still relatively weak for the fastest growing subsidiary. Information from the customer's largest and second largest subsidiaries appears in the figure to come solely through DIJO and KNJU, circled in green, respectively. As noted above, this had been identified as a problem in the previous year. The team leader, however, stated that multiple team members participated in the above mentioned technology fairs in each of these markets. These interactions, however, occurred outside the three month time horizon specified in the research question. A technology fair was scheduled for but not yet executed in the fastest growing market.

Alpha Team Source of Received Information	Year One Network Analysis Percentage of Information Received	Year Two Network Analysis Percentage of Information Received
Parthenon	62%	41%
Alpha	34%	57%
Parthenon's Vendor	2%	2%
Alpha's Vendor	2%	0%

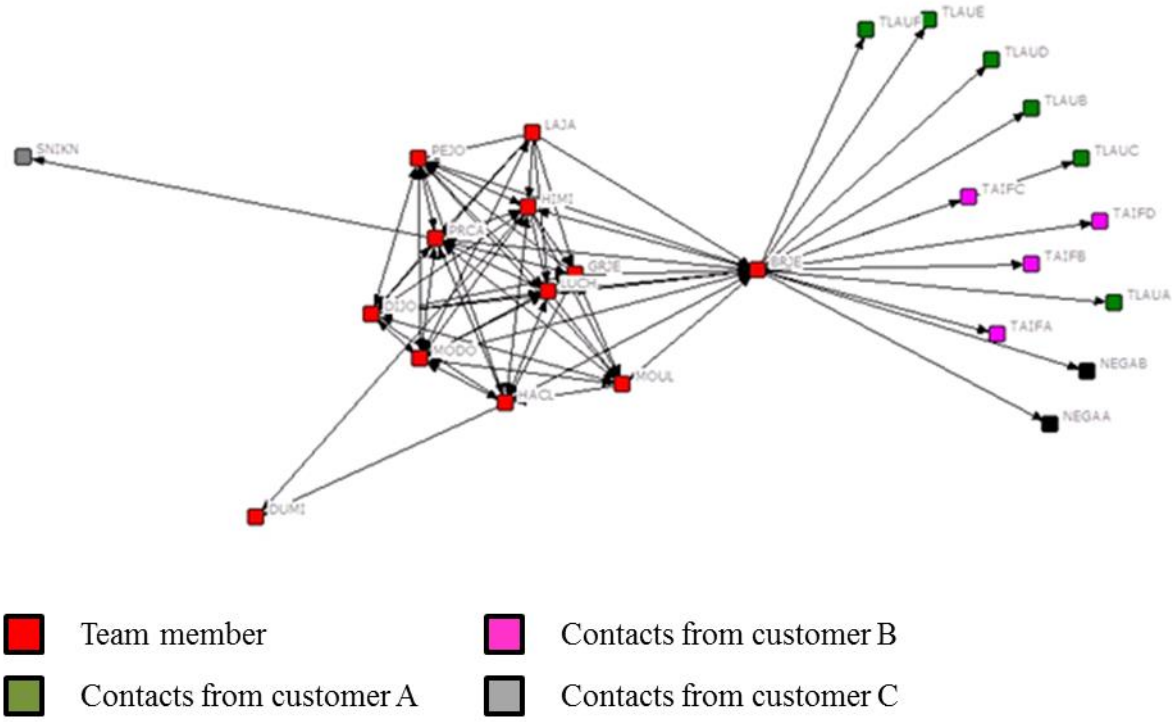
Table 7: Alpha Team Year-to-Year Comparison: Info Flowing into the Team



Graph 8: Alpha Team, Year Two: Information Received from the Customer

When presented with Graph 9 below, which shows information flowing into the team from customer contacts, members of the Beta team stated that they were not surprised by

the results. Team members are represented in red. Each of the other colors represents a different customer. Team members also noted and that they felt that the low level of direct customer contact hindered them from developing optimal product concepts that best met customer need. They did not believe it was sufficient to receive the majority of customer information indirectly through other Parthenon employees as was happening currently. They believed that they faced an additional challenge in that they were responsible for developing concepts to meet the need of multiple customers whereas the Alpha and Gamma teams were focused solely on a single customer. Regrettably, the Beta team was disbanded before any plan to address this issue could be implemented.



Graph 9: Beta Team: Information Received From Customer

Similar to the Alpha team, the Gamma team was not satisfied with the information being received into the team directly from customer contacts at the subsidiary. This is presented in Table 8 below. In their opinion, too little information was being received from the rapidly growing European market. To address the issue, the division reorganized the teams. CAOL, originally responsible for communication with the customer's European subsidiary, was removed from the Gamma team to focus on other growing responsibilities. MAAN assumed CAOL's responsibilities on the Gamma team. This team, like the Alpha team, saw a shift in percentages between information received from the customer vs. internal sources. This is presented in the table below. Regrettably,

MAAN did not respond to the survey conducted to gather data for this research. Therefore, we do no know the impact of his work on gathering information from and disseminating information to the customer's European subsidiary.

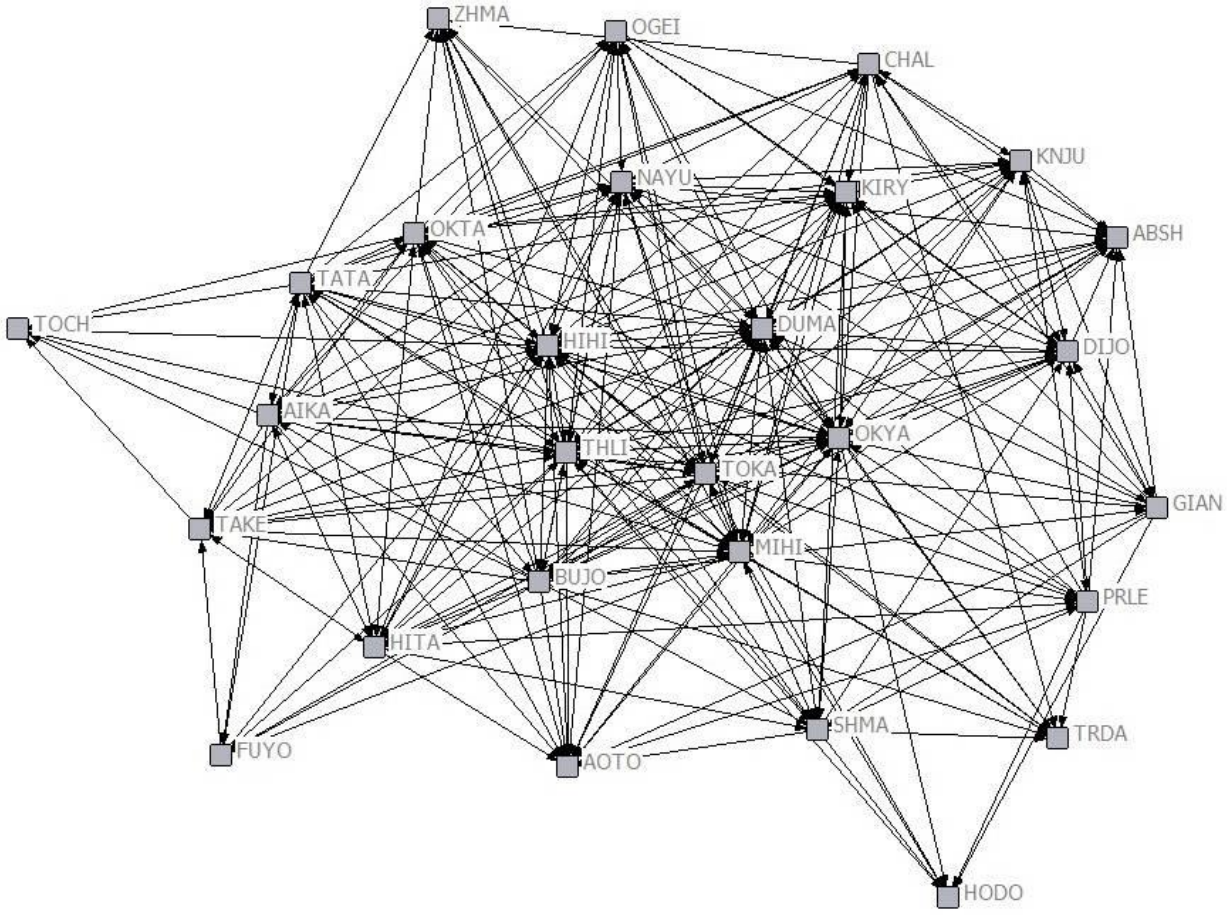
Gamma Team Source of Received Information	Year One Network Analysis Percentage of Information Received	Year Two Network Analysis Percentage of Information Received
Parthenon	60%	53%
Gamma	35%	46%
Parthenon's Vendor	5%	1%
Gamma's Vendor	0%	0%

Table 8: Gamma Team Year-to-Year Comparison: Info Flowing into the Team

4.3.4 Additional measures for market orientation dimensions

The view of coordination presented above uses network analysis to provide a view of the team's overall level of coordination. It does not, however, show coordination specifically as it relates to the team's market orientation. It is based on receiving any "work-related" information. This potentially includes, for example, information related to human resources such as organizational announcements and benefits changes. The network-related survey questions were changed in year three to address this issue. Respondents on the Alpha team were asked specifically from whom they received "customer-related information." This allows us to see the gathering and disseminating of customer-related information within the team, following the model presented by Cadogan and Diamantopoulos (1995), which supposes a coordinating mechanism for gathering and disseminating customer-related information. This is presented in Graph 10 below. It is not possible to make a direct year-to-year comparison between the first two years and the third as the network-related questions are different. That said, the network density calculated from year three data is somewhat lower than in the previous years, .44 compared to .49 in year two and .6 in year one. The relatively small difference between year two and year three density did not surprise the Alpha team leader. He stated that work-related communication among team members was largely, though not exclusively, focused on customer-related issues. Therefore, he would expect considerable overlap between "work-related information" and "customer-related information." Following this, roles on the team in year three appear to be comparable to what was seen in previous data

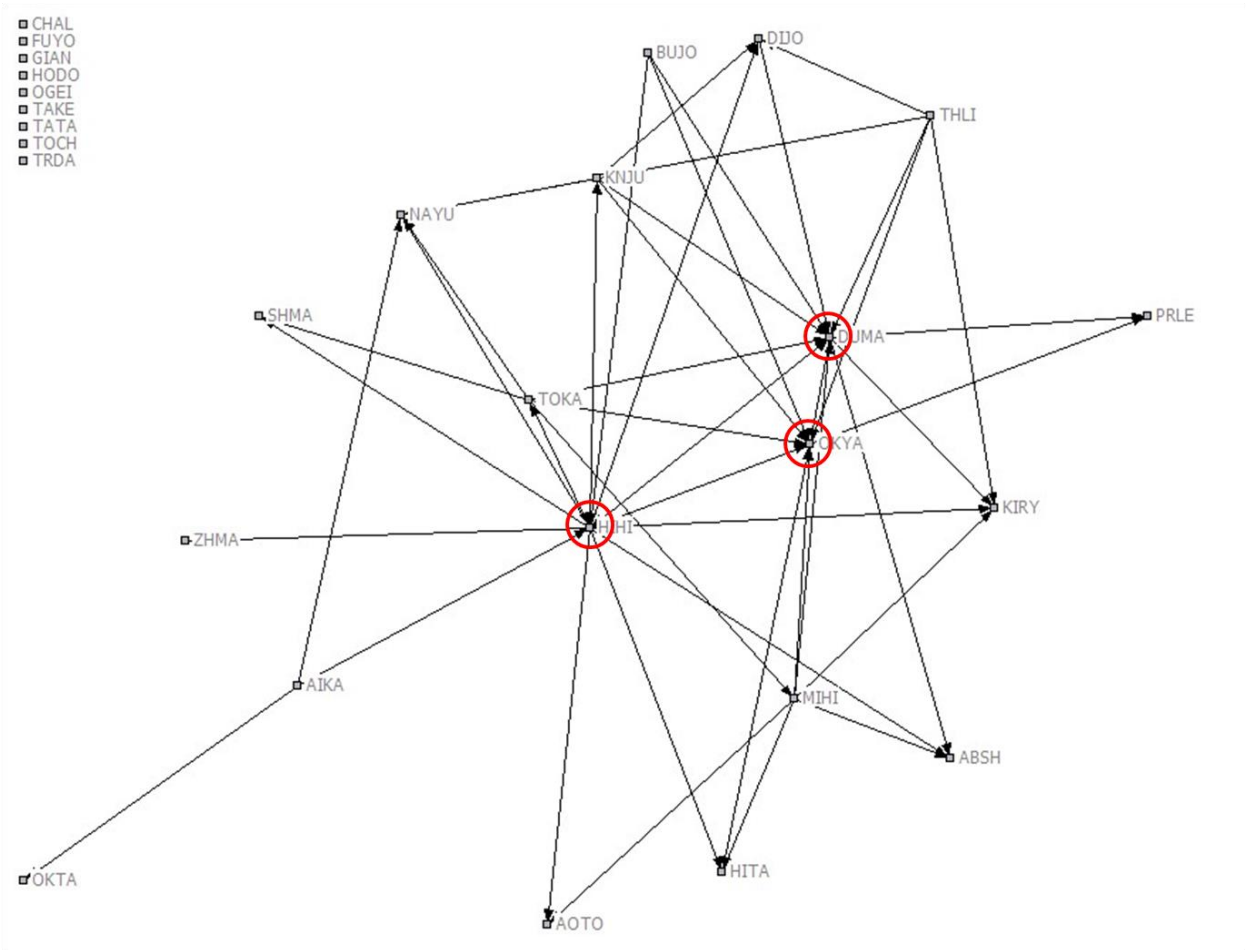
sets. The same information brokers connect their functional and geographic sub-groups. The same boundary spanners connect the team to customer contacts. The same team members have the highest levels of centrality and therefore likely yield the same level of influence.



Graph 10: Alpha Team Year 3 - Received customer-related information

Alpha team members in year three were also asked from whom on the team they received competitor-related information. Following Cadogan and Diamantopoulos (1995), this provides a view of the coordinating mechanism for gathering and disseminating competitor-related information. The results are shown in Graph 11 below. While a comparison of the Alpha team's network for "work-related" information and "customer-related" information shows somewhat comparable results when looking at density and network roles within the team, the view of competitor orientation is significantly different. We see for the first time isolates, members who are not receiving any information. While the network for customer orientation has a density of .44, the network for competitor orientation has a density of .06. While the paths for information dissemination exist, as was shown when examining the flow of customer-related information, they appear to be used selectively. Customer-related information is

disseminated throughout the team using these paths, whereas competitor-related information is not. With regard to competitor-related information, the team does not appear to benefit from the previously seen matrix structure in which information brokers disseminate information gathered in their functional subgroup to their geographic subgroup and disseminate information gathered from their geographic subgroup to their functional subgroup. Rather the competitor-related information goes through three *central connectors*, circled in red in Graph 11. Central connectors link people in the network together (Cross & Prusak, 2002). It is not clear from the network data alone, however, why the structure is different and why existing paths are not used to disseminate this type of information.



Graph 11: Alpha Team Year 3 - Received competitor-related information

Throughout the research the Alpha team leader stressed the importance of having all employees working on the account feel that they were a part of the Alpha team. When looking at the graph showing the dissemination of competitor-related information, however, he acknowledged there was a "team within the team." While all assigned to the account made significant contributions, there was a "core team" ultimately responsible for

the business. The sharing of customer-related information was done in some cases to strengthen the sense of "team" among all those assigned to the account. This was particularly important, for example, when there was an award of new business and when a sales milestone was reached. Participation in weekly teleconferences was encouraged for all team members, even if not strictly necessary to complete work tasks, simply so that all would feel "in-the-know." TOCH, a peripheral specialist, was in fact hurt when she was not invited to certain team meetings. She acknowledged that she did not need to attend; she wanted to attend because she was a team member. Hearing competitive-related information was thought to be potentially demotivating and therefore was less likely to be disseminated broadly. It is not surprising to learn that the Alpha team includes both a core team and an extended team. It is interesting, however, how network paths are used quite differently depending on the nature of the information being disseminated. In the case of the Alpha team, customer-related information is broadly disseminated through information brokers who sit at the cross-roads between functional and geographic groups. Competitor-related information is disseminated more selectively through a limited number of central connectors.

There is also considerable difference when comparing how customer-related and competitor-related information comes into the team. Using the name generator, members identify 102 people outside the team from whom they received customer-related information. This compares to 23 people identified as providing competitor-related information. With one exception, the people providing competitor-related information are a subset of those providing customer-related information. Customer-related information appears to come into the team from more sources. Eighteen of the 21 respondents report receiving customer-related information from outside the team, whereas competitor-related information appears to come into the team from only five respondents. Comparable to Year 2 when looking at all work-related information, 52% of both customer-related and competitor-related information came from customer contacts; 41% of the information came from contacts within Parthenon. The remainder of information came into the team from suppliers, both to the customer and to Parthenon.

The Alpha team leader was not pleased with the results regarding the team's competitor orientation as viewed through the network analysis. While the team faced little competition when selling its traditional products to the customer, they were trying to enter a new and potentially larger business with the customer with an entirely different line of

products. This new product line involved working with a different department within the customer's organization. Unlike with their current business, the team faced stiff competition from other suppliers. Therefore, the team leader wanted more competitive information flowing into the team. Primarily based on the network results shown above, he made increasing the amount of competitive-related information coming into the team a team objective for the following year. Interviews with team members suggest some reasons why less competitive information was flowing into the team. Some might not have understood that gathering competitive intelligence was a responsibility. Others felt that they did not have sufficient resources, in this time, to gather competitive information. These areas will be explored more fully in the following chapter.

4.3.5 Responding to Information

As stated previously, there are three steps in the Kohli and Jaworski (1990) conceptualization of market orientation: gathering information, disseminating information, and responding to information. In Year 3, I asked respondents not only from whom they received customer information and competitor information, but whether or not they responded to the information received. There is an implication that the three Kohli and Jaworski components are sequential: gather, disseminate, and respond. Interviews with Alpha team members, however, suggest that this is not always the case. Frequently, information was gathered, then responded to, and then as a last step disseminated to other team members.

For example, customer-facing team members frequently receive requests directly from the customer, respond to these requests, and then disseminate to others on the team that information has been gathered and responded to. KNJU, DIJO, CHAL, and YUNA are all customer-facing team members working in the marketing functional group. They are each responsible for working with customer contacts in their region to develop and execute launch programs. This work generally does not require involvement from others. These team members are able do the work independently with their customer contacts. The customer-facing team member might learn that the customer wants Parthenon's participation in an upcoming sales training event, and the team member then confirms with the customer his ability to participate. The team member believes it is important, however, to share with others on the team about the interaction after the fact. If the European subsidiary has initiated launch-related conversations with KNJU, it is likely that other subsidiaries will soon initiate similar conversations with KNJU's counterparts in

other regions. Therefore, after responding to the customer's launch-related request, KNJU provides DIJO, CHAK, and YUNA with a "heads-up" that they are likely to receive similar requests from customer contacts in other subsidiaries. By disseminating the information that the customer request has been fulfilled he also shows others on the team, particularly the team leader, that he is doing his job effectively.

There are other circumstances, however, when the customer-facing team member is not able to respond to the customer-related information that he has received. He might, for example, receive a customer request for a technical specification with which he is unfamiliar and must therefore forward the request to another in the team before responding. He might have gathered additional insights on customer wants that would aid the team in developing a response to an official request for quote. More significantly, on the Alpha team information involving competitors follows the sequence of gathering, disseminating, and finally responding to information. A new competitive situation goes beyond what the customer-facing team member can handle independently. It requires a coordinated response from the team as a whole. Lower level, more tactical issues can follow a sequence different from that presented by Kohli and Jaworski, but higher level issues facing the team seem to follow the sequence that Kohli and Jaworski suggest operate at the organizational level.

4.4 Chapter Conclusion

The primary objective for this part of the research is to address Kohli and Jaworski's call to examine the effects of networks and "connectedness" on market orientation. Additionally, the view of market orientation provided by network analysis supports the integration of the major market orientation conceptualizations developed by Cadogan and Diamantopoulos (1995). The research reinforces that the Narver and Slater and Kohli and Jaworski models are complementary means of explaining the same overall phenomenon. Using network analysis coordination can be seen as the gathering, disseminating, and response to customer and competitor information.

The findings suggest that the teams' matrix organizational structure contributes to the teams' coordination of customer-related information. Team members belong to both cross-functional, geographic teams and cross-geographic functional teams. Team members are encouraged serve as information brokers, sharing information gathered from one group with the other, thus facilitating information transfer. Additionally, the data

suggests that the teams understand the importance of boundary spanners in achieving higher levels of customer orientation. The Alpha and Gamma teams assigned specific people to serve as boundary spanners and charged them with gathering and disseminating information to specific functional or geographic groups within the customer organization. These teams, in fact, attributed their business success in large part to their effectiveness in developing relationships with contacts in key functional and geographic groups. Each of these teams noted that their customer orientation suffered when the boundary spanner assigned to a particular customer subsidiary left the organization, suggesting the importance of having multiple boundary spanners to reinforce relationships. The third team cited their lack of boundary spanners as a key reason for their failure. The lack of direct information transfer with customer contacts hindered their ability to develop a strong customer orientation.

The team network, however, is used very differently when competitor-related information is gathered. This information is disseminated to a subset of the team and is done so through a limited number of central connectors rather than through the information brokers described above. Dissemination of customer-related information serves to purpose. Information can be disseminated in order to prepare a customer response as was done, for example, when technical specifications were needed. Customer-related information can also be disseminated to increase team members' feeling of group identity. Competitor-related information, however, was disseminated with the sole purpose of developing a response.

Many of the most meaningful insights from the network analysis came through discussion with team members. This can perhaps be seen as a limitation, i.e., the network analysis in the study depended on another form of data, i.e., interviews, for more meaningful interpretation. Discussion around the network results, however, provided the team with meaningful insights. First, the research suggests areas that the team should target for improvement. Second, the research should confirm whether or not year-to-year improvements had been realized. Regarding the first point, the network analysis and MKTOR scale results each provided the team with distinct but equally valuable areas for improvement. The network analysis regarding the team's customer orientation, for example, suggested the team was not receiving information from key customer subsidiaries. The MKTOR analysis pointed to relative weaknesses in the team's practice

of measuring customer satisfaction, an item within MKTOR's customer orientation construct.

This research suggests that there is practical application for this approach. The network analysis offered a benefit to the Alpha team not afforded by use of the traditional MKTOR data. It provided unique insights into the Alpha team's market orientation, which led to team improvement objectives. Additionally, while it is not possible to see many year-to-year differences in the statistical analysis due to the small sample size, year-to-year differences are clear in the network results. Members, for example, could easily compare to whom each member was connected from one year to the next. This study therefore suggests a network approach to improving a team's market orientation might be particularly useful for smaller groups looking to benchmark performance.

It was unfortunate that data from the Beta and Gamma teams is not as rich as it is for the Alpha team as this would allow for additional comparisons, which might have led to more insights. Additionally, I did gather data in the first year of the study that measured the strength of ties. This was discontinued in the second year of gathering network data at the request of the Alpha team leader. This data has not yet been analyzed but promises to generate additional insights when we see where strong and weak ties are used in the networks.

