UNIVERSITY OF OKLAHOMA

GRADUATE COLLEGE

SHARED MEANING IN NETWORKS:
A MIXED METHODS APPROACH TO STUDYING SOCIAL CAPITAL IN AN INTERNATIONAL COALITION

A DISSERTATION

SUBMITTED TO THE GRADUATE FACULTY

in partial fulfillment of the requirements for the

Degree of

DOCTOR OF PHILOSOPHY

By

ADAM J SAFFER
Norman, Oklahoma
2014

SHARED MEANING IN NETWORKS:

A MIXED METHODS APPROACH TO STUDYING SOCIAL CAPITAL

IN AN INTERNATIONAL COALITION

A DISSERTATION APPROVED FOR THE

GAYLORD COLLEGE OF JOURNALISM AND MASS COMMUNICATION

BY

____
Dr. Maureen Taylor, Chair

____
Dr. Norman Wang, Outside Member

____
Dr. Glenn Hansen

____
Dr. Julie Jones

____
Dr. Michael Kent

© Copyright by ADAM J. SAFFER 2014
All Rights Reserved

DEDICATION

Glenn A. Saffer (1931–2014)

Who showed wisdom through his work.

One of our last conversations:

"Will you ever stop going places?"

"Probably not, grandpa."

"I wouldn't want you to stop."

ACKNOWLEDGEMENTS

A number of people deserve recognition for their role in this dissertation. First, I would like to recognize Dr. Shockley-Zalabak, who encouraged me to get a masters degree, suggested I attend NCA (where I met Dr. Taylor), and fortified my decision to pursue a doctoral degree. As well as my colleagues Andrea Cordova and Susan Szpyrka who showed me so much at my first “real” job.

I owe much appreciate to my parents, sister, and cousin Sarah. They have been there through the challenges and the triumphs. My mother lent her ear when this task seemed beyond my abilities. My father challenged me to ask the right questions at the right time and to seize the *right* opportunities. My sister was there when I needed a good laugh and extra set of eyes on a paper. And, my cousin Sarah who listened to my crazy dilemmas, encouraged me through the long nights and had a cold beer waiting at the airport on my trips home. I am grateful for the support of my family.

I would also like to acknowledge the OU Communication Department. My time at OU was enriched by the friends, colleagues and mentors I made in their department. I am grateful for the mentorship Dr. Hansen and Dr. Wong showed in their classes. Ideas from their lectures informed different parts of this dissertation and other studies .I am also thankful for the “comm friends” who welcomed me as one of their own. I am particularly thankful to have shared the dissertation process with Elissa and Daniel. Over the past year we shared some memories that are highlights of my time during graduate school.

I am also fortunate for my friend, colleague and committee member, Dr. Julie Jones. Her cheerful spirit and enthusiasm has served as a source of energy and smiles. I will remember experiencing my first Oklahoma tornado with Julie.

I am particularly thankful for the opportunity to have Dr. Michael Kent as a professor, mentor, colleague and friend. I began the doctoral program with Dr. Kent's public relations theory course. His energy, expertise, and experience with the literature is something I will forever admire. I will remember the fun I had teaching alongside him, at the shooting range, and sitting by the lake with a cold drink. We have had some great times.

And finally, Dr. Maureen Taylor. On paper she will forever be listed as my advisor. Yet, she has become much more. Her encouragement and one hell of a recommendation letter led to a summer fellowship at Ketchum Public Relations in New York City. That experience changed my life. I am forever grateful for the potential she saw in me. The number of hours she has spent listening to my ideas, answering my questions, or editing my manuscripts are numerous. I am in awe at what she is able to accomplish in a day. Thank you Dr. Taylor for your dedication.

TABLE OF CONTENTS

LIST OF TABLES ix
LIST OF FIGURES x
ABSTRACT xi
CHAPTER ONE: INTRODUCTION 1
Theoretical and Conceptual Needs 4
Purpose of Dissertation Research 5
The Case of the Sustainable Sanitation Alliance 6
CHAPTER TWO: LITERATURE REVIEW 9
Public Relations Theory and Practice 11
Approaches to Public Relations 12
Extending the Cocreational Research 14
Summary of Cocreational Research 29
Social Networks and Network Theory 30
Scholarship of Communication Networks 34
Summary of Interorganizational Relationships 37
Public Relations Scholarship of Networks 38
Advocacy Networks 42
Virtual Networks 46
Expanding Network Research Through Public Relations 51
Social Capital 53
Social Scientific Conceptualizations of Social Capital 53
Communication Conceptualization of Social Capital 58
Public Relations Conceptualizations of Social Capital 59
Structural Holes Theory 68
Zones of Meaning 73
Background on the Sustainable Sanitation Alliance 78
History of Sustainable Sanitation 79
Organizing the Future of Sustainable Sanitation 79
Research Questions and Hypotheses 80
Fantasy Themes and Rhetorical Visions 80
SuSanA's Network Social Capital 81
Network Position and Zones of Meaning 84
Summary of Research Questions and Hypotheses 87
CHAPTER THREE: METHOD 89
SuSanA: The Context of Study 91
Phase One: Textual Analysis 96
Sample 96
Procedures 99
Phase Two: Interviews 104
Procedures 105
Phase Three: Questionnaire and Network Survey 109
Measurement of Zones of Meaning 109
Measurements of Communication 112

Measurements of Social Capital 115
Measurement of Structural Holes 124
Sampling 126
Summary of Methodological Approach 130

CHAPTER FOUR: RESULTS 131
Textual Analysis and Interviews: Identifying Fantasy Themes 131
SuSanA-As-A-Knowledge-Network 135
SuSanA-as-a-Market-for-Sustainable-Sanitation 142
SuSanA-as-a-Catalyst-for-Dialogue 148
Summary of Qualitative Results 156
Questionnaire and Network Analysis: Analyzing Shared Meaning 157
Preparing Data for Analysis 158
Structure of the SuSanA Network 158
Network Position and Zones of Meaning 165
Communication Channel Richness and Social Capital 173
Structural Holes Social Capital 176
Summary of Network Analysis Results 178

CHAPTER FIVE: DISCUSSION 180
Exploring The Relationship Between Social Capital and Shared Meaning 182
Communication that Creates Social Capital 182
Shared Meaning and Social Capital 185
Reassessing Trust Measurement 187
Demonstrating the Significance of Network Positions 190
Structural Holes Theory 190
Fostering Shared Meaning in Cliques 193
Broadening Social Capital Research to an International and Mediated Network 197
Enriched by Communication Channels and Social Capital 197
Revealing Social Capital in an International and Mediated Networks 200
Summary of Contributions to the Literature 203

CHAPTER SIX: CONCLUSION 205
Implications for Public Relations Theory 205
Implications for Public Relations Research 207
Implications for Public Relations Practice 208
Limitations 209
Future Research in Public Relations, Coalitions and Social Capital 210

BIBLIOGRAPHY 212

APPENDIX A 233

APPENDIX B 235
APPENDIX C 238

LIST OF TABLES

Table 1 Research Questions/Hypotheses 90
Table 2 Thematic Working Groups and Brief Descriptions 94
Table 3 Types of SuSanA Partners and Brief Description 95
Table 4 Statements Representing Fantasy Themes..111
Table 5 Identified rhetorical visions with fantasy theme elements.....................134
Table 6 Network measures in-degree centrality 163
Table 7 Moran's I homophily test: Communication importance 168
Table 8 Moran's I homophily test: Cooperation network 171
Table 9 Moran's I homophily test: Clique overlap 173
Table 10 Structural holes measures 177
Table 11 QAP correlations coefficients of structural holes, cooperation, etc.......178

LIST OF FIGURES

Figure 1. Procedures of the study 91
Figure 2. Graphic of SuSanA structure of members and partner organizations. 93
Figure 3. Illustration of basic fantasy theme elements within a message. 100
Figure 4: SuSanA-as-a-Knowledge-Network 135
Figure 5: SuSanA-as-a-Market-for-Sustainable-Sanitation 145
Figure 6: SuSanA-as-a-Catalyst-for-Dialogue 150
Figure 7. SuSanA's communication interaction network 160
Figure 8. Cliques by frequency of clique membership 162
Figure 9. Communication importance network by in-degree centrality 169
Figure 10. Cooperation network by in-degree centrality 175

ABSTRACT

Public relations as a communication practice contributes to a full functioning society by bringing organizations, groups and individuals together to discuss issues. Public relations also helps to build advocacy coalitions. Rhetoric enables the creation and sustainment of coalitions and helps coalition members achieve a shared understanding of the events and issues they seek to address. Social capital emerges from the communicative relationships within a coalition's network. Public relations plays a vital role in advocating and maximizing the efforts of individuals and organizations in advocacy coalitions.

This study began with the intent to address three conceptual gaps in the public relations and network literature. First was the need for empirical evidence supporting or refuting claims that shared meaning and social capital are related. Shared meaning has been depicted as an outcome of organizations, groups, and individuals communicating their interpretations of events and issues. Social capital has been portrayed as an outcome of complex networks of relationships among organizations, groups and individuals. Second, this dissertation explored previous researchers' claims that organizations' network positions give them influence in an advocacy coalition. The literature suggests that organizations should position themselves at structural holes to broker information and resources. Third, this study expanded the context of social capital research to examine an international coalition that relies on mediated communication. Prior research has suggested that mediated communication can reduce social capital thus potentially diminishing the social capital in a virtual advocacy coalition.

This dissertation studied the social capital and shared meaning in a virtual international advocacy coalition. A three-phase study, which included a textual analysis, interviews, and a network analysis survey, focused on the Sustainable Sanitation Alliance (SuSanA). SuSanA is an international advocacy coalition with 225 local and international NGOs, private firms, and government entities. The members of this advocacy coalition shared a common vision of providing people around the world with access to proper sanitation. Members in the coalition rely on mediated communication channels to coordinate their efforts.

The findings revealed a strong association between shared meaning and social capital in dense portions of the advocacy network. The study's results suggested that organizations' network positions were related to being perceived as cooperative, distinguished as important, and sharing meaning with others. The data also indicated that the richness of communication channels augments social capital within the network. In measuring social capital, the study helped to operationalize the communication dimension of social capital using fantasy theme analysis from symbolic convergence theory. The results further develop the use of social network analysis to study social capital by demonstrating a method to assess communication and shared meaning within a network. The study demonstrates public relations has a role to play in building social capital and fostering shared meaning within networks.

CHAPTER 1: INTRODUCTION

Public relations began as a practice of using communication and strategic messages to serve corporate interests (Cutlip, 1995). The practice was tactical and focused on media relations. As the field has professionalized, practitioners' responsibilities have become more sophisticated (Vasquez & Taylor, 2000) and include the building of relationships with various publics (Ferguson, 1984; Ledingham & Bruning, 1998). Botan and Taylor (2004) identified two general approaches to public relations: functional and cocreational. The functional approach is concerned with creating and disseminating information for organizations. A cocreational approach is concerned with the communication processes where various publics cocreate meaning and build relationships (Taylor, 2010). This dissertation furthers the cocreational approach.

Since the cocreational turn in public relations, a number of scholars in the field have asked: "How can public relations contribute to making better societies and communities?" (Heath, 2006; Sommerfeldt, 2013b; Taylor, 2009, 2010, 2011). Researchers have responded to the question by further theorizing how public relations contributes to creating and sustaining social capital (Ihlen, 2005, 2007; Willis, 2012). Scholars have extended the discussion by empirically studying social capital through network theories and methods (Doerfel & Taylor, 2004; Sommerfeldt, 2013a; Sommerfeldt & Kent, 2012; Sommerfeldt & Taylor, 2011; Taylor & Doerfel, 2003, 2005; Yang & Taylor, 2012). The theorizing of social capital and networks serves as the foundation for this dissertation.

Public relations scholars have integrated social capital into the scholarship of organization–public relationships (Ihlen, 2005, 2007; Sommerfeldt, 2013a). Ihlen (2005, 2007) argued that social capital, as a theoretical framework, recognizes relationships are dynamic and complex. Yet, the relationship management literature has studied organization–public relationships in a dyadic sense where the attention is between *an* organization and *a* public (Heath, 2013; Ledingham & Bruning, 1998, 2000; Yang & Taylor, 2012). Heath (2013) eloquently wrote that current relationship management "approach focuses on how, not what, an organization communicates and therefore may actually take a simplistic approach to a highly complex paradigm" (p. 427). Initially social capital research extended the relationship management approach. The extension focused on how, not what, an organization communicates. A need exists to study what organizations communicate, or as Heath describes, "the shared meaning, enactable narratives" that arise from relationships (p. 427). This dissertation explores how researchers of social capital can study what organizations communicate.

Network analysis, the often used method for assessing social capital, studies relationships and measures the patterns and structure of relationships (Borgatti et al., 2013). The patterns of relationships give an indication of the social capital within and across networks (Burt, 2001; Wasserman & Faust, 1994). Scholars have established that communication creates, maintains, and expends social capital (Kikuchi & Coleman, 2012; Monge & Contractor, 2003). However, network analysis is limited because it identifies relationships based on *how*, not *what,* an organization communicates. Network analysis used alone cannot study what organizations communicate or the shared meaning among communicators. This methodological limitation has constrained

the current theorizing of social capital. A perspective that incorporates the shared meaning aspects of social capital could expand the theorizing and application of social capital. The rhetorical perspective (Heath, 1992; 2009) offers the opportunity to study shared meaning.

Public relations scholars have discussed the relationship between social capital and rhetoric. Heath (2006, 2009, 2013) and Taylor (2009, 2010, 2011) theorized that through rhetorical discourse, shared meaning arises, which can then lead to social capital. To explore such theorizing, a method that complements network analysis *and* captures meaning making is necessary. The public relations literature suggests the quality of relationships among network members affect the network structure (Sommerfeldt, 2013a; Sommerfeldt & Taylor, 2011). Researchers have used structural holes theory (Burt, 1992) to assert that an organization's network position determines the resources and information they exchange (Taylor & Doerfel, 2003, 2005) and the influence said organization can enact in a network (Sommerfeldt, 2013a; Sommerfeldt & Kent, 2012). Structural holes theory explains that certain network members bridge information and resources between unconnected network members. Echoing the theorizing of social capital scholars, network scholars have called for research studying the rhetorical elements of social capital (Sommerfeldt, 2013a; Sommerfeldt & Kent, 2012). This dissertation answers their call.

Zone of meaning (Heath, 1993) is a rhetorical element that might influence social capital. Heath (1993), drawing from Burke's (1966) concept of terministic screens, explained that a zone of meaning "defines the identities and prerogatives of organizations, people associated with them, and their relationships" (p. 142). A zone of

meaning is the shared meaning that exists between communicators (Palenchar & Heath, 2002). Working within the framework of symbolic convergence theory (Bormann, 1985), researchers have operationalized zones of meaning (Heath & Abel, 1996; Heath & Palenchar, 2000; Palenchar & Heath, 2002) through fantasy themes analysis (Bormann, Cragan, & Shields, 2001; Cragan & Shields, 1992, 1995, 1998). Of interest to this dissertation is to explore fantasy theme analysis as a means to offer empirical data to the theoretical discussions of social capital, communication, shared meaning, and zones of meaning. Organizations' network positions may influence zones of meaning in a network. Multiple zones of meaning may exist within a network. Public relations scholarship will benefit from knowing how zones of meaning relates to social capital within a network and how, or whether, communicators in a network connect multiple zones of meaning. This dissertation offers insights by integrating the measurement of zones of meaning with network analysis methodology.

Theoretical and Conceptual Needs

The current state of the public relations literature on social capital and social networks has three primary needs. First, there is a need to study *what* an organization communicates (Heath, 2013). Doing so can begin to explore how shared meaning relates to social capital. The rhetorical concept, zone of meaning, is used to study the shared meaning that forms social capital.

Second, public relations scholarship of networks has emphasized the structural aspects of organizations' network positions. The emphasis derives from the frequent use of structural holes theory, which postulates that organizations placed at structural holes

enact some form of influence (Sommerfeldt, 2013a). Public relations scholarship will benefit from evidence of how network positions are associated with shared meaning.

A third need exists to research social capital in a new context. Social capital research has concentrated on nongovernmental organization (NGO) coalitions in a specific geographic location (Sommerfeldt, 2013a; Sommerfeldt & Kent, 2012; Taylor & Doerfel, 2005). However, the literature indicates that coalitions, especially those with a global reach, depend on mediated communication (Bennett, 2005) to reach geographically dispersed members (Smith, 2008). Despite the often-touted power of virtual communication, there remains a need for rich communication channels such as face-to-face meetings. Shumate and Pike (2006) asserted that rich communication channels provide the means for building affective bonds necessary to maintain a coalition. This is relevant to public relations practitioners because they are charged with organizing and sustaining coalitions (Smith & Ferguson, 2001; Taylor & Das, 2010). Scholars have not studied a coalition's social capital in an international and primarily mediated context. This dissertation extends the context of studying an international NGO coalition network that relies primarily on mediated communication.

Purpose of Dissertation Research

The purpose of this dissertation is three-fold. The first is theoretical. Scholars have theorized of a relationship between shared meaning created through rhetoric and social capital (Heath, 2006, 2009; Taylor, 2010, 2011). Evidence has yet to emerge. This dissertation provides such evidence by expanding structural holes theory with the integration of the rhetorical element, zones of meaning.

The second purpose of this dissertation is methodological. Previous researchers have relied solely on network survey data to study relationships, network structures, and social capital. As previously stated, the method is unable to account for meaning making among network members. This dissertation integrates the mixed methods for measuring zones of meaning (Heath & Abel, 1996; Heath & Palenchar, 2000; Palenchar & Heath, 2002), which capture the shared meaning within a group, with network analysis procedures (Borgatti et al., 2013; Wasserman & Faust, 1994).

The third purpose of this dissertation is to provide practitioners of NGOs and managers of coalitions with knowledge about building and maintaining coalitions. This dissertation informs how practitioners can work with multiple zones of meaning. If organizations positioned at structural holes can bridge zones of meaning, then practitioners can go to those organizations when a call to action is necessary. A call to action can require competing zones of meaning to come together. Organizations at structural holes might possess the influence necessary to bring together organizations with competing zones of meaning. This dissertation can inform whether bringing competing zones of meanings together is possible for organizing collective actions.

The Case of the Sustainable Sanitation Alliance

To address the aforementioned needs in the public relations literature and purposes of this dissertation, the organizational partners of the Sustainable Sanitation Alliance (SuSanA) were studied. The alliance was founded by 20 organizations in 2007 and today has 225 organizations listed as partners and 137 active partners. The SuSanA partners have a common vision of achieving the Millennium Development Goals (MDGs) that seek to reduce the number of people without access to sustainable

sanitation. Coalition partners are on six continents and rely on mediated communication.

SuSanA is an ideal context to further public relations scholarship. First, SuSanA presents a new context in which to assess social capital among geographically dispersed organizations that rely on online communication. Second, this study seeks to integrate the study the shared meaning that might exist within a network. SuSanA describes itself as a "loosely organized" coalition of local NGOs, international NGOs, private sector firms, research and education institutions, multilateral organizations, and government/state owned organizations. The multiple types of organizations, each with their own interests, provide an ideal setting to study zones of meaning. Moreover, the 225 organizations listed as partners vary in their level of involvement. Some organizations are active while others are passive and affiliate with the coalition to receive updates on sanitation issues. The public relations literature has not explored such network structure.

To clarify the relationship between social capital and zones of meaning, the next chapter of this dissertation reviews the cocreational approach to public relations. Recently, researchers taking the cocreational approach have turned to network theory as a means to expand public relations scholarship. Such research has led to the study of social capital. The literature on social capital and social network theories is then presented. The final portion of the literature reviews discusses symbolic convergence as a method for studying zones of meaning. Here the research questions and hypotheses are presented. The third chapter of the manuscript presents the methods used to address the research questions and hypotheses. The case of SuSanA is then discussed in more

detail. The fourth chapter presents the results that address the research questions and hypotheses. The fifth chapter places the findings within the larger context of public relations scholarship of social capital, structural holes theory, and zones of meaning theory. The manuscript concludes with the sixth chapter outlining some of the limitations of the research and future research studies.

CHAPTER TWO: LITERATURE REVIEW

The practice and research of public relations has experienced significant advances over the past two decades. One advance is the expanded scope of public relations research. Initially, scholars concentrated on for-profit businesses, agencies, non-profits, and government agencies (Cutlip, 1995). Scholars focused on the journalistic practices and how strategic communication transmitted information (Botan & Hazleton, 2006). The emphasis of the scholarship was functional. Scholars advanced the field by questioning the limits of the functional approach (Ferguson, 1984; Heath, 1992; Kent & Taylor, 2002), which led to the study of rhetoric, relational communication, and shared meaning between organizations and publics (Botan & Taylor, 2004). Contemporary scholarship includes the study of activist organizations (Botan & Hazleton, 2006; Dozier & Lauzen, 2000; Smith & Ferguson, 2001; Taylor, Kent & White, 2003). This new focus is known as the cocreational approach and is the foundation for this dissertation.

In this dissertation, I assert that activist organizations are compelled to use relational communication due to their limited resources. Relational communication, as discussed here, focuses on building and negotiating relationships between communicators through “shared meaning, enactable narratives” (Heath, 2013, p. 427). Activist organizations must develop relationships with other organizations to gain access to resources (McCarthy & Zald, 1977). Relational communication occurs through rhetoric. Rhetoric can create shared meaning (Burke, 1966; Heath, 1993). Moreover, shared meaning may influence the ability of organizations to access and expend resources. One resource is social capital. As such, activist organizations are

ideal for studying relational communication, rhetoric, shared meaning and social capital.

Chapter 2 first outlines the progression of public relations research toward a cocreational turn. The cocreational turn marks a critical point in public relations history when scholars began to explore how organizations use communication to negotiate relationships and cocreate meaning with publics. An understanding that public relations can create organization–public meaning led scholars to ask what role public relations has in society and how public relations can create meaning (Heath, 2000, 2006, 2000; Taylor, 2009, 2011). The focus on communicative relationships, shared meaning and the broader societal contributions of public relations has led scholars to network theories.

The second section of the literature review expands on network theories by presenting the scholarship on social networks and the related theories. Specifically, the literature on interorganizational networks is presented in the context of virtual, geographically dispersed advocacy networks. Within this literature, the public relations function of coalition building is reviewed. The scholarly discussion of networks and the resources of networks has led scholars to the concept of social capital—an exciting opportunity to show how public relations contributes to society.

Social capital is discussed in the third section. The concept is derived from social relations, created and expended through communication, and has been claimed to create strong communities and societies (Kikuchi & Coleman, 2012). This section of the literature review presents the empirical research of social capital in public relations. Such research has examined social capital at the meso-level and has primarily used

structural holes theory (Burt, 1992) to identify influential organizations in a network (Sommerfeldt, 2013a; Sommerfeldt & Kent, 2012; Taylor & Doerfel, 2003, 2005). The theory directs researchers' attention to the structural elements of a network. Based on an organization's network position, theoretical postulations are made about an organization's influence in the network. Recently, scholars have called for a consideration of the rhetorical and communication influence organizations enact in a network (Sommerfeldt, 2013a; Sommerfeldt & Kent, 2012). As such, the literature review concludes with a presentation of symbolic convergence theory and the concept of zones of meaning to operationalize shared meaning. The study considers whether an organization's network position allows it to influence the zones of meaning within a network. The final section of the chapter presents the research questions and hypotheses that will guide a study designed to examine social capital and shared meaning in an activist coalition.

Public Relations Theory and Practice

This section reviews public relations move from a functional approach to a cocreational approach. With a goal of furthering cocreational scholarship, this section also reviews a selection of theories used within the cocreational approach. Discussed first is the evolution of public relations practitioners' roles are.

Public relations practice and practitioners' roles have changed considerably over the history of public relations practice (Botan & Hazleton, 2006; Cutlip, 1995). Initially, public relations practice was regarded as an extension of journalism and practitioners were seen as in-house journalists (Cutlip, 1995). Public relations practitioners' roles expanded as the environments that organizations operate in have became more complex

with multiple exigencies and publics (Pearson, 1990, 2009). Today, practitioners are recognized as managers of sophisticated communication campaigns for the interests of nations, businesses, nonprofits and activist organizations (Taylor, 2010).

A number of scholars have observed the field's evolution and offered various categorizations (Ihlen & van Ruler, 2007). Grunig and Hunt (1984) segmented public relations history into four models: press agentry, public information, two-way asymmetrical, and two-way symmetrical. Vasquez and Taylor (2000) broke the history of the practice into five stages: foundations, expansions, institutionalization, maturation and professionalization. These classifications agree that public relations practice today is concerned with multiple communicative activities.

As an area of scholarship linked closely to the practice, public relations scholars have also observed the field's theoretical development. Nearly three decades ago, Ferguson (1984), who content analyzed the research topics in *Public Relations Review,* lamented the infrequent use of theory. Replicating Ferguson's study, Sallot, Lyon, Acosta-Alzuru, and Jones (2003) revealed the advances scholars have made to integrate theory into the field's literature. Both analyses illustrate that the field uses a wide range of theories to address the multiple communicative activities of public relations efforts.

Approaches to Public Relations

In line with Ferguson (1984) and Sallot et al. (2003), Botan and Taylor (2004) also observed the progression of the practice and scholarship. They argued the theories and practical roles could be understood as either a functional approach or cocreational approach. Citing Ferguson's call for relationships to be the theoretical focus of the field's research, Botan and Taylor highlighted the extensive line of research that has

moved beyond a functional approach to a cocreational approach. At a basic level, the functional to cocreational progression is a move from pragmatism to theoretical (Botan & Hazleton, 2006). In a broader sense, the cocreational approach reflects a paradigm shift. The functional and cocreational approaches each have a place in public relations (Taylor, 2010). Further description of both approaches is provided next.

Functional approach. A functional approach is associated with the pragmatic practice of public relations (Botan & Taylor, 2004). The primary concern of the approach is the design of strategic messages. Communication is regarded as a tool for attaining desired organizational outcomes. Definitions of communication within the functional approach focus on the transfer of information. Practitioners disseminate information through media relations and related one-way communication means (Taylor, 2010). Within the functional approach, emphasis is placed on journalistic techniques because the most valued relationships are those between an organization and the media (Botan & Hazleton, 2006). Press agentry and public information models of public relations (Grunig & Hunt, 1984) are exemplars of the functional approach. Publics, in this approach, are defined as receivers of an organization's messages and treated as information consumers.

Cocreational approach. A cocreational approach envisions communication as the vehicle that "makes it possible to agree to shared meanings, interpretations, and goals" (Botan & Taylor, 2004, p. 652). The focus of the approach is on the relationships between groups and organizations. Communication is understood as the process through which relationships are negotiated. As such, publics are elevated to the status of partners in communication and cocreators of meaning. Publics are not treated as

consumers. Moreover, the cocreational approach welcomed the study of different types of organizations and publics that included activist groups. The symmetrical model of public relations (Grunig, 1992; Grunig & Hunt, 1984) has components of the cocreational approach. However, scholars have argued that symmetrical communication does not capture relational communication or the meaning making process (Botan & Taylor, 2004; Heath, 2009). A reorientation of the field was necessary. The theories in the following section capture the scholarship of relational communication and meaning making.

Extending the Cocreational Research

Since the cocreational turn, a number of theories have postulated the elements and outcomes of relationships, rhetorical communication, and shared meaning. In many ways, the cocreational turn was driven by scholars taking a rhetorical perspective, which argued that public relations is about creating meaning, not procedural communication as asserted in Grunig's (1992) excellence theory (cf. Heath, 1992b, 2009, 2013; Toth, 1992). Rhetorical scholars have also concentrated on activist organizations because of their interest in how public relations can serve society. The theories of relationship management (Ledingham & Bruning, 1998, 2000), dialogue theory (Kent & Taylor, 2002), and fully functioning society theory (Heath, 2006) represent the cocreational approach (Botan & Hazleton, 2006; Botan & Taylor, 2004; Taylor, 2010). Another theoretical framework that is emerging in the literature of cocreational public relations is network-based theories. The cocreational theories are discussed below, which includes a review of scholarship on advocacy and activist

organizations. The consideration of advocacy research frames the focus in this dissertation on activist organizations.

Advocacy. Public relations plays a vital role in advocating, fostering activism, and maximizing the efforts of individuals and organizations in social action. Smith (2005) characterized activism as the "process by which groups of people exert pressure on organizations or other institutions to change policies, practices, or conditions the activists find problematic" (p. 5). However, functional public relations scholarship narrowly concentrated on businesses, agencies, and non-profit organizations. Scholars of the functional approach did not consider the need to study activist groups and pejoratively defined activist groups. Anderson (1992), for example, defined activist groups as "strategic publics because they constrain an organization's ability to accomplish its goals and mission" (p. 151). By this definition, activist groups impede organizations' goals and are not viewed as cocreators of meaning. L. A. Grunig (1992) contended an activist group "is a group of two or more individuals who organize in order to influence another public or publics through action" (p. 504). The definition is applicable to many types of organizations, not just activists (Smith & Ferguson, 2001). A definition of activists that considers their purposes and goals is necessary.

Scholars first broadened the scope of public relations to include activist public relations practitioners. (Smith & Ferguson, 2001; Taylor et al., 2001). Smith and Ferguson (2001), drawing from Smith (1997), defined activist groups as having a "primary purpose [sic] to influence public policy, organizational action, or social norms and values…activists are *organized* and, therefore, face some of the same challenges as do other organizations… [and] strategically use communication to achieve those goals"

(emphasis in the original, 2001, p. 292). Such a definition directed researchers' attention toward the communication practices of activist groups. Taylor et al. (2001) built from this definition and recognized that the economic constraints and unique communication strategies call on activist groups to employ relational communication. Activist groups need resources and depend on relationships to acquire resources to carry out their causes (McCarthy & Zald, 1977). The complex environment activist groups often operate within creates the ideal conditions for studying cocreational communication because of their dependence on relational communication.

One area of activism research that has received a considerable amount of scholarly attention is activist groups use of online communication as public relations functions. Coombs (1998) surmised that the internet created a space where resource-rich corporations and resource-constrained activists could be on an equal playing field. Such speculation presumed the internet would be a public sphere where all voices could be heard equally. Little evidence exists to support the proposition. Other scholars have explored how activist groups use their websites to build relationships with publics.

Much of the online relationship building scholarship applied Kent and Taylor's (1998) dialogic functions of websites framework (Kent et al., 2003; Reber & Kim, 2006; Sommerfeldt et al., 2012; Taylor, Kent, & White, 2001). Taylor et al. (2001) analyzed activist organizations' websites and found a *potential* for activists to build relationships online; however, the scholars questioned the practicality. Subsequent researchers have found scant evidence of organizations using websites to build relationships (McAllister-Spooner, 2009). Further dissolving the online relationship building research, Sommerfeldt et al. (2012) interviewed activist organizations' website

managers and concluded that activists do not envision their websites for relationship building. Activists may not view their websites as the means to build relationships, yet researchers outside of public relations have found that activists use mediated communication to build coalitions (Biddix & Park, 2008; Shumate & Pike, 2006; Smith, 2008). This dissertation considers the public relations elements of coalition building through mediated communication.

Rhetorical perspective. Another area of public relations research that has studied advocacy and activist groups is the rhetorical perspective. Scholars advocating for the rhetorical perspective often use activist groups as exemplars of organizational rhetoric.

Rhetoric and the cocreational approach have had a complementary relationship. The rhetorical perspective (Heath, 1992b) challenged the functional paradigm by asserting, "public relations is primarily about meaning" (Heath, 2009, p. 1). Such perspective broke away from the systems theory's emphasis on communication processes (Heath, 2009; Toth, 1992). Systems theory conceived of communication as the transfer of information and purported rhetoric as a means for studying the "symbolic behavior [that] creates and influences relationships between organizations and publics" (Toth, 1992, p. 4). The cocreational approach welcomed further exploration of the rhetorical perspective.

Often rhetoric is regarded in classical terms that concentrate on the words used by orators; however, the use of rhetoric in public relations is rooted in "new rhetoric," which is also referred to as epistemological rhetoric (Ihlen, 2010). Epistemological rhetoric, led by Burke (1966, 1969), envisions language and symbols as the means by

which humans construct reality. Toth (1992) noted that public relations scholarship has drawn heavily from the work of Kenneth Burke. Two concepts explained by Burke (1966, 1968, 1969) are frequently applied in public relations scholarship. The first is rhetorical discourse. Heath (1992b) suggested discourse initiated the rhetorical perspective in public relations scholarship. The second concept is terministic screens. Both are further explained below.

Heath (1992a) described rhetoric as the clash of ideas where multiple voices from organizations, nonprofits, activist groups, and publics are brought to bear in the "marketplace of ideas" through public relations efforts (Heath, 1992b). Rhetorical discourse stems from Burke's (1969) statement that rhetoric guides actors through "the Scramble, the Wrangle of the Marketplace, the flurries and flare-ups of the Human Barnyard, the Give and Take" (p. 23). In a basic sense, discourse is the process where rival perspectives exchange statements and counterstatements (Burke, 1968). Heath (2000) explained that through public relations, orators are given "an opportunity to participate in as well as witness discussions (statements and counterstatements) by which customers (markets) and publics (stakeholder/stakeseekers) have the opportunity to examine facts, values, policies, identifications, and narratives" (p. 86). Organizations' statements and counterstatements provide the public with "information, evaluations, identifications, and public positions they need to make enlightened choices" (Taylor, 2011, p. 440). The media present the rhetorical public relations arguments and hold up the actions of organizations for the public to scrutinize (Taylor, 2011). By knowing the multiple statements on an issue, publics can make enlightened choices about arguments.

Activist organizations provide an example of rhetorical discourse in a fully functioning society. Take for example the coalition SuSanA used as the case study in this dissertation. One NGO may challenge a public policy for environmental reasons whereas another organization may challenge the same policy for economic reasons. Each statement is dependent on the previous and future statements (Heath, 2000). A statement or counterstatement cannot be understood in a cross sectional or isolated sense. Discourse is a process by which a statement "gains its meaning and importance by how it agrees, disagrees, or otherwise responds to other statements" (Heath, Waymer, & Palenchar, 2013, p. 276). Through the media and public communication campaigns, activist organizations and others involved in "the scramble" offer statements and counterstatements that the public can accept or reject. Public discourse leads to the social construction of meaning (Heath, 2009). Discourse also makes possible the second influential concept from Burke (1966): terministic screens.

Terministic screens are ways of studying shared meaning—a fundamental aspect of rhetoric (Heath, 2009). Heath (1993) drew from Burke's (1966) notion of terministic screens to formulate the theory of zones of meaning. Terministic screens are lens or filters placed on objects through different descriptions. Burke (1966) described how the subject in a picture changed as different colored screens were placed in front of the photo. Burke argued that language acts as colored screens and changes the perspective we have of subjects. Discourse applies different terministic screens that stem from communicators' perspectives of a subject. Communicators' statements about a subject place a terministic screen for how others will perceive the subject. The terministic

screens construct reality and affect how others will offer counterstatements (Heath, 1993). Public relations messages act as terministic screens for subjects.

Take for example when an NGO begins to describe the consequences of a policy decision, the organization is placing a terministic screen on the policy through messages. When a private sector organization describes the other consequences of a policy decision, it is placing a different terministic screen on the same policy through its messages. Members of the public must make sense of the terministic screens and select the one that is compatible with his/her worldview.

Heath (1993) reasoned that terministic screens become zones of meaning when people subscribe to dominant screens. In the rhetorical process of discourse, various actors will begin to align with certain terministic screens and fall into zones of meaning about the reality of a situation. Heath (2009) proclaimed that shared meaning leads to collective action. With competing meanings of a situation, boundaries are set based on the various zones of meaning. Heath further explained that boundaries—the point where communicators will align with others—are created through different zones of meaning. Heath (2000) argued public relations researchers should be interested in the overlap of zones of meaning.

This dissertation applies the theoretically grounded concept of zones of meaning to study competing objectives. Coalitions have overlapping zones of meaning with various groups and organizations. Coalitions can be conceived of as the nexus for competing and overlapping zones of meaning. Organizations in a coalition can state their desired outcomes and align with others that share similar aspirations. For activism and collective action, it is necessary for actors to have some overlap in their zones of

meaning. Theoretically, when organizations align with a zone of meaning, there is a greater likelihood for creating and maintaining relationships.

Coupled with a need for resources, the shared zone of meaning can be seen as a means for activist groups forming broader and stronger coalitions. A coalition brings together similar, as well as competing zones of meaning, and a variety of resources (Shumate & Pike, 2006). Relationships are the fundamental element of a coalition and bring together—or divide—zones of meaning and resources. The concept of relationships has received considerable attention in the public relations literature for the past two decades and is reviewed next.

Relationship management research. Ferguson (1984) charged public relations scholars to take up a relationship-centered research focus. Public relations scholars have developed an extensive line of relationship management literature. Broom, Casey and Ritchey (1997) drew from numerous disciplines to explicate the concept of relationships and called for a method to measure relationships. Ledingham and Bruning (1998, 2000) extended the explication by offering operational dimensions of organization–public relationships: trust, openness, involvement, investment and commitment. Others have also put forth other possible dimensions of organization–public relationships (cf. Grunig, 1992; Huang, 2001). Hon and Grunig's (1999) widely used organization–public relationship assessment measures the dimensions of trust, control mutuality, commitment, satisfaction, and communal relationships.

Ledingham (2003) argued organization–public relationships must be assessed from both the organization's and the public's perception. However, most researchers measure one public's perceived relationship with one organization, not the multiple and

complex relationships publics and organizations are embedded in (Yang & Taylor, 2012). Examining dyadic relationships does not capture the true nature of the multiple relationships organizations have with publics (Ihlen, 2005, 2007). Researchers cannot afford to assume an organization has *one* relationship with *one* public. A relationship with one public has an influence on the time, resources, and obligations with another public. The social network perspective captures the network of relationships organizations are embedded within (Yang & Taylor, 2012). Ihlen (2005, 2007) introduced social capital as a concept to recognize that organizations are situated in "fields" with multiple relationships. Such perspective is considered further in the discussion below about network theories.

Another fault within the relationship management literature is the concentration on the perceived elements of relationships. Often times "publics" complete a survey with pre-defined markers for what a quality organization–public relationship means. Heath's (2013) review of the literature found four different relational scales with varying dimensions. Heath highlighted that the current literature, based on these different scales, is an accumulation of individuals' satisfaction with organizations, not relationship. Heath continued with a call for "a dialogic, discursive, rhetorical approach" to studying relationships that "adds rich insights that grow from the ideal that…relationships are textual, multidimensional, multilayered, and complexly interrelated" (p. 431). There is need for public relations scholarship to consider the underlying elements of relationships. To look at such elements, scholars have turned to the concept of dialogue.

Dialogic theory and public relations. Kent and Taylor (2002) recognized the frequent references to dialogue as a key concept to building organization–public relationships but noticed little conceptualization of the term. Some scholars equated dialogue to interactions between communicators. Grunig (2001) equated dialogue to two-way symmetrical communication. Heath (2000) also referred to dialogue when explaining rhetorical discourse and debate. However, Kent and Taylor argued that dialogue is more than two-way communication or discourse. Two-way communication or discourse as "dialogue" is more closely associated with systems theory. Kent and Taylor contended, based on an extensive literature, that *true* dialogue is more than procedural communication. Dialogue is an "orientation to a relationship" communicators adopt where they conceive of the other communicators as equals (p. 26).

Kent and Taylor's (2002) multidisciplinary explication of dialogue moved the focus of organization–public relationships toward an emphasis on the underlying communicative elements of relationship. They argued that dialogic orientation occurs through five principles:

> *Mutuality,* or the recognition of organization–public relationships; *propinquity,* or the temporality and spontaneity of interactions with publics; *empathy,* or the supportiveness and confirmation of public goals and interests; *risk,* or the willingness to interact with individuals and publics on their own terms; and finally, *commitment,* or the extent to which an organization gives itself over to dialogue, interpretation, and understanding in its interactions with publics. (pp. 24–25, emphasis in original)

Building from their earlier work, Taylor and Kent (2006) advocated that dialogic theory should inform the scholarship and practice of public relations in nation building. Nation building requires the communication of numerous individuals and groups. Dialogic theory directs communicators to have an "understanding and tolerance of other individuals and groups" (Taylor & Kent, 2006, p. 354). In nation building, dialogic theory directs communicators to welcome the perspectives of others. Moreover, they theorized that when dialogue occurs between governments, civil society organizations, and publics, a civil society could emerge. The logic is applicable to activist coalitions. When multiple perspectives or zones of meaning are discussed, collective action can be carried out.

To this point, the discussion of cocreational scholarship has presented the inclusion of activists and advocacy organizations, the advantages of a rhetorical perspective, the research on relationship management, and a review of dialogue. Fully functioning society theory (Heath, 2006) builds on and extends many of these previously reviewed concepts and theories, and is outlined next.

Fully functioning society theory. Thus far, the cocreational theories have emphasized communication and shared meaning (rhetoric) and a relational communication focus (relationship management and dialogue theory). Another aspect of the cocreational approach is the scholarly discussion considering how does and how can public relations contribute to making better communities and societies? Scholars exploring public relations role in civil societies have characterized rhetoric as a means to level the playing field between powerful organizations and resource constrained

groups (Heath, 2000, 2006, 2009; Taylor, 2011). By engaging in discourse, public relations can enact rhetoric and construct social reality.

Public relations practitioners have the responsibility to invite multiple voices into public discourse (Sommerfeldt, 2013b). Sommerfeldt explained, "public relations can bring the concern of subaltern or counterpublics from the periphery of public spheres of debate to the core of issue discussions through relationship building strategies and the employment of publicity tactics" (p. 286). Through publicity and the promotion of ideas, various voices are brought into the marketplace of ideas. The wrangle—the statements and counterstatements—in the marketplace of ideas, is where solutions to problems emerge. Fully functioning society theory (Heath, 2006) has organized this scholarly discussion.

Fully functioning society theory (FFST) is based on eight premises that outline public relations role in contributing to better societies and communities. Demonstrating the utility of theory, Taylor (2011) recognized the first five premises as an orientation for organizations toward the communities and societies in which they operate. The final three premises look at the internal systems organizations should have in place to orient themselves to their communities and societies. These last three are most relevant to this dissertation. The eight premises are briefly summarized and listed here:

1. When organizational representatives engage in public discussions and decisions, they can help reduce uncertainty and provide order in an environment.
2. When organizations engage in corporate social responsibility, they make communities and societies a better place to live.

3. Organizations should evaluate whether their power is benefiting specific interests or broader, societal interests.
4. Organizations, as well as individuals, must balance their self-interest.
5. Organizations should enact *communitas*, a concept that recognizes individuals and organizations can work in harmony when they identify themselves as part of the same community.
6. In order for organizations to act in communities and societies, public relations practitioners need to be able to work with others when responding to multiple interests.
7. Organizational processes must be in place that allow for individuals to advocate their positions and make enlightened choices that occur when all sides are heard.
8. Organizational narratives should be constructed to coordinate action with individuals and other organizations.

Practitioners working in advocacy coalitions must be able to work with others and respond to multiple interests, as indicated in the sixth premise. Each organization in a coalition has their own self-interest but must also respond to others. Building from the seventh premise, coalitions are a space for organizations to advocate for their position and make enlightened choices that direct the collective action. Together, activist organizations create a narrative, which can be understood as a zone of meaning. A shared understanding with others members coordinates action, as stated in the eighth premise.

Fully functioning society theory and the scholarly discussion of civil society both advocate for discourse. Discourse can take multiple forms. A discourse can involve

statements and counterstatements, the construction of narratives communicators identify with (individuals, groups, or organizations), or the process of communicators aligning to zones of meaning.

Within the scholarly discussion of rhetorical discourse is the question: what is the outcome of public discourse? One possible outcome of discourse might be a solution to a coalition’s problem or issue. Discourse also brings multiple parties together where relationships are formed. Relationships are fundamental for rhetorical discourse (Taylor, 2011). Without relationships with others who have similar or competing ideas, rhetorical discourse is nothing more than meaningless speech. Relationships orient communicators to other communicators (Kent & Taylor, 2002). Scholars of civil society, like those in the relationship management literature, have theorized that one possible outcome of discourse and relationships is social capital.

Heath (2000) reasoned “public relations adds value to society because of the rhetorical dialogue by which interested parties (corporate, activist, and governmental) forge standards of business and public policy that can create mutually beneficial relationships that add social capital to each community” (p. 71). Likewise, Taylor (2009) asserted that through interactions between opposing sides, relationships form, trust builds, and social capital emerges. Taylor (2011), further discussing social capital as an outcome of discourse, valued the need for relational partners to have shared meaning. One way that scholars have understood relationships and social capital is through network theory. The next section introduces the current network theory research and outlines its potential insights into discourse and shared meaning.

Network theory. Network theory is often used as an umbrella term that encompasses a wide range of conceptual ideas and theories concerned with networks (Borgatti & Lopez-Kidwell, 2011). Network-based theories assume that actors are influenced and enact influence through their relationships with others (Borgatti, Everett, & Johnson, 2013). Network theories can offer insights and explanations for public relations scholarship (Yang & Taylor, 2012), especially relational communication.

Network theories have key features that break from traditional social science research and theory (Carrington & Scott, 2011; Marin & Wellman, 2011; Monge & Contractor, 2003). Traditional social science studies individuals' characteristics or perceptions. Network research studies the relationships that *connect* individuals. Terms like actors, nodes, or vertices are used to reference units such as individuals, groups, or organizations. The relationships between units are called ties, links, connections, or vertices (Borgatti et al., 2013; Knoke & Yang, 2008; Scott, 2000; Wasserman & Faust, 1994).

Network theories are concerned with three primary elements: (a) relations between actors, (b) how relations influence actors, and (c) how actors create, maintain, and transform networks (Knoke & Yang, 2008). Additionally, network theories "pertain to units at different levels of aggregation: individual actors, dyads, triads, subgroups, and groups" (Wasserman & Faust, 1994, p. 22). Network theories generally ask two types of research questions: "why do some nodes or groups achieve more" and "why some nodes or networks are more similar to each other" (Borgatti & Lopez-Kidwell, 2011, p. 53). The first type of question pertains to research related to social capital. This dissertation is interested in how coalitions use interorganizational relationships. The

second question includes research concerned with homophily, which is also relevant to this dissertation through zones of meaning. Organizations in a coalition network may be more similar to one another through their shared zones of meaning.

Public relations researchers using network theories have primarily examined questions related to social capital. Taylor and Doerfel (2005) used network theory when they extended the conceptualization and operationalization of interorganizational relationships. They demonstrated the utility of network theory and methodology for public relations research and argued that by studying interorganizational relationships, researchers could suggest "a model of collaboration for participants to better facilitate goals achievement" (2005, p. 123). Ihlen (2005) drew from Lin (2001) to advocate for the study of social capital, which is situated in network theory, as a means for advancing the understanding of organization–public relationships. Sommerfeldt and Taylor (2011) employed network theory to study the interdepartmental relationships within a civil society organization. Most recently, Sommerfeldt (2013a) used the theory to study how relationship quality influenced an organization's network importance and social capital.

Summary of Cocreational Research

In sum, the cocreational approach has expanded the scope of public relations to include the practices of activists and advocacy organizations (Taylor et al., 2001). Activists operate in a unique environment when compared to businesses, nonprofits, and government agencies (Smith & Ferguson, 2001). Activists depend on rhetoric to communicate their messages and call others to action (Heath, 2009). Rhetoric can form, maintain, change and end relationships. Cocreational research has developed and

expanded the concept of relationships and explored the role of dialogue in relationship building. Fully functioning society theory has brought several cocreational theories together to contemplate the societal contributions of public relations. Scholars have turned to network theories to empirically explore public relations' societal role.

Public relations scholars have employed network theories in a manner that aligns with the relational emphasis of cocreational scholarship. The use of network theories in public relations scholarship has taken a positional perspective (Monge & Contractor, 2003) that highlights an actor's positions in a network and in relation to others. Often the positional perspective "is more concerned with the pattern of relationships than their content" (2003, p. 215). Network theories can, and should, be used to study *meaning making* and *shared meaning*. Theorizing the potential of a network perspective for public relations, Kleinnijenhuis (2008) wrote that the perspective "offers the key to acknowledge shared meanings and interpretations, differences in awareness, and differences of opinion that public relations professionals could use to develop worthwhile information and convincing arguments" (p. 83). Indeed, network theory holds great potential for practice and scholarship of public relations. The next section considers in more detail social networks and network theory.

Social Networks and Network Theory

Having established the cocreational approach and the appropriateness of network theories, this section expands on social networks and the related theories. To begin, a brief history of network research is provided to define the social network perspective. Then a discussion of communication-based network research is presented with an emphasis on interorganizational network research. The public relations research

using a network perspective that has primarily concentrated on interorganizational networks is also reviewed. One area within public relations scholarship that stands to benefit from network theories and research is the study of communication in advocacy networks. The literature from social movement research on interorganizational relationships is presented in the subsection on advocacy networks. The next portion of the review turns to the scholarly discussion of coalition building and includes a discussion of virtual networks.

Scholars from various disciplines have pointed to numerous reasons for the emergence of network research in the social sciences. Communication scholars often identify the information and communication technology revolution as the impetus for network research (Kleinnijenhuis, 2008). Castells (1996) indicated that networked technologies allowed information and capital to flow easier among different actors; thus spotlighting the role of networks in everyday life. Revisiting the rise of networks a decade later, Castells (2009) explained that new communication technologies created flexible, scalable, and survivable social networks that were previously not possible. Communication technologies have increased the reach of individuals' and organizations' communication. Monge and Contractor (2003) submitted that globalization led researchers to a network perspective to study the flow of information, images, symbols, and other elements of communication messages. At the core of the proclamations about the rise of network research is the recognition that connections are influential.

Studying networks begins with the notion that the social world is shaped "by relations and the patterns formed by these relations" (Marin & Wellman, 2011, p. 11).

Relations include several different types. Common relationship types include kinship, friendship, or coworker relations (Borgatti et al., 2013). Economists study networks of markets by defining relations based on the trading goods and services between businesses. Epidemiologists study the network of a disease outbreak by defining relations as the contact that individuals have had with an infected individual. Communication researchers define relations by who communicates with whom. Communicative relationships are measured by asking: "who 'provides information to whom,' 'gets information from,' 'knows about,' and 'communicates with'" (Monge & Contractor, 2003, p. 30). Public relations researchers studying interorganizational relationships can define relations based on communication, partnerships, co-membership in a coalition, among other connections. Researchers might ask which organizations "acknowledge a connection to or from another organization," "collaborate on joint ventures together," "send information to," "receive information from," or "perceive as important." The relationships create the social network. A change in one relationship can change the structure of the network.

A network is defined as "a finite set or sets of actors and the relation or relations defined in them" (Wasserman & Faust, 1994, p. 20). Advances in data collection and analysis have afforded researchers the ability to measure connections (Wasserman & Faust, 1994). Borgatti et al. (2013) offered an example of a general hypothesis in network research: "An actor's position in a network determines in part the constraints and opportunities that he or she will encounter, and therefore identifying that position is important for predicting actor outcomes such as performance, behavior, or beliefs" (p.

1). The relational data is placed within a matrix, or set of matrices, which can be formally analyzed using graph theory mathematics (Carrington & Scott, 2011).

Relations are either directional or nondirectional. Directional relationships indicate who connects to whom. Relationships are not always reciprocated or symmetrical. Some actors will indicate a relationship to another, but the other actor will not indicate such relationship. Directional relations refer to degree centrality as either in-degree (number of ties an actor receives) or out-degree (number of ties actor sends). Nondirectional degree is the frequency of ties and "are used for relations where direction does not make sense or logically must always be reciprocated" (Borgatti et al., 2013). Studies examining the interconnectedness of corporate board members is an example of a nondirectional relationship. Directional data reveals the "flows" that carry resources or messages (Monge & Contractor, 2003). Relational data can specify possible outcomes based an actor's relationships, the strength of the relationships, and the actor's overall network position.

Examples of flows for physical items are market materials, products and services. Communication researchers have argued that communicative actions are the basis for relationships, structures, or patterns in network research (Kikuchi & Coleman, 2012; Monge & Contractor, 2003) and the flows in networks carry messages that cocreate meaning (Kleinnijenhuis, 2008). Some structures allow messages to flow between actors easily. Other network structures require effort to disperse messages. For example, in a dense network where actors share many of the same contacts, information is easily dispersed within the network through multiple ties. In a sparsely connected network, an actor that shares information with another actor is then dependent on the

other to share the information with their contacts who are not connected to the originator.

Having outlined the basic concepts of network research, the next section focuses on the research of interorganizational networks in communication scholarship. Such focus aligns with the current research in public relations and is suitable for studying activist coalitions.

Scholarship of Communication Networks

Initially, the research about communication networks concentrated on individuals within an organization (Monge, 1987); however, studies have also explored the relationships between organizations. Interorganizational relationships differ from interpersonal relationships by the level of formality. Definitions of interorganizational relationships often turn to Benson's (1975) political economy perspective that suggests organizations establish relationships with others for the need to exchange resources and establish power relations. Interorganizational relationships are formed through "social interaction (of individuals acting on behalf of their organizations), relationships, connectedness, collaboration, collective action, trust, and cooperation" (Provan, Fish, & Sydow, 2007, p. 481). Communication forms interorganizational relationships.

The focus of communication networks should be the communicative relationships between actors and how communication influences, and is influenced by, network structures (Monge & Contractor, 2003). The operationalization of a communicative relationship determines what relational patterns in a network are studied. Atouba and Shumate (2010), for instance, used secondary data to identify NGOs and international NGOs (INGOs) that had collaborated on projects. The study

has two limitations related to the operationalization of communicative relationships. First, the authors' findings were not based on an assessment of communication between organizations. The frequency or quality of interorganizational communication was not assessed. Second, the relationships analyzed with nondirectional data and assumed that project collaboration involved organizations had a relationship each other. The assumption is extremely limiting. For example, if a project included three organizations, all organizations were indicated as having communicative relationships. Yet, the possibility exists that one organization was the lead on a project and had relationships with two other organizations that were not connected to one and other. The lead organization could have been positioned between the two unconnected organizations. The study of communicative relationships is heavily influenced by the data gathered and can be constrained by nondirectional data.

A more encompassing definition of communication and directional has advantages for studying networks. Take for instance Flanagin, Monge, and Fulk (2001) who used directional data to study the interorganizational relationships in a law enforcement federation. They operationalized communicative relationships as, "telephone conversations, time spent reading and sending memos and letters, electronic mail exchanges, time in meetings together, and time spent in face-to-face conversations" (p. 80). Likewise, Walker and Stohl (2012) used a broad definition of communicative relationships in their study of collaborating engineering organizations. Yet, communication was aggregated into uniplex relations in the previous examples without assessing the richness of communication channels.

Building from Flanagin et al.'s (2001) research, Taylor and Doerfel (2003) integrated media richness theory to assess a multiplex network of media richness. Media richness ranged from lean media (e.g. letters, emails, fax) to rich media (e.g. face-to-face conversations and in person meetings). The analysis of multiplex relations allowed the researchers to study the communicative relationships based on the level of media richness. Communication networks were created for each of the three levels of media richness—lean, moderate and rich media. The results of Taylor and Doerfel's study found that the richer media used by an organization increased others' perception of organizational importance, which was positively related to organizations' network centrality scores. In sum, the research suggested that the communicative relationships influenced the network position of an organization.

Communication researchers have concentrated on the structural aspects of interorganizational networks. The logic of such focus is grounded in network theories that suggest an organization's position in a network can determine the influence they have (cf. Burt, 1992, 2001). The structural aspects of networks include measures such as density and network centralization (Monge & Contractor, 2003). Density refers to the connectedness of a network and is a measure of "the number of ties in the network, expressed as a proportion of the number of possible [ties]" (Borgatti et al., 2013). Network centralization "examines the variation in individuals centralities within a network…a network is centralized if a few individuals have considerably higher centrality scores than others in the network" (Monge & Contractor, 2003, p. 44). The same is true in reverse. A decentralized network occurs when a majority of actors have similar centrality scores. The inverse is a centralized network where a few actors have

greater centrality in the network. Central organizations in a centralized network have been found to direct the goals and objectives of a coalition (Shumate & Pike, 2006). Centrality scores are measured by degree, betweenness, or closeness (Monge & Contractor, 2003; Scott, 2000). Betweenness is a measure of centrality that provides "an indication of the extent to which an organization lies on the greater number of shortest paths between all pairs of actors" (Taylor & Doerfel, 2003, p. 168). Monge and Contractor explained, "in a communication network, a node with high betweenness score is often interpreted as deriving power by controlling or brokering the flow of information as well as managing the interpretation of that information" (p. 38). A substantial body of knowledge has emerged considering the factors that influence an organization's position in a network.

Returning to Flanagin et al.'s (2001) study of a law enforcement federation, the researchers integrated public goods theory (Olson, 1965; Samuelson, 1954) to postulate that the founding members of a network would be the most central in the network as measured by betweenness centrality. The data indicated that founding members were the most central, to which the researchers theorized allowed the founders to direct the objectives of the federation. Taylor and Doerfel (2003) found similar findings with the founding members of the Croatian NGO election network. Their data revealed that members of a network perceived the most central NGOs (betweenness centrality) as the most important.

Summary of Interorganizational Relationships

To summarize the communication scholarship of interorganizational relationships, scholars have theorized that organizations' network positions affect their

ability to enact influence. Yet, the structural focus has neglected the importance of understanding the communication contents that establish network positions and enact influence (Monge & Contractor, 2003). More specific to this study, researchers have not tested how shared meaning brings actors together in a network or how an actor's position influences their ability to unite competing zones of meaning. Scholarship in this area can be advanced by studying shared meaning in a network. Zones of meaning is a concept that can study the shared meaning. In practice, knowing how competing zones of meaning work within a network can assist coalition managers understand more fully the dynamics of relationships. Theoretically, such information is valuable because such knowledge can demonstrate communication influence in creating structure and enacting influence within a structure. The network perspective is also a complementary orientation to current public relations research and holds the potential to expand the scholarly understanding of relationships (Yang & Taylor, 2012). The public relations literature on networks is reviewed next.

Public Relations Scholarship of Networks

The network perspective encompasses the relational emphasis included in the cocreational approach. Yang and Taylor (2012) suggested that a network perspective offers public relations scholars the ability to study the complexity and dynamics of relationships at the micro, meso and macro levels, the communication patterns between actors, and diagnose structural constraints and opportunities in networks. Many of the concepts and theories discussed in the cocreational perspective section can be expanded with a network perspective. Advocacy, for example, is based on networks. Activist

groups must have networks to gain influence, build and expend resources, and carry out social action. This is a point considered in more detail below.

Kleinnijenhuis (2008) linked network theory to rhetoric and noted a network perspective could show the connections individuals have to shared meanings and shared interpretations. Adapted to this study, a network perspective could show the zones of meaning various actors converged on and identify network members' network positions connect to different zones of meaning. Indeed, the perspective is also useful when looking at and expanding the field's knowledge of organization–public relationships (Sommerfeldt, 2013a; Taylor & Doerfel, 2005; Yang & Taylor, 2012). Further, scholars operating from fully functioning civil society theory have applied a network perspective to identify influential civil society organizations and theorized organizations' contribution to a fully functioning society (Sommerfeldt, 2013a; Taylor & Doerfel, 2003, 2005). The network perspective has also been used to analyze media texts through semantic network analysis (cf. Meijer & Kleinnijenhuis, 2006; Murphy, 2010; Oliveira & Murphy, 2009; Yang, Klyueva, & Taylor, 2012). Semantic network analysis studies texts (e.g. organizations' names, news frames, etc.) as the units and the co-occurrence of the text in the same unit of analysis (e.g. sentence, paragraph, or news story) as the relationship. Others have studied the relationship between organizations' websites using hyperlink analysis (Saffer, Taylor, & Yang, 2012; Yang, 2013a, 2013b). Hyperlink studies define websites as the actors and the hyperlinks sent to and from websites as the relationships between actors. Analysis of website networks assume hyperlinks reflect actual interorganizational relationships between organizations. The areas of network research of interest to this dissertation are those that have applied a

network perspective at the meso-level (Sommerfeldt, 2013a; Taylor & Doerfel, 2003, 2005) and are discussed next.

Interorganizational relationships. Research on interorganizational networks in communication research has greatly influenced public relations scholarship of networks. Taylor and Doerfel (2005) argued that the network perspective allows public relations scholars and practitioners to use network "method and theory to understand and strategize the building of inter-organizational relationships…to better facilitate goals achievement" (p. 123). Interorganizational relationships can be defined in a number of ways. Broom et al. (1997) wrote that interorganizational relationships are "relationships [that] represent the exchange or transfer of information, energy or resources" (p. 94) from one organization to another. Later Broom et al. (2000) reasoned that the "attributes of those [interorganizational] exchanges or transfers represent and define the relationship" (p. 16). Such reasoning is in line with the above discussion of defining network relations. The definition of what constitutes a relationship in a network determines the focus of a researcher's attention.

As noted in the previous section, prior research has either defined communicative relations with great detail by focusing on the richness of communication medium or very broadly by measuring the aggregate of communication. Flanagin et al. (2001) and Walker and Stohl (2012) measured communicative relations broadly with uniplex relations. Taylor and Doerfel (2003) measured multiplex relations by identifying the channel of communication used between organizations, which created an index of media richness. Multiplex relations allowed the researchers to study multiple communication networks based on the channels used. Taylor and Doerfel's (2005)

study defined the relationships between organizations based on their frequency of communication. Likewise, Sommerfeldt (2013a) defined relationships by asking organizational representatives whom they interacted with during the previous year. Overall, how communication is studied in interorganizational relationships can affect the results of a study.

Taylor and Doerfel (2003) found evidence that when organizations communicate via richer communication channels, other organizations perceive the organization as more important. Moreover, those organizations were at more central points in the network. Communication establishes interorganizational relationships and organizations' network position. Sommerfeldt (2013a) examined how the quality of interorganizational relationships affected the levels of social capital and how organizational importance positioned organizations to act as bridges across networks. The data revealed that when organizations indicated increased quality of relationships with other organizations the indicators of social capital also improved. Further, Sommerfeldt's study reported that organizations perceived as important by their peers had increased indicators of serving as a network "bridges" to unconnected parts of the network. Sommerfeldt's study is considered further in the discussion of structural holes theory below.

Overall, interorganizational relationships have been the primary focus of network research in public relations scholarship. Interorganizational relationships are vital to the success of social movements (Diani, 2003a). Scholars of social movements have also studied interorganizational relationships with a primary interest in advocacy networks. The following section presents the scholarship on advocacy networks.

Advocacy Networks

Scholars of social movements have also found utility in a network perspective (Diani, 2003a). A social movement consists of members of a "collectivity acting with some degree of organization, temporal continuity, and reliance on noninstitutional forms of action to promote or resist change in the group, society, or world of which it is part" (McAdam & Snow, 2010, p. 1). At the micro level, network researchers have found individuals join social movements when they have a relationship with an individual already involved in the movement (McAdam & Paulsen, 1993).

The network perspective has also informed the scholarship of interorganizational relationships in advocacy networks. Organizations cannot act autonomously and depend on their connections to other organizations to achieve the desired goals (Diani, 2003a, 2003b; Soule, 2012). Soule (2012) wrote that organizational discourse "fosters the sharing of resources, and promotes collaborations [that lead to] the fostering of ideas, frames, tactics, and personnel across organizational boundaries" (p. 1721). Soule's notion that interactions foster ideas shares similarities with public relations scholars' beliefs that interactions lead to shared meaning (Heath, 2006; Taylor, 2009, 2011). The concept of frames appears to be similar to zones of meaning.

Many studies of social movement networks use archival data, which directs researchers to operationalize interorganizational relationships in specific ways and often does not afford the opportunity to study communicative relationships. Nonetheless, the relationships provide an indication of *possible* communication between organizations. Ansell (2003), for example, studied interorganizational relationships by asking

organizational representatives to identify other organizations they had worked with on social movement project. Working on a project requires communication, yet communication did not constitute a relationship in the study. Likewise, Diani (2003b) defined relations based on an organizational representatives working with or being a member of another activist organization. Communication is at the core of these relationships. There is little evidence that social movement scholars have considered the rhetorical influences on an interorganizational activist network.

Social movement researchers have primarily used resource mobilization theory (Freeman, 1979a; McCarthy & Zald, 1977; Zald & McCarthy, 1987) and structural holes theory (Burt, 1992, 2001) to study networks. The study of interorganizational relationships in activism has led researchers to examine coalitions. Diani (2003b) claimed that through interorganizational coalitions, activists are able to influence public officials on public policy issues. Diani (2003b) drew from structural holes theory to assert that organizations that connect unconnected organizations (called bridges) are particularly significant to a coalition's success because they "connect actors who are not communicating because of some specific political or social barrier" (p. 107). Bridges, also referred to as brokers or gatekeepers, can influence the information or resources exchanged between unconnected organizations. Applied to this dissertation, bridges are organizations that connect actors who do not have a relationship.

Recently, coalitions have expanded beyond traditional national boundaries (Smith, 2005, 2008; van Dyke & McCammon, 2010). Smith (2005) suggested activist groups connect with similar groups in different countries to expand their reach. The expanded reach is made possible by new communication technologies (Castells, 2009;

Coombs, 1998). In agreement with Smith, van Dyke and McCammon (2010) also cited the expansion of transnational and global corporations and governing institutions as influencers of activist organizations' need to expand. Smith also reasoned that the expansion led to multi-issue organizing frames: "As groups form and extend inter-group and inter-personal ties across national boundaries, they find that they must re-frame their ideas about the causes of and solutions to the problem they hope to address" (2005, p. 234). A global reach welcomes more individuals to join a movement (Smith, 2008) who bring with them competing frames for what the coalition should achieve. The frames of a coalition can also be understood as the zones of meaning—a point developed later in the chapter.

In summary, the literature establishes that coalitions today can have a global reach, which may affect the social capital within a network. Coalitions are considered further in order to study the aspects of an organization's network position. The next section presents literature on coalitions.

Coalitions. Activist coalitions are formed through interorganizational relationships that seek to achieve desired outcomes. Smith (2008) explained that coalitions "have varying levels of organization that can integrate coalition participants into decision making" (p. 118). The types of organizations involved in a coalition can range from activist groups, NGOs, governmental agencies, or for-profit firms. Some coalitions formally specify the expected contributions of members whereas other coalitions are loosely organized and allow members to contribute at-will (Bennett, 2005). Public relations practitioners, as facilitators of relationships, are charged with

organizing and overseeing coalitions (Taylor & Sen Das, 2010). Hallahan (2001) explained that coalition building,

> involves direct solicitations by activists to engage aware publics in an issue. Coalition building operates on the principle of mutual self-interest; coalition members can help advance their own professional or other goals by helping promote the interests of others. Coalition-building activists can range from simply providing an endorsement or financial support to deploying volunteers in large-scale, grass-roots advocacy campaigns. (p. 41)

Considering how activists disrupt normal organizational functions, Grunig (2001) suggested coalition building stems from activists groups' need to gain power to force organizations to engage in symmetrical communication. Indeed, through coalition building, activists groups can increase their power. However, the outcome of coalition building is broader and more complex than Grunig described. Merely gaining power or enough significance for an organization to respond symmetrically takes a functional perspective. Coalition building is a method for activist groups to pool resources and achieve desired outcomes. Some desired outcomes may have nothing to do with an organization as Grunig suggests. Coalitions can also exist to serve as a space for members to discuss issues, share knowledge and best practice, or inform others what they are working on. *Outcomes of coalitions are not always organization centric.*

Taylor and Sen Das (2010) wrote, "the major issues of advocacy organizations are communicated through the network and this helps social movements to achieve some of their goals" (p. 3). Coalitions form networks. Van Dyke and McCammon (2010) advocated for a network perspective as it "allows [researchers] to grasp more

fully the varied constituencies, ideological perspectives, identities, and tactical preferences different groups bring to movement activism" (p. xii). Taylor and Doerfel (2005) also called on public relations researchers studying coalitions to take a network perspective.

The previous descriptions of coalitions note a number of aspects relevant to this dissertation. First, as Smith (2008) noted, communication is routine in a coalition suggesting a need to capture the frequency of communication between organizations. Second, coalitions of activist groups bring together diverse ties (Bennett, 2005). The diversity of ties can create challenges for organizers. Coalition members have varying perspectives on the collective's objectives (van Dyke & McCammon, 2010), but ultimately create shared expectations for specific campaigns (Smith, 2008). One way to understand the competing objectives in a coalition is to study the zones of meaning.

An element yet to be addressed in public relations is the online communication technologies activists use to build coalitions. Online communication technologies allow coalitions to reach geographically dispersed activist groups, build support among individuals and other activist groups, and mobilize resources (Shumate & Dewitt, 2008; Smith, 2005; van Dyke & McCammon, 2010). Another way that activists groups use online technologies is to communicate and nurture relationships with other activist groups and organizations (Shumate & Pike, 2006). Online communication between organizations creates virtual networks that present additional opportunities and challenges that are discussed next.

Virtual Networks

A virtual network is "a geographically distributed organization whose members are bound by long-term common interests or goals, and who communicate and coordinate their work through information technology" (Ahuja & Carley, 1998, p. 5). Ahuja and Carley's definition shares similarities to Smith's (2005) definition of coalitions. Both state a virtual network and a coalition consist of members with common interests and goals. Fueled by globalization and communication technologies, activists are relying increasingly on mediated means of communication (Shumate & Pike, 2006; Smith, 2005; van Dyke & McCammon, 2010).

Communication researchers have taken great interest in studying virtual networks. Online communication has allowed for knowledge networks to emerge and for interorganizational relationships to expand their reach internationally. Both types of networks are reviewed further.

Knowledge networks. Researchers often cite advances in computer-mediated communication (CMC) at the turn of the century as the motivator for knowledge networks. CMC shifted sharing knowledge from face-to-face interactions to "virtual social contexts such as blogs, shared web spaces, online forum, social network sites, Wikipedia, and shared electronic data bases" (Cho, Chen & Chung, 2010, p. 1198). A knowledge network forms when individuals, who each possess specialized knowledge, post what they know in online repositories (Palazzolo, Serb, She, Su & Contractor, 2006). A knowledge network is a collection of network members' expertise that is often accessible through online platforms. Knowledge networks are significant because they can be an outcome of bringing individuals and organizations into a network. Knowledge

networks can serve organizations, interorganizational networks or interpersonal communities online (Contractor, 2009).

Relevant to this study are the interorganizational knowledge networks. Research on interorganizational knowledge networks has focused on the benefits of organizations' network positions. In their analysis of an alliance, Walter, Lechner and Kellermanns (2007) found that firms' brokerage and central position in the network received the most benefits from the knowledge network. Brokerage roles, which comes from structural holes theory, were defined as organizations positioned between unconnected groups. The authors alluded that organizations with brokerage roles could influence what information was shared and exchanged. However, the challenge with their assumption is that knowledge networks allow members to gather information without having relationships with a specific organization. For example, an organization that is not well connected to other organizations can still access the information in a online repository. The less active organization does not need a relationship with the more active and better-connected organization to access the information. Members of a network are able to access information they needed through connections to the online repository.

One of the challenges with knowledge networks are free riders. Free riders are the organizations that do not contribute to the knowledge network but take from it. Contractor (2009) submitted that social influence could help reduce such problems in a knowledge network. Indeed, knowledge network members need to have a motive for contributing. The literature is unclear as to how organizations can be motivated to contribute. Nonetheless, knowledge networks are particularly beneficial to coalitions or

alliances with geographically dispersed members. Instead of expertise being confined to a geographic location, it can be accessed by through an internet connection. The next section considers interorganizational and international networks.

Interorganizational and international networks. Initially, the communication scholarship on virtual networks primarily concentrated on intra-organizational and interpersonal communication (DeSanctis & Monge, 1998; Su, 2012). More recently, others have studied the virtual networks of interorganizational relationships (Shumate & Dewitt, 2008; Shumate & Pike, 2006; Yang, 2013a, 2013b). Given the online context, hyperlink network analysis has emerged as a common method for studying virtual interorganizational relationships. Shumate and Dewitt found the strongest relationships were between those with close geographic proximity. Yang (2013b) presented similar findings and revealed that when an international NGO had relationships with local NGOs, the international NGO had an increased amount of media coverage. Both of these network studies, based on hyperlink data, established that geographic location influences interorganizational relationships. A limitation of using hyperlink data is the assumption that a hyperlink is a valid indicator of interorganizational relationships.

Another relevant study to this dissertation is Shumate and Pike's (2006) study of the Continental Direct Action Network (CDAN)—an activist coalition that formed after the 1999 World Trade Organization protests in Seattle. Their analysis focused on the communication between chapters of the CDAN to study four organizing processes: *framing external demands*, *managing mobilization and latency*, *framing the collective identity*, and *forming affective bonds*. *Framing external demands* is the process a coalition goes through to determine the opportunities for action and the resources

necessary. *Mobilization* communication directs members to the task necessary to accomplish external goals whereas *latency* communication concentrates on the internal procedures for organizing members. *Collective identity,* an element of importance for this dissertation, is "an interactive and shared definition produced by several individuals (or groups at a more complex level) and concerned with the orientation of action and field of opportunities and constraints in which actions takes place" (Melucci, 1995, p. 44). *Affective bonds* "are emotional ties that may either bring people into a group or that may be formed and reinforced during collective actions" (Shumate & Pike, 2006, p. 807).

Based on their analysis of emails and conference calls, Shumate and Pike (2006) found that the CDAN coalition failed to form a collective identity. The researchers reasoned a collective identity did not form due to the lack of affective bonds. They further theorized that the activists' heavy reliance on email, conference calls, and lack of face-to-face communication inhibited the affective bonds and relationships necessary to frame the external demands and mobilize resources. Shumate and Pike's study demonstrated some of the challenges within networks.

Networks are often idealized for what they can accomplish. They are a means for bringing people or organizations together to accomplish a collective action (Diani, 2003). Yet, networks also present challenges and may be used to accomplish other things than a collective action. Some networks may emerge to share information and initiate conversations, not to carry out a specific action. A knowledge network is an example of such a network. This type of network is also applicable to public relations. Public relations is often focused on outcomes; yet, public relations can also play an

important role by fostering the exchange of ideas and information. Members of a network have varying degrees of resources and commitments to others (Lin, 2009). The diversity of resources and commitment can affect what and how much members are willing to commit to a network. Even in networks where members are not expected to give tangible resources, there are challenges with getting members to engage (Contractor, 2009). The study of networks is still developing and there is much to contribute. The following section outlines the contribution this dissertation seeks to make.

Expanding Network Research Through Public Relations

A growing amount of network research has developed in public relations scholarship. Like the communication literature, researchers have emphasized the structural aspects of networks. The literature in this area has theorized that an organization's network position allows it to exert influence (Sommerfeldt, 2013a). Influence is enacted through communication; yet, researchers have not assessed the contents of communication between organizations. The scholarship on networks can be expanded by integrating rhetorical concepts such as zones of meaning into network analysis. Such integration could provide an understanding of the relationship between shared meaning and a communicator's network position.