In continuing this research in the future it would be beneficial to work with larger teams so that it is possible to make more comparisons between the network and statistical data, i.e., to see if changes in coordination and customer orientation seen in the network data are also seen in the statistical data. The above acknowledged, I believe that this study has met its original objectives in suggesting an alternate means of viewing market orientation that practitioners can use to assess strengths and weakness and use as a benchmark for improvement.

Chapter 5. Presentation of Qualitative Data

5.1 Introduction

As noted above, there has been considerable research on market orientation at the organizational level. Far less research, however, has been done to study market orientation in teams. Therefore, one of the primary goals for this study is to deepen understanding of market orientation at the team level, furthering the work of Gresham et al. (2006). Which conceptualization of market orientation, for example, best represents what is happening within the three teams studied? This chapter uses qualitative data gathered from one-on-one interviews and observations to examine the answer to this question. Additionally, I also use the qualitative data to explore the propositions presented in chapter two. Specifically, this chapter explores the possible relationship between each component of market orientation and each of the following: management support, clarifying communications, individual attitude, customer and competitor identification, and market-oriented objectives.

The data suggests that market orientation for these teams is the coordinated effort to gather, disseminate, and respond to customer-related information. Additionally, the qualitative provides support for many of the propositions referred to above. Management support and clarifying communications, for example, seem to affect coordination more than customer, competitor, and proactive orientations. Customer and competitor identification seem to have a greater affect on the teams' customer and competitor orientations. This last point is seen most clearly on the newly formed Beta team whose collapse team members attribute in large part to the failure to identify its true customers and competitors. Market-oriented objectives seem to affect customer, competitor, and proactive orientations. The data suggests a positive relationship between individual attitude and both coordination and customer orientation.

There are also differences in these relationships when looking at each of the three teams due to team tenure and team size. Management support, for example, affects the coordination in the newly formed Beta team, but does not appear to have the same effect in the long-standing Alpha and Gamma teams, i.e., team longevity seems to affect the relationship between management support and coordination. The Alpha team seems to enjoy a stronger sense a group identity due it relatively small size, which in turn seems to increase their level of coordination.

Resources, a component of management support, significantly affect the customer, competitor, and proactive orientations of all three teams. Resources enable the teams to bring clarity to the ambiguity they face, e.g., understanding their customers and competitors. This in and of itself is perhaps no surprise. Greater resources, particularly human resources, make it possible for the team to understand both direct and indirect customers as well as various customer functional groups and subsidiaries. All groups face resource constraints, making it impossible for them to gain the depth of understanding that they might desire. By managing ambiguity, however, the Alpha team experiences less stress than the Gamma team. The Alpha team proactively decides the areas to which they will bring clarity and the areas that due to limited resources they will allow to remain ambiguous.

Interestingly, the team member's position in the team network seems to affect the individual's market orientation. Boundary spanning team members are more focused on understanding and addressing customer wants and needs than others on the team, i.e., boundary spanners have a higher customer orientation. While this research focuses on market orientation at the team level, this provides a glimpse of market orientation at the individual level thus expanding on nascent work in this area (Bodlaj, 2012; Serviere-Munoz & Saran, 2012).

5.2 Nature of Market Orientation at the Team Level

For the respondents on the three teams studied in this research, market orientation is the coordinated effort to gather, disseminate, and respond to customer-related information. In other words, it largely follows the model presented by Cadogan and Diamantopoulos (1995). Members are gathering information from the customer, disseminating this information within the team, and responding to this information. Following Deshpande et al. (1993), however, respondents view "market orientation" and "customer orientation" as interchangeable terms. Their professional worlds revolve around their customer. Current and potential competitors are important in so much as they potentially affect the customer relationship. Technology introductions are relevant in so much as they potentially affect the customer relationship. Therefore, in their view to be customer oriented is to be market oriented.

The importance placed on developing a customer orientation, operationalized through the gathering and disseminating of information, is illustrated in an organizational change observed during the course of this research. As discussed in the previous chapter, specific members on both the Alpha and Gamma teams are assigned the role of boundary spanners, and as such they are tasked with gathering information from customer contacts and disseminating that information within the team. These individual come from different functional groups, e.g., marketing, sales, and engineering. During the course of this research both the Alpha and Gamma teams created a new position for the key boundary spanner in each region. Their functional titles were replaced by the newly created title of "regional customer manager," and their roles were expended. The Alpha team leader said that this was done to emphasize the importance of the customer relationship and formally assign one person in each region the responsibility to coordinate the gathering and dissemination of all customer-related information in each region. Their work now includes developing an annual plan specifying when certain types of information, e.g., when a particular market research study should be presented or when a new technology demonstration should be scheduled, for customer contacts in a given region.

The coordinated effort to gather, disseminate, and respond to information should not, however, be viewed as a single, monolithic process. Cycles of gathering, disseminating, and responding to customer information run in parallel. The Alpha team following this process simultaneously while developing a new product proposal, initiating a plan to increase sales in specific regions, addressing a quality issue, planning a technology demonstration, and preparing what they call "advocacy maps" on key customer contacts. The Gamma team engaged in comparable initiatives, also running in parallel. The process of gathering, disseminating, and responding to customer-related information appeared to be happening at all times. I did not see distinct project phases as suggested by Ancona and Caldwell (1992b). This is perhaps because the teams were working on multiple projects at the same time. As each project was at a different point in its development, certain team members were, for example, always "scouting," albeit for different projects.

The concept development process, for example, included gathering input at the customer's global headquarters from a number of different functional groups, including engineering, product planning, and purchasing. Additionally, the team gathered information from the customer's largest subsidiaries regarding each region's wants and

needs for next generation products. Information gathered by each individual team member was then disseminated throughout the tea through weekly teleconferences, face-to-face meetings, and emails. The team then responded to this information with their concept proposal. This proposal included a prototype that could be demonstrated to the customer, estimates for developing custom parts, per unit sales cost, market research data on consumer interest in the product and/or its specific features, and market communications positioning for the product and/or its specific features. The cycle than began again with the presentation of this material to customer contacts at headquarters and key subsidiaries. Information on the proposal was gathered from the customer, disseminated throughout the team, and then the team responded to the information with revisions to the product proposal. The cycle continued until the product proposal was accepted.

A subset of the team, primarily those in marketing, in addition to their work in the concept development process also participated in program to improve sales by region. The overall process was nearly identical, although smaller in scope. The division's products provide an optional feature in their customers' products. The Alpha and Gamma teams wanted to increase the "application rate" for its products in key markets, i.e., they wanted to increase the percentage of their customers' products that included the optional feature. Marketing team members in each region gathered from the customer sales information by product for his or her region. This information was disseminated via email to the marketing team member at global headquarters responsible for the project. This person used a formula to determine the most likely areas for sales improvement, i.e., specific products within specific markets. The group developed and executed a market research study to support the argument that market interest in the feature for the segment of the population targeted by the customer for this specific product was higher than the customer realized. This market research data was then disseminated to customer contacts at global headquarters and at the targeted region. The Alpha team was in fact successful with this initiative. They targeted one product in two regions and convinced the customer in one of these markets to raise the application rate, generating an additional 20 million USD lifetime revenue for the product.

5.2.1 Gathering Customer-related Information

The process begins with gathering information from the customer, as seen below in the representative quote from a member of the Alpha team. Team members believe that

developing relationships with key customer contacts through face-to-face meetings is key to gathering customer information successfully. MANA explains below the frequency of face-to-face communication that the Alpha team has with its customer contacts. Regular meetings help break down barriers of formality between those working in different organizations, encouraging a free flow of information, even between customer and supplier.

MANA, Alpha team: "Every other week we see [the customer's engineering department] to talk about every single program that has an issue, and we have a follow up action list to talk about every single program. Frequently in those meetings we also get extra information like, 'You're not really hearing this officially, but we have this product coming with these kinds of expectations.'"

The teams make use of their functional diversity in order to gather customer related information. Note in the quote below how the Gamma team members in the office close to customer headquarters assign members to interface with customer contacts from the same functional group. As ABSH explains below, team members from engineering interface with the customer's engineering department, and team members from marketing interface with the customer's marketing department. People from the same functional group, even if in different organizations speak the same functional language and value the same type of information, facilitating the transfer of information (Bechky, 2003).

ABSH, Gamma team: "I think that at [Japan 1] we kind of divide up the customer. A [customer] contact person in their engineering group is the [responsibility] of our engineers, and the marketing person takes care of their marketing contacts, and our sales person takes care of their purchasing. So, we kind of have a good sharing among the team at [Tokyo 1]. And the globally, I think we have a good sense of who is responsible for [the customer subsidiaries]."

The teams also make use of their geographic diversity in order to gather customer information. As noted earlier, the Alpha and Gamma teams have members, some working full-time on the team, others working part-time, located near key customer locations around the world. GIAN, based in the same city as the Gamma customer's USA headquarters, is responsible for gathering information from his customer contacts for a variety of initiatives. For the concept development process, he gathers information on the regional requirements for next generation products. (Interestingly, GIAN's customer contacts occasionally ask him to use the Parthenon network to communicate

their regional point-of-view to their own global headquarters.) For the regional sales initiative, he also gathers information on sales per program within his region, and for the advocacy mapping initiative he gathers information on changes within the customer's regional organizational structure. In the quote below, he explains how crucial information gathering is to the team's customer orientation. Again, note that while telephone and email communication within the team is generally sufficient, face-to-face communication with the customer is preferred.

GIAN, Gamma team: "I'm constantly reminded to maintain contact with [the customer]. That's definitely the key. We want to have frequent, you know, touch points with them as often as we can. That's why we schedule meetings multiple times a year bringing [product concepts] so we can have that interaction not just by email or on the phone but also face to face, and so this is very important."

5.2.2 Disseminating Customer-related Information

In the Alpha and Gamma teams, information gathered from the customer is then disseminated throughout the team through face-to-face meetings, teleconferences, and email, following the information dissemination dimension of market orientation as defined by Kohli and Jaworski (1990). Most respondents participate in both weekly cross-geographic functional meetings and cross-functional geography-based meetings, providing an opportunity to move information to and from customer contacts and throughout all of the geographic and functional sub-groups within the team. For example, information gathered at a geography-based meeting is disseminated to participants at a subsequent functional meeting. Certain team members are responsible for gathering information from specific groups within the customer's organization and disseminating that information within the team. Again, note how the team takes advantage of its geographic diversity to gather and disseminate information from throughout the customer's organization. CAOL is responsible for providing information on the Gamma team's customer in Europe, while GIAN provides comparable information from the USA. CAOL states that gathering regional customer information is key to the team's success.

CAOL, Gamma team: "When [GIAN] learns something new, he always shares the information. When I go to [Gamma's'] European subsidiary,' I try to send meeting minutes for my colleagues, including people from [Tokyo 1] and engineering because what happens locally can influence the whole business."

In addition to emails and weekly teleconferences the team meets twice a year face-to-face. (These meetings were suspended for two years during the economic crisis.) Teleconferences and emails allow team members to disseminate specific pieces of information gathered from customer contacts. During face-to-face team meetings, information gathered is reviewed again to see if patterns or trends can be found. For example, does there seem to be global customer concern about a particular product, or is the concern limited to a particular geography or functional group? Are there rifts in the customer organization between global headquarters and subsidiaries regarding pricing strategies? Discussing possible patterns in information gathered enables the team to develop a comprehensive, long-term response strategy.

Information is not only disseminated to team members; information is also disseminated to the customer. This includes formal communication such as the official company response to a request for quote. It also includes presentations and/or demonstrations for technologies and products. There is also, however, "off the record" information disseminated to customer contacts. MANA in the quote above discusses how he receives unofficial information from his customer contacts. To build his customer relationships he in turn occasionally provides his customer contacts with comparable information from Parthenon. For example, he might hint at technologies that Parthenon might make available in the future or he might hint at future pricing for technologies that are in development. He believes that disseminating this type of information to the customer is critical for increasing customer satisfaction. He stated that when he began working on the account customer contacts were irritated when he called on them. They believed that he, like his predecessor, was sampling "fishing" for information without providing anything in return. By sharing some information that is still confidential MANA believes he earns his customer's trust, making the customer willing to reciprocate and also share confidential information. He believes that this critical to achieving team objectives. He does note, however, that the information that he shares is confidential due to timing. He will receive authorization to present the information to the customer at a determined point in the future. He does not disseminate information that he would never have approval to disseminate, e.g., information on his customer's competitors.

5.2.3 Responding to Customer-related Information

Respondents place great value on their colleagues' responsiveness to information. Responsiveness communicates respect for the person providing the information/request

and increases the sense of identification with the team. It also completes the circle for developing a customer orientation: gather information, disseminate information, and respond to customer-related information. All three teams pride expressed pride in the teammates' responsiveness to requests. It does not appear to matter if the request comes from an executive or a relatively low-ranking person. The request is handled quickly. In the quotes below note how the timely responses to requests for relatively simple marketing communications materials on the Alpha team is comparable to GIAN's experiences requesting and providing information on a concept development project.

CYRE, Alpha Team: "I can't think of a single member of the team that has ignored an email of mine or anything. If I have a question or an issue, my colleagues tend to respond pretty quickly… There's a strong sense of delivering…If I send a request, I get an answer back. I don't think I've ever been blown off by anyone… And I would hope that they think the same thing of me, that when they send me a request that I answer quickly."

GIAN, Gamma Team: "Whenever we need to get information we know that we can get the response from the team member and get that priority, I think it is key. And I think we're at a pretty decent level with that right now."

Responsiveness to customer requests identifies one as a team member. Fellow team members understand the pressures facing the team. They understand the importance of responding to customer requests as quickly as possible. They understand the consequences of not responding to customer requests in a timely manner. Therefore, they respond quickly not only to requests they themselves receive directly but also to the requests they receive from other team members on behalf of the customer.

Respondents expressed frustration that those outside the team do not share this same level of urgency in responding to requests. Team members in the marketing functional area expressed particular frustration with Parthenon's corporate communications department. Respondents, for example, stated that they frequently do not receive needed marketing communications materials from the corporate communications department in time to meet customer deadlines. This department's internal processes do not allow for the quick turnarounds requested by team members. Therefore, they will occasionally break with company policy and use external resources in order to respond to customer requests.

Members also see customer responsiveness as a factor that separates them from their own management. Team members, particularly those in subsidiaries close to customer locations, want to respond to all customer requests as quickly as possible. They do not want to say "no" to a customer request. There are times when team members will bypass codified policy "in order to do the right thing for the customer." They might not seek approval for a particular course of action if they believe that management is likely to say "no." Respondents stated that occasionally breaking a specific policy enables them to meet the financial targets set by management. They believe that responsiveness to the customer enables them to grow the business, justifying this approach.

5.3 Relationships between Constructs

5.3.1 Management Support and Market Orientation

In the literature review I present the proposition that there is a relationship between management support and market orientation. The qualitative data collected from the three teams supports this proposition. Perceptions of management support take many forms. Support includes the perception that the work is important to the overall organization. Teams are also influenced by their perceptions of organizational values espoused by management. It includes how clearly management defines objectives and perhaps most importantly the amount of resources allocated to the work. Team members do on occasion, however, act in what they believe is in the best interest of the customer without management support or on occasion in defiance of management policy.

After their establishment, the Beta team experienced a period of pride as management communicated to them that their work important to the organization. This pride in turn increased the team's sense of group identify, which in turns increased coordination among team members. They were told that the team was formed to develop a line of products that would "disrupt the marketplace." They were told that the division was depending on these new products to generate significant revenue and the division's growth would come from the Beta team's new products, which open a new for the division.

PRCA states below, however, that he believes that management was inconsistent in the direction it provided to the Beta team. The team was told that it was to create visually distinctive, innovative products. They were also told that the products should be less expensive than the traditional products produced by the division. Team members saw this as a contradiction. They believed that products could be visually distinctive and

innovative, or the products could be innovative. Team members also believed that they were receiving contradictory direction from management on which customer to target. They said that they were on some occasion told to target current customer working in geographic markets where Parthenon did business, and at other times they were told to target new customers which did business in new geographic markets. This confusion lowered the level of coordination on the team, as members interpreted direction from management differently.

PRCA, Beta team: "Every time we get feedback [from management], it shifts us in a different direction. So, I could see why it would be...there's some level that, confusion isn't really the right word, but a lack of complete clarity."

Perceptions of management support also affect the Alpha team, which sees itself as a bit of an underdog in the division, despite its strong sales. One team member said that he believes the Alpha team produces high quality products, but he has never heard this from management, and this is deeply disappointing. He wants the team's work to be recognized. Team members also see the amount of R&D resources that management allocates to Alpha team projects as a sign of valued the team's work is by management. The lack of management support in this case galvanizes the sense of group identity among team members, again increasing coordination among team members. They seem to have an "us against the world" mentality that unites them. MAHI, an Alpha team member in Japan, notes in the quote below that the division's subsidiary in Japan devotes significantly more resources to the Gamma team than to the Alpha team. He seems to be looking for a tangible sign of support from management for the Alpha team. This is consistent with other Alpha team members who felt that they were "underdogs" in the division.

MAHI, Alpha team: "On the other hand, we can get mixed feelings because [Alpha] is definitely not a premium brand in [our] industry. We're not necessarily highly prioritized in the R&D efforts. There's nothing that shows that a lot of focus is on the [Alpha] business. The [Japan 1] office is like 95% dedicated to the [Gamma] business. And so I would sense that at Japan 1 [Gamma] is important and, in contrast, [Alpha] is a little less important."

Perceived management support for a particular value or approach to doing business also affects the teams. Team members from both the Alpha and Gamma teams believe that

their management does not value having a strong competitor orientation. They believe that ignoring the competition is a part of the organizational culture at Parthenon. In fact, some people interviewed, primarily those based in the Japanese satellite offices, stated that they were "not allowed" to consider the competition. This lowers the team's level of competitor orientation and is exemplified in the following quote from a member of the Alpha team.

CYRE, Alpha team: "As a company it's just not something we place a premium on. It's not just [a divisional] thing; it's a companywide thing. We don't talk about our competitors. We don't pay attention to them."

It is important to note that I discussed this perception with the executive to whom both the Alpha and Gamma team leaders reported. She stated that the company position was not to denigrate the competition in front of the customer. This does not mean that team members should not strive to understand the customer. Employees in the Japanese offices did not understand management's position correctly. She further stated that she would clear up the misperception during an upcoming trip to Japan.

Interestingly, team members do not always follow the policies codified by management, particularly when they believe that the policy does not help them further their relationship with the customer. The focus on developing a strong customer orientation is so strong that perceived lapses in management support do not lesson it. As noted above, team members frequently communicate information to the customer earlier than allowed by official policy. The Gamma team leader also related how the team developed a particular product concept jointly with the customer in a way that did not follow management policy. The Gamma team leader was honest with his management, telling management that the team was not following policy. The leader was told if the project failed he and other senior members of the team would be held accountable for not following the division's policy. If the project succeeded, the transgression would be ignored; the team would not be rewarded for the success. Without support from management, the team proceeded to follow the course that they felt was in the best interest of the customer relationship, even if that meant risk of punishment if the project failed. The project was ultimately successful, and the leader was told by the division's president that the team had "dodged a bullet."

5.3.2 Resources and Market Orientation

This research finds that resources significantly affect every dimension of market orientation: coordination, customer orientation, competitor orientation, and proactive orientation, supporting findings from the literature (Barczak and Wilemon (2003); Hackman (1998)). Therefore, though resources are presented in chapters two and three as a component of management support, I present it separately here.

In the cross-geographic teams resources affect coordination as constraints reduce travel, limiting the number of conflict-reducing, face-to-face meetings among team members. As presented in the quote from a Beta team member below, the lack of face-to-face meetings seems to have increased the amount of affective conflict experienced on the Beta team. The team struggled with coming to a common understanding of team objectives, coming from the conflicting direction from management discussed above. While team members knew that emails and teleconferences were ineffective communications methods to resolve these differences, they did not have the budget for the face-to-face meetings that they knew from prior experience in other groups would have been effective.

MOUL, Beta team: "I'm not saying that's something we could have changed easily with travel constraints and all that, but I think that regular face to face meetings would've increased effectiveness, that is my view."

Resource constraints also affected the Alpha and Gamma teams' ability to have face-to-face meetings. During the financial crisis, each group's annual global team meeting was canceled. Prior to this research and the financial crisis, there had been no such restrictions. The travel restriction seems to have had a far less significant effect on these long-standing teams, however. The Alpha team leader believed that the team could continue functioning efficiently without face-to-face meetings in the short-term because working relationships and processes had been established years earlier. He stated that "the team is strong enough to weather this storm." He was concerned, however, that coordination would suffer if face-to-face meeting did not resume. It would be more difficult to ensure a common understanding of goals and strategies, and small misunderstanding might escalate to affective conflict. Global, face-to-face team meetings resumed as soon as the travel restriction was lifted.

Resources also affect the teams' customer orientation. Travel restrictions, for example, impact team members' ability to meet as frequently with the customer as they would like, as noted by the Gamma team member in the quote below. Again, this seems to have had a less deleterious effect on the larger, long-standing Alpha and Gamma teams than on the recently formed Beta team. The Alpha and Gamma teams had members in the same country, often in the same city, as the customer headquarters and larger subsidiaries. Customer relationships were long-standing, and team members believe that they have a good understanding of customer wants and needs. The travel restriction did, however, prevent members at Parthenon headquarters from calling on the customer and hearing first-hand customer requests. It also prevented team members from visiting customer subsidiaries in smaller/emerging markets. The smaller Beta team, however, did not even have members in key markets, and therefore had to rely on customer-related information coming from customer teams like the Alpha and Gamma teams. They had little direct customer communication, which they believe would have helped them develop product concepts that better solved customer problems.

FRCA, Gamma team: "Well, one of the restrictions was travel, and I really think that our guys need to be meeting with the customers on a regular basis to have their face there, their name there, knowing...I think going and being there shows them that you care and that you are concerned about what their needs are. I mean, yes, you can do that in an email, but somehow, the face to face visit I think is something that's very, very important."

Limited human resources are more frustrating for the teams than budget constraints, and seem to have a greater impact on the teams' ability to deepen their customer orientation. While members of both the Alpha and Gamma teams know that they would like to bring definition to all the ambiguity they face, resource constraints force these teams to make choices, for example, to focus on certain customer groups, while knowingly forgoing others thus limiting customer orientation. Resource constraints force the teams to focus on immediate issues, rather than allocating time to anticipating and preparing for the future. Members of the Alpha team seem to accept these limitations. When developing yearly objectives they way the relative advantages and disadvantages of bringing increased clarity to one area or another. Should they focus on learning more about the customer's Canadian subsidiary or the Mexican subsidiary? Should they focus on learning more about the USA subsidiary headquarters or divert resources to learning what happens in the subsidiary's satellite offices or the indirect customer? This is similar to

how they approached this research. Team members saw many opportunities for improvement each year. Each year, however, they chose to focus on one or two areas for improvement, for example defining objectives and roles and responsibilities after the year one survey, consciously allowing processes and competitors to remain ambiguous. The tension caused by limited resources is felt more strongly on the Gamma team, whose business is growing more quickly than any other group within the division. Both groups are proactive in determining to which areas they will bring clarity and which areas they will, however reluctantly, allow to remain ambiguous. The member of the Gamma team quoted below, for example, makes clear that he knows the team should know more about its indirect customers. He notes, however, that due to resource limitations they are stretched to understand their direct customer's wants and needs and therefore must forgo studying the indirect customer as much as would be desirable.