The second way to expand network scholarship is to consider the context of a coalition. The current literature on NGO coalitions has studied interorganizational relationships confined to a geographical location. Taylor and Doerfel (2003) studied networks of NGOs in Croatia and Sommerfeldt's (2013) study was conducted in Peru. The literature on virtual networks indicates that geographic dispersion presents

additional challenges and opportunities (Shumate & Dewitt, 2008; Shumate & Pike, 2006; Yang, 2013b). One such opportunity might be the formation of a knowledge network. Activist coalitions with a global reach can expand their network, gather supporting groups and organizations, and accumulate more resources (Smith, 2005, 2008). Such expansion relies on mediated communication in a virtual network, which can challenge the identity of a coalition (Shumate & Pike, 2006). Mediated communication brings together members that each have their own understanding of the coalition's objectives. A coalition brings together many competing zones of meaning. Public relations practitioners are challenged with moderating the competing zones of meaning.

Returning to the conceptualization of networks, one of the most important aspects of networks is the flow (Castells, 2009; Monge & Contractor, 2003). Networks transfer symbols, messages, images, resources, and capital. Capital is an element theorists of social networks have extensively considered. Many forms of capital have been considered: economic, symbolic, cultural, human and social capital. Economic capital consists of monetary wealth and assets. Symbolic capital is the prestige of an individual or organization (Bourdieu, 1984). Cultural capital is the knowledge one gains through socialization (Bourdieu, 1986). Language is an example of cultural capital. Human capital, on the other hand, is the knowledge one gains through education (Coleman, 1988). The final form of capital is social capital, which has been widely considered in many social science disciplines, including communication and public relations. Activists rely greatly on social capital (Ansell, 2003). The following section reviews the extensive literature on social capital.

Social Capital

Social capital has been conceptualized and operationalized in a number of ways (Adler & Kwon, 2002; Portes, 1998). Conceptual definitions of social capital come from the disciplines of sociology (Bourdieu, 1986; Lin 1999, 2001), economics (Coleman, 1988), management (Burt, 1992) and political science (Putnam, 1995, 2000). Communication scholars have integrated these definitions to assert that communication forms, maintains, and expends social capital (Kikuchi & Coleman, 2012). The multiple conceptualizations warrant an in-depth discussion to provide clarity on the definition for this dissertation.

Social Scientific Conceptualizations of Social Capital

Social capital has emerged as an umbrella concept for many different phenomenon related to social relationships (Portes, 1998). Theorists have observed two general conditions necessary for social relations to have value and become social capital (Adler & Kwon, 2002). The first condition is internally focused and emphasizes the benefits of social relations within a dense network. Scholars within this school of thought have proclaimed that social capital emerges from dense networks (Bourdieu, 1986; Coleman, 1988, 1990). The logic is that more connections (density) produce trust and norms. Other scholars have recognized that being in a dense network constrains individuals from receiving new, nonredundant information (Granovetter, 1973, 1974). Information is an important component of social capital and the second school of thought emphasizes that social relations also have value when a person is able to connect unconnected groups in a network (cf. Burt, 1992, 2000; 2001; Lin, 1999, 2001, 2008). This perspective directs attention to an actor's network position. The logic being

certain network positions can provide benefits for bridging (or brokering) new information or resources. Both schools of thought have value and are considered further below.

Social capital contained in networks. The first set of conceptualizations outlined suggests social capital exists within dense networks. Bourdieu (1986) defined social capital as "the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance or recognition" (p. 248). Bourdieu, grounded in a Marxist perspective, described social capital as a means by which individuals could convert social relations into economic capital and overcome the dominant class. An important concept to interpreting Bourdieu's definition is bounded solidarity (Portes, 1998). Bounded solidarity, a term from Marx, suggests individuals in a social class build relations with others based on their common struggle for resources. Bourdieu's logic was that through the common struggle, social relations form a network where social capital could exist, and the social capital could become economic capital to challenge the dominant class.

Coleman (1988), defined social capital as being contained within a network but dismissed Bourdieu's (1986) use of the Marxist tradition for conceiving of "man" as passive. Coleman (1988) used rational choice theory, which understands man as active, to argue social capital could improve human capital. Human capital is "created by changes in persons that bring about skills and capabilities that make them able to act in new ways…human capital facilitate productive activity" (Coleman, 1988, pp. 100–101). Human capital was defined on the basis of social capital, which Coleman (1990) defined as, "not a single entity, but a variety of different entities having two

characteristics in common: They all consist of some aspect of social structure, and they facilitate certain actions of individuals who are within the structure" (p. 302). The pattern of relationships in a network was the primary concern to Coleman's social capital.

Coleman (1990) expanded on his earlier definition and identified three primary elements of social capital: stability, closure, and ideology. Stability occurs when individuals in a network maintain relationships over time. Coleman (1990) argued that mobility of individuals had the potential to destruct network structure. The logic being that as new members are introduced to a network there is more effort spent establishing relationships with others. Individuals must invest time to form relationships. Establishing relationships leads to Coleman's second element for social capital: network closure. Network closure occurs when actors are well connected with others in a network. Density is another term for network closure (Borgatti et al., 2013). The final element, ideology, is a shared belief among members of a network that arises from the stability and connectedness of members. Within the notion of a network ideology, Coleman integrates the concepts of trust, identification, norms, and reciprocity. He wrote that network closure holds individuals accountable to their obligations. Coleman's conceptualization has significantly influenced how public relations researchers study social capital.

Another theorist of social capital is Putnam (1995, 2000), who drew from Coleman (1988) and Bourdieu (1986), to postulate how social capital contributes to democratic pluralism. Putnam posited that the strength of democracy can be assessed by whether people are involved in community associations such as Lions Club, Rotary

Club, or bowling leagues, to name a few. Putnam conceptualized social capital as being the social relations and the benefits that come from social relations within community associations. Putnam asserted that social relations have value (social capital) when individuals engage in their local communities. Putnam (2000) departed from Coleman's (1988) assertion that the benefits of social capital are confined to the specific network by proclaiming that individuals not in a network can benefit from the network's actions. This leads to the second set of theorists who have considered social capital beyond the confines of a dense network.

Expanding social capital. Surveying the literature, Burt (1992) questioned the assumption that social capital arises from dense networks. Burt focused more on structures and the patterns of connections across multiple networks. His perspective built from Granovetter's (1973, 1974) theory of strength of weak ties and Coleman's (1988) measures in network analysis methodology.

First, Burt (1992) drew from Granovetter's (1973, 1974) notion that individuals benefit from "weak ties" who provide new, nonredundant information. A weak tie, for example, is a contact an individual does not have frequent communication with. In a dense network, individuals are connected to others who are already connected. Individuals with overlapping ties, known as "strong ties," often communicate frequently and exchange redundant information (Granovetter, 1973). Family and close friends are examples of strong times. Co-workers within a department are also examples of strong ties because they typically are connected in a dense group and communicate frequently. The detriment of relationships with others who are already connected is the lack of new information that is brought into a network. Granovetter (1973) found that a person's

strong ties provided them with redundant information whereas a person's weak ties presented new information. New information leads to benefits such as information about job opportunities or other resource opportunities.

Second, Burt (1992) agreed with Coleman (1988) in that resources exist within networks. However, Burt argued that individuals who connect different networks have particular benefits by their structural position that allow them to broker the resources between multiple networks. Burt's perspective accentuates the social relations that connect multiple networks instead of looking specifically within one network.

For example, a person can be a member of a professional association network and a political advocacy network. The professional network is not connected to political network. A person can broker information between the two professional networks. This conceptualization has been widely used in research on meso-level relationships (c.f. Diani, 2003b; Doerfel & Taylor, 2004; Saffer, Taylor, & Yang, 2013; Sommerfeldt, 2013a; Sommerfeldt & Kent, 2012; Stohl & Stohl, 2005; Taylor & Doerfel, 2003). Such research is reviewed further in the section below on structural holes.

Drawing from both perspectives. The final conceptualization of social capital considered in this dissertation is Nahapiet and Ghoshal (1998), who took elements of Bourdieu's (1986), Burt's (1992), Coleman's (1988), and Putnam's (1995) conceptualizations. Nahapiet and Ghoshal's interpretation of social capital can be seen as taking the strongest elements from each perspective. Their definition is positioned between the internal and external perspectives discussed previously. They defined social capital as:

> The sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit. Social capital thus comprises both the network and the assets that may be mobilized through that network. (p. 243)

Nahapiet and Ghoshal further explicated the term and proposed three dimensions: structural, cognitive, and relational. First, the structural dimension includes the network ties and configuration. The dimension considers the patterns of relationships. The second dimension, cognitive, encompasses the communication aspects of shared codes, language, and narratives. This dimension captures the notion of zones of meaning. Third, the relational dimension incorporates the elements of trust, norms, obligation and identification. Nahapiet and Ghoshal's conceptualization has served as a framework for communication and public relations scholars' research on social capital (cf. Hazleton & Kennan, 2000; Kennan & Hazleton, 2006).

Communication Conceptualization of Social Capital

Communication researchers have recognized many opportunities to contribute to the scholarship on social capital. Monge and Contractor (2003) explained that social capital "accrues from relationships such as those embedded in communication networks" (p. 143). Echoing this understanding, Kikuchi and Coleman (2012) concluded that the "common feature that links studies on social capital is *relationships with others*: a tie or link among individuals within a community, such as neighbors, acquaintances, and friends" (emphasis in original, p. 190). The mantra of the communication research of this concept is: social capital is created, maintained, or

expended through communication (Kikuchi & Coleman, 2012; Monge & Contractor, 2003).

Kikuchi and Coleman's (2012) review of the literature found communication researchers have "concentrated on social ties as indicators of social capital, attending to the strength, amount, and frequency of ties that are best described as 'social relationships'" (p. 187). Instead of merely counting social ties, the authors called on communication researchers to study the communicative actions that form, maintain, and expend social capital. Public relations can take up Kikuchi and Coleman's call for communication-centered research of social capital by drawing from the literature on relationships. The following section presents public relations scholars how social capital has been conceptualized and operationalized while also considering gaps in the literature.

Public Relations Conceptualizations of Social Capital

Public relations scholars have drawn from both the internally and externally focused conceptualizations of social capital. Scholars focusing on internal public relations have studied the social relations within organizations and have built from Coleman's (1988, 1990) perspective (Hazleton & Kennan, 2000; Kennan & Hazleton, 2006; Pompper, 2012). On the other hand, scholars drawing from interorganizational relationships research have applied the externally focused definition of social capital (Sommerfeldt, 2013a; Sommerfeldt & Kent, 2012; Sommerfeldt & Taylor, 2011; Taylor & Doerfel, 2005). The purpose of this section is threefold. First, it outlines how the above conceptualizations of social capital have been used in public relations scholarship. Second, the section demonstrates how social capital has been studied at the

meso-level in public relations. Finally, the third purpose is to demonstrate the need for in-depth analysis of the communication aspects of social capital.

Hazleton and Kennan (2000) were among the first public relations scholars to consider the concept of social capital. Drawing from Coleman (1988), Kennan and Hazleton (2006) defined social capital for public relations as “the ability that organizations have of creating, maintaining and using relationships to achieve desirable organizational goals” (p. 322). From Nahapiet and Ghoshal (1998), Kennan and Hazleton repurposed three dimensions of social capital in public relations: *structural, relational,* and *communication* dimensions. They wrote that the *structural* dimension is the “element of configuration such as network density, hierarchy, and connectivity are all structural components that affect the ability to create social capital” (p. 324). In essence, the *structural* dimension considers the network measures of the whole-network. (The structural measures are explained in the next chapter.) Kennan and Hazleton proposed that trust and identification are the two important “relational consequences of communication” and were considered in the *relational* dimension (p. 326). Like Coleman (1988), the authors posited that social capital exists when people trust one another and are willing to identify being associated with one another. The final dimension, *communication*, is understood as the “symbolic mechanism through which social capital is acquired and the mechanism through which it is expended” (Kennan & Hazleton, 2006, p. 327). Similarly, Heath (2006) and Taylor (2011) saw rhetoric as the means for the creation and utilization of social capital. Scholars have studied communication related to social capital in terms of information exchanges (Sommerfeldt, 2013; Sommerfeldt & Kent, 2012; Sommerfeldt & Taylor, 2011). This

dissertation considers how symbolic communication like zones of meaning relate to social capital.

Although Kennan and Hazleton (2006) offered a parsimonious framework for understanding social capital, there are two limitations that must be discussed. First, scholars have dismissed their organization-centric emphasis of social capital benefits (Ihlen, 2005). Social capital does not benefit one person or one organization. In fact, Willis (2012) warned that public relations researchers to recognize that an organization cannot enact certain communication strategies to build social capital. Willis reasoned, “social capital is dependent on mutuality, collaboration and community” (p. 120). Second, Kennan and Hazleton’s theorizing lacked an operationalization of social capital.

Ihlen (2005, 2007) drew from Bourdieu to offer an insightful approach for scholarship of social capital in public relations. The approach recognizes that resources are not evenly distributed in a social network. A social network comes from relationships between various actors (individuals, groups, or organizations). One of the functions of public relations is the facilitation of resources between actors (Taylor & Sen Das, 2010). Another benefit of Ihlen’s approach is the discussion that power is embedded in relationships. Organizations and publics carry out objectives through social relations. Ihlen (2005) wrote of social capital as a means for public relations researchers to address issues of power. The final, and most influential, point taken from Bourdieu’s is that relationships exist within fields of multiple relationships (Ihlen, 2007). Social capital is a conceptual device that can move researchers’ focus away from dyadic relations to a more valid focus on the network of relationships (Yang & Taylor,

2012). Bourdieu called on researchers to move away from the narrow view of considering one individual's capital but to also consider the capital of others in an individual's network. The perspective is relevant to activism by directing practitioners and researchers to consider the resources within a network. Activist organizations cannot achieve their goals alone (McCarthy & Zald, 1977); the resources of others should be considered and negotiated.

Noting the previous conceptualizations' lack of operationalization, public relations scholars have turned to Lin (1999, 2001, 2008) to operationalize social capital (Ihlen, 2005, 2007; Sommerfeldt & Taylor, 2011; Sommerfeldt, 2013; Sommerfeldt & Taylor, 2011). Lin (2001) defined social capital as "the resources embedded in social networks accessed and used by actors for actions" (pp. 24–25). Working from this definition and Coleman's (1988) definition, Sommerfeldt and Taylor (2011) defined social capital as the "sum of resources acquired through relationships that help to facilitate the successful actions of an individual or corporate actor" (p. 198). Both definitions are suitable for meso-level research of organizational social capital. Scholars have considered the social capital among NGOs involved in civil society development and this topic is discussed next.

Public relations research of social capital. Public relations scholars have recognized the common understanding that social capital is based on relationships, and have connected relationships to the study of civil society. Civil society is the "system whereby groups and organizations mediate the relationships between citizens and the government" (Taylor & Kent, 2006, p. 355). The focus of meso-level social capital research has concentrated on civil society NGOs (Sommerfeldt, 2013a; Sommerfeldt &

Taylor, 2011; Taylor, 2011; Taylor & Doerfel, 2005). The literature has presented a number of relevant findings.

Taylor and Doerfel (2005) demonstrated that a NGO's network position significantly affects how the organization can contribute to civil society. The researchers operationalized social capital using network measures to assess the number of relationships an organization received and sent to other organizations. Relationships are necessary within a coalition and outside a coalition to entities like media outlets.

Sommerfeldt and Taylor (2011) measured social capital using variable and network measures. For the variable measures of social capital, the researchers assessed trust and support between individuals through one-item measures. The network measures to assess social capital were: degree centrality, closeness, betweenness, eigenvector and density. The variable and network measures are further explained below. The researchers found that social capital needs to exist within an organization in order for the organization to effectively communicate and interact within its environment.

Sommerfeldt (2013a) brought together the concepts of organization–public relationships, social capital and civil society. Sommerfeldt measured social capital using a mix of variable (*information exchange* and *cooperation*) and network measures (*degree centrality* and *structural holes*). His analysis found relationship quality increased social capital among organizations. Based on such a finding, Sommerfeldt asserted that greater social capital among organizations contributes to better communities and societies.

Public relations research on social capital and interorganizational relationships is well positioned to make significant contributions to the communication literature. Public relations can also make its most significant contribution to the literature by exploring the notion of shared meaning in relation to social capital. Therefore, the focus now in this dissertation turns to moving public relations scholarship on social capital forward.

Advancing public relations social capital scholarship. The literature reviewed in this dissertation presents a number of opportunities to advance public relations research, theorizing, and measuring social capital. First is the need to return to the fundamentals of cocreational public relations. Taylor (2009) explained that the cocreational approach directs the field's research "to the rhetorical and symbolic nature of human knowledge" and focuses researchers' attention on the "rhetorical discourse and symbolic action" (p. 7). The cocreational turn has led to an emphasis on relationships, rhetoric discourse, and social capital. To this point in the literature review, the case has been made for social capital as a relevant concept of public relations scholarship. Social capital has been discussed and researched in a number of areas of cocreational research. Scholars of rhetoric have theorized that social capital forms through discourse (Heath, 2006; Taylor, 2011). Researchers, using the relationship management literature, have applied social capital as a means for considering organizations' and publics' multitude of relationships (Ihlen, 2005; Sommerfeldt, 2013a; Sommerfeldt & Taylor, 2011; Yang & Taylor, 2012). Now, it is necessary to discuss the conceptual gaps in the literature this dissertation seeks to fill.

Critiques of the current social capital scholarship. There are four general critiques of the social capital literature relevant to this dissertation. First, there is a need to understand the relationship between shared meaning and social capital. Second, research has not considered geographically dispersed coalitions. The third critique of the literature points to a need to reconsider the measurement of trust between organizations. The fourth critique is the measurement of communication in social network analysis.

Relationships between shared meaning and social capital. Botan and Taylor (2004) emphasized that communication affords the possibility of actors sharing meaning and that publics are cocreators of meaning. Likewise, the literature taking a rhetorical perspective on social capital also discusses the idea of shared meaning (Heath, 2006, 2009; Taylor, 2009, 2011). The logic rests on the assumption that through discourse, relationships, and social capital individuals will share meaning though images, narratives, beliefs, statements, etc. (Taylor, 2011). The discourse allows communicators to align with others who share meaning. Shared meaning is a social influence. People, groups, and organizations act when they share meaning through common images, narratives, and beliefs. Public relations scholarship needs evidence considering the relationship between social capital and shared meaning. Numerous scholars have called for research studying the meaning making process (Heath, 1993, 2000, 2006; Heath & Frandsen, 2008; Sommerfeldt, 2013a, 2013b; Taylor, 2009, 2010, 2011). This dissertation seeks to answer the call.

A need for geographically dispersed coalitions. Another gap is the context of social capital scholarship. Previous researchers have studied interorganizational

relationships in concentrated areas. Geographic dispersed organizations that use mediated communication offer a different context. Interorganizational trust is paramount in virtual networks and geographically dispersed organizations (Mukherjee, Renn, Kedia, & Mukherjee, 2012). Kasper-Fuehrer and Ashkanasy (2001) theorized that interorganizational trust would be affected by the quality of information communication technology used to communicate. Moreover, Mukherjee et al. (2012) posited that as the richness of the media used in interorganizational communication increased so to would the interorganizational trust. As such, it is argued here that interorganizational trust must be integrated into the literature on social capital at the meso-level—a point discussed further in the section considering the measurement of social capital.

Reassessing the measurement of trust. The third critique argues for a need to study a context highly dependent on trust. The current research of social capital has used a combination of network and variable measurement techniques. The variables of social capital measures have included information exchange (Sommerfeldt, 2013a; Taylor & Doerfel, 2003), cooperation (Doerfel & Taylor, 2004; Sommerfeldt, 2013a), support (Sommerfeldt & Taylor, 2011), and trust (Sommerfeldt & Taylor, 2011). A specific critique is the operationalization of trust. Sommerfeldt and Taylor (2011) measured trust with a single-item that asked respondents whether they trusted the information received from other departments. The operationalization measured the trust in the information, not the other individual or department in the relationship. Moreover, Hon and Grunig's (1999) scale for trust, which is grounded in interpersonal trust (Grunig & Huang, 2000), was used by Sommerfeldt (2013a). In fact, a closer analysis of

Sommerfeldt's study indicates that Hon and Grunig's scale was not reliable; thus adding to the need for a more accurate measurement of trust.

Scholars outside of public relations have cautioned researchers to "avoid anthropomorphizing the organization by treating interorganizational trust as equivalent to an individual trusting another individual" (Zaheer & Harris, 2006, p. 170). Although, a correlation exists between interpersonal and interorganizational trust (Zaheer, McEvily, & Perrone, 1998), scholars cannot assume an organizational representative trusting a representative from another organization equates to interorganizational trust. A person can trust another interpersonally but not trust the organization. Zaheer and Harris (2006) reasoned that an organizational representative is separate from the organization's institutional history. Zaheer and Harris (2006) used a network perspective to study interorganizational trust and theorized that interorganizational trust "may be more easily spread when [organizations are] embedded in a dense network of ties" (p. 170). Interorganizational trust needs to be integrated into the public relations literature.

Measuring multiple communication channels. The final critique of the literature is the measurement of communication. Previous researchers defined the network relationships by asking respondents to identify other departments they "interacted with most frequently" (Sommerfeldt & Taylor, 2011, p. 201). The question created a uniplex relational network, which limits analysis to a single type of relationships. Network scholars have asserted that using a multiplex relational network providers a richer data set (Wasserman & Faust, 1994). Taylor and Doerfel (2003) created a media richness index that then formed the multiplex network. Scholars building from their work have

not considered media richness or multiplex relations in the study of social capital (Sommerfeldt, 2013a; Taylor & Doerfel, 2005). The point of media richness is particularly important in interorganizational relationships that depend on mediated communication (Mukherjee et al., 2012). The primary means of interacting is through mediated communication.

In summary of the above literature, scholars have theorized that the rhetorical element of shared meaning is related to social capital (Heath, 2006; Taylor, 2009, 2011). Empirical evidence has yet to surface. With much to contribute to the current literature, there remains a final component to consider: a theoretical framework for studying social capital at the meso-level. Sommerfeldt and Taylor explained, "social capital is enlarged solely by means of position within a network" (p. 205). Organizations that are well-positioned in a network have more influential connections and greater indications of social capital. Their point is based on Burt's (1992) structural holes theory, which is presented in the following section in detail.

Structural Holes Theory

To study social capital in a theoretical framework, scholars have turned to structural holes theory (Burt, 1992, 2001). Kleinnijenhuis (2008) called structural holes theory "a special case of the theory on social capital" (p. 64). Public relations scholars studying meso-level social capital have operated within the framework (Sommerfeldt, 2013a; Sommerfeldt & Kent, 2012; Taylor & Doerfel, 2003; 2005). The assumptions, concepts and application of the theory are considered here.

Structural holes theory is a network-based theory that expands the notion of social capital by considering a broader view of the network and how diverse relations

can benefit an actor and the actor's associated contacts. Burt (1992) argued if social capital is about relationships and the resources and benefits derived from relationships, then it is also necessary to account for the individuals who connect otherwise unconnected groups in a network. Burt focused attention to individuals' network positions and postulated that individuals benefit from connections to multiple sub-networks. Within a network, groups (or sub-networks) form and are separated from each other by "structural holes".

Structural holes are the spaces between separated groups. Some individuals fill structural holes between two groups by forming new relationships. Individuals that connect separated groups have "an opportunity to broker the flow of information between people [and] control the projects that bring together people" (Burt, 2001, p. 35). Burt (1992, 2001) theorized that actors who bridge network holes receive a benefit from their social relations and brokering role because they receive benefits by having access to nonredundant information and resources (Burt, 1992). Individuals who act as gatekeepers or boundary spanners are examples of individuals using their social capital to fill structural holes (Alder & Kwon, 2002).

Public relations practitioners are boundary spanners when connecting and sharing information with different organizations or publics. In an activist coalition, a public relations practitioner builds relationships that span across the coalition and can act as a gatekeeper of information. The public relations manager must determine what information should be shared with different members of a coalition.

The notion of nonredundant information is the basis for Granovetter's (1973, 1974) strength of weak ties theory. As mentioned earlier, Granovetter's theory explains

that individuals receive new information, ideas, and opportunities from weak ties who are separated from one another. The problem, as Granovetter (1973) found, is that strong ties are often connected to one another; therefore, exchanging redundant information and resources. Burt (1992) differentiated structural holes theory from Granovetter's (1973, 1974) strength of weak ties theory by dismissing the assumption that the strength of a relationship determines whether the information will be redundant or nonredundant. Burt argued that an individual could have a strong relationship with another who is not connected to his or her other contacts and be provided with nonredundant information. An individual with nonredundant information has the opportunity to broker or bridge information between two unconnected groups. Burt concluded the person is located at a *structural hole* in the network.

Structural holes theory is suitable for public relations research because it characterizes the network and spotlights individuals who are positioned to enact influence (Sommerfeldt, 2013a). In terms of an activist coalition, bridging relationships among unconnected members of a network is important for building the capacity of the network to achieve its goal (Taylor & Doerfel, 2003). Taylor and Doerfel (2005) claimed that structural holes theory offered "a model of collaboration for participants to better facilitate goals achievement" (p. 123). While Sommerfeldt (2013a) wrote,

> those who bridge structural holes can communicate differences of opinion, help network partners to reason from the interests of others, and establish mechanisms that build trust and reputation among actors. Such behaviors are characteristic of effective public relations in organizations. (p. 7)

Structural holes theory is applicable to public relations research.

Structural holes theory utilizes the notion of *tertius gaudens*. A *tertius gauden* simply refers to the third who benefits. Burt (1992) wrote, "[*tertius gauden*] involves bringing together players who are willing to negotiate, have sufficiently comparable resources to view one another's preferences as valid, but won't negotiate with one another directly to the exclusions of the *tertius*" (p. 33). The concept is applicable to this dissertation on the basis that negotiations require communication and in a coalition, certain actors are called upon to negotiate others' meanings and actions. An organization may benefit (i.e. be the *tertius gauden*) when it is able to broker the information or communication between other organizations in a coalition. The ability to broker, as Burt (1992) theorized, is reliant on the other actors being unconnected; therefore, the bridging actor (or filling the structural hole) can exchange information from one actor and transfer nonredundant information to another actor.

As was discussed earlier, structural holes breaks from Coleman's (1988) premise that network closure creates norms and trust that are beneficial to actors. Burt (2000), in a discussion considering the benefits of structural holes and network closure, noted that researchers must recognize the network "content as a contingency factor [that] asks how the value of social capital varies with the kinds of relations on which it is based" (p. 385). An example for explaining network content is the difference between friendships and business relationships. In a friendship relationship, for example, friends might consider it rude for one friend to "broker" information between friends in order to benefit. A friendship is based on cooperation whereas a business relation involves competition. Burt (2000, 2001) indicated that the value of social capital in competitive relations is brokerage. Burt further recognized that in more cooperative cases, cohesion

(also known as network closure) gives value to social capital in that norms and trust are established.

Burt (1992) stated, “while brokerage across structural holes is the source of added value, closure can be critical to realizing the value buried in the structural holes” (p. 52). The literature using structural holes theory has not often considered the content of the relationships or the value within of network closure within the structural holes. Taylor and Doerfel (2003) framed the context of their network as competitive: “One problem for civil society development and interorganizational relationships, as with all organization and groups, is competition for scarce resource” (p. 156). Moreover, Sommerfeldt (2013a) recognized the tension between brokerage and cohesion in a network:

> Those who bridge structural holes should seek to maintain the balance of social capital in a network by reducing the number of redundant relationships, but also connecting the network members so that resources and communication flows freely. Public relations, as a community building function, should take advantage of an organization’s network position to facilitate network cohesion. (p. 5)

Cohesion within cliques has yet to be considered by researchers and is seemingly relevant to this dissertation.

Cohesion is similar to density and “consists of actors connected through many direct, reciprocated choice relations that enable them to share information, create solidarity, and act collectively” (Knoke & Yang, 2008, p. 72). Within a network, cohesive groups form cliques. Borgatti et al. (2013) defined cliques as “a subset of

actors in which every actor is adjacent to every other actor in the subset and it is impossible to add any more actors to the clique without violating this condition" (p. 183). A clique is measured by the network distance between organizations and those organizations closer together form cliques (Hanneman & Riddle, 2005). Burt (2001) recognized that cohesion "improves communication and coordination within a team" (p. 49). By sharing ties with others, members of a coalition are more likely to discuss the objectives of a coalition, which might ultimately lead to shared meaning or a common zone of meaning.

In summary, scholars have applied structural holes theory at the meso-level. The research has led to the postulation that organizations positioned at structural holes are afforded the ability to enact influence (Sommerfeldt, 2013a). As was noted in the critique of social capital, scholars have not considered how organizations enact influence from a rhetorical perspective. This dissertation seeks to explore how an organization's position in a network affects its ability to enact influence on shared meaning as operationalized through zones of meaning. The next section presents the literature on zones of meaning.

Zones of Meaning

The current literature has theorized the relationships between shared meaning and social capital. This dissertation examines the relationship between the two. The previous discussion has considered the concept of social capital. Here the theory of zones of meaning (Heath, 1992b, 1993) is explained in more detail. To do so, it is necessary to go further into the rhetorical literature to the concept of zones of meaning

(Heath, 1992b, 1993, 2000, 2006; Heath & Abel, 1996; Henderson, 2005; Palenchar & Heath, 2002).

As mentioned earlier, zones of meaning emerged first from the rhetorical literature and then later through Burke's (1966) terministic screens. Heath (1993) submitted that zones of meaning go beyond terministic screens. Terministic screens present a description of an object whereas zones of meaning gather individuals or groups around a terministic screen. The zones of meaning are shared meaning by others (Palenchar & Heath, 2002). Heath and Abel (1996) explained zones of meaning as occurring "when many people across a society or organization share the knowledge and interpretation of events" (p. 164). In an activist coalition, members state their desired outcomes for the coalition, and others align with the desires creating zones of meaning. Many zones of meaning can exist in a coalition. Heath explained that boundaries—the point where actors will align with other actors—are created through the discourse of different zones of meaning. The boundaries of zones of meaning affect how members of a collective interact (Palenchar & Heath, 2002). Coalitions have overlapping zones of meaning with various groups and organizations coming together, stating their desired outcomes, and thus aligning with others who share similar goals.

Heath (2000) argued public relations researchers should be interested in the overlap of zones of meaning. The concept of zones of meaning has not received much attention in the literature. The relevant empirical studies have focused on risk communication (Heath & Abel, 1996; Heath & Palenchar, 2000; Henderson, 2005; Palenchar & Heath, 2002). Palenchar and Heath (2002) studied the different zones of meaning in two communities with high levels of risk from chemical plants. The

researchers were able to measure qualitatively and quantitatively the different zones of meaning between the communities by using symbolic convergence theory's fantasy theme analysis (Bormann, 1985; Bormann, Cragan, & Shields, 2001, Cragan & Shields, 1992, 1995, 1998).

Symbolic convergence theory "explains how humans come to share a common symbolic reality" (Cragan & Shields, 1995, p. 29). The theory assumes that individuals in a collective share "fantasies" about a reality that co-creates meaning, a group consciousness, and sense of community (Broom & Avanzino, 2010). The jargon of the theory is distracting; however, the term fantasies can be thought of as perceptual frames. Discourse allows communicators to build a symbolic reality creating meaning, or fantasies, that influences emotions that ultimately lead to action (Bormann, 1985). With the discourse, communicators present competing interpretations of reality that are shared through fantasy themes (Cragan & Shields, 1998).

A fantasy theme "is a dramatizing message that depicts characters engaged in action in a setting that accounts for and explains human experience" (Bormann, Cragan & Shields, 2001, p. 282). Fantasy themes are the basic unit of analysis in symbolic convergence theory (Cragan & Shields, 1992). Take for example Broom and Avanzino's (2010) study of a community coalition against crime where one of the fantasy themes revolved around a single event. Members of the coalition repeatedly made sense of their efforts by connecting their stories to when the group cleaned up a specific area in the town. Bormann et al. (2001) further explained fantasy themes when they wrote, "groups and other rhetorical communities make sense out of confusing events by creating a consciousness that provides symbolic common ground. Because

fantasy theme messages depict reality symbolically they are always slanted, ordered, and interpretative" (p. 100). When messages, fantasies, or perceptual frames cluster around a central idea, a fantasy theme emerges.

An example of a fantasy theme, relevant to this study, might occur when members of a coalition are discussing the collective's objectives. Representatives from member organizations will comment on previous experiences related to objectives. Either success stories or moments of failure might be shared. Other members might share a similar experience. By sharing a similar experience, or fantasy theme, the communicators are "chaining". Chaining refers to the process where the central idea, the fantasy, is spread throughout a group and can occur in multiple contexts (Broom & Avanzino, 2010; Cragan & Shields, 1998). In essence, chaining describes the process by where communicators build on or share similar stories others have told.

When many fantasy themes can be grouped into fantasy types, they begin to form rhetorical visions. Cragan and Shields described a rhetorical vision as containing "many fantasy themes that depict heroes and villains in dramatic action within a dramatic scene" (Cragan & Shields, 1998, p. 102). Broom and Avanzino (2010) wrote: "A rhetorical vision is a compilation of group fantasies that provides the participants with a broader view of their group and its cultures, motives, and goals" (p. 484). Rhetorical visions include (a) dramatis personae (hero and villain characters in fantasies); (b) plot lines (actions within fantasies); (c) scenes (context where characters carry out their action); (d) sanctioning agents (justification for a characters actions); and (e) master analysis (orientation to social, righteous or pragmatic values). Researchers have argued that rhetorical visions are a way of understanding a group's experiences

and motivations (Bormann, 1985; Broom & Avanzino, 2010; Cragan & Shields, 1998). Rhetorical visions are relevant to zones of meaning because the shared meaning might extend beyond fantasy themes. Palenchar and Heath (2002) explained that rhetorical visions can reify zones of meaning provided that the visions are created by multiple fantasy themes.

Indeed, fantasy themes and rhetorical visions have similarities with McGee's (1980) notion of ideographs. An ideograph is "an abstract term that calls for collective commitment and creates a powerful guide for behavior; it has the power to both unite and separate audiences" (Boyd & Waymer, 2010, p. 484). Both ideographs and fantasy themes are interested in the persuasion of individuals. Ideographs focus on the macro level terms that are persuasive to members of an ideology. Whereas fantasy themes focus on the messages of shared understanding that emerge from within a group.

Fantasy themes are operationalized through qualitative and quantitative measures (Cragan & Shields, 1992, 1995, 1998). Beginning qualitatively, researchers must take multiple steps in developing a fantasy theme questionnaire (also known as zones of meaning questionnaire; Heath & Abel, 1996; Heath & Palenchar, 2000; Henderson, 2005; Palenchar & Heath, 2002). Palenchar and Heath began by content analyzing the documents members of a community had received. The content analysis informed the interview schedule with community members. The interviews and focus groups identified different fantasy themes. The fantasy themes were found to create rhetorical visions. Based on the statements in the documents, interviews, and focus groups, a questionnaire was created where individuals rated their agreement with statements representing the multiple zones of meaning identified.

Heath and Abel (1996) asserted that measuring the zones of meaning should consider a public's "place in the communication network of the community" (p. 169). Indeed, zones of meaning can be applied with the network perspective. As has been stated numerous times, zones of meaning have relevance to network-based theories. Sommerfeldt (2013a) claimed, "those who bridge structural holes can communicate differences of opinion" (p. 7). Differences of opinion can also be seen as differences of zones of meaning. Researchers have not tested whether organizations' network position affects their zones of meaning. Such a question is the focus of the research questions and hypotheses of this dissertation. Before the research questions and hypotheses are presented, the context in which this study will be carried out is explained.

Background on the Sustainable Sanitation Alliance

The Sustainable Sanitation Alliance (SuSanA) is an informal, loosely organized network of organizations working in the area of sustainable sanitation. The alliance was founded in the 2007 and is organized through the German International Cooperation (Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). As of March 2014, there are 225 organizations listed as partners in SuSanA. The partners represent seven different types of organizations: local NGOs, international NGOs, private sector firms, education and research institutions, government and state owned organizations, multilateral organizations, and associations. The partners join SuSanA without fee to gain access to an online forum regarding sustainable sanitation, a database of partners' contact information, and an online library of case studies and research articles. SuSanA is unique in that partners are not required to contribute nor is there a formal structure.

Partners are either active or passive, with 137 of the 225 organizations being active partners.

History of Sustainable Sanitation

The United Nations' (UN) Millennium Development Goals (MDGs) set in 1990 have sought to reduce poverty and promote sustainable development in undeveloped parts of globe. Within MDGs, a specific target was set to halve the number of persons without drinking water and basic sanitation by 2015. A 2006 report by the World Health Organization, which monitors the progress of the MDGs, found a significant lag in the progress towards achieving the sanitation goals, especially in the areas of Asia and Sub-Sahara Africa. The primary focus of the water and sanitation goals has concentrated on water improvement projects, not sanitation.

The UN declared 2008 as the International Year of Sanitation in an effort to draw more attention to sanitation. The declaration was a significant event for the few organizations working in the sanitation sector at that time. A group of 23 organizations in the sanitation sector recognized a need to continue the momentum surrounding the International Year of Sanitation. Their response was to form SuSanA as a space where organizations could share information about sanitation. As the alliance developed, it was necessary for organizations to work and share information with similar organization given the complexity of the topic of sustainable sanitation. Today, there are 11 thematic working groups where organizations share information.

Organizing the Future of Sustainable Sanitation

One of SuSanA's goals is to push sustainable sanitation as a priority for the next set of development goals that will follow the MDGs. SuSanA organizes meetings and

events, connects the 11 thematic working groups, publishes reports and case studies of sustainable sanitation, facilitates a mailing list, and hosts a discussion forum. To coordinate their international efforts, partners within SuSanA rely on mediated communication. Thus, the coalition offers an ideal context to study the conceptual gap identified in the literature review and address the research questions and hypotheses.

Research Questions and Hypotheses

The purpose of this dissertation is to advance public relations scholarship of social capital, structural holes theory and zones of meaning. To do so, this study investigates the relationship between shared meaning and social capital; explores whether organizations' network positions influence their shared meaning with others; and integrates the measurement of zones of meaning as variables with network analysis procedures. This study will advance public relations understanding of rhetoric in social capital, the communication elements of social capital, and measurement of trust in social capital.

The next section presents the research questions and hypotheses that will guide the proposed study. Each research question and hypothesis is given a rationale. The research questions and hypotheses are listed in Table 1.

Fantasy Themes and Rhetorical Visions

In order to study the zones of meaning, it is first necessary to identify the fantasy themes shared among SuSanA partners, if any exist. The first research question is based on previous researchers who have used symbolic convergence theory to identify fantasy themes within groups (Broom & Avanzino, 2010).

RQ1: What, if any, fantasy themes are present within the SuSanA network?

The second research question directs attention to how the fantasies are shared. In order for fantasies themes to exist, a fantasy must chain (Bormann, 1985; Cragan & Shields, 1992, 1995, 1998). The chaining process occurs when the fantasy message occurs throughout a group's communication and can be found in multiple contexts (Broom & Avanzino, 2010). The chaining of fantasy themes may become so prominent, rhetorical visions emerge. A rhetoric vision is a high order concept in symbolic convergence theory (Cragan & Shield, 1998). Palenchar and Heath (2002) indicated that fantasy themes can indicate zones of meaning but rhetorical visions, reified by multiple and similar fantasy themes can identify the shared group's consciousness. As such, the following research question is asked:

RQ2: Do partners in the SuSanA network converge on fantasy themes and form rhetorical visions?

SuSanA's Network Social Capital

Social capital is created, maintained, and expended through communication (Kikuchi & Coleman, 2012). Network and variable measures can assess social capital (Borgatti et al. 2013). Network indicators of social capital include density, centrality measures (degree centrality, closeness, betweenness, eigenvector) and clique analysis (Borgatti et al. 2013, Borgatti et al. 1998; Sommerfeldt & Taylor, 2011).

Density. Some theorists have argued that a network must be dense or have network closure in order for social capital to exist (Coleman, 1988, 1990). Kauffman (1993, 1995) suggested an ideal level of density is .5 for mobilizing members in a network. For structural holes to exist in a network, there must be relatively low overall network density (Burt, 1992, 2001). Taylor and Doerfel (2003) found it necessary to

consider network density when measuring structural holes. If there is greater density, there is less possibility for structural holes. However, it is also necessary to measure the density (also referred to as network closure) between structure holes (Burt, 2000). There needs to be some density to coordinate a coalition.

Centrality. Another network structural feature is centrality. Centrality is a network measure of social capital (Borgatti, Jones, & Everett, 1998). Researchers have revealed that founders of networks are located at central points in a network (Doerfel & Taylor, 2004, Flanagin et al., 2001). Others have found that organizations with high centrality scores are perceived as more important (Taylor & Doerfel, 2003) and have greater ability to enact influence (Sommerfeldt, 2013). A related measure of centrality is network centralization. Whereas centrality looks at individual scores, network centralization is a network-wide measure that assess the variability of the individual centrality scores (Monge & Contractor, 2003). When a few individuals have significantly higher centrality scores, the network is centralized. Such conditions allow for the centralized actors (organizations) to facilitate and organize a coalition's collective action (Atouba & Shumate, 2010).

Clique analysis. To assess the social capital between structural holes, clique analysis can identify subgroups within a network (Hanneman & Riddle, 2005). Cliques are groups of actors that are connected to one another; thus, forming dense relationships. Relevant to this dissertation, cliques might also be the locus for shared meaning, which can be measured with zones of meaning.

To assess the social capital of SuSanA using network measures, the third research question is posed:

RQ3: What is the level of social capital among SuSanA partners as measured through the network concepts (a) density, (b) clique analysis, and (c) centrality?

Social capital can also be measured with the constructs of information exchange (Sommerfeldt, 2013a; Taylor & Doerfel, 2003), cooperation (Doerfel & Taylor, 2004; Sommerfeldt, 2013a), support (Sommerfeldt & Taylor, 2011), and trust (Sommerfeldt & Taylor, 2011). Communication is fundamental to each of the variable constructs used to assess social capital at the meso-level. The richness of a communication channel is particularly important in mediated communication (Mukherjee et al., 2012) and presents an additional element to this study of public relations and social capital. This study seeks to examine social capital in SuSanA, which depends on mediated communication. Therefore, how the richness of communication channels influences social capital is considered.

Willis (2012) directed public relations researchers' attention to Ostrom's (2003) work on social capital that found face-to-face communication increases social capital. Taylor and Doerfel (2003) also found that richer communication channels increased an organization's importance as perceived by others in the network. Sommerfeldt (2013) later revealed organizational importance is strongly correlated with the indicators of social capital. However, Sommerfeldt did not measure communication richness. Based on prior research, it is hypothesized that social capital indicators will increase with the richness of the communication.

H1: Social capital (as measured through network measures) will be positively associated with *richer communication channels* in the members' communication.

Trust. Trust is a concept closely related to social capital (Sommerfeldt, 2013). Trust is particularly important in virtual networks (Mukherjee et al., 2012) because intricate relationship aspects cannot always be communicated through mediated channels. Kasper-Fuehrer and Ashkanasy (2001) theorized that interorganizational trust would be affected by the quality of information communication technology used in the network. Mukherjee et al. (2012) posited that the richness of the media used in interorganizational communication increased with interorganizational trust. Based on previous research the following hypotheses are posed:

H2: *Interorganizational trust* will be positively associated with *richer communication channels*.

The hypotheses in this section are focused on the social capital among the coalition members. Before studying the relationship between social capital and zones of meaning, social capital must be assessed. More specifically, the hypotheses concerned with trust will offer a correction to the current literature that has measured interpersonal trust instead of interorganizational trust. The hypotheses provide a foundation from which structural holes theory and zones of meaning is examined.

Network Position and Zones of Meaning

The patterns of relationships is one way to study social capital. Structural holes theory and network measures such as density, centrality and cliques assess social capital based on the patterns of relationships in a network. This dissertation considers whether different network positions affect an organization's zone of meaning. The following research questions and hypotheses seek to explore the relationship between structural holes and zones of meaning.

Structural holes are measured with four network measures: *effective size*, *efficiency, constraint* and *hierarchy*. *Effective size* is an assessment of how far a reach an organization has within the network. *Efficiency* is a measure of an organization's nonredundant relationships. Organizations are more likely to fill structural holes when the relations with others are nonredundant. *Constraint* and *hierarchy* are similar measures of redundant ties (Hanneman & Riddle, 2005). *Constraint* measures how many of an organization's ties are already connected. *Hierarchy* builds on the measure to determine if the constraint comes from one of an organization's contacts or from multiple contacts.

Cooperation. Doerfel and Taylor (2004) considered that organizations positioned at structural holes would be likely seen as cooperative given the organization's connections to different regions of a network. Specifically, a correlation was found between cooperative scores and the structural holes measures of *effective size* and *efficiency.* Sommerfeldt (2013a) found similar results that suggested organizations at the most central points in a network are the most cooperative. The literature review revealed no other studies that had tested the hypotheses in a virtual network. This research extends the research by posing the following hypothesis:

> **H3:** Organizations characterized as (a) structural holes (as measured by *effective size* and *efficiency*) and (b) are positioned at central points in SuSanA will be perceived as more *cooperative* by their peers.

Communication importance. Another measure that researchers have used to study structural holes is communication importance. The literature establishes that the organizations identified as most important in a network have characteristics of structural

holes (Doerfel & Taylor, 2004; Sommerfeldt, 2013a; Taylor & Doerfel, 2003). Communication importance is a way to identify which organizations have the most perceived influence in a network. Based on prior research, it is hypothesized that SuSanA partners positioned at structural holes will be perceived as important by other partners.

H4: Organizations characterized as structural holes (as measured by *effective size* and *efficiency*) in SuSanA will be positively associated with perceptions of *communication importance*.

Zones of meaning. One of the primary purposes of this dissertation is to explore how organizations network position influences their zone of meaning. Sommerfeldt (2013a) theorized that organizations' network positions would allow them to enact influence. This dissertation seeks to understand whether organizations' network positions influences their zones of zones of meaning. To do so, the following research question is posed:

RQ4: To what extent is an organization's *zone of meaning* associated with perceptions of *communication importance*?

Previous researchers have pondered the relationship between network position and indications of cooperativeness. Doerfel and Taylor (2004) found a positive correlation between an organization filling structure holes and cooperativeness. Building from the previous research question, the following question examines the relationships between cooperativeness and zones of meaning:

RQ5: To what extent is an organization's *zone of meaning* associated with being perceived as *cooperative*?

Moreover, building on a similar point, Burt (2000) explained that cohesion within subgroups in a network was also important for researchers to consider. Membership in a clique or subgroup may allow for a shared zone of meaning among members. As such, the following question is posed:

RQ6: How does membership in a clique affect an organization's *zone of meaning*?

This final set of research questions and hypotheses are posed to advance network based research by examining whether an organization's network position affects its zones of meaning. Furthermore, attention is given to the social capital by considering whether membership in a clique affects an organization's zone of meaning. Such exploration offers the scholarly discussion multiple perspectives about the relationship between social capital and shared meaning between organizations.

Summary of Research Questions and Hypotheses

Social capital, structural holes, and zones of meaning served as the theoretical framework from which the research questions and hypotheses are posed. The following chapter details the phases of the study, the participants, the procedures, the concepts that measured, and statistical procedures used to measure the concepts of interest. The context in which this study was carried is also described.

CHAPTER THREE: METHOD

The previous chapter presented the relevant literature on cocreational public relations research, social networks, social capital, structural holes theory, and zones of meaning. Such discussion informed how this dissertation studied the relationship between social capital and zones of meaning. This chapter outlines the methodologies used to address the research questions and hypotheses (see Table 1).

Scholars of social capital have called for holistic studies employing qualitative and quantitative methods (Ihlen, 2005; Willis, 2012). This study took such approach through three phases by integrating mixed-methods assessments of zones of meaning with network analysis. The purpose was to explore how symbolic convergence theory could identify shared meaning within the Sustainable Sanitation Alliance (SuSanA) and how such shared meaning related to the social capital within the network.

The first phase was a textual analysis of SuSanA's documents, websites, e-newsletters, and online discussion forum posts. This phase identified the information organizations shared and the fantasy themes within SuSanA. The second phase consisted of online interviews to further scrutinize the preliminary structure of the fantasy themes. This part of the research confirmed, refined, or extended the fantasy themes identified from the first phase. In addition, the interviews developed and confirmed the roster of organizations in SuSanA. The third phase developed a questionnaire to quantitatively measure the fantasy themes. The network analysis survey was integrated within this phase and provided an assessment of the relationships and social capital among SuSanA's partners. Figure 1 visualizes the procedures of the study.

Table 1

Research Questions/Hypotheses with Method and Analytical Procedure(s)

Research Question/Hypothesis	Data Collection/Production	Mode of Analysis
RQ1: What, if any, fantasy themes are present within the SuSanA network?	Textual Analysis, Interviews/Focus Groups	Fantasy Theme Analysis
RQ2: Do partners in the SuSanA network converge on fantasy themes and form rhetorical visions?	Textual Analysis, Interviews/Focus Groups	Fantasy Theme Analysis
RQ3: What is the level of social capital among SuSanA partners as measured through the network concepts (a) density, (b) clique analysis, and (c) centrality?	Network Survey, Communication Network	Density, Clique Analysis, Network Centralization
RQ4: To what extent is an organization's *zone of meaning* associated with perceptions of *communication importance*?	Network Survey, Zones of Meaning Questionnaire, Structural Holes Data	Structural Holes, Zones of meaning as Continuous Attribute QAP Correlation
RQ5: To what extent is an organization's *zone of meaning* associated with being perceived as *cooperative*?	Cooperative & Competitive Networks, Network Survey, Zones of Meaning Questionnaire,	QAP Correlations, Zones of meaning as Continuous Attribute QAP Correlation
RQ6: How does membership in a clique affect an organization's *zone of meaning*?	Communication Network, Zones of Meaning Measures	Clique Analysis, Moran/ Geary Homophily Test
H1: Social capital (as measured through variable measures) will be positively associated with *richer communication channels* in the members' communication.	IV: Media Richness Network DV: Cooperation, Info Exchange, Org Important Networks	QAP Correlation
H2: *Interorganizational trust* will be positively associated with *richer communication channels*.	IV: Media Richness Network DV: Trust Network	QAP Correlation
H3: Organizations characterized as structural holes (as measured by *effective size* and *efficiency*) will be perceived as more *cooperative* by their peers.	IV: Structural Holes Data, Centrality Measures DV: Cooperative Network	Structural Holes, Centrality, QAP Correlation
H4: Organizations characterized as structural holes (as measured by *effective size* and *efficiency*) in SuSanA will be positively associated with perceptions of *communication importance*.	IV: Structural Holes Data DV: Communication Importance	Structural Holes, QAP Correlation

Figure 1. Details of Study Procedures

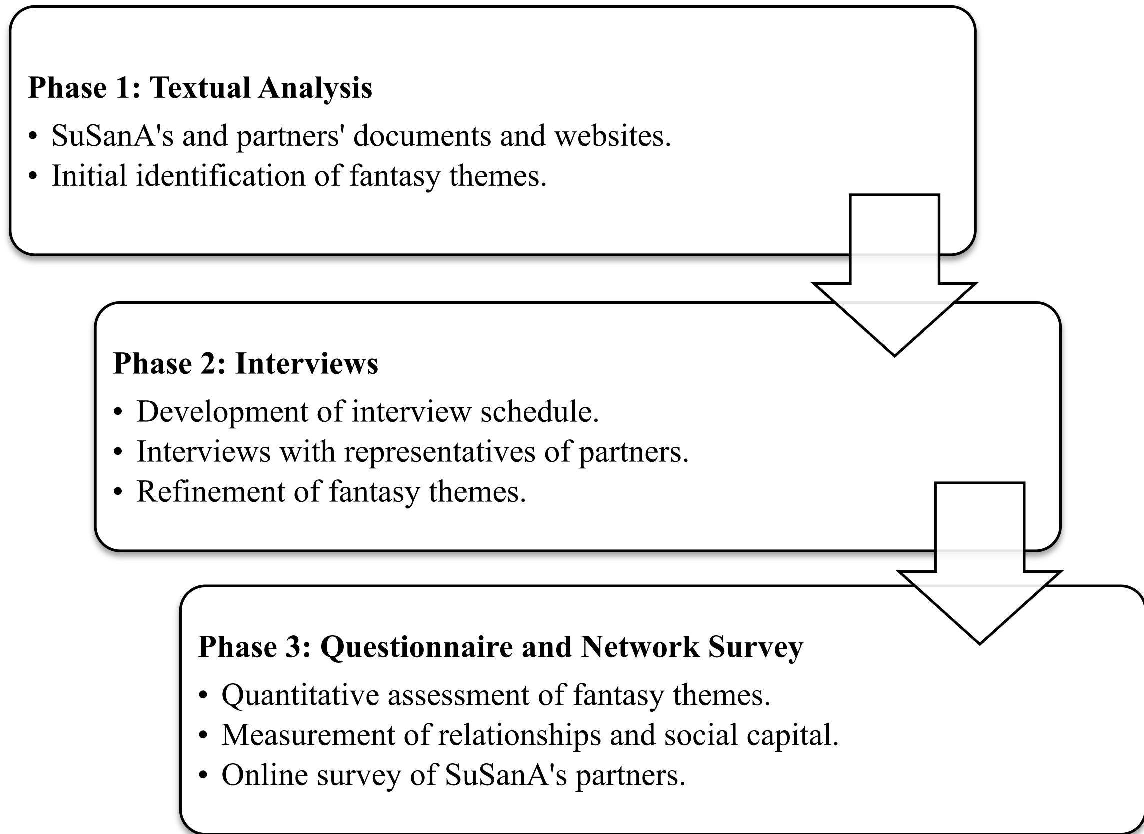

Figure 1. The procedures of the study include three phases that began with qualitative data transitioned to quantitative and network data.

The first section of this chapter explains the context of the study before detailing the sample and procedures of the first phase of the study.

SuSanA: The Context of Study

Advocacy coalitions exist when organizations and groups collectively agree to achieve a shared goal (Diani, 2003b). The basic unit in creating coalitions is interorganizational relationships (Smith, 2008). Coalitions use interorganizational relationships to create a network by which desired goals are communicated (Taylor & Sen Das, 2010). Coalitions are also referred to as alliances, networks, strategic

partnerships, etc. Activist organizations are dynamic and increasingly international (Bennett, 2005) and rely on new communication technologies to communicate with others (Bennett, 2005; Shumate & Pike, 2006; Smith, 2008).

The literature review indicated a need for public relations scholarship to expand the context of studying social capital. Researchers have studied coalitions of NGOs in concentrated geographic areas, not a geographically disperses and mediated communication dependent coalition (Doerfel & Taylor, 2004; Sommerfeldt, 2013a; Sommerfeldt & Kent, 2012; Sommerfeldt & Taylor, 2011; Taylor & Doerfel, 2003, 2005). SuSanA provides a new context.

SuSanA was formed in 2007 by a core group of 20 organizations in sustainable sanitation development. The founding partners established the alliance to correct the lack of progress toward sanitation goals in the Millennium Development Goals (MDGs). The MDGs of sanitation, set in 1990 by the United Nations, sought to halve the 2.6 billion people who lack access to proper sanitation by 2015. The primary goal of SuSanA, as listed on their website, "is to contribute to the achievement of the MDGs by promoting sanitation systems which take into consideration all aspects of sustainability." SuSanA's founding also coincided with the United Nation's decision in 2006 to designate 2008 as the International Year of Sanitation. Such designation focused political and media attention on sanitation needs in developing countries. The founding partners sought to sustain the attention sanitation issues received from the designation.

Today, the alliance is managed by the German Development Cooperation (referred to as GIZ) and funds the SuSanA Secretariat staff. The alliance has two types of partners: active and passive. The active partners are members in the working groups

and/or core group. The working groups are organized into 12 thematic areas that discuss challenges and opportunities for the specific area. Table 2 gives a description of each working group. The working groups provide outputs in the form of factsheets, discussion points, meeting minutes and other publications. The core group is comprised of thematic working groups leaders, representatives from the SuSanA Secretariat, and representatives from a selection of partner organizations. The core group provides strategic direction and advice, plans meetings and events, proposes strategies and makes operational decisions. The active partners help draft factsheets, guideline publications, events, vision documents, and presentations. The passive partners do not engage in either of these groups but receive access to the alliance's online library, discussion forum and e-newsletters. *Figure 2* is a graphic created by SuSanA to explain the structure of the alliance.

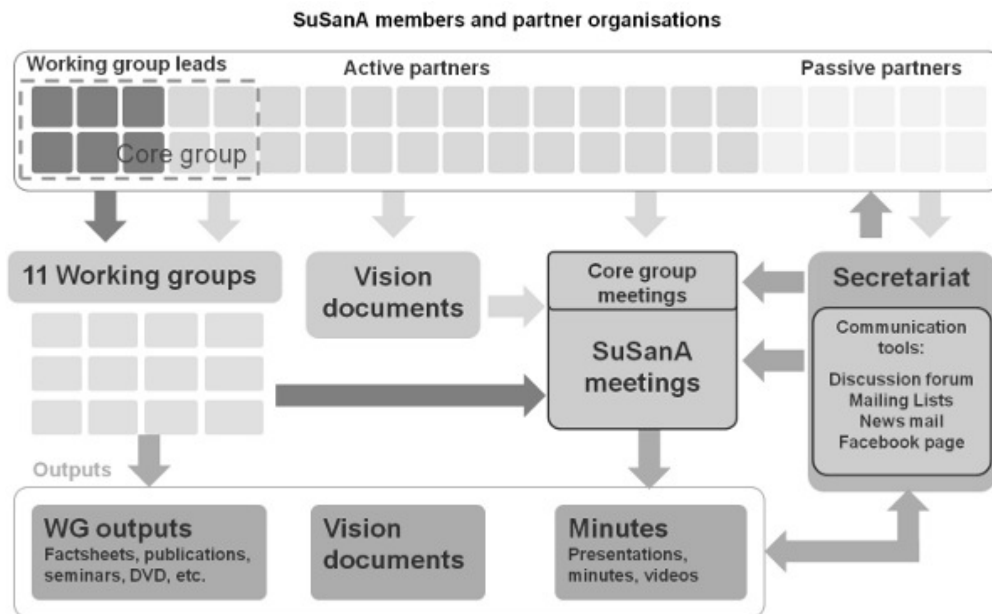

Figure 2. Graphic of SuSanA structure of members and partner organizations.

Table 2

Thematic Working Groups and Brief Descriptions

Name	Brief Description
Core Group	The main functions of the core group are related to planning meetings and events, proposing future strategies and making operational decisions in between the general meeting dates.
WG 01: Capacity Development	Aims to create a global network to strategically accelerate and influence the capacity development process in the sanitation sector.
WG 02: Finance & Economics	Aims to enrich the weak database on finance and economics, which play a key role in the selection and sustainability of sanitation systems, and develop a methodology for cost benefit analysis.
WG 03: Renewable Energies & Climate Change	The objective of this working group is to raise general awareness for the energy potential of the sustainable sanitation approach and its prospective contribution to reduce dependence on imported or fossil energy sources.
WG 04: Sanitation Systems, Technology Options, Hygiene & Health	This working group will develop possible options on how to improve sanitation systems especially in developing countries.
WG 05: Food Security & Productive Sanitation Systems	This working group aims to raise awareness for the reuse-oriented sustainable sanitation approach, its prospective contribution to global food security and to promote this approach on a large scale.
WG 06: Cities & Planning	The aim of this working group is to develop strategies on how cities can adopt an appropriate planning, implementation, and management process that leads towards more sustainable sanitation.
WG 07: Community, Rural & Schools	Raising general awareness for community and rural sanitation by creating discussion for and enhancing networking opportunities.
WG 08: Emergency & Reconstruction Situations	The objective of this working group is to combine the knowledge from experts in the fields of sanitation with the knowledge from experts in the field of emergency response and reconstruction.
WG 09: Sanitation As a Business & Public Awareness	Creating global awareness of sustainable sanitation options, and on how to make them more accessible and affordable in the local and global market especially for the poor.
WG 10: Operation & Maintenance	The main task of this working group is to discuss and disseminate relevant information related to best practice examples of operation and maintenance systems for sustainable sanitation by elaborating factsheets, case studies, posters and other information materials.
WG 11: Groundwater Protection	The aim of this working group is to create awareness and formulate recommendations for the protection of groundwater through sustainable sanitation.
WG 12: WASH & Nutrition	The aim of this working group is to examine the widely neglected and underestimated adverse nutritional impact of lack of safe WASH (WAter, Sanitation, and Hygiene) particularly in emergency situations.

As of February 2014, 217 NGOs (local and international), private firms, research institutions, and government entities working in the sanitation sector of development were listed as partners in SuSanA. However, this is not the total number of organizations that defined the network for this study (see below). Partners are located in Africa, Asia, Europe, North America, and South America. A description of each type of organization in SuSanA is provided in Table 3.

Table 3

Types of SuSanA Partners and Brief Description

Partners Category	**Brief Description**
Local NGO	A local non-governmental organization which is predominantly active in one or two countries only.
International NGO	An international non-governmental organization which is active in three or more countries. For example: Oxfam, Plan, Terre des homemes, WASTE.
Private Sector	An organization that is operated as a business, be it in a traditional commercial structure or in a social enterprise structure, for a profit.
Education/Research	An institution dedicated to education or research. All universities and research institutes fall into this category.
Government/State-owned Organization	An organization that is either a part of the government (local, regional, national) or is owned by the state or government. For example: SIDA, SEI, GIZ, JICA, DTF, KfW.
Multilateral Organization	An affiliated United Nations entity or an international organization which has been established by formal political agreement. For example FAO, UNICEF, WSP, UN-HABITAT.
Network Association	An organization that serves to facilitate collaborating and contact between people or organizations who have a common goal or social cause. For example: NETWAS Uganda, Cap-Net, GWA, IWA.

The communication among SuSanA partners occurs primarily online. In July 2011, SuSanA received funding from the Bill and Melinda Gates Foundation to launch an online discussion forum. The online forum has become a space where individuals

(freelance consultants and representatives of organizations) can post and engage one another. To date, 3,576 unique users have registered and follow the discussion posts. Collectively, the users have posted 7,800 messages on the forum. While this is the primary communication means, some partners meet face-to-face at meetings, events and conferences planned by the SuSanA's Secretariat.

The alliance organizers agreed to provide access to the partners. Access included emailing, interviewing and surveying partners. In return, a report and presentation will be prepared for the SuSanA Secretariat and partners. The participating partners will receive a network visual of their position in the SuSanA network. This is a desirable outcome for their participation because organizations that have participated in similar types of studies have presented the network visuals and findings to donors. The value of such information highlights an organization's number of connections, the organization's centrality in the network, and the quality of connections to other organizations. To begin the study, the textual analysis sensitized the researcher to the alliance and began the identification of fantasy themes and rhetorical visions. The procedures are explained in the next section.

Phase One: Textual Analysis

The initial phase of the study was a textual analysis. The textual analysis familiarized the researcher with SuSanA and its partners, and began the fantasy theme analysis. This section details the sample and procedures for the textual analysis.

Sample

The first step of the textual analysis gathered a set of texts to identify fantasy themes. Several types of documents were applicable to the analysis. Palenchar and Heath (2002) reviewed "local newspapers, local government documents, activist documents,

industry documents, brochures, newsletters, annual reports, environmental reports, industry research, and factsheets" (p. 137). Henderson (2005) analyzed websites and press releases from the various groups. For the current study meeting minutes, annual reports, internal evaluation reports, factsheets, e-newsletters, online discussion forum posts, and SuSanA's and partners' websites were analyzed.

In previous research, the amount of documents analyzed ranged from 200 "corporate documents" (Cragan & Shields, 1992, p. 206) to an unstated amount (Heath & Abel, 1996; Heath & Palenchar, 2000; Henderson, 2005; Palenchar & Heath, 2002). Previous researchers have forgone randomly selecting documents; instead, documents that are "widely and routinely circulated" in the groups are sought (Palenchar & Heath, 2002). Lindlof and Taylor (2011) submitted that researchers should not be concerned with the amount of documents: "Richness of documents derives not only from the *amount* of information, but also the quality" (emphasis in original, p. 235). The critical element for fantasy theme analysis is finding convergence or fantasy chaining (Bormann, 1985; Bormann et al., 2001; Cragan & Shields, 1992, 1995, 1998).

Convergence occurs when a group's interactions through written text or verbal expressions build on persons' prior dramatic messages (Cragan & Shields, 1992, 1995, 1998). This is also known as fantasy chaining. Chaining involves two or more individuals, but not the entire group building on previous messages or fantasies (Bales, 1970), build on others' previous comments by providing their own experiences or expectations (Bormann, 1985). Warner and Neville-Shepard (2011) explained, "chaining is evident when members of the community participate in the creation and affirmation of

a specific rhetorical narrative by sharing variation on the theme from their own personal life" (p. 205). The identification of convergence is of paramount importance.

Researchers have found convergence occurs in all communication mediums. Fantasies converge and chain out in mediums where group members can share their stories (Bormann et al., 2001). For instance, Warner and Neville-Shepard (2011) found fantasy themes emerged on Howard Dean's presidential campaign blog: "Blogs create optimal conditions for rhetorical visions to spread because they provide a location (albeit online) for people to gather, encourage one another, reinforce beliefs, and chain out their political fantasies" (p. 205). While convergence is challenging to identify in text (Warner & Neville-Shepard; 2011), it is more easily revealed in discussions (Bormann et al., 2001; Broom & Avanzino, 2010; Cragan & Shields, 1998). The SuSanA online discussion forum offered a similar medium where members gathered, encouraged and reinforced stories, ideas and beliefs about issues related to the alliance. The researcher also reviewed one year of posts on SuSanA's Facebook and Twitter accounts, as well as blog posts mentioning SuSanA.

The objective at this stage of the research was to identify convergence; therefore, a minimum amount of documents was not stipulated. The sample for the content analysis included four blogs, 13 factsheets, 39 discussion topics with multiple postings per topic, 220 mission statements, 25 quarterly newsletters, 24 organization documents that included annual reports and planning documents, 40 partner websites, and five videos were used for the textual analysis. The procedures are described next.

Procedures

The first step in identifying fantasy themes is being sensitized to the group's context (Broom & Avanzino, 2010). The researcher became sensitized to SuSanA, its mission, stakeholders, and partners in three ways. First, the researcher read 220 mission statements of SuSanA and partner organizations. Cragan and Shields (1998) suggested elements of fantasy themes are evident in mission statements. Second, the researcher reviewed a selection of partner organizations' websites. Finally, the sensitization process also included an analysis of 24 organizational documents from the SuSanA Secretariat. The organizational documents were charter documents, planning materials, and meeting notes from the core group. The textual analysis then began to identify the fantasy themes and rhetorical visions.

Here it is necessary to describe the technical terms associated with fantasy theme analysis. The term fantasy themes originally emerged from Bale's (1970) work on individual psychology and group decision-making. Bormann (1985) extended the concept by using rhetorical theory and explored the fantasies at the individual and group levels. Indeed, such use of rhetorical theory shares similarities with McGee's (1980) concept of ideographs. An ideograph is "an abstract term that calls for collective commitment and creates a powerful guide for behavior; it has the power to both unite and separate audiences" (Boyd & Waymer, 2010, p. 484). Ideographs are concerned with how individuals' worldviews influence their perceptions of events and terms. Fantasy themes are concerned with how sharing stories, narratives and interpretation of events among a group evolve into a shared understanding. Ideographs and fantasy themes are common in that both concepts deal with persuasion of individuals. However, they are distinct in the

level of communication they are concerned with. Ideographs are focus on the macro level terms that are persuaded or influence members of an ideology; whereas fantasy themes focus on the messages that emerge from and influence a group.

A *fantasy* is "the technical term used to describe the shared interpretative events (zones of meaning) that a group of people develop to describe their collective experiences" (Palenchar & Heath, 2002, p. 135). A fantasy becomes a fantasy theme in a communication network through discourse and can take form in phrases, sentences, or paragraphs (Cragan & Shields, 1995). Cragan and Shields (1998) stated, "a fantasy theme embodies a dramatizing message depicting characters engaged in action in a setting that accounts for and explains human experience" (pp. 98–99). The process of identifying fantasy themes and rhetorical visions is somewhat complicated. *Figure 3* visualizes the basic units that form fantasy themes and rhetorical visions. The units are first described then the process used to uncover fantasy themes and rhetorical visions are then presented.

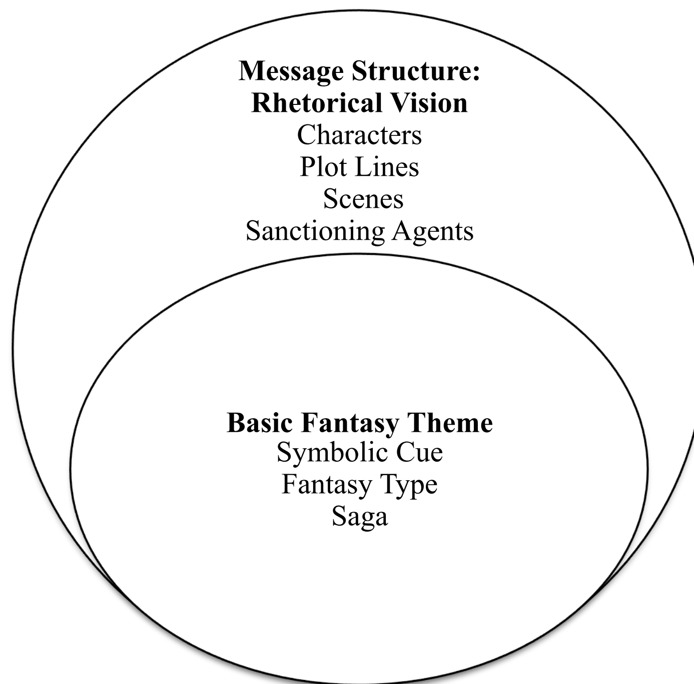

Figure 3. Illustration adapted from Cragan and Shields (1998) depicting the elements

within a basic fantasy theme and the elements within a message structure that identify fantasy themes and create rhetorical visions.

Symbolic cues, fantasy types, and *sagas* create fantasy themes and are units for identifying *fantasy themes* (Cragan & Shields, 1998). *Symbolic cues* are abbreviated forms of a fantasy theme and might include gestures, phrases, or words. Palenchar and Heath (2002) wrote that when individuals discuss *fantasy themes*, they use "symbolic cues as an abbreviated way to discuss a shared experience or concern" (p. 137). *Fantasy types* are repeated fantasy themes in multiple contexts. *Sagas* are "the oft-repeated telling of the achievements and events in the life of a person, group, organization, community, or nation" (Cragan & Shields, 1995, p. 38). Palenchar and Heath (2002) clarified that sagas are the "repeated telling of specific narratives" (p. 135). These elements are significant as they provide evidence of fantasy themes, and possible convergence. Looking at the message structure provides a broader scope for identifying a fantasy theme.

A message structure has four elements: *characters* (or *dramatis personaes*), *plot lines*, *scenes* and *sanctioning agent(s)*. *Characters* are identified as either heroes or villains. For example, in Broom and Avanzino's (2010) study, members of a community coalition saw themselves as heroes and those whom the group saw as impeding on their mission or did not become involved in their activities were the villains. The *plotline* "portrays the action or plot" (Cragan & Shields, 1998, p. 104). Again using Broom and Avanzino's study, community coalition members portrayed their actions as improving the sense of community and physically cleaning up areas of the town. Broom and Avanzino's focus on members' reflective communication about their actions instructed the same focus in this study's fantasy theme analysis. Attention was directed to how SuSanA

partners described their actions within the alliance. *Scene* explains where the actions take place. A *sanctioning agent* “legitimizes the symbolic reality portrayed by a rhetorical vision”, which might include references to a “higher power such as Good, or Justice, or Democracy” (Cragan & Shields, 1992, p. 41). Palenchar and Heath (2002), for example, found that members of the communities in their study challenged chemical companies using the sanctioning agents: personal rights, freedom, and fighting to preserve future generations. The next part of the fantasy analysis looked at message structure elements. The message structural elements provide a link between the fantasy theme and a group’s shared meaning found in a rhetorical vision.

Cragan and Shields (1998) defined a rhetorical vision as “a composite drama that catches up large groups of people in a common symbolic reality” (p. 102). Broom and Avanzino (2010) explained that a rhetorical vision is “a compilation of group fantasies that provides the participants with a broader view of their group and its culture, motive, and goals” (p. 484). When fantasy themes chain out into fantasy types to the point of a shared group consciousness, rhetorical visions emerge (Palenchar & Heath, 2002). Fantasy themes can give an indication of a zone of meaning, but when applicable, rhetorical visions represent a zone of meaning because multiple fantasy themes and types reify rhetorical visions.

The literature presented a number of initial steps for identifying fantasy themes. After becoming sensitized, the researcher read the materials to identify manifest themes in the text (Lindlof & Taylor, 2011). This process followed the procedures used by Warner and Neville-Shepard (2011). Specifically, the materials included 39 discussion forum topics, four blogs, 25 quarterly e-newsletters, 13 factsheets, and one year of

Facebook and Twitter posts. Such documents were selected because of the possibility for convergence. The discussion forum and social media posts have already been described as locations for convergence. The quarterly e-newsletters and factsheets were also included. SuSanA partners in working groups drafted the factsheets over the past two years. Members from each type of organization in the alliance helped create the factsheets that describe specific issues. For example, one factsheet described how to raise public awareness about sustainable sanitation. The factsheet included details, figures, and interpretations of statistics about public awareness and sustainable sanitation. In the creation of the factsheets, members likely converged through telling stories about the information they were including in the document. While the locus of convergence could not be studied with the factsheets, the documents do represent a product of convergence. In some cases, the working groups discussed their factsheets on the discussion forum. In such cases, these posts provided evidence of convergence.

The researcher was positioned to identify reoccurring fantasy themes and messages by reading the texts in chronological order. Then, as suggested by Cragan and Shields (1998), the message structure elements were identified. Here the *characters*, *plot lines*, *scenes* and *sanctioning agents* were listed, as was done by (Broom & Avanzino, 2010; Palenchar & Heath, 2002). Next, the researcher looked for evidence of convergence by locating where partners built from, extended, or embellished previous elements of another partner's story or description of an event. For example, convergence of this type was found in online videos of members' discussion about what SuSanA meant to them. Fantasy themes and elements were identified to create the interview guide.

The next procedure developed an interview guide. Previous researchers noted the validity of fantasy themes and rhetorical visions are strengthened when data is collected, identified and scrutinized in multiple contexts (Broom & Avanzino, 2010; Cragan & Shields, 1998). Thus, triangulation of the qualitative data was achieved through textual analysis and interviews. The reliability of fantasy themes is reported in the final quantitative phase of the study. The next section details the sample and procedures used in the interviews.

Phase Two: Interviews

The initial elements of fantasy themes and rhetorical visions were identified in the textual analysis and refined during interviews with SuSanA partners. The interviews built on the findings from the textual analysis to further identify fantasy themes and rhetorical visions.

Sample

Previous researchers have used purposeful sampling to begin interviewing members of organizations (Broom & Avanzino, 2010; Cragan & Shields, 1992, 1995; Palenchar & Heath, 2002). Lindlof and Taylor (2011) explained that purposeful sampling allows a researcher to "make informed judgments about what to observe or who to interview" (p. 110). Through informed judgments, the social reality of a situation can be constructed. A purposeful sample of organizational representatives was recruited for the interviews that took place via Skype. The purposeful sample was derived from the list of participating and active partners in SuSanA.