LUCH, Gamma team: "I think that we don't necessarily take [end-consumers] into account as much as we should. I don't think we understand them as much as we should, and largely, our decisions are based upon the direct customer. I think we do a great job of managing our customer and dealing with the enormous amount of work and responsibilities that were shouldered upon us in order to maintain this customer because they are so big. I think we often are reactive and everybody is flat out doing...trying just to keep their head above water in order to manage all the programs that we are currently in production with."

The resource-driven focus on the present also affects the Gamma team's competitor orientation. As SCMA states below there is no immediate competitive threat, few of the team's scarce resources are allocated to competitive intelligence. It is interesting to note, however, that the Gamma team faced a very serious competitive threat prior to the start of this research. As soon as this was detected, significant resources were immediately diverted to address threat. The team was successful in removing the threat, and resources were redistributed to address pressing issues from the direct customer. I believe that this is an interesting example of the team's ability to adapt to changing business conditions.

SCMA, Gamma team: "On a theoretical level, you would say good business practice is always to have a high degree of awareness on your competitors and to be prepared at all times to deal with them. The reality of our current situation is we have an exceptionally strong relationship with our customer, and we have an exceptionally large workload to manage with that customer where most every member of our team I think is feeling a little bit overworked

> because there's too much to do and not enough hours in a day to do it. I think that we've got a serious resource problem in a couple of areas. So, if it were possible for me to get additional resources especially in Europe, we need help there desperately"

Returning to the propositions introduced in chapter two, which are for convenience repeated below, the qualitative data finds support for P1A, P1B, P1C and P1D. It is important to know, however, that it is management support in the form of resources that seems to have the greatest effect on the team's market orientation.

P1A: ***Management support*** *for the concept of customer orientation, which includes providing sufficient resources to achieve higher levels of customer orientation, positively affects the customer orientation of teams.*

P1B: ***Management support*** *for the concept of competitor orientation, which includes providing sufficient resources to achieve higher levels of competitor orientation, positively affects the competitor orientation of teams.*

P1C: ***Management support*** *for the concept of proactive orientation, which includes providing sufficient resources to achieve higher levels of proactive orientation, positively affects the proactive orientation of teams.*

P1D: ***Management support*** *for coordination within the team, which includes providing sufficient resources to achieve higher levels of coordination, positively affects coordination within teams.*

5.3.3 Clarifying Communications and Market Orientation

Management support is not within the teams' direct control. It is within their control, however, how well defined are objectives, strategies, processes, and roles are. The data suggests that the clarifying communications within the team has positive effect on the team's market orientation, particularly coordination. These areas are well defined for the Alpha and Gamma teams. The Beta team attributes its ultimate failure in large part to the lack of effective clarifying communications among members.

Given their cross-geographic membership, the three teams studied have the potential to harness that diversity to produce innovation but this potential can be difficult to harness

as coordination across geographies poses greater challenges than faced by co-located teams (Hoegl et al., 2007; Siebdrat et al., 2008). The data suggests that coordination within the teams, i.e., reaching the potential of their diversity, is affected by the effectiveness of clarifying communications within the team. This includes definition for objectives, processes, and roles and responsibilities as well as communications on specific tasks. The long-standing Gamma team relies on a tacit understanding of objectives, processes, and roles and responsibilities. The long-standing Alpha and Gamma teams also seem to benefit from transactive memory systems described by Todorva et al. (2008). Long-standing team members know whom to contact for different information. This approach, however, can be problematic for newer members or members on the team's periphery. These members understand their own objectives and responsibilities but do not fully understand how their work integrates into the team as a whole. The equally long-standing Alpha team takes advantage of a combination of tacit understanding and codified communications for these same areas, going over objectives in particular regularly at weekly meetings. Members regardless of their position in the network or their length of service on the team seem to understand the team objectives and each team member's role in meeting these objectives. Supporting what was discussed in the literature review above, while effective clarifying communications facilitate coordination, ineffective or absent clarifying communications lead to conflict, which is experienced on the Beta team.

The challenge of working in a cross-geographic, cross-functional environment is increased because there are several different first languages among team members. This challenge is exacerbated as most communication is done through teleconferences and email. The long-standing Alpha and Gamma team, however, generally overcome these challenges by acknowledging the possibility of misunderstanding and taking particular care to clarify communications. These teams also have a foundation of common understanding of objectives, processes, and roles and responsibilities, which probably lessens the likelihood of misunderstandings arising from non-face-to-face communications. Note in the quote below that while acknowledging that misunderstandings occur on the Alpha team KNJU states that they are short-lived.

KNJU, Alpha team: "Misunderstandings can always happen, particularly when you work globally and you have non-native speakers like myself. And there can be misunderstandings based on that. Frankly, I don't have an example like that where there was a big

misunderstanding and it wasn't resolved. So, I think we all can speak very openly about these things and clarify things."

During its lifespan, the Beta team has no such foundation, and misunderstandings created by or exacerbated by geographic distance were far more common. Misunderstandings and substantive disagreements became so intense on the Beta team in fact that twice during the time I studied the team face-to-face meetings were arranged specifically to reduce conflict. Team members determined that these misunderstandings could not be resolved through teleconferences or email. The communications difficulties were most frequently between PEJO, an American based in the USA, and BRJE, a German based in Europe. Note in the quote below how PEJO describes how communications difficulties that were impossible to resolve over the phone could be resolved fairly quickly if they met face-to-face to discuss the issue. Regrettably, these face-to-face meetings seemed only to reduce conflict within the team, specifically between these two people for relatively short periods of time. It is possible that affective conflict between PEJO and BRJE was not permanently ended because the substantive conflict was never resolved.

PEJO, Beta team: "We have noticed that there are barriers that seemed impossible on the phone that we seemed to be able to resolve in half and hour when [BRJE] is here. It is one of the strongest cases in my mind for why it is still important to travel and not just do video cons or emails or phone calls. I'm not sure why that is. I'm not sure if it's something specific between the US and Germany or if it is something just specific between [MODO] and [BRJE]."

Respondents value the sharing of information even when that dialogue can result in a temporary state of conflict. Some respondents distinguish among misunderstandings: misunderstanding that can be addressed through clarifying communications; substantive conflict, which can benefit the team through discussion; and non-productive, affective conflict. In the quote below KNJU describes what Jehn (1997) and Pelled (1996) call substantive conflict on the Alpha team. It is noteworthy there is no affective conflict associated with this. KNJU and DUMA experienced substantive conflict regarding how to improve sales in Europe. KNJU is based near the customer's European headquarters,

and DUMA is the team leader, based at the division's global headquarters. Their differing perspectives come from their distinct position in the team's network. KNJU is strongly influenced by what he hears directly from the customer, while DUMA is strongly influenced by what he hears directly from division management. KNJU views the conflict between him and DUMA positively. He notes that a stronger solution emerged through the process of conflict resolution.

KNJU, Alpha team: "I think sometimes if everyone is always in agreement, you don't necessarily come to the best conclusion. And sometimes by having someone else taking a different position, you might rethink your own once more."

As noted above, the Beta team experienced misunderstandings often exacerbated by limited face-to-face communication. Like the Alpha and Gamma teams, the Beta team also had significant substantive conflict among members, legitimate differences of opinion. For the Beta team, substantive areas of conflict included settling on target customers, target markets, and target product concepts. Except for one brief period of time, in fact, team members in the USA and team members in Europe agreed on very little. In addition to this substantive conflict, the Beta team also experienced affective conflict, as PEJO puts it, "just people being mad at each other." Based on the quote below, PEJO seems able to distinguish among the three. It is important to note that I did not observe or hear in interviews examples of affective conflict on either the Alpha or Gamma teams.

PEJO, Beta team: "There are certainly misunderstandings and disagreements among the members of the team. And then there is always that question of are they the right kind of disagreements, or are they the wrong kind of disagreements. And I think we probably have a little of both. …We have had it out on a number of occasions with different guys in the team. …Is that a misunderstanding or a disagreement? Sometimes it is a little of both. Sometimes it legitimately is a misunderstanding, you know, and it happens a lot with our colleagues in Germany. A light bulb turns on and we say, 'Oh man, they totally didn't know what we were talking about.'…So sometimes we do have misunderstandings. Sometimes we understand perfectly well what the other person is trying to say and we just do not agree. We have disagreements. And sometimes we just argue, it is not a misunderstanding, it is a disagreement and it is clearly the wrong kind of disagreement, because it's not constructive. It is just people being mad at each other."

As suggested by Pelled (1996), positive, substantive conflict in a conversation can, however, degenerate to affective conflict if the speaker does not feel her/his perspective is being considered. This seemed to happen frequently on the Beta team, particularly with BRJE, one of the team members based in Europe. BRJE, as mentioned above, disagreed with team members at division headquarters on many fundamental issues facing the team. His frustration did not seem to come so much from substantive disagreements but from feeling that his point of view was not being acknowledged as made clear in the quote below.

BRJE, Beta team: "And the things that made me unhappy…within this team, we were saying things like, 'Very good input, Name X, I really appreciate what you've said. Very good work, here's what I think.' And then the person would go on to something else. That is not a natural flow of a discussion. When you have a different point to be made, why not address that directly? Why were we both afraid of saying what we thought? That was unsolved conflict right there. You got that unsolved thing and conflict as well."

The Beta team, which as suggested above experienced the most conflict, also has the most issues with clarifying communication. Members of the relatively newly formed Beta team lack a common understanding of objectives, processes, and roles and responsibilities. This appears to be a source of frustration for members regardless of functional group or geographic office. Following Jehn (1997), Jehn et al. (1999), and Lau and Murnighan (2005), strong faultlines within the Beta team might have increased the likelihood of conflict. The German teams members, collocated in one office, all advocated that the team should focus on European customer targets. The USA team members believed the best customer targets were in either Japan or India. The cultural faultline between these groups is a type of low job-related diversity, associated with the type of affective conflict experienced on the Beta team (Pelled, 1996; Pelled et al., 1999). In the quote from BRJE, it seems that the lack of definition regarding roles and responsibilities impedes the team's ability to resolve issues regarding product concepts.

BRJE, Beta team: "I think the [Beta team] lacks definition all around. I believe, as a team and in our documentation, we lack a common view in our written material of substance regarding the definition to begin with. We lack a team structure in which everybody knows why we are the only [product development group] with two local leaders…And more so, we have three people in [Europe] who all take responsibility for [the product development]. I think this is all very nebulous in terms of definition."

PEJO attributes the lack of definition at least in part to the newness of the team. In fact, throughout our two interviews PEJO lamented that the Beta team needed more time to settle on objectives, determine effective processes, and establish roles and responsibilities. He noted that teams like Alpha and Gamma likely resolved the definition issues facing the Beta team years ago. After the Beta team had been disbanded he remarked that the other product development teams had been given more time by management to development their first products. PEJO's comments reinforce what has been written in the literature regarding the role of time in team cohesion (Ashforth & Mael, 1989; Jarvenpaa & Leidner, 1999; Webber & Donahue, 2001).

PEJO, Beta team: "I think that there is probably still less definition than there could be. You know, we are trying to get into a market that we are not historically in and as a result, you know, we are probably lacking some of the very clear definition that we have when we go after a very concrete [commodity product] or something like that. I think that we probably don't have as well defined of a process as some of the more mature teams within the organization because we're still sort of figuring out the best way to get things done."

Overall, definition is less of a problem on the long-standing Alpha and Gamma teams. These groups also seem better able to identify and address issues related to definition. For the Alpha and Gamma teams, definition and common understanding are sometimes codified and sometimes come from tacit understanding. On the Gamma team there were no documents codifying processes and roles and responsibilities. I saw a transition on the team with regard to codifying objectives. In the first year of the study there was no documentation for team objectives. The team leader, however, introduced an objectives document during the second year of the study. It is in fact possible that he did this in response to this research as codifying team objectives was one of my recommendations based on findings from the survey and interview data. The quote from SCMA presented below reflects how objectives were understood by the team during the first year of the study.

SCMA, Gamma team: "When you say defined, are they [objectives] written down in part of annual goals or that kind of thing? I think maybe it's less formal than that, and I think there's...I'd like to think there's a shared understanding amongst the key contributors of the team, the leadership of the [Gamma team]."…I think there is a shared

understanding of who the key decision makers are and what they're thinking about."

There was, however, detailed documentation for all short-term projects such as the "technology fair" planned by GIAN for the Gamma customer's American subsidiary. He created a detailed spreadsheet for every element of the event. This included among things: creation of each display property for each technology to be demonstrated, marketing communications materials, shipping, invitations, day of event roles and responsibilities, travel to the event, etc. No detail was too small for his documentation. A team member was assigned to each item, and each week leading up to the event the group planning the event reviewed the status of each item.

While there certainly existed tacit understanding on the Alpha team among many members regarding overall mission, processes, and roles and responsibilities, the team leader DUMA began to codify yearly objectives and roles and responsibilities after the first year of this research. These were areas of relative weakness identified by the research. He believed that relying on a tacit understanding was no longer sufficient for this long-standing team. The team had expanded to include a number of new members, including members in new geographies. Additionally, DUMA wanted to look for new ways to increase revenue. The team previously increased revenue by securing new programs. At the time of this research, however, Parthenon subsystems were available in nearly all Alpha products. DUMA therefore wanted to increase sales by increasing the application rate for existing programs. This was a new type of initiative not only for the team but for the division. There was therefore no tacit understanding regarding how this was done. Note in the quotes below the role that DUMA, the Alpha team leader, plays in defining key areas for his team. He not only sets the team objectives but also regularly reviews them with his team regularly.

NAMA, Alpha team: "We do have some new objectives set by [DUMA]. We review them enough times. That's a reflection of the team objective setting."

OKYA, Alpha team: "Since the [document outlining roles and responsibilities], [DUMA] has clearly indicated the champions and supporters and each role. So, that was really helpful, I think."

For the long-standing, relatively large Gamma team, understanding objectives, processes, and roles and responsibilities seems related to position in the network. For those more central in the Gamma team networks definition does not appear to be an issue. The lack of documentation, however, makes it more difficult for those on the periphery to gain a comparable understanding to those central in the network. Members might understand their own objectives, but not those of the team overall. It is interesting to note that network position does not equate to geographic position. CAOL is both on the network periphery and geographic isolate. FRCA, however, while on the network periphery for information transfer, is located at the division's headquarters. Neither has a clear understanding of team objectives.

FRCA, Gamma team: "This was a stumper on that something to do with the objectives on the survey. I am not really sure what their objectives are. I know what mine are. What I have been given are tasks that I am supposed to be doing. And in the direction I am supposed to be heading in, but I am not sure if there is a list of objectives that the team is supposed to go off of."

CAOL, Gamma team: "The objectives are not that clear. It seems we are aimed at supporting our customer in every program. I don't see any clear objective per program, per marketing area that we want to develop direct marketing. We want to develop relationship with product planning."

Returning to the propositions introduced in chapter two, repeated below for convenience, the qualitative data provides support for P2D. Clarifying communications, particularly definition of objectives, roles and responsibilities and processes, has a positive effect on coordination. The data does not, however, provide support for P2A, P2B, and P2C.

*P2A: **Clarifying communications** among team members positively affects the customer orientation of the team.*

*P2B: **Clarifying communications** among team members positively affects the competitor orientation of the team.*

P2C: ***Clarifying communications*** *among team members positively affects the proactive orientation of the team.*

P2D: ***Clarifying communications*** *among team members positively affects the coordination of the team.*

5.3.4 Customer/Competitor ID and Market Orientation

The data suggests a progression from clarifying communications to customer and competitor identification and the development of market oriented objectives. Clarifying communications help establish overall coordination among members, and customer and competitor identification and the developing of market-oriented objectives help the teams achieve customer, competitor, and proactive orientations. Coordination helps the team "row in the same direction," if you will. That direction is not necessarily toward greater customer, competitor, and proactive orientations, however. Customer and competitor identification focus the team's coordination on specific targets. By setting specific market-oriented objectives the team "sets the course" for achieving higher levels of customer, competitor, and proactive orientations.

These steps are not discrete, however; they can overlap. The Beta team, for example, began to identify customer targets even if it had not yet solidified its processes and although roles and responsibilities were still in flux. Without the foundation of coordination established through clarifying communications, however, these efforts failed. The Alpha and Gamma teams, with a solid foundation of coordination established through clarifying communications, achieve higher levels of customer, competitor, and proactive orientations in large part through customer and competitor identification and the establishing of market-oriented objectives.

Customer identification and competitor identification can be considered a form of clarifying communications. This suggests, however, that it is not sufficient to have definition to increase each component of market orientation. It suggests that *what* is defined is important. Specifically, it is important the team to define its customers and competitors. While the data suggests that clarifying communications increases coordination, customer and competitor identification increase both customer orientation and competitor orientation. An effective process for customer identification increases the customer orientation for the Alpha and Gamma teams, whereas the failure to identify customer and competitors contributed significantly to the Beta team's failure.

Members of the Alpha and Gamma teams seem to have clearly identified the "customer." Their understanding of the direct customer includes its various functional groups and subsidiaries. In fact, both teams identify the specific people in each customer department and subsidiary they believe they need to influence. They document the "advocacy" toward Parthenon for each of these people. Is the person positively inclined toward Parthenon, or is the person neutral or negatively inclined? What level of influence does this person have within the customer organization? I saw both teams develop action plans to address those customer contacts who were negatively inclined. LUCH, a member of the Gamma team, in the quote below summarizes how his team defines "customer."

LUCH, Gamma team: "The customer is [Gamma] global as a whole, which I would say is marketing; it is business; it is engineering, it is planning, in all regions, in all locations throughout the globe. And I think there are also the cultural differences between the different geographies and their organizations within those geographies which make it challenging, particularly, and [the customer] is going to more of a global platform-oriented strategy to know kind of who's driving the bus on a particular program and influencing the right people in order to come up a way with the appropriate products. I mean, not outside the [direct customer's] organization I think like [resellers] and stuff like that are, obviously, still in there"

In contrast, there appears to be confusion on the Beta team regarding customer identification. Lack of clarity or common understanding on customer identification can lead to conflict and, as seen on the Beta team, failure. One of the Beta team leaders come to realize after the team has been disbanded that his team's direct customer was, in fact, internal teams like the Alpha and Gamma teams, not their direct customers as he and others had thought when the team was active. Interestingly, as noted in the journal article quoted earlier in this chapter, PEJO saw other product development teams bypassing the official process to influence internal decision makers. The Beta team chose not to do this. They not only failed to identify a key customer but also failed to adapt to changing business conditions, i.e., the new albeit unofficial process to receive funding. The team lacked the learning orientation described by Grinstein (2008). In the following quote PEJO describes the Beta team's failure to influence key internal customers.

PEJO, Beta team: "[The product concept] died because the [European coworkers in the division] said nobody would buy it. [KIRY, the supervisor for both the Alpha and Gamma team leaders] liked it for her customers

but didn't push for it in Japan. That was a little frustrating. We had to do a better job selling to the directors, to the point where they slam their fists on the table and say, 'We gotta have this.' We didn't do that. So the product idea died. It comes back to ultimately it comes back to the customer. I guess you could say it's the OEM, but you can't to the OEM without going through the customer teams, so it comes down to convincing the customer team that this is the right thing to do, and maybe we didn't do enough of that"

Similarly, the Beta team does not reflect on their most significant competitive threat until after the team has been disbanded. The team's most significant competitors were the other product development teams in the division against whom the Beta team competed for management attention and scarce resources. The Beta team played by the codified rules of how to engage with management and the customer teams, only presenting product concepts at official product development presentation meetings. The other product groups, however, did not follow the official rules, lobbying for their product concepts at unofficial meetings and securing support for their concepts in advance of the official meetings. As stated above, the Beta team failed to adapt to new business conditions in part because they failed to identify its true competition. This is summarized by PEJO in the quote below taken from an interview after they had been disbanded.

PEJO, Beta team: "There were other projects competing for resources in the pipeline, so there's internal competition. The strongest strategy seemed to be to find a customer team willing to say that they needed this [a new product concept]. I think that we were very conservative about following the rules that you're not allowed to go and talk to anyone about it. The other groups played faster and looser with their interpretation of the rules than we did. The problem is that it's tough to be at the table when you're the only guy playing a fair hand."

Through the qualitative data this research finds that customer and competitor identification positively impact the teams' customer and competitor orientations, thus supporting P3A and P3B. Customer and competitor identification, like market-oriented objectives, is a specific form of clarifying communications and as such possibly plays some role in team coordination. The data, however, indicates, however, that general clarifying communications provide a more fundamental role in team coordination.

P3A: ***Customer and competitor identification*** *positively affects the customer orientation of the team.*

P3B: ***Customer and competitor identification*** *positively affects the competitor orientation of the team.*

P3C: ***Customer and competitor identification*** *positively affects the proactive orientation of the team.*

P3D: ***Customer and competitor identification*** *positively affects the coordination of the team.*

5.3.5 Market-oriented Objectives and Market Orientation

The Beta team never resolved basic issues regarding team objectives, roles and responsibilities, and processes. For example, while they had a general understanding of the product category that they were to enter, they saw contradictions in the direction management provided regarding the specifics. Therefore, as members interpreted the direction from management differently they did not have a shared understanding of their overall objective. When management established the team both DOMO and PEJO were identified as "team leader." It took months for these two and the team as a whole to differentiate responsibilities between the two "leaders." The team also lacked a process for managing the substantive conflict between members, and as a consequence substantive conflict devolved into affective conflict, furthering hindering coordination. As a consequence, members struggled to identify their customers and competitors. As they were working toward different overall objectives, they identified different sets of

potential customers and competitors. As they had no process to resolve conflict, they were not able to resolve this issue. This is where they were in their development when the team was disbanded. They never reached the stage of developing specific market-oriented objectives. They were in a perpetual cycle of trying to coordinate efforts, failing due to ineffective clarifying communications.

The Alpha and Gamma teams in contrast have clarified overall objectives, roles and responsibilities, and processes. These teams know how to coordinate efforts as a group. Recall from the quotes above how efficiently these teams coordinate the gathering, dissemination, and response to customer-related information. Members pride themselves in their ability to work well together. These teams have a clear understanding of who their customers are, and their leaders develop very specific market-oriented objectives for their team each year.

There are times when customer identification precedes setting the market-oriented objective. The Gama team, for example, saw that sales for their customer's Mexican subsidiary were increasing. They therefore identified their customer's Mexican subsidiary as an important customer target. They then established the market-oriented objective of gaining a deep understanding of this customer group. Who were the key decision-makers? What were their short and long-term objectives and strategies? How did they view Parthenon and its products? To answer these questions, the team sent a cross-functional team to call on this customer and report the findings back to the team. A subset of the team developed a series of next steps based on what was learned. In other words, having identified the customer and the objective to learn more, the team gathered information, disseminated that information, and then responded to it. The process of gathering, disseminating, and responding to customer-related information addresses the

market-oriented objective. Sometimes, identifying the customer is the objective. While the Gamma team knew that the Mexican subsidiary was growing in importance, one of the main market-oriented objectives was to identify the specific decision makers in that organization.

Based on each year's network analysis, the Alpha team leader set market-oriented objectives for his team. He was, for example, not satisfied with the amount of information coming into the team from the customer, particularly from the customer's subsidiaries. Only 34% of information coming into the team was coming from the customer. The team was only receiving information from two contacts from the customer's largest subsidiary. He therefore set a market-oriented objective to increase the amount of information coming into the team from customer contacts. The team created a series of "technology fairs," held at customer facilities around the world, to present the latest technology and product concepts. The following year's study shows that the percentage of information coming into the team from customer contacts increased from 34% to 57%. Information coming into the team from the customer's largest subsidiary increased from two to 20 sources. When discussing the results he stated that the only way to change the team's customer orientation was to set a very specific objective for improvement, and then follow through with executing against it.

The nature of the market-oriented objectives set by the team affect the apparent proactive orientation of the team. Early interviews with members from the three teams suggest that the Beta team is more future oriented than the Alpha and Gamma teams. The Alpha and Gamma teams are looking at a time horizon up to five years in the future, whereas the Beta team is looking eight to ten years in the future. Deeper analysis, however, reveal that the Beta team is not necessarily more future oriented than the other teams, but rather

that their "present" is different. The Alpha and Gamma teams, following their assigned objectives, work on products that will enter the marketplace in three to five years. The Beta team, again following its assigned objectives, works on products projected to enter the marketplace in eight to ten years. Each team is working on their immediate next generation of products. (As noted earlier, components that were to be developed by the Beta team would have been used by the Alpha and Gamma teams to build sub-systems sold to their customers.) This point is clarified by Alpha team member CYRE and Beta team member PRCA below.

CYRE, Alpha team: "We are future minded because we have to be thinking of programs five to ten years out, because that's the nature of the business—not because, not because we're super clever and spend a lot of time, you know, giving forethought to them. It's more the pattern. It's our business cycle."

PRCA, Beta team: "The [Gamma team] or the [Alpha team], the customer teams, are working with what they have available today, and what they think they can sell into a customer, where we're [on the Beta team] trying to do something that's completely different and trying to encourage a customer movement."

Returning once again to the propositions introduced in chapter two, again provided below for convenience, the qualitative data provides support for P4A and P4B. The research finds a positive relationship between market-oriented objectives and customer and competitor. As market-oriented objectives are a very specific type of clarifying communications, it is possible that they too enhance coordination among team members to a certain extent. The data again indicates, however, that general clarifying communications provide a more fundamental role in team coordination.

*P4A: Having defined **market-oriented objectives** positively affects the customer orientation of the team.*

*P4B: Having defined **market-oriented objectives** positively affects the competitor orientation of the team.*

*P4C: Having defined **market-oriented objectives** positively affects the proactive orientation of the team.*

*P4D: Having defined **market-oriented objectives** positively affects the coordination of the team.*

5.3.6 Individual Attitude and Market Orientation

Not surprisingly, team members value when colleagues listen to their point-of-view. They believe, however, that it ultimately enhances the group's customer orientation. Active listening helps members prepare a sound response to information that has been gathered and disseminated. As KNJU notes above, by listening to conflicting points-of-view, he and DUMA create solutions that benefit both the customer and the company better than would have either's original individual solution. This requires KNJU and DUMA to be flexible, open to new ideas and new solutions. If someone perceives that another member is not listening to his point-of-view it can create affective conflict, which in turn hinders coordination. Recall BRJE's frustration when he perceived that MODO was not listening to his point-of-view.

As CYRE describes above, team members pride themselves on honoring their commitments to other members. They do this by responding to requests from other members as quickly as possible. It is this trait, in fact, that in part differentiates members from non-members, i.e., the responsiveness component of individual attitude seems to enhance the group identification component of individual attitude. By honoring commitments in this way, team members complete the cycle of coordinating the gathering, disseminating, and responding to customer-related information. Thus, individual attitude can be seen as enhancing both coordination and customer orientation.

Alpha and Gamma team members identify strongly with their respective teams. They are clearly proud of the team and its accomplishments. Members of the Beta team stated that they only experienced two relatively brief periods of strong group identification. The first was immediately after the team was formed. Supporting Ashforth and Mael (1989), it seems that simply being called a team created a sense of group identity. This sense of group identification did not last, however. The team soon experienced substantive conflict, which, likely due to a lack of effective clarifying communications, devolved into affective conflict. The second period of group identification occurred after a series of

product proposals generated positive feedback from management. For a short time the team coordinated efforts on further developing these proposals. This second feeling of group identification was again short-lived, and the team experienced significant affective conflict. The team had still not come to agreement on overall objectives and strategies. This suggests that group identification can perhaps create a superficial level of coordination but without clarifying communications this coordination will be short-lived.

Based on the above, the qualitative data provides support for P5A and P5D, which are listed below. The data does not provide support for either P5B or P5C. It is possible that limited resources as described above limited any potential positive impact that individual attitude might have on either competitor or proactive orientations.

*P5A: The **individual attitude** of team members, including the level to which they identify themselves as group members, affects the customer orientation of the team.*

*P5B: The **individual attitude** of team members, including the level to which they identify themselves as group members, affects the competitor orientation of the team.*

*P5C: The **individual attitude** of team members, including the level to which they identify themselves as group members, affects the proactive orientation of the team.*

*P5D: The **individual attitude** of team members, including the level to which they identify themselves as group members, affects the coordination of the team.*

5.3.7 Market Orientation and Network Position

Supporting Ancona and Caldwell (1992a), position in the team network informs a member's perspective. Respondents' definition of customer orientation seems to be affected by their position within the network. Notice the difference between those respondents responsible for direct customer communication to those located at headquarters. All team members are focused on the customer as noted in the following quote from Alpha team member CYRE.

CYRE, Alpha team: "I mean, I think we're very customer oriented. I don't know how you can be on a customer team and not be. I guess I've never

worked in an environment where I'd say, 'we're on a customer team but we don't really care what the customer thinks.'"

However this focus on the customer is very different depending on the member's position in the network. Those closest to the customer view customer orientation as meeting customer needs, whereas those at a greater distance see customer orientation as focusing on the customer in order to meet organizational objectives. OKYA is located in the same city as the Alpha team's global headquarters. Note that he is very focused on meeting customer needs, while CYRE, located at Parthenon headquarters, is more focused on generating sales.

OKYA, Alpha team: "Like with the [the customer's customer/supplier alignment process], we had a hard time, but we nearly achieved the customer's request. We listened to their voice frequently... Everybody's working hard, targeting that [customer value]. [The customer laid off] many contracted people. So, they are now lacking some resources and then they come to us to help them…more than in the past. So, now the two residents are working very, very hard to achieve that."

CYRE, Alpha team: "I mean, yeah, you're trying to understand their [the customer's] needs, so that you can better sell to them and for a higher price. You know? I think that we want them to be happy with the products and stuff. But ultimately we are trying to create value for ourselves in a way."

This tension between those in direct customer communication and headquarters is, however, understood by some team members. KNJU is the information broker, connecting the team to the customer's European subsidiary. In the quote below, he is once again discussing the application rate initiative. He acknowledges the difference in perspective between himself, the customer liaison, and DUMA, the team leader who must answer to division management. As discussed previously, this difference in perspective caused a substantive conflict between the two, a conflict which they resolved to the benefit of both the division and the customer.

KNJU, Alpha team: "'Customer-orientated' means for me that I try to create value for my customer. Additional value, which benefits <u>him</u>. When I look at the [program to increase the division's sales] we are looking for a solution for us. The original intention is not customer orientation, the original intention is money for [Parthenon]. And, of course, that is a part of our business. We need to keep the

> business going. And fill the gaps of our revenue. I know that. But I think when you do that, when you look at your sales. You have to be careful not to lose customer orientation and not to try to force things on the customer…I don't understand that to be customer orientation. If you are kind of forced or pushed in order to fill out revenue gaps you have to be careful not to lose your customer orientation or to diminish it."

The Alpha team leader, in fact, agrees that this is a "healthy tension" that he believes helps ensure that both the customer's and the organization's objectives are met. He states that if the headquarters perspective dominates the team will not be customer oriented, and if those closest to the customer dominate, the team will be customer led. In other words, on the Alpha team network diversity leads differing perspective, which in turn leads to substantive conflict and ultimately to stronger solutions. In contrast, on the Beta team as illustrated above network diversity led to differing perspectives, which in turn led to substantive conflict, which without the benefit of clarifying communications developed to affective conflict.

FRCA and TOCH are both peripheral specialists performing the exact same function on the Gamma and Alpha teams respectively. Each would like to receive more information. Interestingly, this is not because they do not have the information needed to perform the job, but because receiving information creates a sense of belonging to the team. This seems to be more far frustrating for TOCH, however. During our interview she became quite upset to learn that she had not been invited to the team meeting at which I presented research results. The meeting was held in her building, and team members from other locations participated through a video conference. It is also interesting to note that while each person quoted below is on the periphery of her respective team's network they are both based at the divisions headquarters, co-located with many other team members including their team leaders.

FRCA, Gamma team: "I would like to learn more than what I know now about what we're doing. …I don't know a lot of the stuff. I don't know what's happening in Japan… It is nice when they come here and they make time to meet with me. I appreciate that, and they keep me informed as to what's going on or with emails…I also really don't know what marketing does as a function here. And that is another thing that I would like to learn because if we are all part of the same team, that would be really cool if you all know what everybody does…I don't feel like I'm not part of the team because I don't go to all these different meetings, and I'm able to get my job

done because I don't have all these different meetings. But it would be nice to learn some new stuff."

TOCH, Alpha team: "Quick question – was this gone over [the team survey results] in another meeting with the team, the full team? I sometimes wonder why, because I don't get invited to those kinds of things, which is…I would like to be, whether I could attend or not. I would like to attend, over phone conferencing or whatever, even at home on-line. I would like to attend if there's an [Alpha] meeting, and I am a part of that team. I would like to be more involved in it. Oftentimes meetings happen and I don't find out until the action items that were assigned to me come my way, which is disheartening actually."

CHAL is also on the periphery of the Alpha team network, located in China. Unlike respondents above, however, he does not view himself on the periphery. His seems to define the Alpha team as including those with whom he has regular contact, namely the other people within his functional group. He seems to see himself well integrated in the team, as he defines it. From his perspective, the Alpha team includes the marketing team members with whom he interacts through a weekly teleconference. This might be because he is a relatively new hire and/or because he is a geographic isolate, i.e., he might not have any awareness that the team extends beyond his personal experiences. As noted above, some team members on the periphery of the larger Gamma team do not know the details of what is happening on the team beyond their immediate contacts. Many, however, seem to assume that all areas of the team are operating as smoothly as their own. For example, team members in engineering assumed that marketing was responsible for monitoring the competition and that this was being done well. Team members in marketing, however, expressed frustration that nobody was responsible for competitive intelligence.

5.3.8 Team Size and Market Orientation

Consistent with Katzenbach and Smith (1993), respondents also note that team size affects the ease of communication and level of coordination, finding it easier to disseminate information and coordinate work in a smaller group. Members of the Alpha team seem to feel more connected to their team, regardless of function or geography. As shown in the quote presented below, NAMA attributes this in part to the team's small size.

NAMA, Alpha team: "I think this team is pretty strong team. I think it is fairly small, so communication is pretty smooth. So to me, it's like, you know, we have pretty good understanding of each other and we're heading to the same direction."

A long-standing member of the Gamma team noted that communication has become more difficult as the team has increased in size. HUVI is the quality manager for the Gamma team. He remembers fondly how when the team was smaller he was involved in team discussions that did not directly impact his functional area. He was, for example, involved in discussions on new product concepts and marketing communications. This no longer happens in the now significantly larger Gamma team. Interestingly, HUVI expressed disappointment that he was not aware of this research prior to receiving the survey. He wanted to have a say in how they survey was developed. He describes how the team functioned in its early days in the quote presented below.

HUVI, Gamma team: "When we were very small, everybody knew what everybody did. The bigger we've become, the engineering group is here, and the quality group is here, and the logistics group is here, as opposed to when there were two or three people, so we were all getting together."

While information was easily shared when the Gamma team was much smaller, CAOL expresses frustration that in the team that exists today he only receives information from team members of his own functional group. He receives this information through a weekly marketing teleconference for the Gamma team. In the quote below, he attributes the difficulty in receiving more information in part to the fact that the team today is one of the largest in the division. CAOL is an information broker on the Gamma team and is the sole conduit of information to and from the customer's European subsidiary. Therefore, he plays an important role in developing customer sales in Europe. Interestingly, he believes that the responsibility to improve communication rests with HIMI, the Gamma team leader.

CAOL, Gamma team: "One of the biggest weaknesses [on the team] is sharing information. It is a big group, one of the biggest in the division. The only people maybe I really communicate with outside of the marketing area are [OKYA] and [MIHI] and who else? So, it is only a handful of people. I am not integrated in any of these processes, you know? That's the only connection. For the rest, I don't really know how the information is shared. [MIHI] would be the pillar for that to share information across the [Gamma]

worldwide team, but it's not done enough for now. It is not enough."

5.4 Team "Stories"

Up to this point, I have grouped the respondents' comments by showing overall relationships between categories. It is also beneficial, however, to view the same data presented earlier as it relates to each individual team, making it easier to see comparisons among the teams. It also is easier to see how the relationships between categories play out in three specific scenarios. In the following section I present each team as a whole, beginning with the Beta team.

5.4.1 Story of the Beta Team

The story of the recently formed Beta team in many ways is the story of a team that lacked definition. Team members did not have a shared understanding of objectives, roles and responsibilities, and target customers. Recall BRJE's statement, "I think this is all very nebulous in terms of definition." Team members were genuinely passionate about the assignment, because as PRCA puts it, "It's a new category and there's nothing else that were out there that were being almost being compared to it, sort of like we're paving new grounds… We're looking at something that nobody else is doing." Despite this and the fact that team members had successful experiences on other teams within the division, lack of definition and clarifying communications prevented the Beta team from achieving meaningful coordination. This caused affective conflict within the team, which was never addressed, and the team was never able to gain traction and move forward with any of its product concepts.

The team did not receive the consistent support from management that would have set the team moving in the right direction. As PRCA notes, "Every time we get feedback [from management], it shifts us in a different direction." The overall charter by management at its inception included what the team perceived as contradictory objectives, e.g., products should be significantly less expensive than products currently in production *and* use the most cutting-edge, sophisticated technologies *and* provide a higher level of performance, what PEJO describes as "the impossible 'and'." Different members of the management staff gave individual team members contradictory direction regarding target markets and target consumers, e.g., one director told team members in USA 1 that India was the target market while another told team members in Germany that Europe was the target market.

Team members believed that management was inconsistent in giving feedback on product concepts, one month stating that a particular concept was "absolutely what they should be doing" and the next month refusing to provide funding to continue developing the same concept. PEJO summarizes the experience, "The November product presentation meetings were huge. We pulled a hat trick. We had numbers one, two, and three on the top six product concepts presented, which is as good as it gets because every product group can only present three ideas. There was applause when we finished doing the presentation. [The president] stood up at the meeting and said that this was exactly the kind of thing that we're supposed to be doing. We spend two or three months feverishly getting things ready for the next round of meetings…But what happened was that after it got approved for development we were told that there were no resources, because there weren't any people to work on it."

Roles and responsibilities were also not well defined for the Beta team. As MOUL states, "I'm not sure if it was always so clear to in terms of who's doing what or in terms who has which task exactly on the team. I'm not sure if that was always clearly defined." There was confusion regarding who was the management "champion" for the team, the person from whom the team should take direction. There were two "leaders" assigned to the team, each reporting to a different immediate supervisor, and only after two years did team members come to something of an understanding regarding which person was responsible for what. It was also not clear which of the two engineers on the team was leading the engineering effort and there were as BRJE states, "three people in [Europe] who all take responsibility for [product development]. Additionally, a number of team members were unclear as to what their role on the team was. Two people simply stopped attending team meetings, believing that they were not adding value to the team.

The team did go through a number of short periods of reduced conflict. PEJO describes periods of harmony on the team after management provided positive feedback for the team's work. It appears, however, that conflicts had not been resolved but rather purposefully ignored to create the appearance that members were working well together. Recall BRJE's frustrations that differences in opinion were glossed over in meetings, "You have a different point to be made then why not address that directly? Why were we both afraid of saying what we think? That was unsolved conflict right there." It is also possible that any agreed definition was superficial. Anything defined was codified, written up in documents. It does not appear that agreed definitions were truly internalized

by team members. MOUL expresses surprise that having joined the team a year in its tenure the team was still working on writing up its objectives. She states, "Then there were those sessions where we had discussions like...but we really went into this defining the goals, which I must say was a little bit of surprise to me that it happened at that late point because I understood that the team had been working together for, I don't know, almost over a year at that point. So back then, it caused me a little bit as surprised that we were talking so much about what we went ahead to rather than I was more expecting that we might be more in a solution mode already." In other words, definitions never became tacitly understood as on the longstanding Alpha and Gamma teams.

Customer identification was another definition issue for the Beta team. Team members, as suggested above, were unclear about or disagreed on who the target end-user was. They did, however, conduct a number of market research studies in conjunction with a variety of product concepts, trying to understand the wants and needs of a variety of potential end-users. End-users, however, were the division's indirect customer, and team members never settled on whether they should direct their selling efforts to the division's current direct customers or target new customers. If they were to focus on current customers, which ones were the best targets? If they were to go after new customers, which ones made most sense? Team members in Europe wanted to focus on existing European customers while team members in the USA wanted to focus on new customers in Europe. This confusion seems to have come in part from incomplete communication at the management level. PEJO describes the situation as follows, "Europe was tense anytime we did something that didn't benefit Europe. If we had known that they were the ones who actually wrote the charter…If I had only known. I mean it was months later that I saw the email. Holy crap, they just cut and pasted from [their regional director's] email. That would have been different. If we had been told that we were doing things to solve Europe's problems…It would have been different. I wouldn't have focused on India so much."

Members also lament that they were not able to gain access to the division's direct, business-to-business customers. They believed that teams with direct access, like the Alpha and Gamma teams, were blocking them from speaking directly to the customer. PEJO comments, "So I've had conversations with customer teams. I had one with [MIHI, the customer team leader,] this morning and we talked about [Gamma]. And he said, 'I don't think we can go talk to [Gamma] about this until we explain how it's going to be OK

that we're selling this stuff for [one product segment] and then selling other stuff for [another product segment].' And I said, "I talked to you and [others] Friday, and nobody can think of a real fundamental reason why that is a big deal.'" It was not until after the team had been disbanded that a team member realized that their "real" customers were internal. Their customers were teams like Alpha and Gamma. If the Beta team had "sold" its products to these teams, they in turn would have helped sell the concepts to the division's direct customers, the customers with whom the Alpha and Gamma teams regularly interacted. Recall how PEJO states that the Beta team "had to do a better job selling to the directors [within Parthenon]" because "it comes down to convincing the customer team that it's the right thing to do."

Similarly, competitor identification was also an issue for the Beta team. Members spent considerable time understanding competitors in the marketplace. It was again not until the team was disbanded that the team realized that it failed to address internal competitors, other product development teams selling their concepts to the same management. The Beta team vied with other product development teams for scare company resources and share of mind. As PEJO says, "There are projects competing for resources in the pipeline, so there's internal competition." This was an uncomfortable topic for many people touching this research. After seeing the possible effect of internal competitors on the Beta team, I spoke with the Alpha team leader about adding questions to the survey about internal competitors; I was told that this was not something openly discussed at Parthenon. The other product development teams were more effective than the Beta team at identifying, understanding, and selling to the same internal customers, thereby securing resources to continued funding from the division's management. These internal competitors competed with the Beta team for the division's scarce resources, and ultimately the team failed due to this lack of resources.

Additionally, the Beta team followed the formal, codified processes, defined by their division's management. Their internal competition, however, created and followed their own processes, and these unofficial processes, which often contradicted the codified processes, proved more effective. Other product development groups lobbied management "behind the scenes," generating support for their product concepts prior to the formal, quarterly concept presentation meetings. As PEJO states, "We were supposed to focus on moving our products through the process. They died before we ever had resources to get them in to full development. The two projects that we were working on

were deprioritized. It was deprioritized because there were no resources. Everyone was working on [another team's project], which never followed the process. And all the stuff [for a third team], which interestingly never followed the process either. We were told that this is the horse we are backing. This is how we're going to do [these type of products]…The process is now very Darwinian." The Beta team waited until the meetings to present their product concepts to management. The Beta team, therefore, not only failed to identify their internal customers and competitors, they also failed to define the processes that would lead to success, instead following codified processes that were ignored by others.

5.4.2 Story of the Gamma Team

The story of the Gamma team is the story of an extremely successful group that was straining in certain areas due its increased size and not having resources to keep up with the pace of its growth. Recall CAOL's statement, "One of the biggest weaknesses [on the team] is sharing information… it's a big group, one of the biggest in the division." Regarding limited resources remember that LUCH states, "Everybody is flat out doing...trying just to keep their head above water in order to manage all the programs that we are currently in production with as well as all the stuff that's coming." In order to cope with this, the team made decisions to focus limited resources on the most pressing areas, letting go of areas that were not on the immediate horizon. As SCMA states, "I think we are too focused on the immediate problems, and again, because of lack of time and resource availability, we're probably not spending enough time thinking about a longer term view." The team benefits from its long tenure. Basic issues such as customer targets, objectives, processes, and roles and responsibilities had long since been defined and were tacitly understood by most team members. SCMA states, for example, that "There's a shared understanding amongst the key contributors of the team" regarding goals rather than a formal document. Since this information was never codified, however, it did not reach newer team members and those on edges of the team network. As noted previously, CAOL, on the network periphery, laments that he received little communication from those outside his functional group and that for him "The objectives were not clear."

Nevertheless, each "cog" in the Gamma team "machine" worked well. Each person knew what s/he needed to do, even if s/he did not necessarily know how the machine worked beyond her/his immediate area. Team members trusted that the team worked as well in

other areas as it did in the member's own area. While resource-based choices were frustrating for those central in the team network, those more on the periphery, however, seemed unaware that these choices were being made. They assumed that others on the team were as focused on the indirect customers, the competitors, and future product cycles as they were on their own immediate assignments. Note that while FRCA has no questions regarding her own responsibilities she has a limited understanding of what happens elsewhere in the group, "I don't have questions like the direction that I should be going and what I should be doing because I get my instruction. If I have any questions, I ask the account manager, and I'm provided with the answers and what I need. but I don't know marketing-wise what we're doing. I don't know a lot of the stuff. I don't know what's happening in Japan." She believes, however, that all areas are being "covered." For example, when asked who is responsible for monitoring competitors she states, "I think [SCMA] probably does a lot of it," which is particularly interesting as SCMA states that the team did not have the resources to monitor competitors effectively.