In addition to the purposeful sampling, researchers have also used snowball sampling techniques to identify additional sources (Broom & Avanzino, 2010; Palenchar

& Heath, 2002). Lindlof and Taylor (2011) stated, "snowball sampling is well-suited to studying social networks, subcultures, or people who have certain attributes in common" (p. 114). Snowball sampling is also a common method in social network analysis (Borgatti et al., 2013; Knoke & Yang, 2008; Scott, 2000; Wasserman & Faust, 1994). The sampling method helped define network boundaries of the SuSanA network of active partners, which is explained in below.

Procedures

The interviews continued the identification of fantasy themes and rhetorical visions. The geographic dispersion of representatives prevented the possibility of focus groups and thus the convergence among partners during such discussions. Nonetheless, interviews were used to observe the fantasy themes identified in the text further. Broom and Avanzino (2010) wrote, "the observation must be substantiated. Substantiation comes from identifying repetition of fantasy themes or types and in determining the existence of, and later analyzing, a rhetorical vision" (p. 485). For this study, the interviews were a part of efforts to substantiate the fantasy themes identified in the textual analysis. The fantasy themes were drawn out in the interviews by asking questions related to the chaining revealed in the textual analysis. For example, interviewees were asked to describe SuSanA or how their organization was involved in the alliance. When they gave a description or discussed their involvement, probing questions asked them to define their descriptions of SuSanA or their own organization's actions further. This produced a rich set of data.

The interviews were facilitated via Skype. The online context requires a discussion of procedures given the media richness differences between interpersonal and

mediated interviewing. Video conferencing technologies present some challenges and opportunities not available through traditional face-to-face interviews (Deakin & Wakefield, 2014; Glassmeyer & Dibbs, 2012; Hesse-Biber & Griffin, 2013; Kamler, 2013). Hesse-Biber and Griffin (2013) listed several benefits of online interviews: ability to locate hard to reach groups, increased possibility of honest data, inclusion of a range of dispersed individuals, low cost, time efficient, and potentially high participation rates. This study followed previous researchers' recommendations for conducting online interviews.

A common challenge researchers have noted when conducting online interviews is building rapport with interviewees before the interview. Deakin and Wakefield (2014) suggested exchanging a number of emails with interviewees to develop a connection. Another recommendation was to include a short biography on the interviewer and to answer interviewee questions about the interview beforehand (Hesse-Biber & Griffin, 2013). This study followed such approach to build rapport with interviewees. Additionally, a SuSanA representative introduced the researcher to interviewees to help build rapport.

The literature also presented more tactical and technical suggestions for conducting the online interviews. Researchers recommended using a familiar software program for the interviewees (Hesse-Biber & Griffin, 2013; Kamler, 2013). Prior discussions with SuSanA organizers indicated that Skype was the most commonly used among partners. Interviewees had the option to suggest different video conferencing programs, or do to the interviews via telephone. Glassmeyer and Dibbs (2012) suggested that researchers first ensure the interviewer and interviewee have adequate internet

bandwidth, are physically located in an environment with few interruptions, and agree that video will be used during discussions. Such points were addressed in the emails arranging the interviews. Some interviews were limited do to the poor internet connections some local NGO representatives had as they were in the field. Video was not always an option.

Another technical recommendation for the interviewers was to be aware of distractions caused by taking notes during an interview. Glassmeyer and Dibbs (2012) found interviewees became distracted when the interviewer took handwritten notes during the interview. Doing so took the interviewer away from the “eye contact” with the interviewee. They recommended the interviewers have a document file open on the computer next to Skype for taking notes while also maintaining “eye contact” with the interviewee. Additionally, they suggested writing field memos at the end of interviews to reduce the pressure of note taking during the interview. These recommendations were also followed.

Interviews. An interview schedule was developed based on the fantasy themes identified from the previous phase. Appendix A includes the questions used in the interviews. Previous researchers have found the “funnel” approach of asking interviewees broad questions first then more specific questions as an effective way to draw out previously identified themes (Bormann et al., 2001; Cragan & Shields, 1998; Palenchar & Heath, 2002). The process involves the interviewer having low involvement when presenting the interviewee with broad, “grand tour” questions (Lindlof & Taylor, 2011). Grand tour questions asked interviewees about their experiences and involvement with SuSanA. As the grand tour questions continued, the interviewer’s involvement increased

with more specific and probing questions. Furthermore, questions probed the organizational representatives about their perceptions of SuSanA's history, success and failures, reason for their membership in the alliance, and previous and future goals. Such probing questions reflect those used in Broom and Avanzino's (2010) fantasy theme analysis. The responses could support or contradict fantasy themes previously identified in the textual analysis.

Palenchar and Heath (2002) conducted five personal interviews and four focus group discussions with seven to eight participants. Broom and Avanzino (2010) attended four meetings and interviewed seven people in their study. Both teams of researchers recorded the interviews and focus groups or meetings, used field notes and written memos. Their interviews and focus groups lasted between 45 and 60 minutes, which falls within Lindlof and Taylor's (2011) suggested time parameters.

In this study, the researcher conducted 17 interviews with representatives from SuSanA's partners. The average length of an interview was 39 minutes, with the shortest being 27 minutes and the longest being one hour. Interviewees signed informed consent forms. The interviews were transcribed using partial transcription (Broom & Avanzino, 2010; Lindlof & Taylor, 2011). A professional transcriptionist transcribed the interview audio files. A total of 184 pages double-spaced typed transcriptions was produced. Transcriptions of the audio and video recordings were combined with the field notes and memos. The identification of fantasy themes and rhetorical visions addressed RQ1 and RQ2 and are reported in Chapter 4.

Phase Three: Questionnaire and Network Survey

Moving from the qualitative methods to the quantitative portion of the study, the third phase of this study brought together the zones of meaning data and network analysis. There are two parts to this phase of the study. The first is concerned with developing a quantitative assessment of the zones of meaning. The second focuses on the network analysis measures of social capital and structural holes. This second part of the study provides insights into shared meaning and social capital within the coalition. The operationalization for each concept measured is detailed in this section.

Measurement of Zones of Meaning

The survey items in the zones of meaning instrument are based on the previous qualitative phases. Respondents were asked to indicate their disagreement or agreement to statements representing the fantasy themes and rhetorical visions. Palenchar and Heath (2002) used a 32-item survey instrument. For this study, the survey included 12 items measured on seven-point Likert scales ranging from one (strongly disagree) to seven (strongly agree). The response "neither agree nor disagree" was coded as four, "not applicable" as eight, and missing values were coded as 99.

Zones of meaning represent shared meaning in a collective (Bormann, 1985). The fantasy themes are the basic units that represent rhetorical visions (Cragan & Shields, 1992, 1995, 1998). Therefore, the fantasy themes that formed the rhetorical vision were measured quantitatively as survey items. Three rhetorical visions were identified, which are detailed in the next chapter. The survey items were scaled into three zones of meaning variables that represented the three rhetorical visions. The zones of meaning variables were used to address RQ4, RQ5 and RQ6.

Previous researchers have reported the reliability coefficient alphas for the zones of meaning (Heath & Abel, 1996; Heath & Palenchar, 2000; Palenchar & Heath, 2002). The reliability coefficient alphas are presented in Table 4. The reliability of the three items (Q3 was removed) for the SuSanA-as-a-knowledge-network was a Cronbach's α .70. The reliability of the three items for the SuSanA-as-a-market-for-sustainable-sanitation was a Cronbach's α .68. The reliability for the five items for the last rhetorical vision, SuSanA-as-a-catalyst-for-dialogue, had a Cronbach's α .67. The little variability in the reliability between coefficients prompted a principal factor analysis.

A principal components analysis (PCA) was performed on the 12 survey items representing the three zones of meaning. The PCA was selected to determine the number of factors the items were loading on to. Ideally, the items would load onto three factors that correspond with the three zones of meaning.

Factorability reached acceptable levels (Kaiser-Meyer-Olkin Measure of Sampling Adequacy [MSA] = .784 and Bartlett's Test of Sphericity, χ^2 [df = 21] = 1.62.87, $p < .001$]. Univariate MSA measures also reached acceptable levels. The initial analysis, based on the scree plot and 95th percentile parallel analysis, extracted three factors. However, the analysis reported low communalities among the items. Subsequently five survey items (Q1, Q2, Q8, Q9, and Q12) were removed to reach acceptable commonalities levels. The final model indicated two factors. In the first factor, no items loaded less than .69; however, the second factor had two items and one item was loading at .38, which is below acceptable levels. Therefore, the factor analysis indicated the survey items for the zones of meaning did not statistically load onto the desired three factors representing the three zones of meaning. Instead of creating variables for each

rhetorical vision based the statements that represented them, the survey items will be used individually to deterring the agreement on the statements. The analysis is further discussed in the results chapter.

Table 4

Statements Representing Fantasy Themes

SuSanA-as-a-Knowledge-Network (α = .70)	$\bar{X}$	SD	*α if deleted*
Q1: My organization primarily uses SuSanA as a platform to share information we have gathered through our dialogues at the local, community-level.	4.50	1.45	.410
Q2: My organization is a part of SuSanA to exchange knowledge, information, and best practices with other organizations.	5.90	1.12	.460
Q3: Recently, I have not been highly involved in SuSanA but use the platform to access information when my organization needs it. (item removed for reliability)	5.14	1.64	.703
Q4: I use SuSanA as a venue to publish my research on sanitation.	4.34	1.77	.221
SuSanA-as-a-Market-for-Sustainable-Sanitation (α = .68)			
Q5: SuSanA is a way my organization can display the technologies we have developed.	4.66	1.70	.465
Q6: The best way for my organization to upscale our products and services is through our engagement in SuSanA.	3.90	1.65	.533
Q7: My organization uses SuSanA as a resource to learn and see what others are doing in the sanitation sector.	5.68	1.21	.697
SuSanA-as-a-Catalyst-for-Dialogue (α = .67)			
Q8: The primary purpose for my organization to be a partner in SuSanA is to engage in the international dialogue about sanitation issues.	5.77	1.09	.620
Q9: My organization has “boots on the ground” and can share information from the community-level to inform others.	5.59	1.43	.655
Q10: My organization would benefit from regional organizations that could initiate a dialogue between my organization and others working on similar issues.	5.28	1.64	.612
Q11: My organization’s primary purpose for being a partner in SuSanA is to have a seat at the table about sanitation issues.	4.73	1.57	.625
Q12: By being a partner in SuSanA, my organization has helped to bring sanitation on the political agenda.	4.42	1.74	.599

Note: Survey items ranged from strongly disagree (1) to strongly agree (7).

The zones of meaning data were then correlated with network variables (e.g. structural holes, centrality, clique, etc.). The correlation procedures, which are specific to network analysis, are discussed in detail in the fourth chapter. The results of such procedures can help examine how interorganizational relationships are associated with shared meaning.

Measurements of Communication

Turning to the network analysis methodology, it was first necessary to define the relations that formed the SuSanA network. For this study, the interorganizational relationships were defined as the communicative relationships between organizations. Communicative relations can be defined in a number of ways. In this dissertation, communicative relationships were measured in three ways.

The first measure of communication asked respondents to identify the organizations they had interacted with in the past year. This is known as an interaction roster. Second, of those organizations they had interacted with, they were then asked to rate the communication importance of such relationships (described in more detail below). The third measure of communication asked respondents to identify the communication channels used in each relationship. The measurement is known as a media richness index. Each is described further below.

Interaction roster. To begin the network analysis portion of the survey, respondents were asked to identify their organization on a roster of organizations. SuSanA provided the researcher with the roster of member organizations and was cleaned as described above. Respondents were then presented with the roster of organizations and asked to identify organizations they had interacted with in the past year. Multiple

selections were possible with this roster with some organizational relationships ranging from 1 to 60. Such procedures for constructing an interaction network follow the recommendation of Borgatti et al. (2013).

The interaction network filtered the roster and the remaining questions by only displaying those partners that respondents selected on the interaction network. As the survey progressed, only the organizations representatives indicated as having interacted with in the past year were shown in all the following questions. The filtering procedure eases respondent stress by reducing the number of questions asked (Borgatti et al., 2013). Instead of being asked about each relationship with all organizations in SuSanA, respondents were only asked about their relationships with organizations they worked with in the past year.

Communication importance. The second measure of communication, communication importance, answered H5. The concept has been termed communication importance (Taylor & Doerfel, 2003) and organizational importance (Doerfel & Taylor, 2004; Sommerfeldt, 2013a). The measure identified organizations that are most important in a network as perceived by their peers. The measure was used to measure both communication networks and social capital.

The interaction network is limited by identifying relationships without value. That network was created with binary data where a value of 1 indicated a relationship and 0 indicated no relationship. Communication importance was measured to give value to each of the relationships. Respondents were asked, "rate the value of your organization's communication relationship with each organization" in a coalition (Taylor & Doerfel, 2003). The scale ranged from zero (not at all important) to ten (very important) and

reflects previous interorganizational research (Doerfel & Taylor, 2004; Taylor & Doerfel, 2003). The values indicated the strength of each communication relationship, which provided a higher level of richness to the data than was possible with the binary data from the interaction roster.

When considering the communicative relationships, it is necessary to consider how the communication channels may influence interorganizational relationships (Flanagin et al., 2001; Taylor & Doerfel, 2003). Doing so provided another level of richness to the network data. The communication channel is considered in the next subsection on the creation of a media richness index.

Media richness index. Flanagin et al. (2001) studied communicative relationships ranging from fax to face-to-face conversations. Taylor and Doerfel (2003), using media richness theory (Daft & Lengel, 1984, 1986; Daft, Lengel, & Trevino, 1987), created a multiplex communication network with three levels of media. Relevant to this dissertation, Shumate and Pike (2006) reasoned that tensions arose between geographically dispersed activists due to the low media richness. Recently, Willis (2012) argued, based on Ostrom's (2003) research on social capital, that the most effective way public relations practitioners can contribute to building social capital is through media rich communication channels. However, recent studies of social capital in public relations have not measured media richness (cf. Sommerfeldt, 2013a; Sommerfeldt & Taylor, 2011). Organizational representatives within SuSanA communicate virtually; therefore, media richness was measured.

Working from Taylor and Doerfel's (2003) media richness multiplex index, the items for this portion of the survey asked respondents to identify the communication

channels they use when communicating with other organizations in the SuSanA network. To test H1 and H2, the channels of communication given a richness value. The lean media (fax, email, text message, or indirect contacts) were given a value of one. Moderately rich media (phone or Skype/video conferencing, social media, SuSanA discussion forum) had a value of two, and the richest media (face-to-face meetings and SuSanA related events and conferences) had a value of three. The separation between video conferencing and face-to-face communication is based on findings that different communication channels fulfill various communication needs (Denstadli, Julsrud, & Hjorthol, 2012).

Having established the network based on communicative relationships, the next section details how social capital was assessed.

Measurements of Social Capital

Scholars have used a number of network and variable measures to assess social capital (van Deth, 2008). There is no one measure applicable to public relations research (Sommerfeldt & Taylor, 2011). The current state of the literature calls for mixed approaches to studying social capital (Willis, 2012). This study used network and variable measures to assess social capital and are presented.

Public relations researchers have utilized network measurements of social capital to assess concept from a structural perspective (Sommerfeldt, 2013a; Sommerfeldt & Taylor, 2011; Taylor & Doerfel, 2005). Network measures of social capital give a purely structural indication of social capital (Borgatti et al., 2013). Structure measures are based on the relationships without indication of the strength of, or other attributes, about the relationships. Network scholars have used *density*, *degree*, *betweenness*, and *eigenvector*

as network measures of social capital (Borgatti, Jones, & Everett, 1998). Instead of relying solely on structure measures, scholars have also turned to variable measures to assess social capital (Doerfel & Taylor, 2004; Sommerfeldt, 2013a). The variable measures of trust, cooperation, information exchange, and communication importance were measured and are discussed next.

Variable measurement. Researchers have used a number of social capital variables to complement network measures. In public relations research, six variables (*trust, support, relational quality, information exchange, cooperation,* and *communication importance*) have been used as measurements of social capital. However, *relational quality* and *support* were omitted from this study. *Relational quality* was omitted for two reasons. First, the relational quality assessment instrument (Hon & Grunig, 1999) has issues of reliability in network studies (Sommerfeldt, 2013a). *Trust* is the linchpin in relationships (Grunig & Huang, 2000; Yang & Lim, 2009) and should be measured at the interorganizational-level (Zaheer & Harris, 2006; Zaheer, McEvily, & Perrone, 1998), not solely the interpersonal-level. Likewise, *support* is omitted because the concept is measured at the interpersonal level (Kikuchi & Coleman, 2012) and is not used in interorganizational research. For this study, *interorganizational trust, cooperation, information exchange,* and *communication importance* (discussed in the section on communication measurement) were used.

Interorganizational trust. One of the most frequently discussed concepts of social capital is trust (Coleman, 1988, 1990; Kennan & Hazleton, 2006; Lin, 2008; Putnam, 1995, 2000). Scholars outside of public relations have cautioned researchers to "avoid anthropomorphizing the organization by treating interorganizational trust as equivalent to

an individual trusting another individual" (Zaheer & Harris, 2006, p. 170). Zaheer et al. (1998) argued that interpersonal trust—one individual trusting another individual—is quite different from interorganizational trust, which is "collectively-held trust orientation toward a partner firm" (p. 143). They explained that an organization's boundary spanners might interact with a boundary spanner from another organization and develop a trusting relationship with that person. Researchers cannot assume that the interpersonal trust between two individuals applies to the interorganizational trust. Zaheer et al. defined interorganizational trust as "the *expectation* that an actor (1) can be relied on to fulfill obligations…(2) will behave in a predictable manners, and (3) will act and negotiate fairly when the possibility of opportunism is present" (p. 143). The conceptualization and operationalization aligns with Ahn and Ostrom's (2008) appeal for researchers to measure trust as a behavioral act in network studies. Respondents in this study were asked about other partners' trust behaviors.

To answer H1 and H2, interorganizational trust included seven items and was adapted from Zaheer et al. (1998). All survey items are listed in Appendix B. The items were measured on a seven-point Likert scale ranging from one (strongly disagree) to seven (strongly agree). The response "neither agree nor disagree" was coded as four, "not applicable" as eight, and missing values as 99. The internal consistency of the measure for interorganizational trust ($\alpha = .86$, $M = 4.98$, $SD = 0.42$) met acceptable levels of reliability.

Another measure used by researchers to assess social capital is cooperation.

Cooperation. As mentioned in the literature review, networks contain resources. Resources may be tangible (economic capital) or intangible (social capital). Actors within

a network begin to compete with others when resources become difficult to acquire (Monge & Contractor, 2003). Taylor and Doerfel (2003) recognized, in the context of the NGO coalition, the competition for scarce funding resources created a context of competition. Doerfel and Taylor (2004) asserted that cooperation serves as a measure of social capital in terms of network closure. The researchers found that core members, "those organizations with more regular communication contacts" (p. 382), saw one another as cooperative. The same was true in reverse: less frequent contacts were found to be less cooperative. Ahn and Ostrom (2003) reasoned that networks of cooperative behavior were related to the transmission of information. Sommerfeldt (2013a) wrote, "Little cooperation may be a sign of low social capital in that actors are unable to come together to work toward accomplishing shared goals" (p. 3). Argued here is that low cooperation (low social capital) may be as sign of a lack of shared meaning. Shared meaning, as has been detailed throughout this dissertation, grows from the communicative relationships network members have with one another.

Five items from Doerfel and Taylor (2004) were used to measure the cooperation in the SuSanA network. The cooperation measures answered RQ5, H3, and H4. The same scales from the previously discussed measures were used (see Appendix B). The internal consistency of cooperation ($\alpha = .91$, $M = 5.38$, $SD = 1.25$) met acceptable levels of reliability.

Researchers have also used information exchange as an indication of social capital and this measure will be discussed next.

Information exchange. Communicative relationships create, maintain, and expend social capital (Kikuchi & Coleman, 2012; Monge & Contractor, 2003). Coleman

(1988) theorized that others must inform individuals in order to be called to action. Action is the *raison d'etre* for an activist coalition. One of the ways information has been measured is through information exchange. Sommerfeldt (2013a) noted that "high levels of information exchange among civil society actors are thus indicative of social capital" (p. 3). Information exchange is another method for seeing who communicates with whom and to what extent.

Information exchange assessed the quality, aptness, and rate of information exchanged among SuSanA partners. Information exchange was measured with four items and was used to answer H1 (see Appendix B). The items were based on Taylor and Doerfel's (2003) and Sommerfeldt's (2013a) adaption of Haythornthwaite's (1996) scale. Again, a seven-point Likert scale was used. The internal consistency of the measure for information exchange ($\alpha = .90$, $M = 5.27$, $SD = 1.28$) met acceptable levels of reliability.

Having established the variable measures for this study, the next two sections detail the network measures used to study social capital and structural holes.

Network measurement of social capital. Network scholars often use structural measures to assess social capital. Brass and Labianca (1999) listed density (network structure), size, and similarity of connections and attitudes as antecedents of social capital. Borgatti et al. (1998) identified density, degree, betweenness and eigenvector network measures of social capital. Public relations scholars have used these network measures to complement the variable measures of social capital. For this study, the network measures of social capital were used to answer RQ3 and H1.

Each of the above concepts—media richness, trust, cooperation, information exchange and communication importance—create networks. Adjacency matrices are the

basis for studying networks. Adjacency matrices are the tabular display of the relationships in a network that are analyzed mathematically. The rows *i* and columns *j* are the nodes and the entry in *ij* represents the valued connection between two nodes. A non-valued adjacency matrix would have dichotomous values 0, indicating no connection, or one, indicating a connection between two nodes. Valued degree centrality is "simply the average value of each row (or column) of the adjacency matrix (for out degree)" (Borgatti et al., 2013, p. 178). Valued adjacency matrices were made for the four variable measures of social capital (*interorganizational trust, cooperation, information exchange,* and *communication importance*) and used in the analytical procedures. The below subsections consider the network measures in detail.

Density. Density is a network-level measure of *actual* connections in a network proportionate to the number of *possible* connections (Borgatti et al., 2013; Scott, 2000; Wasserman & Faust, 1994). The density score is calculated by taking the total actual connections in a network over the total possible number of connections. The measure assesses the overall structure of a network. Density scores range from zero to one, with zero indicating no connections and one representing that every organization in the network is connected. The work of Kauffman (1993, 1995) found that a moderately dense network score is .5. Moderately dense networks allow for more structural holes (Burt, 1992, 2000, 2001). However, if the network has very low density (such as .10), then there might be several isolates, which suggests members of the network are not connected very well. This is important because a lack of connections in the coalition constrains the likelihood of collective action.

Degree centrality. Degree centrality is a node-level measure of the number of connections an actor receives or sends (Borgatti et al., 2013; Scott, 2000; Wasserman & Faust, 1994). In-degree is the number of connections received from other actors whereas out-degree is the number of connections sent to other actors in a network. In-degree centrality is a way to gauge a node's prestige (Wasserman & Faust, 1994). Node prestige is based on the frequency or value others indicated. In a directed network with binary data, the degree (in- and out-) centrality is simply the frequency of ties received or sent by a node, respectively. Likewise, in a directed network with valued data, the degree (in- and out-) centrality is based on the accumulated values of ties received or sent by a node, respectively. For example, in the cooperative network, the ties are valued from the measurement of cooperation on Likert-type scales. When a respondent from organization A reports organization B as being highly cooperative, say a value of 7, organization B receives an in-degree value of 7. The overall in-degree centrality is based on the accumulated values organizations received from other network members. The data gathered for this study were a directed network with binary and valued data.

In-degree centrality is strengthened when valued ties are employed. Valued ties provide an indication of "the strength, intensity, or frequency of the tie between each pair of actors" (Wasserman & Faust, 1994, p. 45). Borgatti et al. (2013) explained that the valued ties are more useful to researchers because the method provides "degree of cohesion instead of simple presence or absence" (p. 17). Valued ties are recorded when a respondent rates the strength of relationships. For example, when a respondent indicates the level of trust they have with another organization or the importance of their communicative relationships, a valued tie is created.

Betweenness. Also a node-level measure, betweenness "is a measure of how often a given node falls along the shortest path between two other nodes" (Borgatti et al., 2013, p. 142). The measure was developed by Freeman (1977, 1979b, 1996) as a way to mathematically give value to nodes in a network that might act as a gatekeeper. When an organization is along the shortest paths between others they receive high betweenness scores. A high betweenness score is an indication of being able to "filter information and to color or distort it as they pass it along" (2013, p. 175). In short, it is another way of assessing whether a node is a central part of the network. For this study, betweenness is important to measure because it can identify the organizations with relationships that intersect with others in the SuSanA network.

In a valued network, betweenness becomes slightly more complicated. With binary (non-valued) data, betweenness gives higher value to nodes along the shortest paths in a network. With valued data, a researcher must consider "whether a long path of strong ties is better than a short path of weak ties" (Borgatti et al., 2013, p. 179). For this study, the longer paths with stronger ties were calculated instead of the weaker ties with shorter paths. For example, when a respondent indicated a strong level of information exchange with another organization, they had a strong tie. The strong tie was given precedence over a short path.

Eigenvector. Eigenvector takes a node's connections and measures the connections' connection (Monge & Contractor, 2003). The measure recognizes that a node may not have many connections but is connected to a node that is well connected in the network. Unlike the additional complication of valued ties with betweenness centrality, valued eigenvectors scores are calculated simply. A node's valued eigenvector

centrality "is proportional to the sum of centralities of its alters, but weighted by the strength of tie to that alter" (p. 179). No data modification or special considerations were necessary for this measure. Eigenvector scores can help highlight those organizations in SuSanA that have connections to well-connected organizations. This is important because a resource-constrained organization may focus on a specific relationship with an organization that already has several contacts in SuSanA. This would give the organization access to more resources and connections to other network members.

Cliques. Cliques identify, based on the connections between actors, the subcultures that are within a network (Hanneman & Riddle, 2005). Another way to conceptualize a clique is to consider that across a network, groups will form and within these group actors will share more frequent ties with others. Public relations scholars have not used clique analysis as a measure of social capital. However, as was noted by Burt (2001), researchers should consider the social capital as measured by network closure (cohesion) between structural holes. The clique measure can assess the cohesion within a group, instead of the overall network cohesion. Hanneman and Riddle (2005) explained that individuals are influenced by their group membership and drew from Burt (1992) to assert that those who bridge multiple cliques can mobilize and diffuse resources and information. For this study SuSanA, the clique measure diagnosed whether subgroups were forming and answered RQ6, which explored whether different zones of meaning were separated cliques. For example, some partners indicated relationships that were similar to the relationships other partners reported. In essence, partners were connecting to the same or similar organizations, which creates network cliques. The

measures of structural holes are a unique set of network statistics and are discussed in the following section.

Measurement of Structural Holes

To answer H4 and H5, structural holes measures examined the structural relationships among SuSanA network partners. Burt (1992, 2001) developed four primary network-based structural holes measures: *effective size*, *efficiency*, *constraint* and *hierarchy*. Public relations researchers have used these measures (Doerfel & Taylor, 2004; Saffer et al., 2013; Sommerfeldt, 2013; Taylor & Doerfel, 2003, 2005) to identify influential organizations. The SuSanA communication network was analyzed for structural holes. Valued and binary data are applicable to structural holes measurement (Hanneman & Riddle, 2005); however it is recommended that binary data be used (Borgatti et al., 2013). Each structural holes measure is explained below.

Effective size. Effective size measures the links across multiple regions of a network (Borgatti et al., 1998). The measure is calculated as a node's degree minus the average degree of the node's connections (Borgatti et al., 2013). The score can range from the total number of nodes in a network—meaning a node is connected to every other node but those nodes are not connected—to one—meaning a node's connections are all connected to one another. For example, an organization with connections to several unconnected regions in a network will have a higher effective size than an organization with redundant connections to one region of network.

Efficiency. Efficiency indicates that an organization has few redundant ties across a network (Burt, 1992). While effective size gives a measure of total impact, efficiency assesses the impact by each unit (Hanneman & Riddle, 2005). More simply put,

efficiency calculates the portion of nonredundant ties of a node. An organization with greater efficiency will connect several others that are not already connected. In this study, for example, an organization with few redundant connections will have a high efficiency score and may connect multiple zones of meaning.

Constraint. Constraint accounts for the stress placed on a focal organization that is connected to actors who are already connected (Hanneman & Riddle, 2005). Burt's (1992) notion of constraint recognizes that a node is constrained (or stressed) from brokering information between unconnected others if the node's connections (or alters) are already connected. Connected ties are redundant ties. Unlike efficiency, which measures nonredundant ties, constraint measures the redundancy of ties. Scores range from zero—indicating few redundant connections—to one—indicating many redundant, constraining connections. For example, an organization with relationships to organizations that are not already connected, the constraint will be low (near zero). On the other hand, an organization is constrained by having several redundant relationships with organizations that are already connected and will have a constraint score near one. This measure is significant to the study because constrained organizations may not connect with others that share a different zone of meaning.

Hierarchy. Hierarchy considers the concentration of the constraint on a node. The measure seeks to determine if the constraint is from a single organization or from multiple organizations (Hanneman & Riddle, 2005). A high hierarchy score occurs when the constraint is sourced from a single connection. Low hierarchy score occurs when the constraint is from multiple contacts. For example, an organization might be constrained by one relationship with an organization that is well connected in the SuSanA network. In

such case, an organization's redundant ties come from a single source and receives a high hierarchy score. However, if several organizations are the source of the constraint, then hierarchy score will be low. For example, an organization with low hierarchy may not share the same zone of meaning because their constraining ties come from several different partners who are also connected.

With the variables and measures explained, the following section outlines the sampling and procedures for collecting the data.

Sampling

The zones of meaning questionnaire and network survey were fielded together via an online survey. The reliability and validity of a network survey requires special consideration. The sample procedures are discussed in detail.

Network survey. There are two approaches to gathering network data: open-ended questions and closed-ended. Open-ended questions ask participants to recall whom they have interacted with and list the names of persons or organizations. Open-ended responses challenge the reliability of the data collected (Borgatti et al., 2013). For example, a respondent may identify relations with only his or her most recent interactions. Closed-ended questions are possible when the researcher has a complete list of participants on a roster (Wasserman & Faust, 1994). Using the roster method increases respondents' reliability by reducing respondents' recall error (Borgatti et al., 2013). A roster can remind respondents of individuals they communicate with less frequently. The roster method was used in this study. There are two disadvantages of rosters: (a) a researcher must identify the nodes (organizations) before fielding the survey and (b) the

roster list may appear burdensome when several organizations are listed for each question (Borgatti et al., 2013). The disadvantages of the approach were corrected in this study.

This study used a roster of the NGOs in SuSanA provided by the coalition organizers. The initial question of the survey asked respondents to identify organizations they have interacted with in the past year. This first question reduced the list of referents. A filter was coded into the online survey that only displayed the selected organizations in the following questions. Doing so addressed the second limitation of the roster method by reducing the burden of a long list. Instead of answering questions for each organization, respondents were only asked questions for those they have worked with in the past year. Midway through the survey, respondents had the option to add organizations while completing the survey if additional organizations came to mind during the questioning. Seventeen respondents used the option and were returned to the beginning of the survey.

Network validity. Borgatti et al. (2013) cautioned, "a major threat to validity in social network research stems from problems of missing data" (p. 36). Missing data can rise from omission errors, commission errors, attribution errors, and data collection. The process for dealing with each threat to validity is detailed next.

Omission errors. The error of omission was reduced in two ways. First, the researcher employed the snowball method, which can help include hard to reach respondents (Knoke & Yang, 2008). During the interview phase, respondents were queried about the organizations they had worked with in the sanitation sector. No additional organizations were identified. The second reduction for errors of omission was accomplished through the survey. Respondents were given the option write in any partners not listed on the roster. In cases when respondents wrote in a partner, the

researcher checked the write in organization as being a member of SuSanA. Fourteen of the organizations written in were not partners in the alliance and removed from the analysis. Eight other write in organizations were SuSanA partners but listed on the roster. Such responses were moved to the appropriate organization. The two procedures of snowball sampling and allowing for write in organizations on the survey roster reduced errors where organization may have been left out. The next type error that threatens network validity deals with the inverse.

Commission Errors. Commission errors occur when researchers add organizations (or nodes) to a network that do not belong to the network. Snowball sampling can lead to commission errors when erroneous nodes are included. However, no additional organizations were included. The focus of reducing commission errors was on the list of 217 partner organizations. The original list of organizations started in 2007 and has grown as the topic of sanitation has gained more attention and organizations involved in the issue. However, some organizations listed as partners from the 2007 roster no longer exist or are no longer involved in the SuSanA coalition. Thus, it was necessary to clean the list to reduce errors of commission by identifying active partners.

The list of SuSanA partners cleaned based on the criteria for membership in SuSanA: current contact listed in the online database, have a website, include the SuSanA partnership logo on website (if possible), have three full time staff, and be a registered entity for two years. If partners did not meet SuSanA's membership criteria or indicated they were not involved in SuSanA, they were listed as a passive partner (N =80) and not included in the network of active partners. The final roster of organizations survey equaled 74% of the network of active partners (N = 137).

Attribution errors. Attribution errors occur when respondents report incorrect attributes in the relationship with another organization. Asking respondents to only report attributes on organizations they have worked with in SuSanA controlled for attribution errors. Additionally, asking multiple organizational representatives who have worked most often with SuSanA can increase the validity of responses. Multiple representatives from organizations were recruited to complete the survey. In the cases where multiple representatives from one organization work on SuSanA activities, the scores from the survey were averaged into the data to represent the organization's relationships.

The final potential error, data collection, is concerned with the wording of questions. Borgatti et al. warned that asking respondents to recall relationships in a specific time (e.g. yesterday) increases the error of responses whereas asking relational questions in long-term patterns decreases the error. The data collection procedures are discussed further in the next section.

Data collection. The data were gathered using an online survey hosted on Qualtrics, an online survey-hosting site. Network surveys, because they rely on individuals identifying the web of their social relations, require pre-testing the wording of questions (Borgatti et al., 2013). The organizers of SuSanA received a sample of the survey and their input considered when drafting the final survey. The SuSanA Secretariat requested that their partners spend no more than 30 minutes on the survey. After an initial review, SuSanA representative requested the survey be shortened. Some items were removed from the scales to reduce the length of the survey. Items from the cooperation and information exchange scales were similar and somewhat repetitive. In such case, one of the survey items was taken from a scale. The final version of survey is in Appendix B.

The final draft survey was pretested for errors and timing. Partners were given one month to complete the survey.

One hundred and two representatives (*N* = 102) completed the survey. Two respondents were from the same organization and their scores were averaged into one response. One hundred and one of the 137 active partners were surveyed. The response rate was 74%.

Summary of Methodological Approach

In sum, this study analyzed multiple texts and used multiple methods. The textual analysis identified possible fantasy themes. The interviews in the second phase further explored the fantasy themes that represent the zones of meaning. The qualitative data from the first two phases informed the zones of meaning questionnaire which was fielded with the network survey. The multiple methods constructed the SuSanA network for addressing the hypotheses and research questions. The next chapter reports the results of this mixed methods study.

CHAPTER FOUR: RESULTS

The previous chapters presented the case for how this study sought to advance public relations scholarship of social capital, structural holes theory and zones of meaning. The methods chapter detailed the mixed methods and three iterative phases necessary to address the research questions and hypotheses. This chapter reports the results from each phase.

To organize the results, this chapter is divided into two main sections. The first section includes the qualitative results (RQ1 and RQ2) from the textual analysis and interviews (phases one and two) that developed the zones of meaning questionnaire. The second section of the chapter reports the survey and network analysis results that addressed RQ3–6 and H1–4.

Textual Analysis and Interviews: Identifying Fantasy Themes

To understand how the coalition creates shared meaning, the communication among partners was studied to identify fantasy themes. Fantasy themes can represent the shared meaning that exists between communicators (Bormann et al., 2001; Cragan & Shields, 1992, 1995, 1998; Palenchar & Heath, 2002). The identification of fantasy themes required the first (textual analysis) and second (interviews) phases of the study. The textual analysis served two purposes: (a) to familiarize the researcher to SuSanA and its partners and (b) to begin identifying the fantasy themes that construct the shared meaning within the network. The interviews substantiated the identification of fantasy themes (Broom & Avanzino, 2010). The main purpose of the interviews was to refine the themes identified in the textual analysis. Interviewees participated with the agreement that their names would not be referenced. Generic descriptions of their organizations are

used in the quotes below. The interviews served a secondary purpose to identify any additional organizations to include in network analysis. No additional organizations were identified.

RQ1 asked: What, if any, fantasy themes are present within the SuSanA network? And RQ2 directed attention to how the fantasy themes chained among SuSanA's partners to reveal rhetorical visions. The two research questions are symbiotic. To identify fantasy themes (RQ1), fantasy chaining (also referred to as convergence) had to be identified, as address in RQ2. Fantasy theme chaining occurs when messages are repeated in texts or interviews (Bormann et al., 2001). Fantasy themes can emerge across mediums (Warner & Neville-Shepard, 2011). Convergence in the SuSanA network occurred primarily in the online discussion forum. Other fantasy themes were revealed in repeated messages in meeting documents, e-newsletters and interviews. Some fantasy themes emerged during the interviews when participants repeated similar comments about topics. Collectively the textual analysis and interviews informed the zones of meaning questionnaire. As such, the following chronicles the fantasy themes as they evolved into rhetorical visions.

The fantasy theme analysis commenced by open coding texts for manifest themes (Lindlof & Taylor, 2011). The manifest themes were general categories that emerged in the first reading of the documents. Four manifest themes of commonly discussed topics and repeated phrases were found: knowledge sharing, market-oriented benefits, organizing sustainable sanitation, and coordinating dialogue. The interviewees aided in the refinement of these manifest themes. Some participants indicated that SuSanA had organized the dialogue around sustainable sanitation; therefore, the researcher merged the organizing sustainable sanitation manifest theme with the coordinate dialogue manifest

theme before identifying the fantasy theme elements. Reference Figure 3 for description of fantasy theme elements.