Team members, particularly those more central in the team network, understand that in an ideal world the team would deepen its customer orientation beyond the direct customer to customer groups further down the value chain, i.e., their customer's retailers and the end-consumer. Their direct customer was so complex, however, that it took all of the team's resources to manage the direct customer, which included multiple functional groups and multiple geographies. As LUCH states, "I think we don't pay as much attention as we should to the press or the end-consumer. I think we do a great job of managing our customer and dealing with the enormous amount of work and responsibilities that were shouldered upon us in order to maintain this customer because they are so big."

As noted previously, limited team resources also precluded the team from developing a stronger competitor orientation. Team leaders knew that in an ideal world they would proactively monitor potential competitors who might threaten their business. They chose, however, to invest their resources in developing strong relationships, as they perceived no immediate competitive threats. Interestingly, the team had been under competitive attack a few years before this research began. A friendly customer contact alerted someone on the Gamma team that a competitor was trying to dislodge them. The team reacted quickly and devoted considerable resources to removing the competitive threat, demonstrating to key customer contacts that Parthenon was a superior supplier. Once successful in removing the threat, the Gamma team reverted to its earlier resource allocation, again

focusing on the direct customer. CYRE, who prior to working on the Alpha team was a member of the Gamma team explains, "Partly too, because we've never on the [Alpha] team, since I've been on it, we haven't been challenged with it the same way we were on the [Gamma] team. With [Gamma] they were like, 'We're going to throw you out because here are the other brands we're looking at.' And so all of a sudden we had to become a little more knowledgeable about our competitors. But because we have never had anything that specific with [Alpha] to my knowledge I don't think we've had to have as robust of information about our competitors. It hasn't forced us into that." Similarly, as detailed above, limited resources also affected the team's proactive orientation. Members understood that in an ideal world they would devote more time to future product cycles. They knew, however, that they only had resources to manage the work of the products currently in production and those currently being sold to the customer.

Central team members chose not to disseminate information about these choices to the entire team as they felt it would be demotivating. For similar reasons, they chose not to share information about what had been a serious competitive threat. For example, FRCA had no idea that account had been threatened in the way CYRE describes above. Interestingly, the Gamma team leader also chose not to share the team results from this research because he felt that the results would be "demotivating." In this case, however, team members expressed dissatisfaction as respondents they knew about the research and expected the dissemination and a response to the results.

5.4.3 Story of the Alpha Team

The story of the Alpha team is much like the story of Goldilocks. Goldilocks chose Baby Bear's chair, porridge, and bed because in each case it was just right, neither too hard nor too soft, neither too hot nor too cold. For the Alpha team, everything also was "just about right." At the time of this research the team had existed for over twenty years. The team understood its customer very well and had established strong relationships throughout the customer's organization. Recall MANA saying that customer contacts frequently provide team members with very helpful, "off-the-record" information. Many issues of definition were tacitly understood by most team members. Additionally, each year the team leader codified the team's specific objectives for that year, clearly indicating the team members responsible for each objective, i.e., defining not only the objectives but also roles and responsibilities. The status of team initiatives was regularly reviewed throughout the year through clarifying communications both at the team and work-group level. As NAMA

states, “We do have some new objectives set by [DUMA]. We review them enough times. That’s a reflection of the team objective setting.”

The team was also relatively small, which had a number of benefits. Information moved with relative ease through the team as nearly half the team participated on the same weekly teleconference. OKYA states, “Because we are a very small team, we can communicate frequently. So, that communication helps to improve this team.” Some team members on the periphery of the network, however, did not receive all information. Recall KNJU’s statement that he was “a little bit of an island” but that “it would be different I worked in Japan or [USA 1].” The team’s small size also seems to have contributed to its sense of group identity. OKYA continues, “You definitely identify with the team. It’s a very small team, so maybe I guess each person can feel that he contributes some part in the business directly. And having the roles and responsibilities clarified may help to recognize each person’s contribution to the business.”

Additionally, the team felt that while their customer was now the division’s third largest, historically they had not received as much respect as they would have liked from their coworkers in other areas of the division. Their customer was not as prestigious, and others felt that the team’s products were not as high in quality as those of other groups. This also seems to have a created an “us against the world” mentality in the team, further heightening the sense of group identity, which can be felt in the following quote from OKYA, “I think that most people on the [Alpha] team are proud of their work, and we are achieving a good business, but the recognition, I suppose, in [the division] is not so a good, especially performance-wise for the [the customer’s product]. And the [specific customer product] is always the [product] that is coming up when we talk about the bottom of the performance. Actually, I personally think is achieves good performance. It is a really good performing product, I think. But it’s always listed as not good performance in the division. That is what I feel.” Interestingly, the team’s customer was relatively small compared to other customers in the division. This made it easier for the team to develop an understanding of the customer’s different functional groups and subsidiaries, helping them achieve a higher level of customer orientation.

As with the Gamma team, the Alpha team acknowledged resource constraints, which forced them to focus on certain areas in lieu of others. This included a greater focus on the direct customer compared to indirect customers or potential competitors. Within the

direct customer's organization, the team chose to focus on certain functional groups and regional subsidiaries because they did not have sufficient resources to extend their customer orientation as much as they would have liked. Unlike the Gamma team, however, the Alpha team allocated resources each year to improve a limited number of areas of perceived weakness. This had been done for a number of years prior to this research, but the team did use this research to target areas of improvement suggested by the survey and network analysis. Over the years, initiatives included improving the internal coordination of the team, e.g., improving processes and clarifying roles and responsibilities; improving customer orientation, e.g., developing greater contact with specific customer functional groups and/or subsidiaries; and gaining a better competitor orientation, e.g., gathering information on a specific competitive technology. Each initiative was made a team objective for the year, and those responsible for the objective submitted strategies, updated the team on progress, and presented year-to-year results, sometimes using data from this research. DUMA, the Alpha team leader, sums up his team's approach, "We take a long-term approach. That's what we do at [Parthenon]. We're not going to do it all one year. But as long as the account continues to grow, as long as we continue to make improvements every year, we're doing well. That's our goal."

5.5 Chapter Conclusion

The qualitative data provides insights regarding the nature of market orientation within the teams studied and provides support for a number of propositions presented in chapter two. The data also suggests that factors found in the literature affecting overall team performance, specifically coordination in teams, also affect the teams' level of market orientation. This is consistent with literature that suggests market orientation is a form of coordination: a coordinated effort to gather, disseminate, and respond to market-related information. Additionally, the qualitative data suggests unanticipated insights regarding the role that managing ambiguity plays in developing market orientation.

Before addressing the overarching research question regarding what forces affect the market orientation at the team level, one must first understand the overall phenomenon with the team, i.e., how does market orientation at the team level compare to market orientation at the organizational level? The qualitative data suggests that market orientation in these teams is the coordinated effort to gather, disseminate, and respond to customer-related information, supporting the Cadogan and Diamantopoulos (1995).

From the teams' perspective, however, market orientation and customer orientation are interchangeable terms. Everything, including competitors, is seen in relationship to the customer, which is paramount. This supports both Deshpande et al. (1993) and Shapiro (1988).

Regarding the forces affecting the market orientation of these teams, the qualitative data supports many of the propositions presented in chapter two. The data suggests there are relationships between components of market orientation and each of the following: management support, clarifying communications, market-oriented objectives, customer and competitor identification, and individual attitude. Management support, clarifying communications, and individual attitude seem to have the greatest positive impact on coordination, whereas market-oriented objectives and customer and competitor identification seem to have the greatest positive impact on customer, competitor, and proactive orientations. Resources, a component of management support, seem to affect all four components of market orientation.

In addition to the overall propositions, the data supports specific findings from other studies regarding coordination in teams. The data shows a positive relationship between coordination and definition of objectives, supporting Bagshaw et al. (2007), Barczak and Wilemon (2003), Hackman (1998), Katzenbach and Smith (1993), Knouse (2006), and Pinto et al. (1993). Similarly, this qualitative data finds support for positive relationship between coordination and roles and responsibilities as previously found in the literature (Ayers et al., 1997; Barczak & Wilemon, 2003; Hackman, 1998; Knox et al., 2006). Recall how on the Alpha team they "divide up the customer," assigning specific team members to gather intelligence from specific customer groups and how they created a document outlining the roles and responsibilities for each team member, This compares to the Beta team where there are "three people who all take responsibility [for product development]." This is consistent with Cadogan and Diamantopoulos (1995), which presents market orientation as a coordinated effort to gather, disseminate, and respond to market-related information.

While the propositions focus on factors that positively affect market orientation, the qualitative data also shows clear examples of both substantive and affective conflict in the teams studied (Jehn, 1997; Pelled, 1996). As suggested by the literature, the substantive conflict on the Alpha team led to what the team Alpha leader team called a "healthy

tension," leading to innovation whereas the affective conflict on the Beta team led to the team's inability to resolve such fundamental issues as customer targets. The size of the Alpha and Gamma teams does seem to affect information flow to some members on the network periphery. While this is less of a problem on the 29-member, many of whose members referred to the team as being "small," receiving information is perceived as more of a challenge on the 60-member Gamma team. Recall the team member who noted the communication challenges as the team expanded over the years. This supports Katzenbach and Smith (1993), which states that while it is theoretically possible for an effective team to have up to fifty members, most effective teams tend to have fewer than twenty-five members as communication among team members becomes more difficult as team size increases. These findings support Jaworski and Kohli (1993), which at the organizational level finds a negative relationship between market orientation and conflict.

In addition to concepts anticipated from the literature review, the qualitative data also suggests a new concept, managing ambiguity, which includes elements of clarifying communications and resources. Given the complexity of their business and the teams' limited resources it was not possible for any of the teams to bring full definition to all areas of their business. The Alpha team, however, proactively determined as a team which areas would be defined and which areas would remain ambiguous. For example, they decided to focus limited resources on understanding certain customer subsidiaries, deliberately forgoing others. This did not prevent the Alpha team from being successful because the team was proactively managing the ambiguity it faced. Similarly, the Gamma team, while feeling the strain of limited resources, also made deliberate choices to manage the ambiguity it faced. For example, while team members knew it was important to understand indirect customers it made the difficult decision to focus limited resources on understanding specific, direct customer. In contrast, the Beta team did not manage the ambiguity it faced. The team, for example, never clarified its mission or its customer targets.

Throughout this process of gathering, disseminating, and responding to customer-related information, the team faces ambiguity on many fronts, and the team must deliberately manage this ambiguity in order to be successful. Ambiguity can take many forms. What are the team's objectives, strategies, and tactics? How are roles and responsibilities defined? How does this team define "customer" and "competitor"? What will the market likely demand in the future? Managing ambiguity allows the team to coordinate its

customer-related activities effectively. Ambiguity includes different understandings among team members regarding a particular area, e.g., team objectives. It is ambiguous because there is no single, clearly defined meaning. Ambiguity that is not resolved leads to affective conflict within the team. The Beta team, for example, after working together for over a year had not managed ambiguity regarding team objectives and customer identification, and this lack of common understanding severely limited the group's ability to coordinate activity and develop a successful product. Additionally, the team experienced considerable conflict as members operated with different understandings of what the team's objectives and customers.

Clarifying communications serves to remove ambiguity in the team. The concept of clarifying communications evolved over the course of the research, originally including definition of objectives, strategies, tactics, processes, roles and responsibilities, and each other's perspectives. The qualitative research, however, suggested that customer and competitor identification and market-orientated objectives could also be considered a part of clarifying communications as each serves to define particular areas for the team. The linear regression analysis suggested customer identification as predictor for both coordination and customer orientation, competitor identification as predictor for competitor orientation, and market-oriented objectives as a predictor for proactive orientation. The stepwise regression analysis showed that the combination of market oriented-objectives and customer identification were strong predictors of coordination. Customer identification and competitor identification were strong predictors of customer and competitor orientations respectively, and market-oriented objectives predicted proactive orientation. The qualitative data showed that members of the Alpha team established and regularly reviewed yearly objectives, which included customer-specific initiatives as well as initiatives to clarify processes and roles and responsibilities. The Beta team in contrast did not have effective clarifying communications among team members to remove ambiguity within the team. In an attempt to avoid conflict the team leader chose not to address differing understandings regarding objectives and customer targets, and, rather than avoiding conflict, he seemed to have intensified it.

Additionally, project-specific clarifying communications addressed possible ambiguity regarding time-limited projects, such as the technologies demonstrations developed by both the Alpha and Gamma teams. Team members understood their overall responsibilities on the team; however, they worked to remove ambiguity regarding their

project-specific responsibilities for these events. Who was responsible for communication with the customer? When did display properties need to ship in order to arrive on time?

There appears to be a cadence to which areas of ambiguity must be addressed first. General areas of ambiguity regarding objectives, strategy, processes, and roles and responsibilities must be addressed first. This creates the basis for coordinated activity. The Beta team, interestingly, worked together well for short periods of time on project-specific initiatives, but ultimately these initiatives collapsed because the team was unable to use them to build a coherent, long-term, product development plan. The lack of clarity on general, overarching issues limited the team's ability to find success at the project level. The Beta team's continued ambiguity in foundational areas prevented them from coordinating effort to gather, disseminate, and respond effectively to customer-related information. The long-standing Alpha and Gamma teams had long-since addressed these issues. The "machine" of the team functioned effectively, and the team could coordinate efforts to manage other areas of ambiguity.

Clarity regarding an issue can be either tacit or codified. Each has advantages and disadvantages. Tacit understanding developed over time is generally stronger than codified information among those who share this understanding. Members of the Gamma team noted that they knew what they needed to do and with whom they needed to interact without codified instruction. However, new members to the team or members on the periphery of the team's network were less likely to share this tacit understanding, and therefore the area in question remained ambiguous to them. People in these positions would benefit from codified communications. Codified communications are also likely needed for project-specific initiatives, for which there is insufficient time to develop tacit understanding. The Alpha team benefited from both tacit understanding of basic team operations complemented by codified communication information regarding annual team objectives and specific team initiatives.

Managing ambiguity, however, is not the same thing as *eliminating* ambiguity. Eliminating ambiguity suggests that clarity has been brought to all areas. To eliminate ambiguity the team, for example, would have to identify and develop an understanding of all direct and indirect customers in the value chain. The Alpha and Gamma teams' customers, however, included multiple functional groups spread over several geographies. The Alpha and Gamma teams understood that it was important to understand both the

direct and indirect customers in the value chain, but they did not have the resources to do so. They knew that they should maintain greater vigilance regarding competitors. Due to limited resources they could not do so without taking focus from their direct customer. Limited resources required the teams to manage rather than eliminate all areas of ambiguity. The teams managed ambiguity by making deliberate choices to eliminate ambiguity in some areas and consciously allowing ambiguity in others. Both the Alpha and Gamma teams made deliberate decisions to focus on certain of their respective customers' functional areas and geographies and not others. The Alpha team, for example, chose to focus on increasing contact with their customer's USA subsidiary rather than the customer's Latin American subsidiary. Resource constraints also influenced the time orientation for the teams studied. Teams did not have resources both to manage present work and to prepare for the future. The Alpha and Gamma teams chose to focus limited resources on pressing issues for the immediate product development cycle, acknowledging that to ensure long-term success they would have liked to have devoted more time to the future. In other words, they made the choice to allow more ambiguity with regard to the future in order to have greater clarity in the present. Complementing the qualitative data, the linear regression analysis suggests resources as a predictor for both customer and competitor orientations, and the step-wise regression analysis suggests resources as a predictor of proactive orientation.

Managing ambiguity also does not mean that there is complete conformity or consensus on the team. Members of the Alpha team closer to the customer placed greater emphasis on meeting customer needs than those at headquarters, who placed greater emphasis on meeting organizational needs. Each person's perspective, however, was understood by the other, i.e., there was no ambiguity in knowing the other person's perspective. It created what team members referred to as a "healthy tension," an ongoing, substantive conflict that the Alpha team leader felt benefited the team.

Managing ambiguity can also mean selectively using the available paths of communication. Paths are used regularly to communicate information necessary to move projects forward and to communicate "good news," such as the award of new business. In some cases, however, those with information chose not to share that information with others. The leader of the Gamma team, for example, chose not to communicate to the entire team about a serious competitive threat, even after that threat had been removed. He deliberately chose not to clarify the situation with any team members not directly

involved in removing the threat. The size of the team also plays a role in the amount of ambiguity within a team, it being easier to push clarifying communications through a smaller organization. For some members on the team periphery, this was a source of frustration because they were not receiving information that they believed was important to do their jobs. Many team members not receiving information beyond what was needed to perform their daily work assumed that work in other areas of the team were being handled as efficiently as work in their area.

The team must also periodically reassess how it chooses to manage ambiguity as market conditions change. For example, once the Gamma team was alerted to a serious competitive threat, it reallocated significant resources to addressing this threat. In other words, the team determined that based on current market conditions it was no longer acceptable that certain, specific competitors remain ambiguous. After this threat was removed, the team once again made an assessment and decided that it was more important to remove ambiguity regarding a key customer subsidiary, and therefore they allowed much about competitors to become ambiguous again.

Support from management plays a key role in how a team manages ambiguity as management sets the resources available for the team. Management is unlikely to provide sufficient resources for a team to eliminate all ambiguity from "A to Z," if you will. The team, however, will have to make very different choices depending on the resources it does received. Will it have resources to bring clarity to areas "A to P" or only areas "A to G"? The level of resources management provides also sends a message to the team regarding the importance of its work. The Beta team felt that it was very important when it received praise during a product concept review meeting but later questioned whether the work was truly important when management did not fund the team's projects.

Chapter 6: Presentation of Quantitative Data

As stated previously, the quantiative data was gathered over the course of all three years of this study. Data for the four dependent variables, the four components of market orienation, was gathered each year. The number of independent variables, however, differed each year of the study. For year one, the independent variables include: support, clarifying communications, and individual attitude. For year two, the independent variable customer and competitor identification was added, and for year three market-oriented objectives was added. The sample size for year one is 91, for year two 59, and for year three 67. Although the response rates, presented in chapter three, are reasonable, in absolute terms the sample sizes are relatively small. Therfore, I believe that findings from this data source are best seen as supporting substantive theory that explains the market orientation within the teams studied. Future research is required to determine if these findings can be generalized.

To summarize the findings from the quantitative data, regression analysis suggests that support and individual attitude are the best predictors of customer orientation and competitor orienation. Support is the best predictor of proactive orienation. Clarifying communications and individual attitutude are the best predictors of coordination. Comparisons between teams and between variables support findings from the qualitative data. The nature of the team's specific objectives affect the team's market orientation. The Beta team was specifically charged with anticipating future trends, for example, and the Beta team's results for proactive orientation are highher than those for either the Alpha or Gamma team. Additionally, the quantitative data supports the findings of the qualitative data that there appears to be a cadence to developing a market orientation. For the teams studied, coordination and customer orienation precedes competitor orientation and proactive orientation. Members of the Alpha and Gamma teams state that they had resources to develop coordination and customer orienation but not competitor orientation and proactive orientatin. The quantitative data shows that their coordination and customer orientation are significantly higher than both their competitor and proactive orientations.

6.1 Cronbach's Alpha

Cronbach's Alpha for each of the three year's of the study is presented in Table 9 below. Cronbach's Alpha for each of the four dependent variables, customer orientation, competitor orientation, and coordination, is higher than .7. Cronbach's Alpha for each of

the five independent variables, support, clarifying communications, individual attitude, customer and competitor identification, and market-oriented objectives is presented in Table 10. Note that in year one the construct support was built from five scale items. One of these items was, "This team has the resources it needs to get the work done." For years two and three, resource support was divided into two separate items: "On this team, we have the resources to meet our customer's current needs" and "On this team, we have the resources to understand our current competitors." Therefore, in years two and three the construct support was built from six scale items. Cronbach's Alpha for clarifying communications, individual attitude, customer and competitor identification, and market-oriented objectives are all over .7. Cronbach's Alpha for support, however, is below .7 for years one and three, .698 and .674 respectively. The qualitative data suggests that resources play a somewhat different role in shaping a team's market orientation than other forms of management support. It is therefore possible that resources should be explored as a separate construct. The results, particularly for year one, are very close to .7, however. Therefore, I do not consider it to be a significant obstacle in using the construct for this study.

Cronbach's Alpha - Dependent Variables				
	N	Year 1	Year 2	Year 3
Customer Orientation	5	.806	.810	.907
Competitor Orientation	4	.842	.839	.730
Proactive Orientation	4	.779	.816	.827
Coordination	4	.787	.862	.890

Table 9: Cronbach's Alpha - Dependent Variables

Cronbach's Alpha - Independent Variables				
	N	Year 1	Year 2	Year 3
Support	5/6/6	.698	.811	.674
Clarifying Communications	7	.860	.850	.833
Indvidual Attitude	5	.864	.923	.888
Customer & Competitor ID	5	N/A	.791	.808
Market-oriented Objectives	4	N/A	N/A	.733

Table 10: Cronbach's Alpha - Independent Variables

6.2 Correlations

Correlations were examined between each of the four components of market orientation (customer orientation, competitor orientation, proactive orientation, and coordination) and each of the proposed antecedents: support, clarifuing communications, individual attitude, customer and competitor identification, and market-oriented objectives. As noted previously, data for market-oriented objectives comes solely from year three, and data for customer and competitor identification comes from only years two and three. This research regards correlations over .4 as weak, those over .5 as moderate, and those over .6 as strong. As shown in Table 11, for year three there are strong correlations between customer orientation and support, clarifying communications, and individual attitude. There is a weak correlation between customer orientation and customer and competitor identification. There is a strong correlation between competitor orienation and both support and individual attitude. There is a moderate correlation between competitor orientation and both clarifying communications and customer and competitor identification. There is a strong correlation between proactive orientation and both support and customer and competitor identification and moderate correlations between proactive orientation and both clarifying communications and individual attitude. There are strong correlations between coordination and both clarifying communications and individual attitude, moderate correlations between coordination and support, and a weak correlation between coordination and customer and competitor identificiation.

Y3 Correlations									
	Customer Orientation	Competitor Orientation	Proactive Orientation	Coordination	Support	Clarifying Comm.	Individual Attitude	Customer & Competitor ID	Market-oriented Objectives
Customer Orientation	1	.473**	.575**	.679**	.602**	.614**	.682**	.485**	-.360**
Competitor Orientation	.473**	1	.644**	.529**	.623**	.509**	.602**	.599**	-.322**
Proactive Orientation	.575**	.644**	1	.549**	.622**	.535**	.526**	.607**	-.357**
Coordination	.679**	.529**	.549**	1	.560**	.616**	.736**	.462**	-.358**
Support	.602**	.623**	.622**	.560**	1	.658**	.645**	.613**	-.440**
Clarifying Comm.	.614**	.509**	.535**	.616**	.658**	1	.690**	.466**	-.280*
Individual Attitude	.682**	.602**	.526**	.736**	.645**	.690**	1	.589**	-.334**
Customer & Competitor ID	.485**	.599**	.607**	.462**	.613**	.466**	.589**	1	-.575**
Market-oriented Objectives	-.360**	-.322**	-.357**	-.358**	-.440**	-.280*	-.334**	-.575**	1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 11: Year 3 Correlations

Year two correlations are presented in Table 12. For year two there are strong correlations between customer orientation and each of the following: support, clarifying communications, individual attitude, and customer and competitor identification. The correlation between customer orientation and support, over .7, is particularly strong. Correlations between competitor orientation and both individual attitude and customer and competitor identification are moderate, and there is a weak correlation between competitor orientation and support. There are no significant correlations in year two between proactive orientation and any of the proposed antecedents. There are strong correlations between coordination and both clarifying communications and individual attitude, and a moderate correlation between coordination and customer and competitor identification. There is a weak correlation between coordination and support.

Y2 Correlations								
	Customer Orientation	Competitor Orientation	Proactive Orientation	Coordination	Support	Clarifying Comm.	Individual Attitude	Customer & Competitor ID
Customer Orientation	1	.491**	-.071	.601**	.721**	.657**	.692**	.616**
Competitor Orientation	.491**	1	-.014	.469**	.481**	.342**	.506**	.563**
Proactive Orientation	-.071	-.014	1	.085	-.123	-.028	.073	-.022
Coordination	.601**	.469**	.085	1	.475**	.620**	.601**	.562**
Support	.721**	.481**	-.123	.475**	1	.582**	.648**	.638**
Clarifying Comm.	.657**	.342**	-.028	.620**	.582**	1	.655**	.592**
Individual Attitude	.692**	.506**	.073	.601**	.648**	.655**	1	.557**
Customer & Competitor ID	.616**	.563**	-.022	.562**	.638**	.592**	.557**	1

**. Correlation is significant at the 0.01 level (2-tailed).

Table 12: Year 2 Correlations

Year one correlations are presented in Table 13. The data shows moderate correlations between customer orientation and both support and individual attitude and a weak correlation between customer orientation and clarifying communications. There are weak correlations between competitor orientation and both clarifying communications and individual attitude. While statistically significant, correlations between proactive orientation and the proposed antecedents are all below .4. There is strong correlation between coordination and both clarifying communications and individual attitude, and there is a weak correlation between coordination and support.

Y1 Correlations							
	Customer Orientation	Competitor Orientation	Proactive Orientation	Coordination	Support	Clarifying Comm.	Individual Attitude
Customer Orientation	1	.550**	.389**	.441**	.568**	.462**	.533**
Competitor Orientation	.550**	1	.424**	.467**	.364**	.450**	.479**
Proactive Orientation	.389**	.424**	1	.247*	.365**	.232*	.285**
Coordination	.441**	.467**	.247*	1	.471**	.637**	.687**
Support	.568**	.364**	.365**	.471**	1	.638**	.581**
Clarifying Comm.	.462**	.450**	.232*	.637**	.638**	1	.681**
Individual Attitude	.533**	.479**	.285**	.687**	.581**	.681**	1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 13: Year 1 Correlations

Prior research has shown a correlation between time and team performance, i.e., the longer a group has been together, the more likely the group will experience higher levels of performance (Ashforth & Mael, 1989; Jarvenpaa & Leidner, 1999; Webber & Donahue, 2001). Time is not something on which that a manager can take action. S/he cannot "improve" the team's longevity. Time is interesting, however, when one studies what changes can happen over time. Therefore, as alternates to the independent variables proposed in chapter two, it is interesting to investigate possible correlations between each component of market orientation and both tenure on the team and tenure with the corporation. The results are presented in the following tables: Table 14, Table 15, and Table 16. The year three data shows significant correlations of approximately .3 between competitor orientation and both team and corporate tenure. Year two data shows significant correlations of approximately .3 between proactive orientation and both team tenure and corporate tenure. The data from year one does not show any significant correlations between market orientation and either team tenure or corporate tenure. Based on these correlations it does not appear that there is an important relationship between tenure either on the team or in the corporation and market orientation.

Y3 Correlations - Alternate Variables						
	Customer Orientation	Competitor Orientation	Proactive Orientation	Coordination	When did you join Parthenon?	When did you join the team?
Customer Orientation	1	.473**	.575**	.679**	.082	-.005
Competitor Orientation	.473**	1	.644**	.529**	.311*	.303*
Proactive Orientation	.575**	.644**	1	.549**	.065	.089
Coordination	.679**	.529**	.549**	1	.183	.108
When did you join Parthenon?	.082	.311*	.065	.183	1	.837**
When did you join the team?	-.005	.303*	.089	.108	.837**	1
Functional group?	-.212	-.118	-.144	-.260*	.009	.067
In which office do you work?	-.075	-.159	-.078	-.129	.070	.118

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 14: Year 3 Correlations, Alternate Variables

Y2 Correlations - Alternate Variables						
	Customer Orientation	Competitor Orientation	Proactive Orientation	Coordination	When did you join Parthenon?	When did you join the team?
Customer Orientation	1	.491**	-.071	.601**	.157	.137
Competitor Orientation	.491**	1	-.014	.469**	.126	.159
Proactive Orientation	-.071	-.014	1	.085	.357**	.313*
Coordination	.601**	.469**	.085	1	.194	.137
When did you join Parthenon?	.157	.126	.357**	.194	1	.823**
When did you join the team?	.137	.159	.313*	.137	.823**	1
Functional group?	-.066	-.120	.077	.051	-.035	.030
In which office do you work?	-.078	.045	-.376**	-.181	.133	.178

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 15: Year 2 Correlations, Alternate Variables

Y1 Correlations - Alternate Variables						
	Customer Orientation	Competitor Orientation	Proactive Orientation	Coordination	When did you join Parthenon?	When did you join the team?
Customer Orientation	1	.550**	.389**	.441**	.019	.058
Competitor Orientation	.550**	1	.424**	.467**	.140	.012
Proactive Orientation	.389**	.424**	1	.247*	.004	-.069
Coordination	.441**	.467**	.247*	1	.136	.140
When did you join Parthenon?	.019	.140	.004	.136	1	.781**
When did you join the team?	.058	.012	-.069	.140	.781**	1
Functional group?	-.094	-.156	-.036	-.131	-.035	.012
In which office do you work?	.147	-.008	-.197	.106	.123	.229*

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 16: Year 1 Correlations, Alternate Variables

6.3 Regression Analysis

For each year of data and for each component of market orientation a regression analysis was run using all available independent variables. For year three this includes: support, clarifying communications, individual attitude, customer and competitor identification, and market-oriented objectives. For year two, this includes the above variables minus market-oriented objectives. For year one, this includes the above minus customer and competitor identification and market-oriented objectives. For customer orientation in year three, the R square value is .534, and individual attitude is the only significant contributor to the model. For year two, the R square value is .647, and both support and individual attitude are significant contributors to the model. For year one, the R square value is .380, and both support and individual attitude are significant contributors to the model. These are results are found in Table 17, Table 18, and Table 19 below.

Year 3: Customer Orientation Regession Model							
R	R Square	Adjusted R Square	Std. Error of the Estimate				
.731[a]	.534	.496	.56186				
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.142	.781		.181	.857		
Support	.200	.156	.145	1.282	.205	.595	1.679
Individual Attitude	.608	.176	.462	3.457	.001	.428	2.336
Market-oriented Objectives	-.110	.119	-.100	-.929	.357	.655	1.527
Clarifying Communications	.289	.155	.231	1.870	.066	.502	1.991
Customer & Competitor ID	-.047	.155	-.041	-.301	.765	.402	2.489

Table 17: Year 3 Customer Orientation Regression

Year 2: Regression for Customer Orientation							
R	R Square	Adjusted R Square	Std. Error of the Estimate				
.804[a]	.647	.620	.36584				
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.428	.337		1.271	.209		
Support	.370	.112	.382	3.313	.002	.493	2.029
Clarifying Communications	.200	.110	.211	1.829	.073	.490	2.042
Customer & Competitor ID	.094	.104	.103	.900	.372	.502	1.992
Individual Attitude	.211	.098	.250	2.162	.035	.488	2.049

a. Dependent Variable: Customer Orientation

Table 18: Year 2 Customer Orientation Regression

Year 1: Regression for Customer Orientation							
R	R Square	Adjusted R Square	Std. Error of the Estimate				
.617[a]	.380	.359	.45948				
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.921	.382		2.411	.018		
Support	.400	.109	.409	3.668	.000	.572	1.750
Clarifying Communications	.016	.120	.017	.131	.896	.444	2.252
Individual Attitude	.287	.120	.277	2.396	.019	.535	1.871

a. Dependent Variable: Customer Orientation

Table 19: Year 1 Customer Orientation Regression

As shown in Table 20, the year three regression analysis for competitor orientation shows an R square of .496. Both support and customer and competitor identification are

significant contributors to the model. The year two regression analysis for competitor orientation, shown in Table 21, shows an R square of .369. Again, support and customer and competitor identification are the significant contributors to the model. The year one regression analysis for competitor orientation, shown in Table 22, has an R square of .265. Individual attitude is the only significant contributor to this model.

Year 3: Regression for Competitor Orientation							
R	R Square	Adjusted R Square	Std. Error of the Estimate				
.704[a]	.496	.454	.51229				
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	-.608	.690		-.881	.382		
Support	.339	.154	.307	2.198	.032	.423	2.366
Clarifying Communications	.049	.150	.045	.328	.744	.446	2.240
Customer & Competitor ID	.313	.132	.318	2.366	.021	.457	2.187
Individual Attitude	.221	.156	.197	1.420	.161	.428	2.336
Market-oriented Objectives	.073	.108	.076	.675	.502	.653	1.530

a. Dependent Variable: Competitor Orientation

Table 20: Year 3 Competitor Orientation Regression

Year 2: Regression for Competitor Orientation							
R	R Square	Adjusted R Square	Std. Error of the Estimate				
.608[a]	.369	.323	.61469				
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.309	.566		.545	.588		
Support	.203	.188	.167	1.083	.284	.493	2.029
Clarifying Communications	-.176	.184	-.147	-.954	.344	.490	2.042
Customer & Competitor ID	.472	.175	.411	2.696	.009	.502	1.992
Individual Attitude	.244	.164	.230	1.487	.143	.488	2.049

a. Dependent Variable: Competitor Orientation

Table 21: Year 2 Competitor Orientation Regression

Year 1: Regression for Competitor Orientation							
R	R Square	Adjusted R Square	Std. Error of the Estimate				
.515[a]	.265	.240	.67030				
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.292	.557		.525	.601		
Support	.093	.159	.071	.585	.560	.572	1.750
Clarifying Communications	.248	.175	.196	1.421	.159	.444	2.252
Individual Attitude	.435	.175	.313	2.491	.015	.535	1.871

a. Dependent Variable: Competitor Orientation

Table 22: Year 1 Competitor Orientation Regression

The year three regression analysis for proactive orientation, shown in Table 23, shows an R square of .488. Support and customer and competitor identification are significant contributors to this model. For year two, shown in Table 24 below, the regression analysis for proactive orientation has an R square of .049. No variable contributes significantly to this model. The year one regression analysis for proactive orientation, shown in Table 25, has an R square of .166. Support is the only significant contributor to this model.

Year 3: Regression for Proactive Orientation							
R	R Square	Adjusted R Square	Std. Error of the Estimate				
.699[a]	.488	.446	.52951				
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.032	.713		.045	.964		
Support	.332	.159	.293	2.081	.042	.423	2.366
Clarifying Communications	.194	.155	.172	1.257	.214	.446	2.240
Customer & Competitor ID	.355	.137	.352	2.594	.012	.457	2.187
Individual Attitude	.023	.161	.020	.142	.888	.428	2.336
Market-oriented Objectives	.028	.112	.029	.254	.800	.653	1.530

a. Dependent Variable: Proactive Orientation

Table 23: Year 3 Proactive Orientation Regression

Year 2: Regression for Proactive Orientation							
R	R Square	Adjusted R Square	Std. Error of the Estimate				
.221[a]	.049	-.022	.73282				
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	3.326	.675		4.928	.000		
Support	-.305	.224	-.258	-1.365	.178	.493	2.029
Clarifying Communications	-.064	.220	-.055	-.289	.773	.490	2.042
Customer & Competitor ID	.044	.209	.039	.209	.835	.502	1.992
Individual Attitude	.244	.195	.237	1.246	.218	.488	2.049

a. Dependent Variable: Proactive Orientation

Table 24: Year 2 Proactive Orientation Regression

Year 1: Regression for Proactive Orientation							
R	R Square	Adjusted R Square	Std. Error of the Estimate				
.407[a]	.166	.137	.55130				
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	1.768	.458		3.857	.000		
Support	.323	.131	.320	2.473	.015	.572	1.750
Clarifying Communications	-.133	.144	-.136	-.924	.358	.444	2.252
Individual Attitude	.263	.144	.246	1.833	.070	.535	1.871

a. Dependent Variable: Proactive Orientation

Table 25: Year 1 Proactive Orientation Regression

The year three regression analysis for coordination, shown in Table 26, has an R square of .575, and individual attitude is the only significant contributor to this model. The year two regression analysis for coordination, shown in Table 27, shows an R square of .474. Clarifying communications is the sole significant contributor to the model. The year one regression analysis, shown in Table 28, shows an R square of .534. Both clarifying communications and individual attitude are significant contributors to this model.

Year 3: Regression for Coordination							
R	R Square	Adjusted R Square	Std. Error of the Estimate				
.758[a]	.575	.540	.58998				
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	-.019	.795		-.024	.981		
Support	.100	.178	.072	.563	.576	.423	2.366
Clarifying Communications	.255	.172	.185	1.480	.144	.446	2.240
Customer & Competitor ID	-.079	.152	-.064	-.516	.607	.457	2.187
Individual Attitude	.782	.179	.556	4.356	.000	.428	2.336
Market-oriented Objectives	-.147	.125	-.122	-1.181	.242	.653	1.530

a. Dependent Variable: Coordination

Table 26: Year 3 Coordination Regression

Year 2: Regression for Coordination							
R	R Square	Adjusted R Square	Std. Error of the Estimate				
.689[a]	.474	.436	.60345				
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.079	.556		.142	.888		
Support	-.021	.184	-.016	-.115	.909	.493	2.029
Clarifying Communications	.423	.181	.330	2.342	.023	.490	2.042
Customer & Competitor ID	.289	.172	.234	1.681	.098	.502	1.992
Individual Attitude	.283	.161	.248	1.758	.084	.488	2.049

a. Dependent Variable: Coordination

Table 27: Year 2 Coordination Regression

Year 1: Regression for Coordination							
R	R Square	Adjusted R Square	Std. Error of the Estimate				
.731[a]	.534	.518	.44069				
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.354	.366		.965	.337		
Support	.024	.105	.022	.230	.819	.572	1.750
Clarifying Communications	.319	.115	.305	2.779	.007	.444	2.252
Individual Attitude	.545	.115	.476	4.749	.000	.535	1.871

a. Dependent Variable: Coordination

Table 28: Year 1 Coordination Regression

The results for the three years of regression analysis are summarized in Table 29 below. Support is a significant predictor of customer orientation in years one and two, a significant predictor of competitor orientation in years two and three, and a significant predictor of proactive orientation in years one and three. Support is not a significant predictor of coordination. Clarifying communications is a significant predictor of coordination in years one and two. It is not a significant predictor of any other component of market orientation. Customer and competitor identification is a significant predictor of competitor orientation in year two, and a significant predictor of proactive orientation in year three. Customer and competitor identification is not a significant predictor of any other market orientation component. Market-oriented objectives is not a significant predictor of any dependent variable. Individual attitude is a significant predictor of customer orientation in years one, two, and three, of competitor orientation in years one and three, and of coordination in years one and three. Individual attitude is not a significant predictor of proactive orientation.

	Support Y1	Support Y2	Support Y3
Customer Orientation	Yes	Yes	No
Competitor Orientation	No	Yes	Yes
Proactive Orientation	Yes	No	Yes
Coordination	No	No	No
	Clarifying Communications Y1	**Clarifying Communications Y2**	**Clarifying Communications Y3**
Customer Orientation	No	No	No
Competitor Orientation	No	No	No
Proactive Orientation	No	No	No
Coordination	Yes	Yes	No
	Customer & Competitor ID Y1	**Customer & Competitor ID Y2**	**Customer & Competitor ID Y3**
Customer Orientation	N/A	No	No
Competitor Orientation	N/A	Yes	No
Proactive Orientation	N/A	No	Yes
Coordination	N/A	No	No
	Market-oriented Objectives Y1	**Market-oriented Objectives Y2**	**Market-oriented Objectives Y3**
Customer Orientation	N/A	N/A	No
Competitor Orientation	N/A	N/A	No
Proactive Orientation	N/A	N/A	No
Coordination	N/A	N/A	No
	Individual Attitude Y1	**Individual Attitude Y2**	**Individual Attitude Y3**
Customer Orientation	Yes	Yes	Yes
Competitor Orientation	Yes	No	Yes
Proactive Orientation	No	No	No
Coordination	Yes	No	Yes

Table 29: Regression Analysis Summary

Data from the regression analysis can be used to test the hypotheses presented in chapter two. If a given independent variable is a significant predictor of a dependent variable for each of the three years of the study, I classify it as strong support for the related hypothesis. If the independent variable is a significant predictor of a dependent variable for two of the three years of the study, there is moderate support for the related hypothesis. If the independent variable is a dependent variable for one of the three years of the study, there is weak support for the related hypothesis. This means that for market-oriented objectives, which was used only in year three of the study, there is at best the potential for weak support of related hypotheses. For customer and competitor identification, which was used in years two and three, there is at best the potential for moderated support for related hypotheses.

*P1A: **Management support** for the concept of customer orientation, which includes providing sufficient resources to achieve higher levels of customer orientation, positively affects the customer orientation of teams.*

The quantitative data provides moderate support for this proposition. Management support is a significant contributor to customer orientation in years one and two.

*P1B: **Management support** for the concept of competitor orientation, which includes providing sufficient resources to achieve higher levels of competitor orientation, positively affects the competitor orientation of teams.*

Management support is a significant contributor to competitor orientation in years two and three.

*P1C: **Management support** for the concept of proactive orientation, which includes providing sufficient resources to achieve higher levels of proactive orientation, positively affects the proactive orientation of teams.*

The quantitative data provides moderate support for this proposition. Management support is a significant contributor to proactive orientation in years one and three.

*P1D: **Management support** for coordination within the team, which includes providing sufficient resources to achieve higher levels of coordination, positively affects coordination within teams.*

The quantitative data does not provide support for this proposition.

*P2A: **Clarifying communications** among team members positively affects the customer orientation of the team.*

The quantitative data does not provide support for this proposition.

P2B: ***Clarifying communications*** *among team members positively affects the competitor orientation of the team.*

The quantitative data does not provide support for this proposition.

P2C: ***Clarifying communications*** *among team members positively affects the proactive orientation of the team.*

The quantitative data does not provide support for this proposition.

P2D: ***Clarifying communications*** *among team members positively affects the coordination of the team.*

The quantitative data provides moderate support for the proposition. Clarifying communications is a significant contributor to coordination in years one and two.

P3A: ***Customer and competitor identification*** *positively affects the customer orientation of the team.*

The quantitative data does not provide support for this proposition.

P3B: ***Customer and competitor identification*** *positively affects the competitor orientation of the team.*

The quantitative data provides weak support for this proposition. Customer and competitor identification is a significant contributor to competitive orientation in year two.

P3C: ***Customer and competitor identification*** *positively affects the proactive orientation of the team.*

The quantitative data provides weak support for this proposition. Customer and competitor identification is a significant contributor to proactive orientation in year three.

*P3D: **Customer and competitor identification** positively affects the coordination of the team.*

The quantitative data does not provide support for this proposition.

*P4A: Having defined **market-oriented objectives** positively affects the customer orientation of the team.*

The quantitative data does not provide support for this proposition.

*P4B: Having defined **market-oriented objectives** positively affects the competitor orientation of the team.*

The quantitative data does not support this proposition.

*P4C: Having defined **market-oriented objectives** positively affects the proactive orientation of the team.*

The quantitative data does not provide support for this proposition.

*P4D: Having defined **market-oriented objectives** positively affects the coordination of the team.*

The quantitative data does not provide support for this proposition.

*P5A: The **individual attitude** of team members, including the level to which they identify themselves as group members, affects the customer orientation of the team.*

The quantitative data also strongly supports this proposition. Individual attitude is a significant contributor to customer orientation in year one, year two, and year three.

*P5B: The **individual attitude** of team members, including the level to which they identify themselves as group members, affects the competitor orientation of the team.*

The quantitative data provides moderate support for this proposition. Individual attitude is a significant contributor to competitor orientation in years one and three.

*P5C: The **individual attitude** of team members, including the level to which they identify themselves as group members, affects the proactive orientation of the team.*

The quantitative data does not provide support for this proposition.

*P5D: The **individual attitude** of team members, including the level to which they identify themselves as group members, affects the coordination of the team.*

The quantitative data provides moderate support for this proposition. Individual attitude is a significant contributor to coordination in year one and year three.

The above shows whether or not a given independent variable is a good predictor for each of the four dependent variables. It is also possible to view the results from a slightly different angle to see which independent variables are the best predictors for each component of market orientation. This is shown in Table 30. The best predictors of customer orientation appear to be support and individual attitude. The regression analysis shows that individual attitude is a significant predictor of customer orientation in all three years of the study. Support is also a reasonable predictor of customer orientation. The regression analysis shows a significant relationship in years one and two. The quantitative data, however, suggests that the other independent variables do not positively impact customer orientation. The data further suggests that the best predictors of competitor orientation are support and individual attitude. The regression analysis shows support as significant in both years two and three and individual attitude as significant in years one and three. The regression analysis suggests that the best predictors of proactive orientation are support and customer and competitor identification. The data from years one three support as a predictor of proactive orientation, and the data from year three provides support for customer and competitor identification as a predictor for proactive

orientation. Individual attitude and clarifying communications both appear to be reasonable predictors of coordination. The regression analysis shows a significant relationship in years one and three for individual attitude and in years one and two for clarifying communications.

Looking at market orientation in aggregate it appears that individual attitude is the best predictor of these teams' overall level of market orientation, followed by support from management. This is interesting as it shows a balance in burden between the team members themselves and the organization's management. Each has role to play in achieving the higher levels of market orientation associated with business performance. The results complement the original antecedents proposed by Kohli and Jaworski (1990), which when looking at market orientation at an organizational level finds a positive correlation between market orientation and both support from management and attitudes of employees that enable them to work together collaboratively across groups.