During the identification of manifest themes a distinction was made between the themes related to esoteric issues of sustainable sanitation and those related to SuSanA. SuSanA's online discussion forum frequently featured esoteric postings. Esoteric postings included technical discussions of sanitation procedures such as systems for separating waster and urine in a single system. Such topics were deemed irrelevant for this study. Discussion topics related to SuSanA, such as information about feedback from a meeting, requests for comments on organizational documents, or general discussions of SuSanA were considered relevant. The researcher analyzed only the messages and topics related to the SuSanA network.

The findings are organized around fantasy themes elements. The reoccurring messages within the documents, e-newsletters, online discussion forum posts and interviews gave evidence to convergence among SuSanA's partners. Three rhetorical visions were identified through the analysis of the qualitative data: (a) SuSanA-as-a-knowledge-network, (b) SuSanA-as-a-market-for-sustainable-sanitation, and (c) SuSanA-as-a-catalyst-for-dialogue. The fantasy themes and types for each rhetorical vision were constructed based on the fantasy theme elements listed in Table 5. The following subsections detail the emergence of fantasy themes (RQ1) and how the fantasy themes formed fantasy types within three rhetorical visions (RQ2).

Table 5

Moran's I homophily test: Communication importance & survey items

	"SuSanA-as-a-Knowledge-Network"	"SuSanA-as-a-Market-for-Sustainable-Sanitation"	"SuSanA-as-a-Catalyst-for-Dialogue"
Hero Characters	• Bill & Melinda Gates Foundation (funders of the discussion forum) • Contributors to the discussion forum and online library	• Firms giving jobs and helping solve the sanitation crisis • SuSanA, GIZ	• SuSanA, GIZ • Multilateral pushing sustainable sanitation • Donors who legitimize efforts
Villain Characters	• Non-contributing partners	• Those giving handouts to communities • Private firms that force systems on community	• Organizations forcing sanitation systems on local communities • Other development organizations not willing to recognize sanitation
Plot Lines	• Partners are able to contribute to the network by sharing their experience/knowledge from the field. • SuSanA is a resource to extract knowledge and information.	• Partners are able to up-scale products by engaging with those working in the field • Accessing the network to see what others are doing	• Solutions arise from dialogue at the political table and within local communities
Scenes	• Little coordination of knowledge. • The forum provides a space where partners can share best practices.	• There is a need for sanitation systems. • Open markets can bring solutions to the sanitation crisis.	• Water organizations have received most the attention in development but sustainable sanitation is more holistic
Sanctioning Agents	• Current living conditions of 2.6 billion people who do not have access to proper sanitation. • Millennium Development Goals (MDGs)	• MDGs • Market needs • Success stories of communities sustaining their own systems.	• MDGs • Post-2015 Development Goals

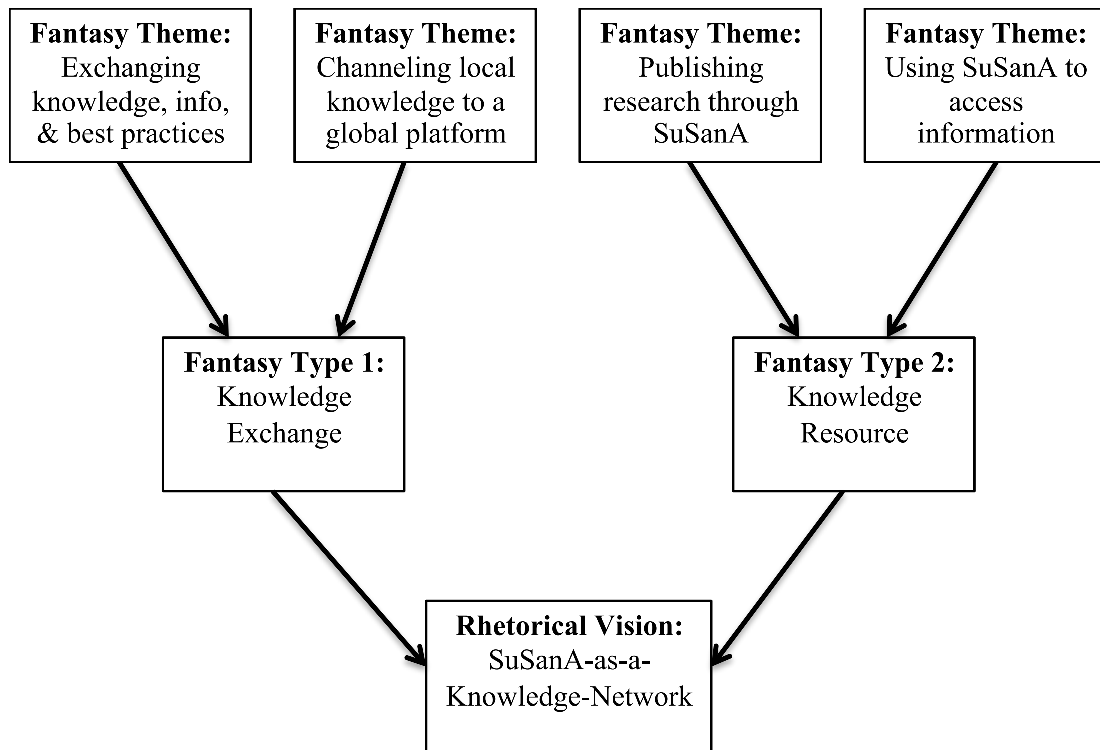

Figure 4: SuSanA-as-a-Knowledge-Network

SuSanA-As-A-Knowledge-Network

In the SuSanA-as-a-knowledge-network rhetorical vision, partners discussed the ways in which they use the knowledge or contribute to the knowledge found in the alliance and on the online platform. The rhetorical vision emerged in the manifest coding as knowledge sharing. Further analysis revealed four fantasy themes that clustered into two types of fantasies. Figure 4 illustrates the rhetorical vision, the fantasy types, and fantasy themes.

The first fantasy type—knowledge exchange—described the Bill and Melinda Gates Foundation (funders of the online discussion forum) and contributors to the discussion forum as heroes. The *plotline* for this fantasy type focused on different partners actively exchanging and sharing knowledge. Partners' stories portrayed a

scene in which the knowledge about sustainable sanitation was unorganized but through discussion on the SuSanA forum the knowledge was becoming more orderly. The second fantasy type—knowledge resource—shared the same heroes and sanctioning agents. However, the fantasy type was characterized by a *plotline* where partners played a more passive role with the knowledge in the network. The fantasy themes within the two fantasy types are explained and contextualized within the rhetorical vision further.

Fantasy type: Knowledge exchange. There were two fantasy themes in the knowledge exchange fantasy type. The themes clarified the role SuSanA partners play in exchanging knowledge.

Fantasy theme: Exchanging knowledge, information and best practices. The fantasy theme initially emerged as a manifest theme within SuSanA's discussion forum, charter documents, e-newsletters, meeting notes and description on its website. Descriptions of and objectives for SuSanA frequently mentioned knowledge sharing. For example, the official description of the alliance is:

> The Sustainable Sanitation Alliance (SuSanA) is an informal network of organizations with a common vision on sustainable sanitation. We provide a platform for knowledge exchange, networking and discussion on all sustainable sanitation topics.

The manifest theme emerged as a fantasy theme as partners converged around the topic in the online discussion. Take for instance the discussion forum post that celebrated the two-year anniversary of the discussion forum's launch:

> Discussion forum, July 9, 2013: I am happy to see how this forum contributes to some of the main roles of SuSanA: providing a discussion and learning platform, sharing knowledge, and coordinate our efforts in understanding and promoting sustainable sanitation and a system approach. It has become

> (together with the web platform of SuSanA and the available collection of resources) a powerful tool in order to raise the profile of sustainable sanitation and to contribute to push the topic high up in the agenda of the sector.

Others in the discussion topic made similar responses. A representative from a partner whose organization recently joined the alliance built on others' statements:

> Discussion forum, July 10, 2013: Our Association is new in the platform but we can see how helpful this platform could be. We hope you will continue to help sharing knowledge, allow interaction between organizations around the world.

The repetition of similar comments provided evidence of partners converging around the theme of knowledge sharing. The fantasy theme was substantiated in the key informant interviews. When asked to describe SuSanA, interviewees responded with comments similar to this interview quote from an international NGO representative:

> It's an alliance of people getting together, sharing knowledge, and forming a database that is accessible by people working within that field. It's a sort of platform for sharing ideas and helping each other out.

The fantasy theme led to the following statement on the zones of meaning questionnaire (see Appendix B or Table 4 for statements identified by Q1–Q12):

> My organization is a part of SuSanA to exchange knowledge, information, and best practices with other organizations. (Q2)

Continuing with the theme of exchanging knowledge, the next theme from the partners' discussions concentrated on the value of local knowledge sharing.

Fantasy theme: Channeling local knowledge to a global platform. The second fantasy theme within the knowledge exchange fantasy type differed slightly from the previous theme. Some partners recognized the local knowledge being shared

through the forum was being channeled up from the local level to the global platform offered by SuSanA. Whereas the previous fantasy theme included the exchange of knowledge from partners, this fantasy theme was distinguished for the value given to those organizations working at the local level. SuSanA within this fantasy theme was considered a *global platform* for *local knowledge*.

The fantasy theme initially emerged in the analysis of a factsheet concerning the different “players” in the sanitation sector. The factsheet was created by one of the 11 thematic working groups that brought together different types of partners that overlap in their sustainable sanitation expertise. The SuSanA Secretariat charged each working group to develop a factsheet. The factsheets contained information about working group’s thematic area. The information within the factsheets was intended to present facts, figures, and discussions on specific issues as well as prompt further discussion for what needs to done. The file compiling each group’s factsheet listed “practitioners, program managers, engineers, students, researchers, lecturers, journalists, local government staff members, policy makers and their advisers, or entrepreneurs” as the intended readers.

For the textual analysis, it was presumed that convergence took place during the drafting of the factsheets and that the factsheet could serve as an outcome of convergence. The working group agreed that one of the key ways for partners to find solutions was through collaboration that used local knowledge. They wrote:

> The process of identifying these solutions needs to be a collaborative effort between experts in marketing, design and engineering, which can be effectively supported by national and local governmental agencies as well as NGOs with in-depth local knowledge.

Again, a similar type of message appeared in the notes from an April 2013 core group meeting. The core group (see description in Table 2 located in Chapter 3) is a collection of organizational representatives who act as the steering committee for the alliance. The group discussed how SuSanA can take the information they received from local NGOs and bring that to a higher level. SuSanA listed channeling knowledge as a goal in their five-year planning document:

> [A] strength of SuSanA is the creation of case studies based on the one-the-ground experience linked to big and influential organizations on a higher level. The goal can be to continue to produce case studies and collaborate with the members working on the group and then channel these case studies to decision makers.

Seeing this reoccurring message, one of the probing questions in the interviews sought to explore the theme further. Answers revealed that many partners valued the knowledge local NGOs shared through SuSanA. The founder of a local NGO in central Africa portrayed the SuSanA online discussion forum as a "megaphone" through which organizations like his own could channel local knowledge:

> The brokers of grassroots organization that are dealing with the local populations on a daily basis, gathering research from that level, which is participatory, and includes some of the local knowledge that is still available. Then they will become a more effective organization…through social communication.

The fantasy theme led to the following statement on the zones of meaning questionnaire:

> My organization primarily uses SuSanA as a platform to share information we have gathered through our dialogues at the local, community-level. (Q1)

The fantasy themes indicate that SuSanA partners value exchanging knowledge. They characterized the contributors, especially those with local knowledge, as heroes who are attempting to find solutions to the sanitation crisis by organizing the knowledge. Within the rhetorical vision of SuSanA-as-a-knowledge-network is the second fantasy type that differed in partners' descriptions of SuSanA-as-a-knowledge-network.

Fantasy type: Knowledge resource. Two fantasy themes formed the knowledge resource fantasy type. Within this fantasy type, the *scene* of SuSanA was changed as partners described their use of the knowledge network in a passive manner. Partners' passive use of the knowledge network was marked by statements indicating they were not interested in posting information to the forum or engaging in discussions with others. Statements such as, "we log onto the discussion forum to see what someone has posted about the topic," is an example of using the knowledge network in a passive manner.

The fantasy themes within this fantasy type came to fruition during the arrangement of the 17 interviews. Thirty-one partners were invited to participate in an interview; yet, a number of invitees stated they had not recently been involved in SuSanA but used the online platform, database and library as a resource when necessary. Partners that converged on the fantasy themes within this fantasy type rarely mentioned interactions, or the possibility thereof, with others working in sustainable sanitation. The change in the *plotline* (partner's description of their behaviors as passive) and the lack of some partner's active knowledge exchange

(using the platform as a resource) prompted further inquiry that revealed two fantasy themes.

Fantasy theme: Using SuSanA to access information. The first fantasy theme within this fantasy type deals with SuSanA partners' lack of involvement in the network. Some partners regarded their affiliation with SuSanA as a means to access the knowledge resources and rarely commented on the value of interacting and exchanging knowledge as some partners did in the previous fantasy type. When asked to describe SuSanA, a representative from a local NGO in Mexico succinctly stated, "We have mostly been just reading what they put out." The representative depicted SuSanA as a knowledge resource where partners could find information. A representative from a large, U.S.-based international NGO further clarified this theme when he explained how his organization is involved with SuSanA:

> I follow all the information quite regularly, but I haven't been posting or actively engaged as much as a lot of people… I'll usually search the SuSanA forums and see what I can find.

Partners often made similar comments when referring to the SuSanA platform as a knowledge resource. The fantasy theme was assessed using the following statement on the zones of meaning questionnaire:

> Recently, I have not been highly involved in SuSanA but use the platform to access information when my organization needs it. (Q3)

Fantasy theme: Publishing research through SuSanA. Another similar theme emerged when several interviewees mentioned that some people are a part of SuSanA in order to publish their research. One interviewee from an international NGO and a founder of SuSanA suggested the education and research partners viewed

their membership in the alliance as way to publish research articles. Another partner and representative of a local NGO in Southeast Asia stated that there is a wealth of information being published about sanitation but the researchers have not been highly involved in applying their research. The interviewee said, “If we were able to align that knowledge (the published reports) and to turn that knowledge into real products so that they don’t just make new technology—that would be a success.” The interviewee lamented that the researchers are not active in exchanging knowledge but instead seek to publish their findings. There is a shared belief among some partners that SuSanA is a venue for publishing reports. The fantasy theme led to the following statement on the zones of meaning questionnaire:

I use SuSanA as a venue to publish my research on sanitation. (Q4)

In summary, the SuSanA-as-a-knowledge-network rhetorical vision focused on the knowledge component of SuSanA. Fantasy themes in this vision cast partners as either posting knowledge to the online repositories or passively drawing from information online. The fantasies that comprise the vision converge around the belief that SuSanA is formed to be a knowledge network. The next rhetorical vision was compromised of messages focusing on the benefits of market-based solutions for the sanitation crisis.

SuSanA-as-a-Market-for-Sustainable-Sanitation

The market-oriented theme initially emerged in the researcher’s sensitization to the alliance when reading the partners’ mission statements. The theme was defined by messages discussing solutions to the sanitation crisis using business practices. A number of organizations stated in their mission statements that their purpose was to

improve sanitation systems through market-based solutions. Indeed, this is a broad theme that may seem outside the scope of themes related to SuSanA; however, the theme emerged within SuSanA's documents describing the alliance as a way to open markets for sustainable sanitation. The theme emerged again in the analysis of the discussion forum and factsheets.

For example, the "Sanitation as a Business and Public Awareness working group" is comprised of partners working in the area of sustainable sanitation as a business. Private firms within this working group can share with local NGOs their technologies that the local NGO might use. Postings in the online discussion forum captured a portion of partners' discussion and convergence in drafting the factsheet. The discussion forum post regarding the factsheet had significantly higher than normal replies (N= 19) and views of the discussion topic (N= 2,399). The group's factsheet described SuSanA as a means to open markets through partner collaboration:

> The challenge is to find and identify effective scalable, and sustainable sanitation solutions with economic attractiveness and allocate investments and funds to be able to implement the projects. This process needs to be guided by experts and marketers and designers and can effectively be supported by the central and local governmental agencies and NGOs.

A representative from one organization that creates and helps design sustainable toilets said this about the issue in a video posted on the SuSanA's website:

> We make a problem of 2.6 billion people into a great business opportunity. No amount of donation can solve this problem sustainably. Sustainable sanitation includes sustainable delivery. The profit motive will continue to make the people buy and sell at low cost with the right sustainable technologies. Eventually we will meet [the] Millennial Development Goals.

The above statement led the researcher to further inquire about partners seeking market-based solutions and revealed the second rhetorical vision: SuSanA-as-a-market-for-sustainable-sanitation rhetorical vision. Within this rhetorical vision, partners communicated about the ways in which sanitation issues could be addressed through market-based solutions. The private firms, international NGOs, and local NGOs using business practices to implement sustainable sanitation systems were characterized as the heroes within this rhetorical vision. Those organizations, typically governments and some NGOs, that donated toilets, systems, or sanitation programs (called "handouts" by some partners) were described as villains. Partners shared the belief that when a community was given products such as community toilets or a sewage system, this sanitation practice was less likely to be sustained. Partners agreed that when a local community invested in a project, with the help of local businesses and micro financing provided by NGOs, the project would be sustainable. The MDGs, market need, and success stories where market-based solutions brought about change to a community sanctioned the partners' actions.

Fantasy themes within this rhetorical vision formed two fantasy types: (a) promoting products and services and (b) researching the market. Two fantasy themes constructed the first fantasy type. The second fantasy type was formed by a single fantasy theme. The fantasy types and themes for the rhetorical vision are illustrated in Figure 5 and clarified further below.

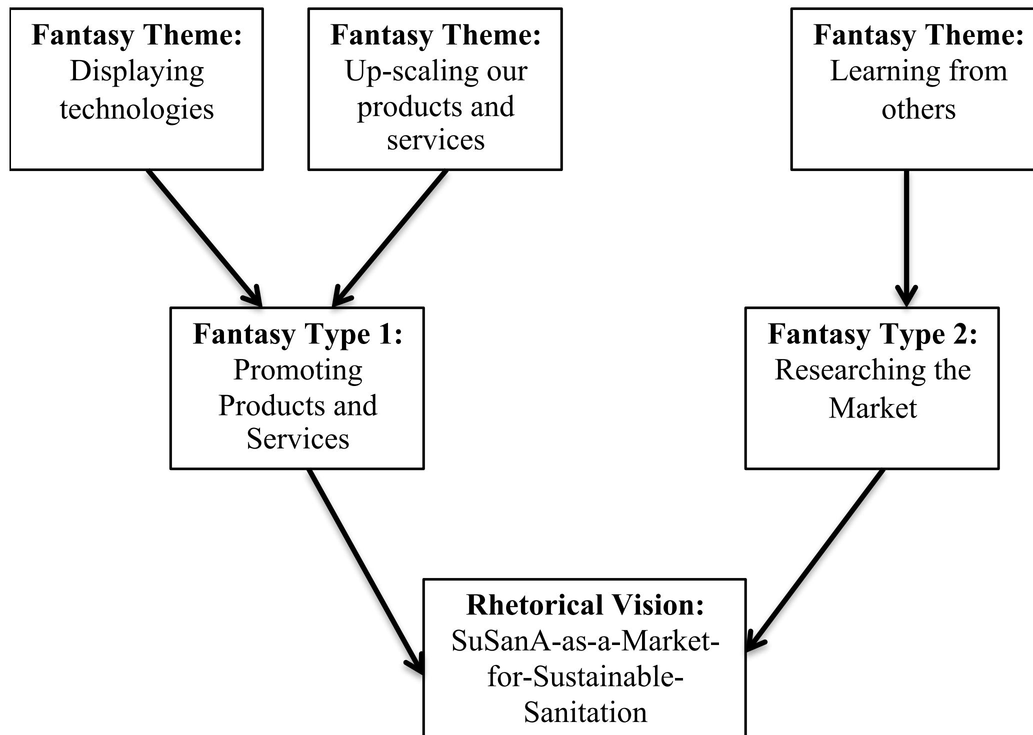

Figure 5: SuSanA-as-a-Market-for-Sustainable-Sanitation

Fantasy type: Promoting products and services. Two fantasy themes formed the promoting products and services fantasy type. Both fantasy themes coalesced around the notion of SuSanA as a space where organizations (private sector firms, research organizations, and NGOs) disseminate their technologies, products, or services.

Fantasy theme: Displaying technologies. The first fantasy theme emerged from a review of videos posted on SuSanA's website and YouTube channel. In a video on SuSanA's website, a representative from a SuSanA education/research institution said that SuSanA allowed his organizations to "display technologies they had created." A similar comment emerged during a key informant interview with a SuSanA representative who indicated that one of the benefits private firms received when joining the alliance is the possibility to display their technologies. The theme

was further substantiated in an interview with a representative from an organization that implements sustainable technologies. The representative explained that SuSanA, along with Reinvent the Toilet Challenge sponsored by the Bill and Melinda Gates Foundation, had brought together organizations that needed a space to display their technologies. The fantasy theme was represented on the zones of meaning questionnaire with this statement:

> SuSanA is a way my organization can display the technologies we have developed. (Q5)

A similar theme emerged around the notion of SuSanA being a space for technologies to be promoted.

Fantasy theme: Up-scaling our products and services. The second fantasy theme originated in the textual analysis of meeting notes. In a February 2009 core group meeting, the notes stated there was a discussion for "how SuSanA can best contribute to accelerated up-scaling of sustainable sanitation projects on the ground." Up-scaling, as partners used the term, meant directing resources to projects in local areas so that the activity could expand to other areas. Notes from a planning session in 2013, SuSanA listed the "identification and communication on up-scaling examples for sustainable sanitation solutions (e.g. on financing instruments and mechanisms, bankable projects)" as one of six goals for the next four years. When queried about the goal, a representative from an Asia-based NGO that serves as a broker between private firms and local communities said this in an interview with the researcher:

> I think it [SuSanA] would be a place where a lot of projects are produced, using a collaborative platform where the products actually go to the market.

> So, those people, like me, who like to bring it to market, will watch the product being produced and then I will come and say, 'let me sell it and distribute it for you.'

Similarly, in an interview with an international NGO that provides micro financing and implements sanitation technologies, the representative explained that they are positioned to up-scale sustainable products and services:

> We're demonstrating sustainability and we're demonstrating scale, which are really great. The challenge there is that both of things do take up-front investment to get going, so you're building market and it's expensive to do that for the first year or two and you don't see a lot, and then when you hit tipping point, it kind of starts to take off.

Partners converged around the idea of SuSanA aiding in the up-scaling of products and services from local communities to global markets through the interactions among partners. The following represented the fantasy on the questionnaire:

> The best way for my organization to upscale our products and services is through our engagement in SuSanA. (Q6)

Fantasy type: Researching the market. The second fantasy type, with a single fantasy theme, was comprised of messages about partners using SuSanA to research the market for sustainable sanitation. Messages constituting this fantasy type were distinct from the previous type in that partners described their actions within the alliance as passive. Indeed, the partner's passive description of their behavior shares similarities with previously presented fantasy types and is clarified next.

Fantasy theme: Learning from others. Similar to the knowledge resource fantasy type in the SuSanA-as-a-knowledge-network rhetorical vision, partners within this theme repeatedly mentioned that their use of SuSanA was to see what others were doing. Instead of focusing on best practices or general knowledge, as was found in the

themes in the knowledge resource fantasy type, the messages within this fantasy theme were concerned with seeing what technologies, products or services were developing. Anchored by actions that address a market need, partners here spoke of SuSanA as a way to avoid duplicating technologies. For instance, comments from a representative of an international NGO focused on using SuSanA as a way for organizations to avoid duplicating technologies that have not worked.

> We just tried to identify market failures that are – that are – affecting rural populations…If somebody has a new idea, a new technology, or they're entering a new country, then they can get information from people that have already worked there and that have already tried X, Y and Z, so that you're not reinventing the wheel.

These partners used SuSanA to make sure their organizations did not make the same mistakes as others. Partners indicated that their organizations were better positioned to engage in sustainable sanitation as business by researching the market for failed technologies or technologies already in production. The following statement represented this fantasy theme on the zones of meaning questionnaire:

> My organization uses SuSanA as a resource to learn and see what others are doing in the sanitation sector. (Q7)

Together the fantasy themes and fantasy types in this rhetorical vision represent the overarching shared meaning of SuSanA-as-a-market-for-sustainable-sanitation. The next and final rhetorical vision from the SuSanA network emphasized the concept of dialogue.

SuSanA-as-a-Catalyst-for-Dialogue

In the SuSanA-as-a-catalyst-for-dialogue rhetorical vision, fantasy themes emerged from SuSanA partners evoking stories about the SuSanA's

accomplishments. A frequently mentioned accomplishment was SuSanA bringing a range of organizations together to address sustainable sanitation issues. Before SuSanA's founding, partners described the *scene* as being chaotic and ineffective. There were multiple entities around the globe working on the topic of sustainable sanitation but no coordination. SuSanA was spoken of as the entity that brought order to the chaos. In the rhetorical vision, the *dramatis personaes* are heroes such as GIZ (parent organization of the SuSanA Secretariat), multilateral organizations that have recognized the need for sustainable sanitation in developing areas and donors who are legitimizing the efforts. Those organizations that have not become affiliated with the network, that question the legitimacy of sustainable sanitation, or act without engaging others were characterized as villains in the partners' communication. Two fantasy types—political dialogue and giving voice to local dialogue— and three fantasy themes clustered around the concept of dialogue. The structure of the rhetorical vision is illustrated in Figure 6.

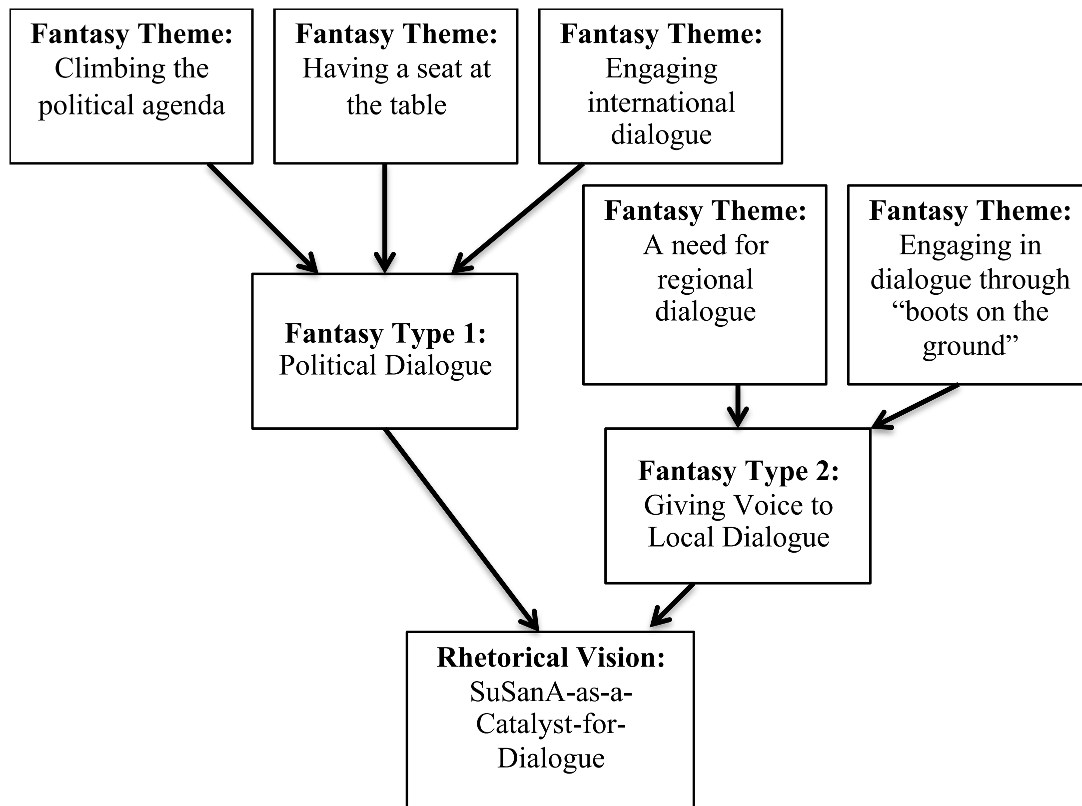

Figure 6: SuSanA-as-a-Catalyst-for-Dialogue

Fantasy type: Political dialogue. This fantasy type focused on partners' accomplishment of engaging in political dialogue. As mentioned in the introduction of the rhetorical vision, partners often spoke of SuSanA's accomplishment of bringing together a network of key players, which gave legitimacy to sustainable sanitation. In one of the videos on the SuSanA website, a founding partner said this about SuSanA's accomplishments:

> We started in a time when there was not much discussion of sustainable sanitation. With the creation of the alliance we have managed to show the importance and now sustainability is discussed [on major political stages].

From the discussions of sustainable sanitation, the topic has begun to climb the political agenda, which is the first fantasy theme within this fantasy type.

Fantasy theme: Climbing the political agenda. The fantasy theme was first recognized on SuSanA's webpage that outlines the need for the alliance. The website wrote this about the political landscape of sustainable sanitation:

> Sanitation rarely receives the required attention and priority by politicians and civil societies alike despite its key importance on many other sectors and for achieving most of the MDGs. The political will has been largely lacking when it comes to placing sanitation high on the international development agenda.

The theme continued throughout the analysis of documents, working group factsheets, websites and videos. Specifically, similar language was found on more recent documents that outline the alliance's vision. An interview with a SuSanA representative further clarified the theme when it was explained that SuSanA was formed because the founders wanted to continue the momentum around the United Nation's declaration of 2008 as the International Year of Sanitation. The International Year of Sanitation was declared following an evaluation of the MDGs that found progress on the sanitation goals was far behind those of other development sectors. The reoccurrence of this theme demonstrated that partners converged around the idea of SuSanA as a way for sustainable sanitation to climb the political agenda. The theme formed the following statement that appeared on the zones of meaning questionnaire:

> By being a partner in SuSanA, my organization has helped to bring sanitation on the political agenda. (Q12)

Along with climbing the political agenda, some partners discussed how SuSanA gave them a seat the political table, which the next fantasy theme in this fantasy type.

Fantasy theme: Having a seat at the table. This theme represents partners who did not see their efforts as helping push the political agenda but rather gave them and others a seat at the table. A "seat at the table" was an analogy for how partners termed their influence on the political issues related to sustainable sanitation. Primarily this fantasy theme came from organizations with less political influence and saw their affiliation with SuSanA as a way of having a seat at the table. One representative working in Southeast Asia succinctly said,

> It's one of those things where if you're not at the table, you're on the table, so you need to be part of that.

The theme was represented on the zones of meaning questionnaire with the following statement:

> My organization's primary purpose for being a partner in SuSanA is to have a seat at the table about sanitation issues. (Q11)

Fantasy theme: International dialogue. The international dialogue theme was an extension of the sustainable sanitation climbing the political agenda fantasy theme. By climbing the political agenda, sustainable sanitation now has become a topic for international dialogue. International dialogue included policy discussions led by multilateral organizations, government agencies, and international NGOs regarding sustainable sanitation issues. The analysis of a SuSanA document entitled, Status Quo Report Summary, which outlined its accomplishments, noted that one of the key milestones of the alliance was improving the dialogue around assessing the MDGs regarding sanitation. In fact, the document went on to list dialogue as one of five key roles of SuSanA. Such dialogue focused on closing the progress gap between sanitation goals and the other MDGs. Similar messages appeared in the working

group factsheets. The factsheets outlined the need for continued international dialogue in preparation for the Sustainable Development Goals and the Post 2015 Development Goals, which are continuations of the MDGs that conclude in 2015. The fantasy theme was represented on the zones of meaning questionnaire with the following statement based on the messages of partners discussing international dialogue:

> The primary purpose for my organization to be a partner in SuSanA is to engage in the international dialogue about sanitation issues. (Q8)

The final fantasy type continued with messages of dialogue but focused on dialogue at the regional and local level.

Fantasy Type: Giving voice to local dialogue. The fantasy themes within this fantasy type were comprised of messages about dialogue but this dialogue was focused at the regional and local levels. The *scene* differed from the previous fantasy type as partners focused their stories toward dialogue at the local level. Partners within the following two fantasy themes directed their discussions toward SuSanA allowing both regional and local dialogue to occur.

Fantasy Theme: A need for regional dialogue. In a preliminary interview with the SuSanA Secretariat, discussions emerged about the network needing to regionalize. The concern of the Secretariat is that the global reach of SuSanA is overshadowing some geographic areas. Geographically regionalizing the network is seen as a way to bring underrepresented areas into the larger network. Discussions of regionalizing the network indicate a need for geographically based "hubs" that could coordinate dialogue among local NGOs, governments, firms and municipalities. The

concern had risen at annual meetings where partners suggested regional hubs could organize partners geographically. In 2008, following its founding, SuSanA listed developing regional vision's as one of its goals. A number of the working groups also mentioned the need for regional coordination in their factsheets. However, a survey of SuSanA partners in 2013 found that one of the weaknesses of the network was the lack of regional hubs. Respondents in the survey suggested that SuSanA begin creating regional hubs in Southeast Asia and Sub-Saharan Africa.

When questioned about the need for regional hubs, interviewees indicated that the need for such hubs was seen as a way to bring organizations with local and regional influence to the global table. Within this fantasy theme, partners shared the concern that not all the necessary organizations were being involved in political and policy dialogue about sanitation issues in their countries or regionals. SuSanA, for these partners, was seen as a way to connect and bring those organizations to the table.

An interview with a representative from a U.S.-based NGO with connections in Latin America and Africa indicated that one of their primary roles is to engage in regional policy dialogue. The interviewee specified that SuSanA was viewed as a means to organize regional partners in the dialogue about sustainable sanitation issues. Likewise, a representative from a European NGO with connections to Kenya, explained that through SuSanA organizations that needed to engage could be identified. The shared understanding that there is a need to have regional dialogue and SuSanA serves as a means to enact such regional dialogue led to the following statement on the zones of meaning questionnaire:

> My organization would benefit from regional organizations that could initiate a dialogue between my organization and other work on similar issues. (Q10)

The next fantasy theme continued with messages about a need for dialogue but gave emphasis to dialogue "on the ground."

Fantasy Theme: Engaging in dialogue through "boots on the ground." In a number of key informant interviews, SuSanA members discussed the value of having, or being connected to, "boots on the ground" that were engaging in local dialogue. Phrases such as "boots on the ground" or "grassroots efforts" accompanied the descriptions of local dialogue.

The stories of local dialogue demonstrated how partners valued bringing local entities to the table to address sanitation issues. Indeed, the fantasy theme appears to overlap with the knowledge exchange fantasy theme of partners channeling local knowledge to a global platform. However, the partners' stories and descriptions that comprise this fantasy theme did not focus on knowledge sharing, information, or best practices. The focus of this fantasy theme was the local NGOs leading the dialogue about sanitation issues in communities. Furthermore, the interviewees did not indicate how the stories of local dialogue changed their practices.

An interview with a European-based national government agency explained that the local NGOs they worked with provided them with stories of dialogue with community members, tribal leaders, and local governments. The SuSanA network, within such stories, was portrayed as the conduit for dialogue to move beyond the confines of the small communities. Yet, the outcome of these stories of dialogue was never made clear. Often it appeared the stories of local dialogue became reference

points for justifying support for local NGOs. Partners rarely detailed actionable items that could derive from the regional hubs.

The theme was reiterated during an interview with a local NGO working in central Africa. When asked about the organization's strengths, the representative explained that they were able to engage local entities through their "grassroots efforts" in a way that initiated dialogue between municipalities, tribal leaders, other NGOs, and private firms. Again, what came from such dialogue was not articulated. Nonetheless, the partners' (both international NGOs, government agencies, and local NGOs) discussions congregated around the value of local NGOs engaging in dialogue through their "boots on the ground" or "grassroots efforts." As such, the following statement represented this fantasy theme on the zones of meaning questionnaire:

> My organization has "boots on the ground" and can share information from the community-level to inform others. (Q9)

To summarize the final rhetorical vision, partners coalesced around the concept of dialogue at the international level as well as regional and local level. A set of three fantasy themes was focused on the political dialogue surrounding sustainable sanitation. The remaining two fantasy themes represented partners' discussions of the need for regional dialogue and value of dialogue from the "boots on the ground." The five fantasy themes represent partners' shared understanding of SuSanA-as-a-catalyst-for-dialogue at the international, regional, and local levels.

Summary of Qualitative Results

RQ1 and RQ2 prompted the qualitative inquiry by asking what fantasy themes emerged and how SuSanA partners converged around the identified fantasy themes.

The above results presented 12 fantasy themes that formed three rhetorical visions. The rhetorical visions represent the researcher's observations of the zones of meaning within the network. The observations were supported by the partners' convergences around the fantasy themes, which occurred in the discussion forum, meeting minutes, factsheets, reports and interviewees with 17 partners. The fantasy themes identified in the qualitative phases then informed the development of the zones of meaning questionnaire. Here, the study shifted focus to studying the SuSanA network. The next section presents the results of the analyses that integrated the quantitative zones of meaning data with the network analysis data.

Questionnaire and Network Analysis: Analyzing Shared Meaning

The following sections present the results of the zones of meaning and network analysis survey. The results of RQ3–RQ6 and H1–H4 are reported here.