	Customer Orientation Y1	**Customer Orientation Y2**	**Customer Orientation Y3**
Support	Yes	Yes	No
Clarifying Communications	No	No	No
Customer and Competitor Identification	N/A	No	No
Market-oriented Objectives	N/A	N/A	No
Individual Attitude	Yes	Yes	Yes
	Competitor Orientation Y1	**Competitor Orientation Y2**	**Competitor Orientation Y3**
Support	No	Yes	Yes
Clarifying Communications	No	No	No
Customer and Competitor Identification	N/A	Yes	No
Market-oriented Objectives	N/A	N/A	No
Individual Attitude	Yes	No	Yes
	Proactive Orientation Y1	**Proactive Orientation Y2**	**Proactive Orientation Y3**
Support	Yes	No	Yes
Clarifying Communications	No	No	No
Customer and Competitor Identification	N/A	No	Yes
Market-oriented Objectives	N/A	N/A	No
Individual Attitude	No	No	No
	Coordination Y1	**Coordination Y2**	**CoordinationY3**
Support	No	No	No
Clarifying Communications	Yes	Yes	No
Customer and Competitor Identification	N/A	No	No
Market-oriented Objectives	N/A	N/A	No
Individual Attitude	Yes	No	Yes

Table 30: Regression Analysis Summary, Alt. View

6.4 Comparisons between Teams

In addition to testing specific hypotheses, the quantitative data can be used to make comparisons between the teams. As shown in Table 31 below, the Beta team outperforms

both the Alpha team on two fronts: competitor orientation and proactive orientation. (There are no significant differences in either year two or year three.) The Beta team also has a significantly higher mean than the Gamma team for proactive orientation. This is quite interesting as the Beta team was by at least one significant measure less successful than the Alpha and Gamma teams. It was disbanded whereas the other two were not. The findings from the quantitative data are, however, consistent with findings from the qualitative data. The nature of the market-oriented objectives set by each team affect the apparent proactive orientation of the team. The Alpha and Gamma teams by design are looking at a time horizon up to five years in the future, whereas the Beta team is looking eight to ten years in the future. The Beta team is not necessarily more future-oriented than the other teams. The Alpha and Gamma teams, addressing their assigned objectives, work on products that will enter the marketplace in three to five years. The Beta team, again addressing its assigned objectives, works on products projected to enter the marketplace in eight to ten years. Each team is working on their immediate next generation of products, although the Beta team appears to be more future-oriented, i.e., the Beta team appears to have a stronger proactive orientation.

Similarly, the Beta team was given the specific objective to develop products distinct from those offered by competitors, i.e., their charter specified that they be competitor oriented. This is not the case for the Alpha team, some of whose members believe that they were actively discouraged by management from developing a competitor orientation. Unlike the Alpha team, the Gamma team has faced significant competitive threats to its core business. This might explain why the Beta team has a significantly stronger competitor orientation than the Alpha team, but not the Gamma team.

A combined look at both the qualitative and quantitative data suggests that the specific market-oriented objectives given to the Beta team had a significant impact on two components of their market orientation: competitor orientation and proactive orientation. While the correlation analysis and regression analysis presented above does not provide support for the relationship between market-oriented objectives and market orientation, the combined qualitative and quantitative, cross-team comparisons suggest that further investigation is merited.

	Team		
	Alpha	Beta	Gamma
	Mean	Mean	Mean
Coordination	3.83	3.59	3.72
Customer Orientation	3.68	3.47	3.66
Competitor Orientation	3.29	3.82	3.11
Proactive Orientation	3.59	4.11	3.45

Comparisons of Column Means[a]

	Team		
	Alpha	Beta	Gamma
	(A)	(B)	(C)
Coordination			
Customer Orientation			
Competitor Orientation		C	
Proactive Orientation		A C	

Results are based on two-sided tests assuming equal variances with significance level .05. For each significant pair, the key of the smaller category appears under the category with larger mean.

a. Tests are adjusted for all pairwise comparisons within a row of each innermost subtable using the Bonferroni correction.

Table 31: Comparisons between Teams

6.5 Comparisons between Variables

A comparison of means among dependent variables further supports the findings from the qualitative data. The qualitative data suggests a cadence to the development of the teams' market orientation. The teams studied first focus on the coordinated effort to gather, disseminate, and respond to customer-related information. The Beta team struggled to do this effectively. The Alpha and Gamma teams coordinated their efforts effectively but lacked sufficient resources to develop the proactive orientation and competitor orientation to the level desired. In other words, these teams acknowledge that due to resource constraints their competitor orientation and proactive orientation are lower than the coordination and customer orientation. As shown in Table 32, Table 33, and Table 34 below, the quantitative data shows that coordination and customer orientation for the teams are generally higher than the teams' proactive orientation and competitor orientation. In years three, two, and one, mean for coordination is higher than the means

for both proactive orientation and competitor orientation. In years three and two, the mean for customer orientation is higher than the means for proactive orientation and competitor orientation. In year one, the mean for customer orientation is higher than the mean for competitor orientation.

Comparison of Means, Dependent Variables - Year 3			
Customer Orientation	**Competior Orientation**	**Proactive Orientation**	**Coordination**
Mean	Mean	Mean	Mean
3.64	2.96	3.33	3.57

Comparisons of Column Means[a]			
Customer Orientation	Competior Orientation	Proactive Orientation	Coordination
(A)	(B)	(C)	(D)
B C		B	B C

For each significant pair, the key of the smaller category appears under the category with larger mean.

Table 32: Comparison of Means, Dependent Variables - Year 3

Comparison of Means, Dependent Variables - Year 2			
Customer Orientation	**Competior Orientation**	**Proactive Orientation**	**Coordination**
Mean	Mean	Mean	Mean
3.73	3.02	3.02	3.63

Comparisons of Column Means[a]			
Customer Orientation	Competior Orientation	Proactive Orientation	Coordination
(A)	(B)	(C)	(D)
B C			B C

For each significant pair, the key of the smaller category appears under the category with larger mean.

Table 33: Comparison of Means, Dependent Variables - Year 2

Comparison of Means, Dependent Variables - Year 1			
Customer Orientation	**Competior Orientation**	**Proactive Orientation**	**Coordination**
Mean	Mean	Mean	Mean
3.64	3.25	3.57	3.74

Comparisons of Column Means[a]			
Customer Orientation	Competior Orientation	Proactive Orientation	Coordination
(A)	(B)	(C)	(D)
B		B	B C

For each significant pair, the key of the smaller category appears under the category with larger mean.

Table 34: Comparison of Means, Dependent Variables - Year 1

As noted previously, the Alpha and Gamma teams are both considered highly successful by their division's management. The Gamma team handles the division's largest account, and they continue to grow their business. The Alpha team manages the division's third largest account, and the account now generates more than six times more than it did ten years ago when the Alpha team leader took charge. It is interesting that these two teams, as shown in Table 35 and Table 36 below, are significantly stronger in individual attitude and support than the other independent variables. These two variables are the best predictors for customer orientation and competitor orientation, and individual attitude is the best predictor for proactive orientation. These highly successful teams are strongest in those areas most closely linked to higher levels of market orientation. The means for individual attitude and support are statistically higher than those for clarifying communications, customer and competitor identification, and market-oriented objectives in year three. The means for individual attitude and support are higher than the means for clarifying communications and customer and competitor identification in year two. (Market-oriented objectives was not used in year two.) In year one, shown in Table 37, which includes the unsuccessful Beta team, the mean for individual attitude is higher than the means for both support and clarifying communications, and the mean for support is higher than the mean for clarifying communications. (Neither customer and competitor identification nor market-oriented objectives was used in year one.) The mean for clarifying communications, the best predictor of coordination, is significantly higher than

both customer and competitor identification and market-oriented objectives in year three and customer and competitor identification in year two.

Comparison of Means, Independent Variables - Year 3				
Support	**Clarifying Communications**	**Individual Attitude**	**Customer & Competitor ID**	**Market-oriented Objectives**
Mean	Mean	Mean	Mean	Mean
3.81	3.47	3.84	3.35	2.77

Comparisons of Column Means[a]				
Support	**Clarifying Communications**	**Individual Attitude**	**Customer & Competitor ID**	**Market-oriented Objectives**
(A)	(B)	(C)	(D)	(E)
B D E	E	B D E	E	

For each significant pair, the key of the smaller category appears under the category with larger mean.

Table 35: Comparison of Means, Independent Variables - Year 3

Comparison of Means, Independent Variables - Year 2				
Support	**Clarifying Communications**	**Individual Attitude**	**Customer & Competitor ID**	**Market-oriented Objectives**
Mean	Mean	Mean	Mean	Mean
3.86	3.64	3.93	3.41	NA

Comparisons of Column Means[a]				
Support	**Clarifying Communications**	**Individual Attitude**	**Customer & Competitor ID**	**Market-oriented Objectives**
(A)	(B)	(C)	(D)	(E)
B D	D	B D		NA

For each significant pair, the key of the smaller category appears under the category with larger mean.

Table 36: Comparison of Means, Independent Variables - Year 2

Comparison of Means, Independent Variables - Year 1				
Support	**Clarifying Communications**	**Individual Attitude**	**Customer & Competitor ID**	**Market-oriented Objectives**
Mean	Mean	Mean	Mean	Mean
3.83	3.57	3.97	NA	NA

Comparisons of Column Means[a]				
Support	**Clarifying Communications**	**Individual Attitude**	**Customer & Competitor ID**	**Market-oriented Objectives**
(A)	(B)	(C)	(D)	(E)
B		A B	NA	NA

For each significant pair, the key of the smaller category appears under the category with larger mean.

Table 37: Comparison of Means, Independent Variables - Year 1

Chapter 7. Discussion and Conclusion

As noted previously, there has been considerable research on market orientation since the seminal works of Kohli and Jaworski (1990) and Narver and Slater (1990). Most of this work has focused on market orientation at the organizational level and on the relationship between market orientation and business performance. Relatively little research has been done on market orientation at the team level, and most research on antecedents to market orientation has been to test relationships initially proposed by Kohli and Jaworski (1990). There has also been little research on how a group's market orientation might change over time. Additionally, there has not been research on how an individual's position in the group might affect perceptions and/or definitions of market orientation. Market orientation has most frequently been studied using either the MKTOR scale developed by Narver and Slater or the MARKOR scale developed by Kohli and Jaworski. There have been relatively few qualitative studies, and network analysis has not been used to study the phenomenon prior to this study.

This research presents substantive theory to explain the nature of market orientation on three teams. This theory also presents findings regarding the forces that affect these teams' market orientation, both positively and negatively. Each of these teams plays a role in the firm's new product development process, which is critical to organizational success. Three methods were used to gain a comprehensive understanding of these teams, including network analysis. Data was collected over three years, providing the opportunity to study changes in the teams' market orientation over time.

7.1 Market Orientation within the Teams

As the quantitative data uses the MKTOR scale, it necessarily shows coordination, customer orientation, and competitor orientation as distinct constructs. The network data and qualitative data, however, suggest that they are intertwined. Furthermore, the data suggests that Narver and Slater and Kohli and Jaworski conceptualizations are intertwined. This brings together the two major conceptualizations of market orientation, supporting Cadogan and Diamantopoulos (1995). Data from these methods suggest that market orientation is the coordinated effort to gather, disseminate, and respond to information in order to maintain and increase business with the customer.

This coordinated effort includes both work to meet the customer's needs as well work focused on how business with the customer will help the organization meet its own needs.

Information is gathered from the customer in order to understand the customer's wants and needs, and this information is then disseminated to others on the team. Information is also disseminated from various points within the team to the customer. Team members respond to information from and about the customer in order to develop products that benefit the customer and the organization. There are multiple processes of gathering, disseminating, and responding to customer-related information happening simultaneously within each team. Information regarding competitors and the overall marketplace are relevant in so much as they affect the customer relationship. For example, if another organization becomes a competitor, it therefore becomes of interest to the team because that organization threatens the team's relationship with the customer. Similarly, a new trend in the marketplace becomes a matter of interest because of its potential to affect either the team's or the customer's products and, as a consequence, the customer relationship and business. This is a significant difference from Narver and Slater (1990), which conceptualizes customer orientation and competitor orientation as two distinct components of market orientation. Team members see "market orientation" and "customer orientation" as being one and the same, supporting Deshpande et al. (1993).

7.2 Network View of Market Orientation

Network analysis has not previously been used to examine market orientation, even though the contribution of networks to developing a strong market orientation has previously been noted (Kohli et al., 1993). This research uses network analysis to explore both major conceptualizations of market orientation: Kohli and Jaworski (1990) and Narver and Slater (1990). For the Kohli and Jaworski conceptualization this includes gathering, disseminating, and responding to information. For the Narver and Slater conceptualization, this includes customer orientation, competitor orientation, and interfunctional coordination. The network data further suggests that these conceptualizations are interconnected, again supporting Cadogan and Diamantopoulos (1995). From a network perspective it is difficult to separate coordination from the gathering, disseminating and responding to information.

This research suggests that organizational structure can contribute to a group's market orientation. The Alpha and Gamma teams purposefully use boundary spanners to gather information from customer subsidiaries around the world. The teams' matrix organizational structure also appears to contribute to the teams' coordination of customer-related information. Team members belong to both cross-functional, geographic teams

and cross-geographic functional teams. Information disseminated at a cross-geographical functional subgroup meeting, for example, is later transferred to a cross-functional geographic subgroup meeting by an information broker who belongs to both groups. Interestingly, the teams appear to use a different network structure when disseminating competitor-related information. In this case, information is disseminated through central connectors to a subset of team members. This appears to be done to limit the number of people who receive information that is considered more sensitive.

A combined look at the network and qualitative data shows that network position informs the member's perspective. Recall the differing perspective between those members located close to the customer and those at the company's headquarters. KNJU and OKYA, based in remote offices near the customer, receive more information directly from the customer than their headquarter-based teammates and as a consequence tend to advocate for customer-desired positions. In contrast, those like CYRE and DUMA, based at the company's global headquarters, receive more information from internal sources than their subsidiary-based teammates and as a consequence often advocate for company-desired positions. These different perspectives lead to substantive conflict or what the Alpha team leader calls "healthy tension." However, without clarifying communications enjoyed by the Alpha team this substantive conflict can devolve into affective conflict, as happened on the Beta team.

Lastly, the network view of market orientation was particularly useful to the 29-member Alpha team, which wanted to make year-to-year comparisons in its market orientation. Due to the team's relatively small size, it was difficult to see statistically significant year-to-year changes using the traditional MKTOR scale. Sample size, however, is not an issue in network analysis. Other relatively small teams might likewise benefit from using network analysis as a tool to measure, benchmark, and improve their level of market orientation.

7.3 Factors Affecting Market Orientation

Kohli and Jaworski (1990) proposes that support, clarifying communications, and individual attitude positively affect market orientation at the organizational level, and the subsequent marketing orientation literature supports these relationships. Gresham et al. (2006) and Hafer and Gresham (2008) examine the affect of these antecedents in cross-functional new product development teams, similar to the teams studied in this research.

This research proposes that factors affecting market orientation at the organizational level, i.e.., support, clarifying communications, and individual attitude, also positively affect market orientation at the team level. Additionally, this research proposes that two market-oriented specific forms of clarifying communications, customer and competitor identification and market-oriented objectives also positively affect market orientation at the team level. Differing from most studies examining antecedents to market orientation, the quantitative component of this research uses Narver and Slater's MKTROR scale rather than Kohli and Jaworski's MARKOR scale. Additionally, previous research has looked at relationship between various potential antecedents and market orientation in aggregate rather than looking at relationships between potential antecedents and the individual components of market orientation. This research also proposes that factors previously identified as positively influencing the general performance of teams will also positively affect the team's market orientation.

Additionally, research on teams suggests that these same factors positively influence general team performance. This includes management support (Barczak & Wilemon, 2001; Gupta et al., 1986; Hackman, 1998; McComb et al., 2008), clarifying communications (Ayers et al., 1997; Bagshaw et al., 2007; Barczak & Wilemon, 2001, 2003; Hackman, 1998; Hinds & Mortensen, 2005; Hoegl & Gemuenden, 2001; Katzenbach & Smith, 1993; Knouse, 2006; Knox et al., 2006; Maznevski & Chudoba, 2000; Pinto et al., 1993), and individual attitude (Ashforth & Mael, 1989; Bagshaw et al., 2007; Barczak & Wilemon, 2003; Cadogan & Diamantopoulos, 1995; Cohen & Bailey, 1997; Cross et al., 2008; Hackman, 1990, 1998; Homan et al., 2008; Katzenbach & Smith, 2003; Katzenbach & Smith, 2001; Siebdrat et al., 2008; Van Vianen & De Dreu, 2001).

Table 38 below summarizes the findings from both the qualitative and quantitative data.

	Support Qual	Support Y1	Support Y2	Support Y3
Customer Orientation	Yes	Yes	Yes	No
Competitor Orientation	Yes	No	Yes	Yes
Proactive Orientation	Yes	Yes	No	Yes
Coordination	Yes	No	No	No
	Clarifying Comm. Qual	**Clarifying Comm. Y1**	**Clarifying Comm. Y2**	**Clarifying Comm. Y3**
Customer Orientation	No	No	No	No
Competitor Orientation	No	No	No	No
Proactive Orientation	No	No	No	No
Coordination	Yes	Yes	Yes	No
	C & C ID Qual	**C & C ID Y1**	**C & C ID Y2**	**C & C ID Y3**
Customer Orientation	Yes	N/A	No	No
Competitor Orientation	Yes	N/A	Yes	No
Proactive Orientation	No	N/A	No	Yes
Coordination	No	N/A	No	No
	MO Objectives Qual	**MO Objectives Y1**	**MO Objectives Y2**	**MO Objectives Y3**
Customer Orientation	Yes	N/A	N/A	No
Competitor Orientation	Yes	N/A	N/A	No
Proactive Orientation	No	N/A	N/A	No
Coordination	No	N/A	N/A	No
	Ind. Attitude Qual	**Ind. Attitude Y1**	**Ind. Attitude Y2**	**Ind. Attitude Y3**
Customer Orientation	Yes	Yes	Yes	Yes
Competitor Orientation	No	Yes	No	Yes
Proactive Orientation	No	No	No	No
Coordination	Yes	Yes	No	Yes

Table 38: Summary of Findings

Management Support

*P1A: **Management support** for the concept of customer orientation, which includes providing sufficient resources to achieve higher levels of customer orientation, positively affects the customer orientation of teams.*

The qualitative data provides support for this proposition. Recall, for example, how management support in the form of resources restricted the Alpha and Gamma teams ability to understand the wants and needs of certain customer subsidiaries and certain indirect customers. The quantitative data provides moderate support for this proposition. Management support is a significant contributor to customer orientation in years one and two.

*P1B: **Management support** for the concept of competitor orientation, which includes providing sufficient resources to achieve higher levels of competitor orientation, positively affects the competitor orientation of teams.*

The qualitative data supports this proposition. Again, management support in the form of resources restricts the Alpha and Gamma teams' ability to understand their competitors to

the level desired. Also, recall that certain Japanese team members perceive that management does not support discussing the competition. Therefore, they do not proactively gather competitive information. The quantitative data provides moderate support for this proposition. Management support is a significant contributor to competitor orientation in years two and three.

*P1C: **Management support** for the concept of proactive orientation, which includes providing sufficient resources to achieve higher levels of proactive orientation, positively affects the proactive orientation of teams.*

The qualitative data supports this proposition. Recall how team members in the Alpha and Gamma teams focus on the current cycle of product development because they do not have the resources to study how the market might look in the future. The quantitative data provides moderate support for this proposition. Management support is a significant contributor to proactive orientation in years one and three.

*P1D: **Management support** for coordination within the team, which includes providing sufficient resources to achieve higher levels of coordination, positively affects coordination within teams.*

The qualitative data provides some support for this proposition. Recall that the increased sense of group identity, reduced conflict, and stronger coordination in the Beta team when members perceived that management believed their work was important and moving in the right direction. This period or increased coordination, however, was short-lived, suggesting perhaps that the relationship between management support and coordination is superficial. Members of the Beta and Gamma teams also note that resources constraints made face-to-face meetings and, therefore, coordination more difficult. The quantitative data does not provide support for this proposition.

In summary, the findings from this study support the overall proposition that management support increases market orientation not only at the organizational level as proposed by Kohli and Jaworski (1990) but also at the team level, supporting Gresham et al. (2006) and Hafer and Gresham (2008). Additionally, this research suggests that management support not only positively affects overall team performance, it has a positive affect on market orientation specifically.

Clarifying Communications

*P2A: **Clarifying communications** among team members positively affects the customer orientation of the team.*

Neither the qualitative nor the quantitative data provide support for this proposition.

*P2B: **Clarifying communications** among team members positively affects the competitor orientation of the team.*

Neither the qualitative nor the quantitative data provide support for this proposition.

*P2C: **Clarifying communications** among team members positively affects the proactive orientation of the team.*

Neither the qualitative nor the quantitative data provide support for this proposition.

*P2D: **Clarifying communications** among team members positively affects the coordination of the team.*

The qualitative data provides support for this proposition. Recall how team members in the Alpha and Gamma teams cite clarity in objectives and roles and responsibilities as key success factors in their respective teams' ability to coordinate work and how members of the Beta team note the lack of clarity as a source of conflict and a significant obstacle in their ability to coordinate work. The quantitative data provides moderate support for the proposition. Clarifying communications is a significant contributor to coordination in years one and two.

In summary, this research suggests that clarifying communications affects the various components of market orientation differently, positively impacting solely coordination. Clarifying communications seems to increase general coordination in the team, the behavioral component in the Narver and Slater conceptualization, but not the philosophical components: customer orientation, competitor orientation, and proactive orientation. This is consistent with the literature on teams, which suggests that clarifying communications increases general coordination in the team. To return to an earlier metaphor, clarifying communications seems to help the team row in the same direction but not necessarily the "right" direction, i.e., towards greater market orientation.

Customer and Competitor Identification

*P3A: **Customer and competitor identification** positively affects the customer orientation of the team.*

The qualitative data supports this proposition. Team members from both the Alpha and Gamma teams cite their work to identify and monitor the advocacy of specific influencers in their respective customers' organizations as a key part of their customer orientation strategy. In contrast, the Beta team failed to identify the importance of its internal customers, significantly hindering their ability to satisfy the needs of this customer group. The network data also supports this proposition. After presentation of the year one results, the Alpha team identified key customer contacts not being reached and made reaching them a key objective for the following year. Year two network data shows that, having developed relationships with these contacts, the team increased the amount of information gathered from key subsidiaries. The quantitative data, however, does not support this proposition.

Customer and Competitor Identification

*P3B: **Customer and competitor identification** positively affects the competitor orientation of the team.*

The qualitative data supports this proposition. Recall how the Gamma team having identified a competitive threat focused resources successfully to eliminate a competitive threat. Recall also that the Beta team attributes the team's failure in large part for failing to identify and understand the importance of internal competitors, i.e., their inability to identify competitors inhibited their ability to develop a competitor orientation. The quantitative data provides weak support for this proposition. Customer and competitor identification is a significant contributor to competitive orientation in year two.

*P3C: **Customer and competitor identification** positively affects the proactive orientation of the team.*

The qualitative data does not provide support for this proposition. The quantitative data provides weak support for this proposition. Customer and competitor identification is a significant contributor to proactive orientation in year three.

*P3D: **Customer and competitor identification** positively affects the coordination of the team.*

Neither the qualitative nor the quantitative data provide support for this proposition.

One might anticipate that if clarifying communications positively affects coordination, i.e., it helps team members row in the same direction, than a market orientation specific

form of clarifying communications such as customer and competitor identification would facilitate the team's rowing in the right direction toward greater market orientation. The data, however, provides weak support for this overall proposition.

Market-oriented Objectives

*P4A: Having defined **market-oriented objectives** positively affects the customer orientation of the team.*

The qualitative data supports this proposition. Recall how the Alpha team leader, based on the network analysis, set the market-oriented objective to increase the number of contacts within the customer's USA subsidiary. The team developed and executed an action plan to reach the goal, and the following year's network analysis showed significant improvement. Recall also how the Gamma team leader set the market-oriented objective to develop sales in Latin markets. This led directly to establishing relationships with and a greater understanding of the customer's Mexican subsidiary. The quantitative data, limited to year three data, does not support this proposition.