A total of 101 partners completed the survey. The respondents came from organizations based in 35 countries. Some of the countries with greatest representation on the survey were: Germany (13), United Statues (8), India (7), Bangladesh (6), Netherlands (5), United Kingdom (4), Kenya (3) South America (3), and Mexico (3). There are seven types of SuSanA partners. Of the partners that completed the survey 24.75% (n = 25) were local NGOs, 24.75% (n = 25) were international NGOs, 10.7% (n = 21) were private firms, 14.8% (n = 15) were private firms, 7.9% (n = 8) were government entities, 3.9% (n = 4) were associations, and 2.9% (n = 3) were multilateral organizations. A complete list of SuSanA partners, their abbreviated names and types of organizations is available in Appendix C.

Before presenting the results, an explanation of the data preparations and transformations is detailed next.

Preparing Data for Analysis

The data required preparation for analysis in UCINET 6 (Borgatti, Everett, & Freeman, 2002). First, the survey responses were reviewed for missing data. Instances of missing data were assumed as an indication of no relationship between partners. Second, two types of networks were constructed for each of the six network: directed (asymmetrical) and undirected (symmetrical). The directed networks were used when the analysis (e.g. in-degree and out-degree centrality) required the direction be identified. The second type of network "symmetrized" the relationships by assuming reciprocity when a relationship was identified by one partner (Knoke & Yang, 2008). Third, the scores for the media richness, trust, cooperative/competitive, and information exchange networks were averaged for each relationship in the respective networks. In the cases of nonresponse, the average of the completed answer(s) was calculated without the missing value(s). The averaged data were placed into network matrices for analysis.

Structure of the SuSanA Network

RQ3 sought to identify the social capital among SuSanA's partners through network measures. To address the question, a purely structural approach was used by studying the network of relationships formed from the interaction network. Specifically, the measures of density, clique analysis, and centrality are reported here.

Density. Density reveals how well connected network members are. Density of the undirected interaction network was low at .049. Meaning 4.9% of the possible

relationships in the network exist. Density scores range from zero to one, with zero indicating no connections and one representing every organization in the network is connected. Kauffman (1993, 1995), whose research focused on network's ability to mobilize members, found that a moderately dense network score is .5 meaning that half of all possible relationships are present in a network. The average number of connections in the network was 5.785 meaning that on average organizations had nearly 6 different relationships. The SuSanA network lacks connections and suggests some organizations are isolates. Figure 7 illustrates the lack of density in the network. Note that many organizations are positioned on the network periphery. Their network position is based on receiving and/or sending fewer connections with other network members. Overall, there is low indication of social capital as measured by density.

Figure 7. SuSanA's communication interaction network

Note: Reference Appendix C for a list of partners' names, abbreviations used the figures, and their organization type

Clique Analysis. Cliques analysis reveals the subgroups that are forming within the network's structure by looking at the repetitiveness of connections. The clique analysis diagnosed whether subgroups were forming in the SuSanA network. clique analysis was performed using the directed network. Prior to the analysis, a clique was defined as partners having the same connections to a minimum of three other partners. Such a parameter is standard for clique analysis in UCINET 6. (Hanneman & Riddle, 2005). Twenty-three cliques emerged with four cliques consisting of four partners each and three partners in the remaining 19 cliques. The cliques were primarily formed by five key partners: (1) SuSanA Secretariat, (2) Seecoon, (3) Eawag, (4) Stockholm Environment Institute, and (5) WASTE. The SuSanA Secretariat was identified in 16 of the 23 cliques. Eawag was a part of six cliques, the Stockholm Environment Institute had connections to five cliques, and Seecon and Waste appeared in four cliques each. The results indicate these five partners have connections to partners who are connecting to one another. Figure 8 displays the organizations that were in one of the 23 cliques. The size of a partner's node increases with the frequency of membership in cliques.

Centrality. Measuring centrality gives another indication of the network's structure by looking at the patterns of connection. Additionally, centrality measures can identify network members with "prestige" and "influence" (Knoke & Yang, 2008) who might be able to direct the flow of information (Borgatti et al, 2013). There are a number of centrality measures, as was explained in Chapter 3 and the measures degree centrality, betweenness, and eigenvector are reported here. Table 6 reports the centrality scores.

Figure 8. Cliques by frequency of clique membership

Table 6

Network measures of interaction, communication importance, cooperation, trust, information exchange

	Interaction	Communication Importance	Cooperation	Trust	Information Exchange
	In-Degree Centrality (rank)	In-Degree Centrality (rank)	In-Degree Centrality (rank)	In-Degree Centrality (rank)	In-Degree Centrality (rank)
WaterAid	32 (1)	218 (1)	140.6 (1)	131.71 (1)	123.2 (3)
WSP	31 (2)	209 (2)	124.8 (5)	120.81 (2)	125.4 (2)
Eawag	30 (3)	203 (3)	128.8 (4)	111.14 (4)	128.6 (1)
IRC	26 (4)	62 (36)	129.2 (3)	92 (8)	110.4 (6)
SuSanA Secretariat	26 (4)	31 (84)	134.2 (2)	114.86 (3)	118.6 (4)
WASTE	25 (5)	155 (8)	86 (10)	74.29 (13)	76.8 (12)
WTO	24(6)	138 (11)	103.4 (8)	75.75 (12)	86 (9)
UNESCO-IHE	24 (6)	40 (67)	72 (18)	95.29 (6)	68 (18)
UNICEF	24 (6)	175 (6)	114.4 (6)	98.45 (5)	112.2 (5)
UN-HABITAT	23 (7)	150 (9)	106.2 (7)	92.86 (7)	92.2 (7)
WEDC	22 (8)	101 (19)	76.8 (14)	76 (11)	75.6 (13)
Plan	21 (9)	118 (15)	94.6 (9)	84.42 (9)	86.4 (8)
Wash United	21 (9)	103 (18)	85.95 (11)	71.29 (16)	80.6 (10)
IWA	21 (9)	150 (9)	78 (12)	66.61 (18)	70.8 (17)
GIZ	20 (10)	11 (139)	73.6 (17)	74.14 (14)	64.4 (20)
Oxfam	19 (11)	0 (N/A)	75.6 (16)	63.28 (19)	77 (11)
SEI	18 (12)	120 (14)	76.2 (15)	70 (15)	74 (14)
IWMI	17 (13)	188 (5)	70 (19)	69 (17)	64.6 (19)
BORDA	16 (14)	115 (16)	77.2 (13)	80.43 (10)	71.4 (15)
TU Delft	16 (15)	90 (23)	39.4 (N/A)	49.71 (21)	42.8 (27)
GTO	15 (16)	85 (26)	47.4 (N/A)	48 (23)	48.4 (24)

Note: Rankings indicate a partner's overall ranking for each network.

Degree centrality. Degree centrality measures the frequency of connections received (in-degree) and sent (out-degree). The average out-degree score was 5.79 (SD = 13.923) and the average in-degree was also 5.79 (SD = 6.65). WaterAid ranked highest in regard to in-degree centrality and received most number of ties (32), followed by the World Bank's Water and Sanitation Program (WSP) (31), Eawag (30), the SuSanA Secretariat (26), and International Water and Sanitation Centre (IWSC) (26). The SuSanA Secretariat ranked first in out-degree (sent ties) centrality with 26, followed by the Stockholm Environment Institute (SEI) (18), Gender and Water Alliance (GWA) (59), ACRA (56), and Seecon (410). The in-degree centrality indicates partners viewed by other partners as important in the SuSanA network.

Betweenness. The betweenness score is another measure of centrality and can indicate network members who might "filter information and to color or distort it as they pass it along" (Borgatti et al., 2013, p. 175). In the SuSanA network, the overall betweenness centrality was low (M = .208, SD = .821). The measure of network centralization index is 8.87%, which suggests a selection of partners are positioned centrally in the network. SuSanA has the highest betweenness centrality score (9.04) followed by the Stockholm Environment Institute (4.93), Eawag (4.3), WASTE (2.48), and Gender and Water Alliance (2.22). Notice that some of the same organizations that were most central are also positioned between others. Meaning that the network is highly centralized by a few partners.

Eigenvector. The eigenvector score takes a node's connections and measures the connections' connection (Monge & Contractor, 2003). The measure recognizes that a node may not have many connections but is connected to a node that is well

connected in the network. However, the results of this analysis indicate that those partners centrally located connected to other well-connected partners. Meaning that central partners are more likely to connect to other central partners, not with partners on the network periphery. The eigenvector scores support the finding from the betweenness measures that the network is centralized. This suggests that those central to the network are connected to other central actors. The average eigenvector score was 6.45 (*SD* = 7.01). Again, the SuSanA Secretariat ranked highest (42.48) followed by the Stockholm Environment Institute (37.87), Eawag (29.461), WASTE (29.14), and ACRA (26.58).

To address RQ3, the network measures indicate that there are low levels of social capital. Overall, SuSanA partners reported few connections with one another. Those that are well connected appear to be connecting with other well-connected partners, as was indicated in the eigenvector scores. The data further indicate that the SuSanA network is highly centralized. Networks that are highly centralized have a few key players that take on central network positions (Borgatti et al, 2013; Wasserman & Faust, 1994). Shumate and Pike (2006) observed that in a centralized network, organizations in central positions were able to direct the actions and coordinate the efforts of the network. The influence of partners' network positions was explored in the following set of research questions that begin the integration of the zones of meaning data.

Network Position and Zones of Meaning

RQ3 provided an indication of SuSanA's network structure. Now the focus turns to study the relationships between the partners' network positions and their

zones of meaning. Partners' network positions are determined by who they connect to and who connects to them. As stated early, networks were created for this study from the media richness, trust, cooperation, information exchange, communication importance, and cliques measures. This section of the results explores how partners' network positions in the communication importance network, cooperation network, and clique overlap network were associated with SuSanA partners' zones of meaning.

Communication importance and zones of meaning. RQ4 directed attention to the relationship between partners' zones of meaning and their communication importance. To address this question, a Moran I test of homophily was employed. In brief, a Moran's I correlates "actors' scores on interval-level measures of their attributes, and the network distance between them" (Hanneman & Riddle, 2005, chap. 18). Two sets of data are necessary: interval attributes and a network adjacency matrix. The interval-level attribute were the 11 reliable survey items from the zones of meaning questionnaire. Given the factor analysis reported in Chapter 3 indicated a single factor, the survey items were used in place of creating zones of meaning variables to represent the three rhetorical visions found in the qualitative results. The communication importance adjacency matrix established the distance between SuSanA partners as such that higher values of communication importance between two partners brought them "closer" together in the network.

Figure 9 helps to illustrate how communication importance brought partners closer together. The larger nodes indicate higher in-degree centrality for communication importance. WaterAid, WSP and Eawag had the greatest in-degree centrality scores in the communication importance network (see Table 6). Taking the

two sets of data, the Moran's I homophily test produced a statistic of "autocorrelation that ranges from -1.0 (perfect negative correlation) through 0 (no correlation) to +1.0 (perfect positive correlation)" (Hanneman & Riddle, 2005, chap. 18). Eleven Moran's I homophily tests were performed for each zone of meaning survey item.

The results from the Moran's I tests revealed some significantly positive correlations between partners' communication importance and their agreement on the zones of meaning survey items. Meaning that those with similar communication importance scores agreed on the same zones of meaning survey items. However, the strength of these correlations, based on the range of -1 to +1, were weak according the range of the Moran's I score (Hanneman & Riddle, 2005). Table 7 reports the results of the autocorrelations. The data indicate that as partners' communication importance increased, their shared agreement on the zones of meaning also increased. For example, WaterAid, WSP and Eawag had strong communication importance scores, were drawn closer together in the communication importance network, and have greater agreement on the zones of meaning statements. However, the data indicates a weak relationship between the variables communication importance network and agreements on zones of meaning survey items.

Table 7

Moran's I homophily test: Communication importance & survey items

	Autocorrelations
Q1: My organization primarily uses SuSanA as a platform to share information we have gathered through our dialogues at the local, community-level.	0.049*
Q2: My organization is a part of SuSanA to exchange knowledge, information, and best practices with other organizations.	0.059*
Q4: I use SuSanA as a venue to publish my research on sanitation.	0.102***
Q5: SuSanA is a way my organization can display the technologies we have developed.	0.024
Q6: The best way for my organization to upscale our products and services is through our engagement in SuSanA.	0.045*
Q7: My organization uses SuSanA as a resource to learn and see what others are doing in the sanitation sector.	0.062*
Q8: The primary purpose for my organization to be a partner in SuSanA is to engage in the international dialogue about sanitation issues.	0.033*
Q9: My organization has "boots on the ground" and can share information from the community-level to inform others.	0.004
Q10: My organization would benefit from regional organizations that could initiate a dialogue between my organization and others working on similar issues.	0.009
Q11: My organization's primary purpose for being a partner in SuSanA is to have a seat at the table about sanitation issues.	0.046*
Q12: By being a partner in SuSanA, my organization has helped to bring sanitation on the political agenda.	0.058*

Note. * $p < .05$, ** $p < .01$, *** $p < .001$, permutations = 1,000

Figure 9. Communication importance network by in-degree centrality

Cooperation and zones of meaning. The next research question (RQ5) examined the extent to which partners' zones of meaning were associated with being perceived as cooperative by others in the SuSanA network. The same procedures from RQ4 were used. The zones of meaning survey items were the attributes and the cooperation adjacency matrix established the distance between SuSanA partners. Strong cooperative ties between partners brought them "closer" together in the network. WaterAid, WSP, Eawag, IRC, and the SuSanA Secretariat had the highest in-degree centrality of partners. These organizations are placed close together in the cooperation network, meaning they had similar cooperation scores with other partners. Moran's I tests were performed on each of the zones of meaning survey items with the cooperation adjacency matrix. Table 8 reports the autocorrelation results.

Table 8

Moran's I homophily test: Cooperation network & zones of meaning survey items

	Autocorrelations
Q1: My organization primarily uses SuSanA as a platform to share information we have gathered through our dialogues at the local, community-level.	0.112***
Q2: My organization is a part of SuSanA to exchange knowledge, information, and best practices with other organizations.	0.134***
Q4: I use SuSanA as a venue to publish my research on sanitation.	0.475**
Q5: SuSanA is a way my organization can display the technologies we have developed.	0.108**
Q6: The best way for my organization to upscale our products and services is through our engagement in SuSanA.	0.086**
Q7: My organization uses SuSanA as a resource to learn and see what others are doing in the sanitation sector.	0.104***
Q8: The primary purpose for my organization to be a partner in SuSanA is to engage in the international dialogue about sanitation issues.	0.095***
Q9: My organization has "boots on the ground" and can share information from the community-level to inform others.	0.078**
Q10: My organization would benefit from regional organizations that could initiate a dialogue between my organization and others working on similar issues.	0.067*
Q11: My organization's primary purpose for being a partner in SuSanA is to have a seat at the table about sanitation issues.	0.113*
Q12: By being a partner in SuSanA, my organization has helped to bring sanitation on the political agenda.	0.173**

Note. * $p < .05$, ** $p < .01$, *** $p < .001$, permutations = 1,000

Overall, there was a modest correlation between measures of cooperation and agreement on the zones of meaning survey items. Notice the moderately strong correlation between cooperative ties and the agreement on Q4 that reads, "I use SuSanA as a venue to publish my research on sanitation." This is a point considered further in the discussion.

Clique memberships and zones of meaning. The final research question (RQ6) asked if membership in a clique would affect an organization's zones of

meaning. Again, Moran's I tests of homophily were employed. The interval-level attributes were the zones of meaning survey items and the adjacency matrix was the clique overlap matrix. The matrix was derived from the RQ1 that performed a clique analysis. The analysis generated a matrix called the clique overlap that indicated which partners had an overlap in their clique membership. SuSanA, Waste, Eawag, SEI and Seecon had the most frequent shared membership in a clique. Table 9 reports the results of the Moran's I for each survey item.

This series of tests found fewer significant results but stronger autocorrelations between clique overlap and agreement on zones of meaning survey items. Specifically, the Moran's I tests revealed that clique overlaps were significantly and somewhat strongly positively correlated with Q1 (0.399, $p < .001$), Q4 (0.399, $p < .05$), Q5 (0.353, $p < .05$), and Q12 (0.459, $p < .001$). The data suggest that the more often partners were in the same cliques their level of agreement on the zones of meaning survey items were moderately strong. This data reveals partners' network positions correlates with zones of meaning. For instance, when the SuSanA Secretariat, Waste, Eawag, SEI and Seecon are in the same cliques, they also share agreement on the zones of meaning statements.

Table 9

Moran's I homophily test: Clique membership & zones of meaning survey items

	Autocorrelations
Q1: My organization primarily uses SuSanA as a platform to share information we have gathered through our dialogues at the local, community-level.	0.399**
Q2: My organization is a part of SuSanA to exchange knowledge, information, and best practices with other organizations.	0.134***
Q4: I use SuSanA as a venue to publish my research on sanitation.	0.475**
Q5: SuSanA is a way my organization can display the technologies we have developed.	0.353*
Q6: The best way for my organization to upscale our products and services is through our engagement in SuSanA.	0.234
Q7: My organization uses SuSanA as a resource to learn and see what others are doing in the sanitation sector.	0.104***
Q8: The primary purpose for my organization to be a partner in SuSanA is to engage in the international dialogue about sanitation issues.	0.287*
Q9: My organization has "boots on the ground" and can share information from the community-level to inform others.	0.148
Q10: My organization would benefit from regional organizations that could initiate a dialogue between my organization and others working on similar issues.	0.164
Q11: My organization's primary purpose for being a partner in SuSanA is to have a seat at the table about sanitation issues.	0.205
Q12: By being a partner in SuSanA, my organization has helped to bring sanitation on the political agenda.	0.459**

Note. * $p < .05$, ** $p < .01$, *** $p < .001$, permutations = 1,000

Communication Channel Richness and Social Capital

The next set of hypotheses tested whether the richness of communication channels influenced measure of social capital. Researchers state that richer communication channels aid in the development of social capital. The first hypothesis (H1) predicted that the measures of social capital would be positively associated with richer communication channels. To answer this question, a "Quadratic Assignment Procedure" (QAP) technique was used. QAP is a special type of correlation specific to network studies that does not make parametric assumptions (Borgatti et al., 2013). The procedure works by comparing a cell in one matrix to the corresponding cell in

another matrix (Taylor & Doerfel, 2003). Significance for the correlation is calculated by comparing the observed correlations with correlations from 5,000 permutations of independent matrices (Borgatti et al., 2013). Matrices were created for cooperation in-degree centrality scores and the zones of meaning survey items. Figure 10 displays the cooperation network by in-degree centrality, which are the scores a partner received from others. A greater score indicated more cooperation.

Four QAP correlation techniques were performed with the variables of social capital (trust, cooperation, information exchange and communication importance). The richness of communication channels measure was significantly positively correlated with interorganizational trust ($r = .421$, $p = < .001$), cooperation ($r = .445$, $p = < .001$), information exchange ($r = .418$, $p = < .001$), and communication importance ($r = .321$, $p = < .001$). The correlations suggest that when SuSanA partners use richer communication channels their indicators of social capital also increased. As such, H1 was supported.

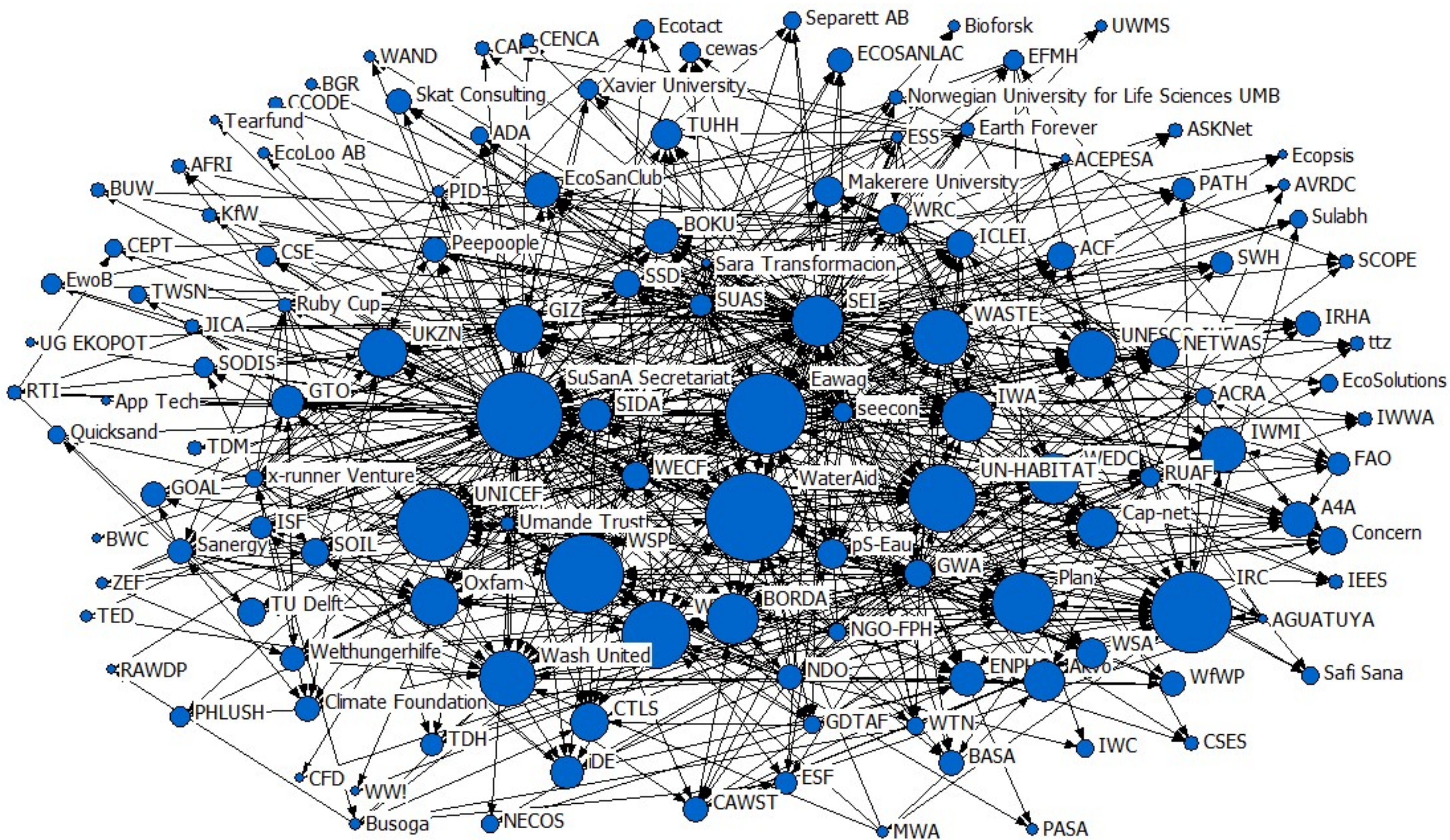

Figure 10. Cooperation network by in-degree centrality

The same procedure was used to test how interorganizational trust, a new measurement scale this study has introduced to public relations research, was associated with other measures of social capital. The next hypothesis (H2) predicted that interorganizational trust would be positively associated with perceptions of cooperation and information exchange. The results provide support of this hypothesis. Interorganizational trust was significantly positively associated with cooperation (r = .913, p = < .001) and information exchange (r = .879, p = < .001). H2 was supported.

Having presented the findings concerning social capital, the presentation of the results now turns to two hypotheses that assessed social capital in the SuSanA network through structural holes theory.

Structural Holes Social Capital

In the preceding sections, the data revealed a set of SuSanA partners positioned centrally in the network. The same partners were found to share membership in the same cliques. Presented in this section are the results of analyses that identified the partners characterized as structural holes. Indeed, many of the same partners listed in early findings are listed here. Partners positioned at structural holes have a significant reach across the network and few redundant connections. In the SuSanA network, the SuSanA Secretariat, SEI, GWA, and Seecon were among the partners with the strongest characteristics of filling structural holes. Table 10 lists the top 20 SuSanA partners with structural hole characteristics.

Cooperating at structural holes. The next hypothesis (H3) expected that organizations characterized as structural holes would be perceived as more cooperative by other partners. Four structural hole measures were used to identify such partners:

effective size, efficiency, constraint and hierarchy. The scores for the 20 partners' with the greatest structural hole characteristics are reported in Table 10.

Table 10

Measures of structural holes

	Effective size	Efficiency	Constraint	Hierarchy
SuSanA Secretariat	110.457	0.913	0.034	0.171
SEI	87.886	0.897	0.042	0.201
GWA	57.5	0.885	0.042	0.161
Seecon	49.825	0.859	0.051	0.182
ACRA	48.645	0.853	0.048	0.113
Eawag	48.57	0.823	0.054	0.124
WASTE	46.343	0.813	0.055	0.125
SUAS	40.558	0.845	0.059	0.173
RUAF	36.188	0.822	0.059	0.138
NDO	35.58	0.791	0.059	0.11
WaterAid	30.138	0.793	0.057	0.046
Sara Transformacion	26.197	0.794	0.064	0.057
WSP	25.952	0.837	0.054	0.041
Wash United	25.917	0.836	0.066	0.073
UKZN	25.712	0.779	0.074	0.096
Sulabh	25.279	0.815	0.068	0.132
IRC	24.474	0.742	0.069	0.068
NGO-FPH	23.883	0.796	0.069	0.05
GDTAF	22.484	0.775	0.076	0.122
WECF	21.621	0.746	0.074	0.079

Note: Rankings indicate a partner's overall ranking for each network.

The measure of effective size and efficiency were expected to be positively correlated whereas constraint and hierarchy were expected to be negatively correlated. The measures of constraint and hierarchy identify partners with highly redundant ties. Table 11 reports the correlation coefficients. Cooperation was significantly positively associated with measures of effective size (r = .106, p = < .001) and efficiency (r = .035, p = < .001). However, cooperation was significantly negatively associated with constraint (r = -.055, p = < .001) and but not significantly negatively correlated with hierarchy (r = -.035, p = > .05). H3 was partially supported.

Importance of structural holes. The final hypothesis (H4) expected to find SuSanA partners with indicators of structural holes to be perceived as important communication partners by their peers. The QAP analysis gave some support to the hypothesis. Communication importance was significantly positively associated with effective size (r = .067, p = < .001) and efficiency (r = .029, p = < .05). There was a significant negative correlation between communication importance and constraint (r = -.913, p = < .05) and hierarchy (r = -.031, p = < .05). Partners with greater structural hole measures were seen as more cooperative. H4 was supported.

Table 11

QAP correlations coefficients of structural holes, cooperation and communication importance

	Effective size	Efficiency	Constraint	Hierarchy
Cooperation	.106***	.035***	-0.055***	-0.035
Communication Importance	.067***	.029*	-0.913*	-0.031*

Note: * p < .05, ** p < .01, *** p < .001, permutations = 5,000

Summary of Network Analysis Results

The data reported above present a number of intriguing findings regarding social capital, structural holes, and shared meaning. First, the overall density of the SuSanA is quite low. From a purely structural perspective, the network does not appear to have significant levels of social capital based on the density score. However, the variable measures of social capital suggest otherwise. The variables measures of social capital (interorganizational, cooperation, information exchange, and communication importance) indicated that the SuSanA network, which depends on mediated communication, has social capital among partners.

Second, the data also revealed that a majority of partners are positioned on the periphery of the network. The partners at central points in the SuSanA network are well-connected to other centrally located partners, which supports the finding that the network is centralized. Moreover, these same organizations shared membership in the same cliques. The central partners are likely influencing the centralized network. This study found evidence that partners who are connected also have shared meaning, especially when partners are the same cliques.

Finally, assessing social capital through the lens of structural holes theory, the data revealed that a handful of the central partners were also positioned at structural holes. Partners from across the network perceived the partners with structural hole characteristics as cooperative and important. Overall, the data suggest that a partner's network position is indeed influential. The next chapter discusses the implications of these results on public relations theory and practice.

CHAPTER FIVE: DISCUSSION

The previous chapter presented the results from the three phases of this study that analyzed the SuSanA network through both qualitative and quantitative research methods. The results of this dissertation's research questions and hypotheses offer an analysis of the social capital and shared meaning in SuSanA's network.

SuSanA describes itself as an "informal network of organizations with a common vision on sustainable sanitation". The informality of the network does not require partners to contribute resources to the alliance. More active partners contribute in-kind resources such as information, expertise, time in drafting factsheets and other documents, and attend the annual meeting. The alliance is coordinated by the SuSanA Secretariat, which sends partners e-newsletters, manages the discussion forum, and coordinates sustainable sanitation events, meetings, online webinars, and other activities. A core group of 19 organizational representatives and nine unaffiliated individuals direct the functions of the Secretariat. Specifically, the core group is involved in the planning of meetings and events, proposing future strategies and making operational decisions in between the general meeting dates. Overall, the SuSanA network is unique from the networks studied in previous studies and offers a new context to study social capital.

This study began with the intent to address three conceptual gaps found in the literature. First was the need for empirical evidence to support or refute Heath's (2006, 2009) and Taylor's (2009, 2010) postulations about the link between shared meaning and social capital. Shared meaning has been depicted as a public relations outcome of organizations, groups, and individuals communicating their needs, expectations, and

interpretations of events and issues (Heath, 2006). Scholars portray social capital as an outcome of complex networks of relationships among organizations, groups and individuals (Heath, 2013; Ihlen, 2005, 2007). The findings from this dissertation contribute to the discussion of social capital and shared meaning by presenting empirical evidence that suggests the two concepts are indeed related.

Addressing the second need, this dissertation explored previous researchers' claims that organizations' network positions give them influence in a network. The literature studying advocacy coalitions suggests that organizations should position themselves at structural holes to broker the information and resources in a network (Stohl & Stohl, 2005; Sommerfeldt, 2013a; Taylor & Doerfel, 2003; 2005). However, the findings from this study question whether the esteemed structural holes position is the only way that researchers assess network influence. The section on this topic will discuss an alternative view for studying network positions by looking at network cliques.

Third, this study expanded the context of social capital research to examine an international coalition that relies on mediated communication. The change in context presented a new environment to assess social capital. The literature establishes that mediated communication can reduce social capital. The findings from this study can inform the literature on advocacy networks. The discussion of the findings suggests advocacy networks that rely on mediated channels to connect members must also consider the significance of face-to-face communication in building social capital in an interorganizational network.

This chapter discusses these and other findings. It is organized into three sections. To begin, the first section expands on the results that social capital and shared meaning are indeed related.

Exploring The Relationship Between Social Capital and Shared Meaning

The social capital literature within public relations is still developing. Researchers agree that there is a need for (a) greater integration of the communication aspects of social capital (Kennan & Hazleton, 2006; Ihlen, 2005, 2007; Heath, 2013; Willis, 2012), (b) theorizing about shared meaning and social capital (Heath, 2006, 2009; Taylor, 2009, 2010), and (c) reassessing the measurement of interorganizational trust (Sommerfeldt, 2013), a critical element to social capital. Each topic is discussed within this section. Consequently, the first portion discusses the operationalization of social capital and explains the contribution of this study to operationalizing the communication dimension of social capital.

Communication that Creates Social Capital

Drawing from Coleman (1988) and Nahapiet and Ghoshal (1998), Kennan and Hazleton (2006) presented three dimensions of social capital (structural, relational and communication) in their conceptual definition. The focus of their conceptualization pondered how practitioners' boundary spanning roles contributed to social capital. Scholars working from their definition have concentrated on the structural and relational dimensions in their operationalization. The two dimensions consider the patterns and quality of relationships among boundary spanners from organizations, groups and publics. The communication dimension has been operationalized by studying *how* organizations communicate through the measures of information

exchange, media richness or communication importance. Heath (2013) warned that studying *how* organizations communicate limits the scholarship from exploring how relationships enact shared meaning. Heath called on public relations scholars to examine *what* organizations communicate to publics.

This dissertation explored the concept *zones of meaning*, which employs fantasy theme analysis from symbolic convergence theory, to assess the shared meaning among communicators. Heath (1992) introduced the concept zones of meaning to describe how rhetors' descriptions of events or issues during rhetorical discourse lead to different interpretations. Zones of meaning represents the shared meaning among a group (Palenchar & Heath, 2002) or the shared "knowledge and interpretation of events" (Heath & Abel, 1996, p. 164). This study extended the concept as a method for assessing the shared meaning among SuSanA partners.

To study the zones of meaning, RQ1 and RQ2 directed attention to the fantasy themes within the SuSanA network and how partners converged around the themes. SuSanA partners converged around 12 fantasy themes and three rhetorical visions emerged. Reference Table 5 and Figures 4–6 for descriptions and visualizations of the fantasy themes and rhetorical visions. The rhetorical visions portrayed SuSanA partners as having a shared understanding that SuSanA is a knowledge network, or a market for sustainable sanitation, or as a catalyst for dialogue on sanitation issues. The fantasy themes from the rhetorical vision SuSanA-as-a-knowledge-network described partners as either being active in posting information to the online repositories or passively drawing from information online. Fantasy themes from the SuSanA-as-a-market-for-sustainable-sanitation rhetorical vision found a set of partners converging around

fantasy themes that considered ways sanitation issues could be addressed through market-based solutions. In the SuSanA-as-a-catalyst-for-dialogue rhetorical vision, partners converged on the concept of dialogue and appeared to share the belief that SuSanA was the catalyst for dialogue at the international, regional and community level.

The fantasy themes were then adapted to statements that SuSanA partners rated their level of agreement to before answering the network analysis questions. Unfortunately, the data analysis indicated that the zones of meaning statements loaded onto a single factor. Therefore, the rhetorical visions were not statistically significant enough to represent the zones of meaning in the same manner as Palenchar and Heath (2002). Instead, this study returned to the 11 reliable fantasy themes statements on the zones of meaning questionnaire to represent the shared meaning among partners.

While this dissertation was not able to support or challenge Palenchar and Heath (2002), the study extended the zones of meaning research through a network perspective. The concept of zone of meanings presents a new method for assessing the communication dimension of social capital. If social capital is a communication-based concept (Kikuchi & Coleman, 2012), then scholars should consider the shared meaning, which can be assessed by identifying zones of meaning. Moreover, Heath (2013) called on researchers studying the complexity of relationships to consider *what* organizations communicate, not merely *how* they communicate. This study answered these calls. The data from the zones of meaning questionnaire allowed the researcher to explore the relationship between shared meaning and social capital. The following section expands

on the research questions and hypotheses that analyzed the link between social capital and shared meaning.

Shared Meaning and Social Capital

Scholars have postulated that through rhetorical discourse, shared meaning arises and social capital is formed (Heath, 2006, 2009; Taylor, 2009, 2010). Each aspect is relevant to public relations. Public relations is used by organizations and groups to engage in rhetorical discourse. Heath (2000) explained that through public relations, communicators are given “an opportunity to participate in as well as witness discussions (statements and counterstatements) by which customers (markets) and publics (stakeholder/stakeseekers) have the opportunity to examine facts, values, policies, identifications, and narratives” (p. 86). Statements and counterstatements, the process of rhetorical discourse, allows communicators to come to shared meaning about events and issues (Taylor, 2011). In theory, the shared meaning among communicators leads to relationships that are fundamental to social capital. Missing from the literature is evidence that shared meaning is correlated to social capital.

The data from RQ4 and RQ5 presented some evidence that the dimensions of social capital—cooperation and communication importance—are correlated. Moran’s I homophily tests examined the correlations between partners’ agreement on the zones of meaning statements and their closeness in the cooperation and communication importance network. Partners were drawn closer in the cooperation and communication importance networks based on their in-degree centrality. Reference Table 7 and 8 for a complete list of the Moran’s I correlations using the cooperation and communication importance networks. The significant Moran’s I correlations in the cooperation network

were with Q4, Q12, Q2, Q11, and Q1. In the communication network, the strongest significant correlations were with Q3, Q7, Q2, Q12, and Q1. These results need some contextualization and the following sections provide such analysis.

WaterAid, WSP, Eawag, IRC, and the SuSanA Secretariat were close in the cooperation network given their high in-degree centrality scores. WaterAid, WSP, Eawag, IWMI, and WASTE were close in the communication importance network. The results indicate that these partners and other partners who were also close had agreement on the zones of meaning statements. However, the correlation coefficients only suggest a weak significant positive relationship. Recall that SuSanA is a loosely organized coalition with a low overall density score (.049). Partners in the network are not well connected. If the partners were better connected the strength of these correlations would likely increase. Nonetheless, this dissertation presents some evidence supporting the theorizing that shared meaning and social capital are correlated.

If relationships do create shared meaning, as is suggested here, what is public relations role? The finding elevates the importance of public relations practitioners' boundary spanning roles. Boundary spanners are individuals who represent organizations or groups and connect with other organizations or groups. Boundary spanners can be conceived of as "the face of the organization" when interacting with boundary spanners from other entities. Currently, the public relations literature recognizes boundary spanning as a role of practitioners but has not considered much beyond definitions of the role. This study presents a need for literatures suggesting how boundary spanners can foster the creation of shared meaning.

The findings in this section also contribute to the public relations scholarship by offering empirical evidence to Heath's (2006, 2009) and Taylor's (2009, 2010) theorizing that shared meaning leads to social capital. These scholars have argued that rhetorical discourse allows shared meaning to emerge and from that convergence of meaning, social capital is created. The findings lend some support to these claims by presenting results that show partners' shared meaning and social are related. Later in the discussion, a related finding will present even stronger support to their theorizing.

This study also addressed a need in the literature to reassess how researchers measure the trust dimension of social capital. The findings are discussed next.

Reassessing Trust Measurement

A close analysis of the public relations social capital literature found that researchers have used interpersonal trust measures in the assessment of social capital. Trust is a significant component of social capital (Burt, 2000, 2001; Coleman, 1988; Kennan & Hazleton, 2006). Sommerfeldt and Taylor (2011) measured trust with a single item measure and Sommerfeldt (2013a) measured social capital using Hon and Grunig's (1999) organization–public relationship (OPR) survey instrument. The scale for trust within this instrument is grounded in interpersonal trust (Grunig & Huang, 2000). Scholars outside of public relations have cautioned researchers to avoid "anthropomorphizing the organization by treating interorganizational trust as equivalent to an individual trusting another individual" (Zaheer & Harris, 2006, p. 170). As such, this study used Zaheer and Harris' scale of interorganizational trust.