*P4B: Having defined **market-oriented objectives** positively affects the competitor orientation of the team.*

The qualitative data supports this proposition. Recall how the Gamma team, prior to this research, came under competitive threat. The team's leadership redirected resources, set the market-oriented objective to remove the competitive threat, and saved the account. The quantitative data does not support this proposition.

*P4C: Having defined **market-oriented objectives** positively affects the proactive orientation of the team.*

Neither the qualitative nor the quantitative data support this proposition.

*P4D: Having defined **market-oriented objectives** positively affects the coordination of the team.*

Neither the qualitative nor the quantitative data support this proposition.

The data does not support the overall proposition that market-oriented objectives positively affect a team's market orientation. It should be noted, however, that market-oriented objectives was included solely in one of three years of the study.

Individual Attitude

*P5A: The **individual attitude** of team members, including the level to which they identify themselves as group members, affects the customer orientation of the team.*

The qualitative data supports this proposition. Recall how members of both the Alpha and Gamma teams note due to the individual attitude of colleagues team members encourages them to respond to requests quickly, completing the circle of gathering, disseminating, and responding to customer-related information. The quantitative data also strongly supports this proposition. Individual attitude is a significant contributor to customer orientation in year one, year two, and year three.

*P5B: The **individual attitude** of team members, including the level to which they identify themselves as group members, affects the competitor orientation of the team.*

The qualitative data does not support this proposition. The quantitative data provides moderate support for this proposition. Individual attitude is a significant contributor to competitor orientation in years one and three.

*P5C: The **individual attitude** of team members, including the level to which they identify themselves as group members, affects the proactive orientation of the team.*

Neither the qualitative nor the quantitative data support this proposition.

*P5D: The **individual attitude** of team members, including the level to which they identify themselves as group members, affects the coordination of the team.*

The qualitative data supports this proposition. As noted above when discussing the relationship between individual attitude and customer orientation, team members pride themselves on their responsiveness. This facilitates efforts to coordinate the gathering and disseminating customer-related information. The quantitative data provides moderate support for this proposition. Individual attitude is a significant contributor to coordination in year one and year three.

Overall, the findings from this study support the proposition that individual attitude increases market orientation at the team level, supporting Gresham et al. (2006) and Hafer and Gresham (2008). Complementing the literature on teams, this research suggests that individual attitude positively not only affects overall team performance but also specifically the team's level of market orientation.

The propositions presented above focus on forces that potentially have a positive affect on a team's market orientation. The qualitative data suggests, however, additional factors that have potential to affect the team's market orientation negatively. This includes the affective conflict Jehn (1997) and Pelled (1996) identify and the affects of team size Katzenbach and Smith (1993). Additionally, the concept of managing ambiguity emerged from the qualitative data. These concepts are not represented in the conceptual model presented in chapter two. Therefore, the conceptual model is modified below to reflect the results presented above on the formal propositions as well as these three concepts.

7.4 Toward a Conceptual Model

In addition to examining the level of support for the initial propositions, it is possible to synthesize the data in order to develop a conceptual model that explains the market orientation and the forces affecting the market orientation on these three teams. The substantive theory that emerged from the data can be summarized as follows. Market orientation is the coordinated effort to gather, disseminate, and respond to customer-related information. Teams are confronted with ambiguity in all areas of their work, and they must manage this ambiguity in order to coordinate this work effectively. Managing ambiguity is not the same as eliminating ambiguity, nor does it mean conformity of thought among team members. Based on resource constraints, more market oriented teams choose which areas will be clarified and for which areas ambiguity is acceptable. When not managed, ambiguity within the team can lead to both stress and affective conflict.

Clarifying communications remove the ambiguity that causes affective conflict but facilitate substantive conflict created by members' differing perspectives. Clarifying communications can be tacit or codified, and each has distinct advantages and disadvantages within the team. There is a cadence to clarify communications. The team first needs clarification on foundational issues such as objectives, customer targets, processes, and roles and responsibilities before clarifying areas for specific projects.

Geographic diversity within the team places team members at different positions in the team network. Members' perspectives are influenced by their network position. These perspectives inform how they believe ambiguity in the team should be addressed. This includes identification of customers and competitors. The individual attitude of team

members, e.g., listening and responding, facilitates clarifying communications. Clarifying communications becomes more challenging as team size increases.

The core of the substantive theory is presented in the figure below. The team is confronted/surrounded by ambiguity. Customer and competitor identification set the direction for the team's efforts to gather, disseminate and respond to customer-related information. Clarifying communications cut through the ambiguity, allowing the teams to gather, disseminate, and respond to customer-related information. The individual attitude of team members reinforces these communications. Management support in the form of resources, combined with team size, sets limits regarding how much ambiguity the communications can remove.

It is interesting to compare this model to the one introduced in the literature review and the one developed by Cadogan and Diamantopoulos (1995). The model presented below, like Cadogan and Diamantopoulos synthesizes the Narver and Slater and Kohli and Jaworski conceptualizations of market orientation. As suggested by the qualitative results, the model additionally attempts to convey the dynamic, integrated process of gathering, disseminating, and responding to customer-related information. Competitor information/competitor orientation is not presented independently, as in the other models, because for the teams studied competitor information was viewed as customer related.

The conceptual model also attempts to show the forces affecting the team's market orientation. The process of gathering, disseminating, and responding to customer-related information is literally surrounded by ambiguity. Both positive substantive conflict and negative affective conflict can come from this ambiguity. Clarifying communications cut through the ambiguity, reducing affective conflict and channeling the substantive conflict.

The model also attempts to show the forces affecting clarifying communications: resources and team size. The amount of resources allocated to a team puts limits on the amount of ambiguity that can be addressed. The size of the team can affect how information reaches the team periphery.

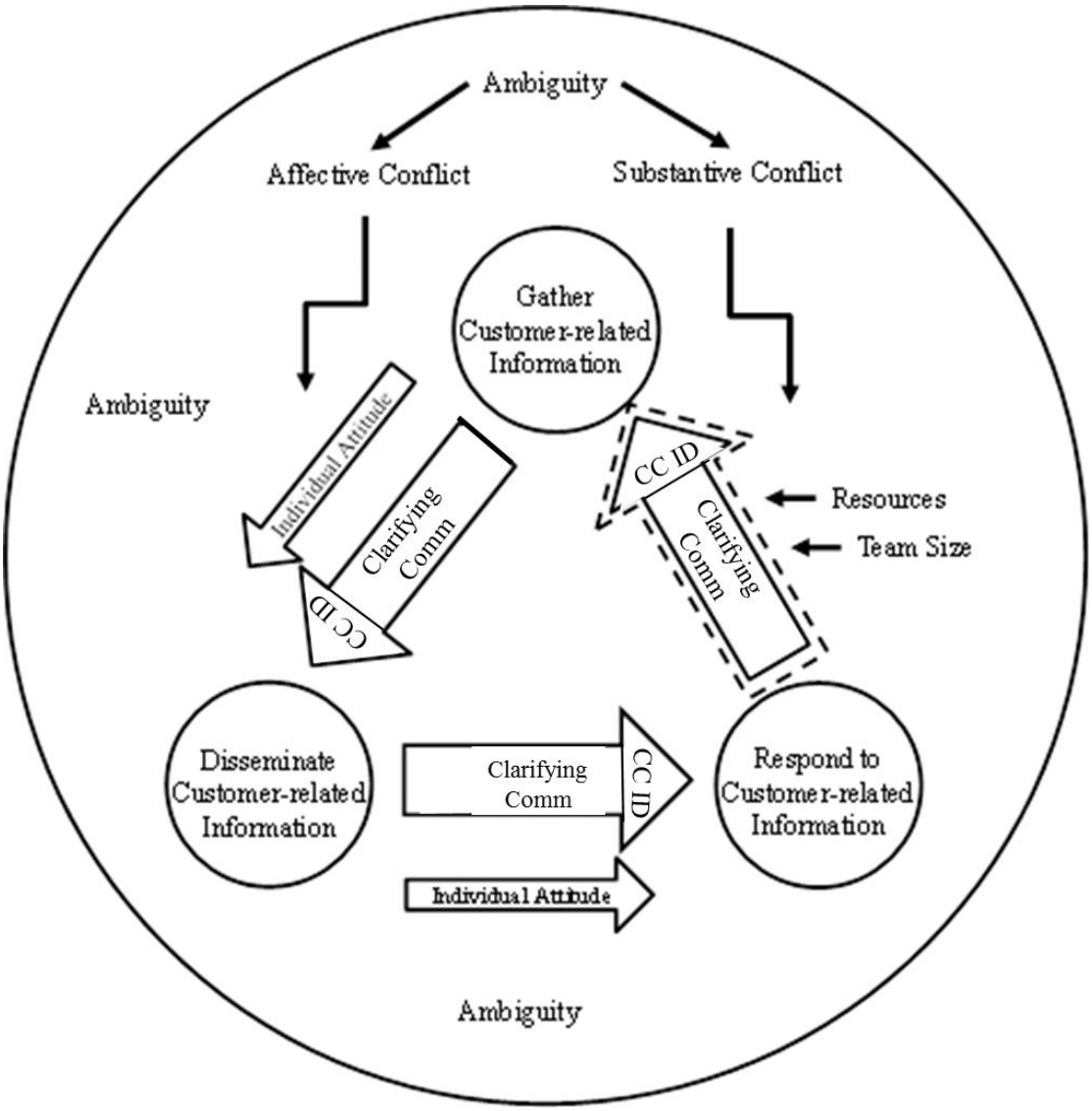


Figure 6: Conceptual Model - Managing Ambiguity

It is helpful to compare this model to the original models that were presented in the literature review. The first difference is how the theory is presented in the model. The original models' presentation shows clear relationships between the independent and dependent variables. The revised model's presentation suggests a more complex relationship among variables. The preliminary models included variables predicted to have a positive effect on market orientation, whereas the revised model includes forces that positively affect market orientation as well as those that negatively affect market orientation. This model allows attempts to show how these forces oppose each other. Additionally, the revised model supports more concepts seen in the literature. For example, it reflects the pressure that team size can have on the team, supporting Katzenbach and Smith (1993). It shows affective and substantive conflict as forces that

can come from the ambiguity and affect the team's performance, albeit in different ways, supporting Jehn (1997) and Pelled (1996). The model presents market orientation as the integration of the Narver and Slater (1990) and Kohli and Jaworski (1990) definitions of market orientation, supporting Cadogan and Diamantopoulos (1995). The preliminary models shown in the literature review, in contrast, shows each dimension of market orientation separately.

7.5 Contributions to Theory and Practice

As noted previously, most market orientation research has been conducted at the organizational level. This research furthers understanding of market orientation at the team level, supporting the work of Gresham et al. (2006) and Hafer and Gresham (2008). Like their work, this research studies market orientation in groups closely linked to innovation, i.e., new product development teams that develop innovation and customer teams that sell innovation. As these groups are closed linked to innovation and as innovation is closed linked with organizational success, understanding forces affecting the success of these teams benefits both theory and practice. This research suggests that at the team level market orientation is the coordinated effort to gather, disseminate, and respond to customer-related information. The view of market orientation supports the work of Cadogan and Diamantopoulos (1995) and Diamantopoulos and Cadogan (1996), which conceptualize market orientation as the synthesis of the Narver and Slater and Kohli and Jaworski conceptualizations. Unlike Narver and Slater, however, this research does not find competitor orientation to be distinct from customer orientation. Competitor orientation rather is a part of customer orientation. Competitors are relevant in that they have the ability to impact the all-important customer relationship. This process works both at the macro level for the team's overall work and at the micro level for specific projects and initiatives. Therefore, for example, team members can be gathering information for one initiative, while at the same time disseminating and responding to information for other initiatives.

Market orientation has been primarily viewed through either the MKTOR or MARKOR scale. The focus of most market orientation research has been to study the relationship between market orientation and performance. Most prior research on market orientation antecedents uses the antecedents originally proposed by Kohli and Jaworski (1990) and uses the MARKOR scale, i.e., the Kohli and Jaworski conceptualization of market orientation. This research examines market orientation through a unique combination of

three methods, and as a consequence suggests different ways to understand the overall phenomenon and the forces affecting it. The quantitative component of this research examines antecedents to the Narver and Slater conceptualization, thus providing an interesting theoretical perspective.

Through use of qualitative techniques this research also proposes new antecedents to market orientation, such as customer and competitor identification. Additionally, the qualitative data also suggests forces negatively impacting market orientation, such as how resource constraints limit coordination, customer orientation, competitor orientation, and proactive orientation. The qualitative data also suggests how these forces interact with each other, further influencing market orientation. This is seen primarily through the introduction of the managing ambiguity concept. Teams are confronted with ambiguity. Clarifying communications remove ambiguity but resource constraints do not permit teams to remove all areas of ambiguity. It is desirable, however, to acknowledge resource constraints and manage ambiguity by proactively choosing which areas most need clarity. These insights contribute to our overall understand of the market orientation concept and also provide practical guidance to those in the field who face these issues on a daily basis.

There is significant literature showing the relationship between types of clarifying communications and general coordination in teams (Ayers et al., 1997; Bagshaw et al., 2007; Barczak & Wilemon, 2003; Hackman, 1998; Hinds & Mortensen, 2005; Katzenbach & Smith, 1993; Knouse, 2006; Knox et al., 2006; Pinto et al., 1993). This research extends this literature by showing the interaction between clarifying communications and coordination in the context of the Narver and Slater conceptualization of market orientation, thus connecting two areas in the literature. As noted above, there is considerable literature on the correlation between general coordination and definition of objectives, processes, and roles and responsibilities. This research suggests, however, that *what* has been defined plays a role in focusing a team's coordination on developing a stronger market orientation. For example, it is perhaps not enough to define objectives to achieve higher levels of market orientation, but to define market-oriented objectives and to identify specific customer targets and competitors.

Researchers have used network analysis to study areas matching facets of market orientation, for example, Cross et al. (2008), which states that network analysis can be used to assess the quality of relationships within a team and between a team and its

customers. Network analysis, however, has not been used to study market orientation per se. Network analysis provides structural explanations for the teams' level of market orientation such as role that a matrix structure plays in information dissemination. The network analysis also shows structural roles such as boundary spanner and information broker that team members play in order to gather information, disseminate information, and strengthen customer orientation.

Teams charged with comparable work to the teams studied, i.e., product develop and/or customer teams, might benefit from exposure to the theory presented above on forces that affect market orientation as prior research has shown a correlation between high levels of market orientation and business performance. Teams might also benefit from using the specific combination of methods from this research to study the market orientation in their own groups. The research introduces a combination of tools that teams can use to understand their market orientation and from their own research develop specific areas for improvement. The Alpha team's use of the research to improve its own market orientation demonstrates that the technique has potential. Working collaboratively, we used the analysis from the three methods to identify specific areas for improvements each of the three years of the study. Each year the team developed an action plan to address a targeted issue, and the team saw year-to-year improvements in the targeted area.

The Alpha team leader referred to this research as his team's annual team effectiveness study, and I believe there is some legitimacy for certain teams to use their team's level of market orientation as a measure of team effectiveness. Market orientation, as presented by Narver and Slater (1990), includes coordination, a traditional measure of team effectiveness (Hackman, 1990). This definition of market orientation, however, also includes customer and competitor orientations, necessary to develop products perceived to be of superior value by target customers. As noted previously, coordination measures how well a team is "rowing in the same direction." Customer orientation and competitor orientations can be used to measure if a product development team or a customer team is rowing in the *right* direction, increasing the likelihood that the team will create a product of superior value that meets or exceeds customer expectations (Slater & Narver, 1994). Market orientation was later expanded to include a proactive orientation, a means to develop long-term advantage (Narver et al., 2004).

7.6 Study Limitations & Directions for Future Research

This research uses exclusively three teams within the same division of the same corporation, developing substantive theory at the expense of generating general theory. The theory presented above explains the data from this study. The theory, however, cannot at this point be applied beyond its original context. Future research might examine how it might apply to other contexts.

There was a tremendous benefit in working collaboratively with the teams on this research. I was given access to a great wealth of data for a considerable period of time. I also saw the Alpha team use the research to make year-to-year improvements. There were, however, also certain disadvantages to working with the same teams for the entire study. It was very important to both the Alpha and Gamma team leaders to compare year-to-year results. Therefore, they were extremely reluctant to eliminate any question from the survey. While I was able to add some questions to the survey each year, I had to keep in the survey certain questions that were no longer theoretically interesting at the possible expense of more theoretically interesting questions. In a similar vein, the survey included sections to gather both the quantitative and network analysis data. In order to reduce the length of the survey as requested by the Alpha team leader, I had to simplify network analysis questions, forgoing data collection on the strength of the network ties, for example. The quantitative data also focuses on the forces that might positively influence market orientation, e.g., customer and competitor identification. The survey might have also gathered data on forces that might negatively influence market orientation, such as affective conflict. In a similar vein, it would have been interesting to gather quantitative data on substantive conflict to see the role that this might play in the team's market orientation.

Each team leader used different criteria for team membership. As a consequence, a position within the organization considered a "team position" on one team was not necessarily a team position on another team. For example, CHALI, a member of the Alpha team, had a structural equivalent on the Gamma team. However, the Gamma team leader did not consider this person to be a team member. Also, each team leader determined team membership for his team for each year of the study. The Alpha team leader, for example, did not include his manager, KIRY, a member of the Alpha team for the first year of the study. He added her to the team roster in years two and three.

Therefore, to a certain extent team-to-team comparisons are not entirely "apples-to-apples" comparisons.

This research can be extended in two general areas. Future research can move the current substantive theory toward a more general theory that can be more broadly applied. Work can also be done to refine the data collection tools and analysis methods so that they can more easily be used by other organizations for their own action research projects. In both cases, the research needs to move beyond the context of Parthenon. The methods used working with the Alpha team depended on discussions that team members had with me one-on-one and also on discussions that they had as a group that I was able to observe. Therefore, this approach is more easily done in smaller teams. It would also be important to work with these new teams over a period of time in order to see the effects of any improvement plan developed in conjunction with the research.

As noted above, however, there is a limit to the amount of time a respondent can reasonably be expected to give when providing data. This caused compromises in the number of questions in the single data collection tool used to gather both the scale and network analysis data. Therefore, it might be interesting to deploy each method separately, allowing for more in-depth data collection for each method. For the network data, for example, this would make it more feasible to capture data on the strength of connections for the entire network, including ties outside of the team. This would provide exciting opportunities to connect the emerging market orientation theory to existing network theory on tie strength. For the scale data, it would be advantageous to work with larger teams or generate data that can be aggregated to form a larger total sample in order to see more nuances in the data. It would also be interesting to see how the current substantive theory might apply to larger teams. Finally, it would be interesting to add questions in order to provisionally test relationships between ambiguity and affective conflict and between substantive conflict and market orientation.

Appendix 1: Sample Interview Guide

Gamma Team Effectiveness Study
Interview Guide
September, 2010

Objective: Provide interview subject with an overview of what will be discussed and how the information will be used.

- My name is John Dion, and I would like to spend the next 45 minutes or so talking with you about your experiences on the "gamma" team.
- This interview is a follow-up to the team effectiveness survey that you took in June.
- I was asked to do this interview by "the Gamma team leader" who wants to understand how things are working on the Gamma team
- I am looking for information that will help explain what is underneath the data from our survey.
- There are no wrong answers. I just want to hear about your experiences and your personal opinions.
- If it's alright, I am going to tape record this interview. That way, I can listen to you and not take notes. With your permission, I might share some quotes from this interview with "the Gamma team leader and his supervisor." I might also use a quote from you in my doctoral dissertation. Is this alright with you?
- Do you have any questions before we get started?

Introductory Questions:

- For my records, what is your name?
- What do you do at "Parthenon"?
- How long have you worked at "Parthenon"?
- Have you worked anywhere other than in this division?
    - Is yes, where? For how long?

Customer Orientation:

- How would you define "customer" for the "Gamma" team?

    - Probe for multiple customers within the "Gamma" organization, e.g., different functional and geographic groups.
        - Are there differences in the wants and needs among different functional groups or regions within the "Gamma" organization?
        - Do you think the "Gamma" team's objectives and strategies account for differences in "the customer's" functional groups wants and needs?
            - If not, should they?
    - Probe for the customer groups beyond the direct customer organization, e.g., resellers and consumers.
        - Do the "Gamma" team's objectives and strategies include resellers?
            - If not, should they?
        - Do the "Gamma" team's objectives and strategies include consumers?
            - If not, should they?
    - Probe for internal customers.
- Who on the "Gamma" team is responsible for each of the customer groups identified?
- What does being "customer oriented" mean to you?
- Do you think the "Parthenon" believes customer orientation is important?
- Do you think that this division believes customer orientation is important?
- Do you think that the leaders of the "Gamma" team believe customer orientation is important?

Competitor Orientation:

- How would you define the "competition" for the Sigma team?
    - Probe for competitors for Gamma's competitors.
    - Probe for competitors for Gamma team's business with Gamma, e.g., "specific competitor."
    - Probe for internal competitors.
- Do the sigma team's objectives and strategies include competitors?
    - If not, should they?

- Who on the Gamma team is responsible for each of the customer groups identified?
- What does being "competitor oriented" mean to you?
- Do you think "Parthenon" believes competitor orientation is important?
- Do you think that this division believes competitor orientation is important?
- Do you think that the leaders of the Gamma team believe competitor orientation is important?

Time Orientation:

- What percentage of your time do you think is spent working on programs that are currently in the marketplace?
- What percentage of your time do you think is spent working on programs that will be released in "Gamma's" next generation vehicles?
- What percentage of your time do you think is spent working on programs that are more than one generation away?
- Are you happy with this distribution of your time?
    - Why/why not?
    - If not, ideally, how would your time be divided?
- How much does "Parthenon" as a whole support the idea of thinking about both the present and the future?
- How much does this division support the idea of thinking about both the present and the future?
- How much do the "Gamma" team leaders support the idea of thinking about both the present and the future?

Coordination:

- What does the "Gamma" team do to share information among team members?
    - How effective are these methods?
    - Which is the most effective? The least?
- What does the team gather information about….
    - Manufacturer customers at "Gamma" HQ?
    - "Gamma" subsidiaries?
    - "Gamma" dealerships?
    - Consumers in key markets?

- How effectively do members react to information that is shared within the team?

Definition & Process:

- How well defined our "Gamma" team objectives?
    - Are some more clear than others? Which ones?
    - Do you think that they are the right objectives?
- How well defined our "Gamma" team strategies? Which ones?
    - Are some more clear than others? Which ones?
    - Do you think that they are the right strategies?
- How well defined are "Gamma" team process? Which ones?
    - Are some more clear than others? Which ones?
    - Do you think that they are effective?

Overall Effectiveness:

- In your opinion, what makes a team "effective"?
- By your definition, how effective do you think the "Gamma" is?
- What are the "Gamma" team's greatest strengths?
- If you were in charge of the team, what weaknesses would you want to address first?

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