The literature of international coalitions and online communication revealed that interorganizational trust is particularly important when online communication

technologies are used (Mukherjee et al., 2010). Asynchronous online communication limits communicators' ability to discuss the intricacies of their relationships. Previous researchers have studied the quality of information communication technologies used in interorganizational relationships when assessing trust (Kasper-Fuehrer & Ashkanasy, 2001). This dissertation focused on the richness of the communication channels as outlined in Taylor and Doerfel's (2003) study and supports their findings that rich communication channels in a network increase social capital.

The results of H1 and H2 found that interorganizational trust was a reliable measure for social capital. H1 and H2 found a significantly positive correlation between richer communication channels and measures of social capital (trust, cooperation, information exchange and communication importance). H2 was specific to the measure of interorganizational trust and predicted that interorganizational trust would be positively associated with richer communication channels. The results found support for the hypothesis. Interorganizational trust was significantly positively associated with cooperation and information exchange. When partners indicated having strong interorganizational trust they also reported greater levels of cooperation and information exchanges.

WaterAid, WSP, Eawg, the SuSanA Secretariat and UNICEF were perceived as the five most trusted partners in the network. When other partners indicated having a trusting relationship with another partner, the relationships also had stronger levels of cooperation and information exchange. Such finding is particularly important to SuSanA, because of its current function of sharing information between partners. Contractor (2009) has noted that networks that focus on exchanging knowledge require

social relations where members are comfortable making contributes. Trust is certainly an ideal condition for exchange information.

The finding contributes to the literature in two ways. First, it presents a reliable measure for the trust dimension of social capital at the meso-level. Other researchers have used measures based interpersonal trust items. The literature outside of public relations noted that interpersonal trust measures are not conceptually valid for assessing interorganizational trust (Zaheer & Harris). Interorganizational trust accurately measures an organizational representative's trust in another organization as a collective, not just the individual representing the organization. The results presented here should encourage future researchers interested in meso-level social capital to use interorganizational trust measures.

The second contribution is directed to public relations practitioners' role in building relationships. Public relations practitioners form and sustain complex webs of relationships with many different types of communicators (Heath, 2013; Yang & Taylor, 2012). An organization's relationship with one group affects its relationships with others. Trust is necessary in the complex web of relationships organizations and groups find themselves. Trust sustains coalitions. Organizations are unlikely to stay in a coalition if they cannot trust others in the network. Public relations practitioners can foster trust through communication, organizational actions, and commitment to other members of a network.

To this point, the discussion has presented how this dissertation has contributed to the public relations literature on social capital. The next section discusses the findings

that network positions are associated with how partners' are perceived and their shared meaning.

Demonstrating the Significance of Network Positions

Structural holes theory (Burt, 1992, 2000) is a way to study social capital and is frequently used by researchers in public relations (Sommerfeldt, 2013a; Sommerfeldt & Kent, 2012; Taylor & Doerfel, 2003, 2005). This body of literature asserts that when an organization connects unconnected organizations, the connecting organization can broker the relationship between the unconnected organizations. Structural holes theory postulates that an organization's network position affects its ability to access resources and information. The emphasis here is on an organizations' network positions. Communication and public relations scholars have found members of networks often perceive organizations positioned at structural holes to be cooperative and important (Stohl & Stohl, 2005; Sommerfeldt, 2013a; Taylor & Doerfel, 2003, 2005). However, the literature has not considered whether the same would be true in a virtual network.

The research questions and hypotheses in this study considered partners' structural hole characteristics and network positions in the SuSanA network. To delve deeper into these findings, the first section expands on the findings that identified partners positioned at structural holes. The second section continues to reflect on organizations' network positions by discussing how SuSanA partners' membership in network cliques associated with their shared meaning.

Structural Holes Theory

Earlier research has found organizations characterized as structural holes are seen as important communication partners and noted as being cooperative by other

network members. However, the networks in previous studies were located in specific geographic locations and network members had greater opportunities for face-to-face communication. Results from H3 and H4 found support for the previous researchers' findings. Reference Table 11 for the QAP results from H3 and H4. The QAP correlations found cooperation was significantly and positively associated with structural hole measures of effective size and efficiency. Likewise, the data found communication importance was significantly positively correlated with effective size and efficiency. As SuSanA partners' reach across the network increases (effective size) and they have fewer redundant ties (efficiency), others see these partners as more cooperative and important.

In the SuSanA network, the SuSanA Secretariat, SEI, GWA, and Seecon had the strongest indicators of being positioned at structural holes. These organizations have connections to a range of partners and are seen as important and cooperative. However, the findings presented here do come with a note of caution. Like the results of the Moran's I test of homophily in RQ4 and RQ5, the significant results of the QAP correlations were weak. This may be explained by the low density and lack of connections among partners in the network.

Nonetheless, structural holes are important in networks for their ability to reach unconnected parts of the network. This study supports other researchers' findings that organizations characterized as a structural hole are viewed by others in the network as cooperative and important communication partners. This dissertation builds on their findings by expanding the context to an international network that relies on mediated

communication. The richness of communication channels does not appear to alter how network members perceive partners positioned at structural holes.

The findings can be applied to the SuSanA network and can inform public relations practice. This study explored whether SuSanA partners who primarily communicated through mediated channels would perceive structural holes differently. The dependence on mediated communication channels did not alter how SuSanA partners perceived those partners at structural holes. Today, many organizations build relationships with distant publics. Many multinationals, governments and third sector groups bring groups together in networks, as is the case with the SuSanA network. Having connections to different groups or networks places organizations at structural holes. Burt (1992) described this process of bringing unconnected groups as a *tertius gauden* where the connecting organization is the one who benefits. Organizations at structural holes also benefit from being perceived as cooperative and important. What public relations scholarship should consider is how organizations use or benefit from being perceived as cooperative, important, and well positioned in a network.

One of the challenges SuSanA faces in its advocacy is the passiveness of partners. Passive partners do not regularly engage with others in the network. Often such organizations are on the periphery of the network and out of the "thick of things." Organizations at structural holes may be deployed to engage these passive organizations and bring them into the network. Such an action may improve the density of the network and allow the network to work together more effectively on sanitation issues. Regardless of an organization's passive behavior, they have value to the network. Take for instance this comment from a representative of a local NGO in Mexico. When asked

about why his organization was not engaged in SuSanA, the representative simply said, “Because no one has asked us to contribute.” This local NGO may have certain expertise that other partners could find value in. However, the information will stay on the network periphery only because no one has asked them to engage. Practitioners must call on influential organizations to engage less active organizations.

Having discussed considered SuSanA partners with strong structural hole characteristics, the next section considers partners’ network positions in cliques and explores how such positions influenced partners’ shared meaning.

Fostering Shared Meaning in Cliques

Positions matter. The previous section discussed how organizations positioned at structural holes are perceived by others as cooperative and important. RQ6 continued with the notion that network positions matter by considering how SuSanA partners’ memberships in cliques were associated with their shared meaning. Such inquiry was prompted by questions in the literature about the relationship between social capital and shared meaning (Heath, 2006, 2009; Taylor, 2009, 2010) as mentioned earlier in the discussion. The earlier discussions presented correlations between the *variable* measures of social capital and shared meaning. Now the discussion turns to the *network* measures of social capital. Whereas the variables measures are based on other partners’ perceptions of their relationships, the network measures are based on patterns and frequency of relationships.

Burt (2000), reflecting on Coleman’s (1988, 1992) assertions that increased density (as is found in cliques) leads to social capital, directed researchers to consider cliques as an indication of social capital. While Burt’s theory considers the social

capital across a network, cliques can also be conceived as the social capital that lies between structural holes. Cliques are established by frequent and similar connections that a group of network members share.

RQ6 considered whether SuSanA partners' membership in a clique affected their *zone of meaning*. The Moran's I tests revealed significant and moderately strong positive correlations between membership in cliques and the zones of meaning statements: Q1, Q4, Q5, and Q12. Reference Table 9 for a complete list of correlations between clique membership and the 11 zones of meaning statements. Figure 8 illustrates the cliques and the partners who were members of cliques. The partners with larger node sizes had membership in more cliques. There were 23 cliques in the SuSanA network. Five organizations were frequently in the same cliques: SuSanA Secretariat, Seecoon, Eawag, SEI and WASTE. Cliques are dense and when these partners were in the cliques, they were found to have a moderately strong agreement on a number of the zones of meaning statements. Note that the SuSanA Secretariat, SEI, and Seecon were also found to have high levels of structural hole characteristics. The most influential partners, as indicated by structural holes theory, were also in a majority of the cliques and had strong shared meaning with other clique members. These partners appear to have significant influence on the SuSanA network for their relationships and agreement on the zones of meaning other partners. This finding has substantial application to public relations theory and practice.

In networks where social capital and shared meaning may be strongly related, public relations practitioners may benefit from coordinating collective actions. The logic being that when members interpret an event or issue in the same way (shared

meaning), there are greater motivations for members to act. For example, when a resolution is before the U.N. General Assembly, strong shared agreement might help motivated SuSanA partners act collectively to support or challenge the resolution. Greater agreement can focus the collective. However, dense network conditions may also constrain a coalition. Consider the literature that challenged social capital as being confined to dense networks. The premise in Granovetter's (1973, 1974) and Burt's (1992, 2000) theories is that members in dense networks are constrained by redundant ties that provide network members with redundant information. Redundant ties and redundant information may only reinforce shared meaning.

At face value, more connections and stronger shared meaning may seem beneficial to SuSanA. Presumably partners with stronger shared meaning have less likelihood to disagree. However, more connections and stronger shared meaning may also limit a network from considering different or new interpretations of events or issues (i.e. similar to group think). Consider Granovetter's (1973, 1974) and Burt's (1992, 2000) assertions that redundant ties, which are often found in dense networks (or sub networks), present network members with redundant information. If SuSanA partners were highly connected to one another in the whole network, there would be fewer connections to present new information to challenge partners' shared meaning—their shared interpretations of events and issues. A well-connected network may fall fault to only confirming interpretations that support already established interpretations. In other words, a dense network may not have a structural that allows competing interpretations, information, and innovations to be introduced. Fortunately, partners located in the cliques (where strong shared meaning resides) were also positioned at

structural holes. The structural hole may have helped connect the dense cliques to other partners who may have different zones of meaning.

The above scenario is relevant to public relations practitioners. Scholars have established that practitioners are charged with building coalitions (Hallahan, 2001; Smith & Ferguson, 2001; Taylor & Sen Das, 2010). Yet, practitioners must sustain coalitions. Issues that are important at one time may become dormant at another time. An issue-focused coalition like SuSanA must adapt to issues on the local, national and international level as they evolve. The public relations literature lacks a theoretical discussion about network evolution and the influence on practitioners' roles. Future researchers should consider whether a change in shared meaning among network members leads to changes in the connections and strength of connections that form a network.

This study contributes to the literature with another finding that suggests social capital and shared meaning are correlated. The findings here offer further support to Heath's (2006, 2009) and Taylor's (2009, 2010) theorizing. As outlined earlier in this chapter, rhetorical discourse helps to form shared meaning and leads to social capital. Unfortunately, the data gathered in this study do not allow for assertions to be made about whether social capital leads to shared meaning or vice versa. Does social capital create shared meaning? Or, does shared meaning create social capital? These are questions are future researchers should explore and longitudinal research may be needed.

To this point, the discussion has suggested this dissertation contributes to the literature by extending social capital and structural holes theory research to a new

context. Now the discussion expands on that contribution. The context allowed this dissertation to study how mediated communication and social capital in the SuSanA network were related. The following expands on the findings in further detail.

Broadening Social Capital Research to an International and Mediated Network

Well established throughout this dissertation is that practitioners are charged with building interorganizational networks that create coalitions (Hallahan, 2001; Taylor & Sen Das, 2010; Yang & Taylor 2012). Today, interorganizational networks have a global reach (Diani, 2003; Marin & Wellman, 2011). Yet, to date public relations researchers of social capital have examined coalitions in specific geographic locations (Taylor & Doerfel, 2003; Doerfel & Taylor, 2004; Sommerfeldt, 2013a). The global reach of a network increases members' dependence on mediated channels of communication (Shumate & Pike, 2006). Research outside of public relations has found mediated communication diminishes social capital (Ostrom, 2003).

This portion of the discussion expands on the results from H1 and RQ3. The section presents how this dissertation contributes to the literature on international coalitions and social capital. To begin, the results of H1 are considered.

Enriched by Communication Channels and Social Capital

The literature on social capital has asserted that social capital is a communication-based concept (Kikuchi & Coleman, 2012) and that the richness of communication channels influences social capital. The literature outside of public relations has found that when communicators use richer communication channels, especially face-to-face channels, social capital increases (Ahn & Ostrom, 2008; Ostrom, 2003). Results from Taylor and Doerfel (2003) applied media richness theory and found

that richer media led to increased social capital. However, their study was on a national level network and members likely had less dependence on mediated communication channels. The SuSanA network offered a context to study the relationships at the international level where there is a greater reliance on mediated communication.

Based on the findings reported in this study, this dissertation supports and extends the findings of other researchers. The richness of communication channels does affect social capital. H1 predicted that when SuSanA partners used richer communication channels such as face-to-face meetings their levels of social capital would increase as measured through trust, cooperation, information exchange, and communication importance. Specifically, the analysis found strong and significant positive correlations between richer communication channels and interorganizational trust, cooperation, information exchange, and communication importance. When SuSanA partners reported using richer communication channels they also reported having increased levels of trust, cooperation, information and communication importance with other partners. Despite a significant reliance on mediated communication, SuSanA partners are still finding ways to communicate through richer communication channels.

This finding has applications to public relations scholarship and practice. For scholars, it is important to recognize the concept of media richness in theorizing and assessing social capital. Recently, public relations researchers have taken great interest in social media. At the core of this interest is a consideration of how online communication technologies influence public relations practice. Often these researchers focus on how the technologies are used and provide a description of the new

communication tools. The scholarship in this area needs additional research to explain how new communication tools affect public relations practice. In SuSanA, Skype, phone and email were the most preferred mediated channels. This study examined how online communications tools affected the relationships and social capital in an advocacy coalition. Findings from this study support Willis' (2012) argument that public relations practitioners attempting to build social capital in their communities must recognize that richer communication channels help in the formation of social capital.

Organizers of coalitions, especially those of coalitions that rely on mediated communication, must consider that although communication technologies present opportunities to expand the reach of a network, there can be a reduction in the social capital when the ability to meet face-to-face is limited (Ahn & Ostrom, 2008; Ostrom, 2003). SuSanA is faced with this challenge when gathering partners for face-to-face meetings. Representatives from local NGOs are often too resource-constrained to attend face-to-face meetings. Many of the partners are from poor nations, making travel difficult.

SuSanA has made efforts to incorporate the resource-constrained partners at meetings and conferences in three ways. First, partners are able to join meetings and conferences through video conferencing options. Certainly this is not the richest communication channel but it offers more richness than other options. Second, SuSanA meetings or conferences are scheduled in conjunction with other water-related conferences and meetings. Partners are able to attend more than one event at a time. Third, the SuSanA Secretariat has located their bi-annual meetings in various locations around the globe. SuSanA uses a visual on their website illustrating the locations of past

meetings. This is significant because it shows that its international partners are valued and their input sought. Meetings have been held on five of the six continents where partners are based. Indeed, hosting meetings at different locations was discussed as a point of pride in the preliminary interviews with SuSanA organizers. The Secretariat has recognized the resource limits of some partners and made significant efforts to include them in the meetings. The efforts of the Secretariat allow for opportunities for richer communication among partners at meetings and may explain the results that richer communication channels have increased the social capital in the alliance. Organizers of other coalitions should recognize the communication and organization behaviors of SuSanA that most likely had a positive influence on the social capital indicators. Practitioners should place high value on face-to-face meetings and consider ways to dedicate resources for bringing the resource-constrained members of a network to face-to-face meetings.

Now the discussion considers an incongruent finding between the network and variable measures of social capital. The overall *network* measure of social capital submits that the SuSanA is low in social capital. Yet, the *variable* measure suggests otherwise. The next section takes this finding further and weighs in on the seemingly contradictory findings.

Revealing Social Capital in an International and Mediated Networks

The previous section of this discussion outlined how this study expanded public relations scholarly discussion of social capital to an international network. In the process of studying the SuSanA network, an anomaly appeared in the findings. RQ3 sought to assess SuSanA's social capital through *network* measures of density, clique

analysis and centrality scores. Such structural measures are often used in the network studies (Borgatti et al. 2013, Borgatti et al. 1998). The density, which is a significant indicator of social capital, reported in this study that SuSanA partners had few relationships with other partners. Only 4.9% of the total possible connections were made in the network. The *network* measures present a different assessment of social capital than the *variable* measures (trust, cooperation, information exchange, and communication importance). The two types of social capital measures indicate that although the overall network does not have strong indications of social capital from a structural perspective, when partners do connect they report significant levels of social capital indicators. The finding is worthy of further discussion.

Recall that density is structural way to assess social capital by measuring the number of connections and total possible connections (Borgatti et al., 2013). Kauffman's (1993, 1995) research indicating that moderate density is .5 is based on research in the science (specifically biology). The SuSanA reported a density of .049, far below Kauffman's benchmark. Researchers have suggested, based on Kauffman's work, that in order for a network to mobilize it needs to have moderate density. The literature would define the SuSanA network as low in social capital and not well suited to mobilize partners. Yet, this dissertation questions such a portrayal.

First, density looks at the overall connections in the network. Kauffman's (1995) assessment of density has become a benchmark in network literature for considering the capabilities of a network. However, looking closer at Kauffman's work, he also offers insights when the density falls below the desired .5 benchmark. Kauffman explained that when the connectedness of the *overall* network is reduced, the clusters within the

network become more significant. This is the case in the SuSanA network. Recall that 23 cliques emerged in this network and that many of the partners who were in these cliques were also characterized as structural holes that reach various regions of the network. Moreover, this dissertation found partners within the cliques also had strong shared meaning. Although the overall indicator suggests low levels of social capital, there is still social capital among those partners who are connecting. The variable measures support the notion that social capital exists in these subgroups by demonstrating that when partners connect, they trust other partners, perceive them as cooperative and important, and value the information exchange with other partners. Take for example parts of the network in Figure 7 where partners are not well connected. The network measure would indicate low social capital but, based on the data here, the variable measures of social capital would show stronger levels of social capital. When partners do connect, good things come from the relationships. In sum, researchers should use caution when employing broad network measures like density to assess social capital. There can be social capital within a network's subgroups (Burt, 2000, 2001; Coleman, 1988, 1992; Kauffman, 1995).

The second point discussed the notion that density influences mobilization of a network. This study calls into questions whether mobilization is always sought by advocacy coalitions. Social movement and advocacy network research often discusses network outcomes in relation to mobilization. Mobilization is the idealized goal of networks and is the outcome of networks, for some. Public relations scholars have also taken a single-outcome focus in the discussion of coalition networks. Grunig (2001) described coalition building as a method for groups to gain power and force

organizations into certain behaviors. Such a portrayal is a narrow focus on coalitions being action based. Even Heath's (2006) eighth premise in the fully function society theory states that organizational narratives should be constructed to coordinate *action* with individuals and other organizations. What if the narrative of a network does not need to coordinate actions of all partners at once or on the same topic? What if the action is knowledge sharing and SuSanA enacts that type of network?

Networks may be used for creating "stronger focal points for conversation" (Walker, Kogut, & Shan, 1997, p. 116). SuSanA as a network is relatively young (founded in 2007) and has the primary purpose, at this stage, to be share information, discuss sanitation issues and create a space for partners to meet. There is no discussion of mobilizing partners for a specific action. This is not to say some day the network will not or cannot be used to coordinate action. The point is that when researchers make a structural assessment of a network, there must also be a consideration for what the network is posed to do.

Summary of Contributions to the Literature

The above discussion shows the numerous and significant roles public relations practitioners have enacted in the coalition. Public relations can contribute to forming social capital and fostering shared meaning in a network. To summarize, the dissertation's contributions centered around three areas. The first part of the discussion demonstrated that the study contributed to the literature by revealing a relationship between social capital and shared meaning. Shared meaning was studied by incorporating zones of meaning into the network analysis. The second part of the dissertation expanded on the literature that emphasizes the importance of network

positions. The final portion of the chapter detailed how the study extended the research on coalitions to an international context. The last chapter will identify the implications of the dissertation findings for public relations theory, method and practice. It will also identify some of the limitations of the research and future areas for furthering public relations creation of social capital.

CHAPTER SIX: CONCLUSION

The previous chapter positioned the findings of this dissertation in relation to the literature on public relations, social capital, shared meaning, and coalitions. The findings inform the three goals of this dissertation: (a) to provide empirical evidence for Heath's (2006, 2009) and Taylor's (2009, 2010) postulations about shared meaning and social capital, (b) to study how network positions are associated with shared meaning, and (c) to examine social capital formation in a new context. The three phases of this study provided rich data that described the relationships in the SuSanA coalition and allowed the researcher to understand how communication creates the coalition. This final chapter offers concluding remarks and implications for public relations theory, research, and practice. It also identifies some of the limitations of the research and areas for future research.

Implications for Public Relations Theory

The social capital scholarship in public relations is still developing but it is clear that public relations can contribute to a greater understanding of social capital. Most notably, public relations can conctribute theoretically to other disciplinary discussions about the link between social capital and shared meaning advocacy coalitions. Previously, researchers have assumed that shared meaning is a part of social capital, and vice versa with no data. This study shows that the two concepts are indeed related, especially in dense areas of a network. This finding prompts a new set of research questions: Does social capital lead to shared meaning? Or, does shared meaning lead to social capital? Future research should take up such questions to further refine our understanding of social capital and shared meaning.

Turning to public relations use of structural holes theory, there are numerous claims in the literature that organizations' positions have influence on the network. This dissertation asked: What influence does network position give organizations? The findings support arguments that organizations that are structural holes are perceived as cooperative and important. The next question researchers address should be what do structural holes do with their "influences"? Future theorizing about structural holes must take more interest in presenting evidence of the influence structural holes have on a network. Researchers might determine some set of outcomes structural hole organizations achieved in a network based on their positions.

Finally, this dissertation considered the relationship between density and network mobilization. Many have argued that greater density leads to mobilization. In fact, some theorizing discredits coalitions with low density and warns that the network is unlikely to mobilize members. The coalition in this study had low density. Overall, partners irregularly connected to one another, suggesting the coalition would be unable to mobilize members. Yet, the partners in SuSanA showed little concerned with acting collectively. This prompted the discussion section of this study to ask: Is it correct to assume that the network outcome seeks mobilization? Not all advocacy coalitions seek to mobilize their members. SuSanA is such an advocacy coalition. The theorizing of network mobilization in public relations should take into account whether mobilizing members is the goal of the network.

Overall, this dissertation contributed to public relations theory building and the findings raised important questions that prompt future research. The dissertation also contributed to enriching public relations research methods.

Implications for Public Relations Research

Public relations research utilizes a range of methodologies to address the numerous areas of inquiry with the field. Network analysis has emerged as a relatively new way of studying social capital. In order to developing a theoretically sound body of knowledge concerning social capital, public relations research needs an approach that provides a robust assessment of the multiple social capital dimensions. This study has provided such approach by demonstrating a research method that focused on the communication dimension of social capital. Communication is the *sin qua non* of social capital. The assessment of communication ought to be paramount and consider *what* rhetors communicate that creates social capital. By using a mixed methodology that integrated rhetoric, survey research, and network analysis, this study demonstrated how communication can be assessed in social capital research.

This study contributes to public relations and communication research methods by demonstrating how network analysis and fantasy theme analysis can be used together. Fantasy theme analysis revealed the shared meaning within network and network analysis analyzed the relationships within the network. Network analysis alone is unable to study the communication that occurs between communicators. Likewise, fantasy theme analysis cannot identify members of a network that share similar interpretation of events or issues. The two methods are strengthened when used together.

Finally, this dissertation also has implications for public relations practice in the formation and sustainment of advocacy coalitions.

Implications for Public Relations Practice

Public relations practitioners' have numerous roles in forging relationships in advocacy coalitions. They are charged with building coalitions and sustaining them. Practitioners act as boundary spanners connecting with many different members in a coalition. They also act to foster the exchange of ideas among members. This study found that public relations professionals have a role to play in the creating and maintaining social capital and shared meaning. Public relations activities directed at improving social capital in a network should look for ways in which shared meaning and relationships can form in rich communication contexts. With that, researchers should offer ways in which practitioners can best foster the creation of shared meaning.

One of the challenges advocacy coalitions face is free riders; the members of a network who join a group for the benefits but make few contributions. SuSanA faces a similar challenge with the passive partners in the alliance. Passive partners do not regularly engage with others in the network. Often such organizations are on the periphery of the network. The interview portion of the research found that some organizations may be passive simply because they have not been asked to engage. Practitioners should take note of the finding and consider ways to invite less active members to engage in a coalition. Everyone has something to share and it might take more than invitations to garner interest. The findings from this study suggest that organizations at structural holes may be deployed to engage passive organizations and bring them into the network. The organizations at structural holes are well-positioned structurally as well as relationally. Members in a network have repeatedly designated

organizations at structural holes as cooperative and important. Coalition organizers should use members' structural and relational qualities for the benefit of the network.

A final comment on the applied contribution is a call for research to explore how networks evolve. Public relations researchers and practitioners understand that issues wax and wane. But how does the evolution of a network affect an issue-based advocacy coalition and how can practitioners sustain such coalitions? A fully functioning society needs coalitions. Effective coalitions take time to contribute and must be adaptive to the lifecycle of issues they seek to influence. These are points for public relations practitioners and scholars. .

Limitations

This multi-phase study comes with some limitations. Beginning with the qualitative phases, the researcher was not able to coordinate online focus groups with SuSanA partners. Previous researchers of zones of meaning have found focus groups to be valuable in revealing fantasy themes (Bormann et al., 2001; Palenchar & Heath, 2002). To compensate, this study gave more attention to the textual analysis of four blogs, 13 factsheets, 39 discussion topics with multiple postings per topic, 220 mission statements, 25 quarterly newsletters, 24 planning documents, 40 partner websites, and five online videos of partners. The 17 interviews helped refine fantasy themes from the textual analysis and presented some new fantasy themes.

There were additional issues related to the fantasy themes in the quantitative phase. Partners' responses to the zones of meaning statements did not reflect the three rhetorical visions identified in the qualitative phase. When unable to construct variables

for the three rhetorical visions, the study used the individual zones of meaning statements as a representation of shared meaning.

Another limitation involves the number of questions asked on the survey. The SuSanA Secretariat required the researcher to reduce the number of survey items. The reduction did not affect the reliability of the measures as reported in the Chapter 3 but it would have been better to have more questions for additional quantitative analysis of the network relationships

A final limitation was presented during the discussion of the correlation of the social capital and shared meaning measures. The correlations between the zones of meaning statements and the variable measures of social capital were quite weak. The weak correlations are likely the result of low network density. However, the network measures revealed stronger correlations between social capital and shared meaning. Unfortunately the data gathered in this study did not allow causal relationships to be studied. The researcher cannot make claims of whether social capital leads to shared meaning or vice versa. Future researchers should address such issue. Despite the limitations mentioned, this dissertation contributed to public relations theory, research, and practice.

Future Research in Public Relations, Coalitions and Social Capital

The theoretical and methodological approaches used to assess social capital and shared meaning have attempted to address the limits of the existing theories and research of social capital. This study is distinct from past studies in that it moves beyond looking at the structure of relationships. This dissertation studied the

relationships *and* the shared meaning within such relationship. There are three areas for future research.

First, future researchers should continue with the exploration of social capital and shared meaning using a mixed methods approach. Social capital is a complex, multi-dimensional concept. Shared meaning is equally, if not more, complex. To fully understand both concepts, rich data are required.

Second, network analysis methodology is often limited by only providing a cross sectional assessment of a network. Methods are emerging in network analysis research that can analyze longitudinal network data. A longitudinal analysis of social capital and shared meaning can help scholars study a causal relationship between the two concepts. Doing so can address some of the questions asked in this dissertation's discussion chapter.

Third, there is a need to understand more fully the influence that structural holes have in a network. Researchers should explore how organizations use their structural holes characteristics to achieve outcomes. One might ask: Are organizations positioned at structural holes able to bring other organizations from the network periphery to the center? How does the network benefit? How does the structural hole benefit?

This study began with a focus on addressing conceptual gaps in the public relations literature on social capital, shared meaning, and advocacy coalitions. Through a multiphase study, this dissertation filled some of those gaps. Yet, the inquiry also presented a new set of questions. The process of discovery addressing those questions will be rewarding to public relations scholarship, and to the societies and communities enhanced by advocacy groups.

BIBLIOGRAPHY

Adler, P. S., & Kwon, S. W. (2002). Social capital: Prospects for a new concept. *Academy of Management Review*, *27*(1), 17–40.

Ahn, T. K., & Ostrom, E. (2008). Social capital and collective action. In D. Castiglione, J. W. van Deth, & G. Wolleb (Eds.) *The handbook of social capital* (pp. 70–100). New York: Oxford.

Ahuja, M. K., & Carley, K. M. (1998). Network structure in virtual organizations. *Journal of Computer-Mediated Communication, 3*(4). Retrieved from: doi: 10.1111/j.1083-6101.1998.tb00079.x

Anderson, D. S. (1992). Identifying and responding to activist publics: A case study. *Journal of Public Relations Research*, *4*(3), 151–165.

Ansell, C. (2003). Community embeddedness and collaborative governance in the San Francisco Bay area environmental movement. In M. Diani & D. McAdam (Eds.), *Social movements and networks: Relational approaches to collective action* (pp. 123–144). New York: Oxford University Press.

Atouba, Y., & Shumate, M. (2010). Interorganizational networking patterns among development organizations. *Journal of Communication, 60*(2), 293–317.

Bales, R. F. (1970). *Personality and interpersonal behavior.* New York: Holt, Rinehart and Winston.

Barringer, B. R., & Harrison, J. S. (2000). Walking a tightrope: Creating value through interorganizational relationships. *Journal of Management*, *26*(3), 367–403.

Bennett, W. L. (2005). Social movements beyond borders: Understanding two eras of transnational activism. In D. Della Porta & S. G. Tarrow (Eds.), *Transnational*

protest and global activism: People, passions, and power (pp. 203–226). Lanham, MD: Rowman & Littlefield.

Benson, J. K. (1975). The interorganizational network as a political economy. *Administrative Science Quarterly, 20*(2), 229–249.

Biddix, J. P., & Park, H. W. (2008). Online networks of student protest: The case of the living wage campaign. *New Media Society, 10*(8), 871–891.

Borgatti, S. P., & Lopez-Kidwell, V. (2011). Network theory. In J. Scott, & P. J. Carrington (Eds.), *The SAGE handbook of social network analysis* (pp. 40–54). Thousand Oaks, CA: Sage.

Borgatti, S. P., Everett, M. G., & Freeman, L. C. (2002). UCINET for Windows: Software for social network analysis. Harvard, MA: Analytic Technologies**.**

Borgatti, S. P., Everett, M. G., & Johnson, J. C. (2013). *Analyzing social networks.* Thousand Oaks, CA: Sage.

Borgatti, S. P., Jones, C., & Everett, M. G. (1998). Network measures of social capital. *CONNECTIONS, 21*(2), 27–36.

Bormann, E. G. (1985). Symbolic convergence theory: A communication formulation. *Journal of Communication, 35*(4), 128–138.

Bormann, E. G., Cragan, J. F., & Sheilds, D. C. (2001). Bormann, E. G., Cragan, J. F., & Shields, D. C. (2001). Three decades of developing, grounding, and using symbolic convergence theory (SCT). In. W. B. Gudykunst (Ed.), *Communication Yearbook 25* (pp. 271–313). Thousand Oaks, CA: Sage.

Botan, C. H., & Hazleton, V. (2006). Public relations in a new age. In C. H. Botan & V. Hazleton (Eds.) *Public relations theory II* (pp. 1–18). Mahwah, NJ: Lawrence Erlbaum Associates.

Botan, C. H., & Taylor, M. (2004). Public relations: State of the field. *Journal of Communication*, *54*(4), 645–661.

Bourdieu, P. (1984). *Distinction: A social critique of the judgment of taste.* Cambridge, MA: Harvard University Press.

Bourdieu, P. (1986). The forms of capital. In J. Richardson (Ed.), *Handbook of theory and research for the sociology of education* (pp. 241–258). Westport, CT: Greenwood.

Boyd, J., & Waymer, D. (2010). Organizational rhetoric: A subject of interest(s). *Management Communication Quarterly, 25*(3), 474–493.

Brass, D. J., & Labianca, G. (1999). Social capital, social liabilities, and social resources management. In R. Th. A. J. Leenders & S. M. Gabbay (Eds.), *Corporate social capital and liability* (pp. 323–338). Norwell, MA: Kluwer Academic Publishers.

Broom, C., & Avanzino, S. (2010). The communication of community collaboration: When rhetorical visions collide. *Communication Quarterly 58*(4), 480–501.

Broom, G. M., Casey, S., & Ritchey, J. (1997). Toward a concept and theory of organization–public relationships. *Journal of Public Relations Research, 9*(2), 83–98.

Broom, G. M., Casey, S., & Ritchey, J. (2000). Concept and theory of organization–public relationships. In J. A. Ledingham & S. D. Bruning (Eds.), *Public*

relations as relationship management: A relational approach to the study and practice of public relations (pp. 3–24). Mahwah, NJ: Lawrence Erlbaum Associates.

Burke, K. (1966). *Language as symbolic action*. Berkeley, CA: University of California Press.

Burke, K. (1968). *Counter-statement*. Berkeley, CA: University of California Press.

Burke, K. (1969). *A rhetoric of motives*. Berkeley, CA: University of California Press.

Burt, R. S. (1992). *Structural holes.* Cambridge, MA: Harvard University Press.

Burt, R. S. (2000). The network structure of social capital. *Research in Organizational Behavior, 22*(1), 345–423.

Burt, R. S. (2001). Structural holes versus network closure as social capital. In N. Lin, K. Cook, & R. S. Burt (Eds.), *Social capital: Theory and research* (pp. 31–56). New Brunswick, NJ: Transaction Publishers.

Carrington, P. J., & Scott, J. (2011). Introduction. In J. Scott & P. J. Carrington (Eds.), *The SAGE handbook of social network analysis* (pp. 11–25). Thousand Oaks, CA: Sage.

Castells, M. (1996). *The rise of the network society* (*Vol. 1.*) New York: Oxford University Press.

Castells, M. (2009). *Communication power.* New York: Oxford University Press.

Cho, H., Chen, M., & Chung, S. (2010). Testing an integrative theoretical model of knowledge-sharing behavior in the context of Wikipedia. *Journal of the American Society for Information Science and Technology, 61*(6), 1198–1212.

Coleman, J. (1988). Social capital in the creation of human capital. *American Journal of*

Sociology, 94(1)*,* 95–120.

Coleman, J. S. (1990). *Foundations of social theory*. Cambridge, MA: Harvard University Press.

Contractor, N. (2009). The emergence of multidimensional networks. *Journal of Computer-Mediated Communication, 14*(3), 743–747.

Coombs, W. T. (1998). The Internet as potential equalizer: New leverage for confronting social irresponsibility. *Public Relations Review, 24*(3), 289–303.

Cragan, J. F., & Shields, D. C. (1992). The use of symbolic convergence theory in corporate strategic planning: A case study. *Journal of Applied Communication Research*, *20*(2), 199–218.

Cragan, J. F., & Shields, D. C. (1995). *Symbolic theories in applied communication research: Bormann, Burke, and Fisher*. Cresskill, NJ: Hampton Press.

Cragan, J. F., & Shields, D. C. (1998). *Understanding communication theory: The communicative forces for human action*. Boston: Allyn & Bacon.

Cutlip, S. M. (1995). *Public relations history from the 17th to the 20th century: The antecedents.* Mahwah, NJ: Lawrence Erlbaum.

Daft, R. L., & Lengel, R. H. (1984). Information richness: A new approach to managerial information processing and organizational design. In B. Staw & L. L. Cummings (Eds.), *Research in organizational behavior* (Vol. 6, pp. 191–233). Greenwich, CT: JAI Press.

Daft, R. L., & Lengel, R. H. (1986). Organizational information requirements, media richness and structural design. *Management Science, 32*(5), 554–571.

Daft, R. L., Lengel, R. H., & Trevino, L. K. (1987). Message equivocality, media

selection, and manager performance: Implications for information systems. *MIS Quarterly, 11*(3), 355–367.

Deakin, H., & Wakefield, K. (2014). Skype interviewing: Reflections of two PhD researchers. *Qualitative Research, 14,* DOI: 10.1177/1468794113488126

Denstadli, J. M., Julsrud, T. E., & Hjorthol, R. J. (2012). Videoconferencing as a mode of communication: A comparative study of the use of videoconferencing and face-to-face meetings. *Journal of Business and Technical Communication*, *26*(1), 65–91.

Desanctis, G., & Monge, P. (1998). Communication processes for virtual organizations. *Journal of Computer-Mediated Communication*, *3*(4). Retrieved from http://onlinelibrary.wiley.com/doi/10.1111/j.1083-6101.1998.tb00083.x/full

Diani, M. (2003a). Introduction: Social movements, contentious actions, and social networks: 'From metaphor to substance'. In M. Diani & D. McAdam (Eds.), *Social movements and network: Relational approaches to collective action* (pp. 1–17). New York: Oxford University Press.

Diani, M. (2003b). 'Leaders' or brokers? Positions and influence in social movement networks. In M. Diani & D. McAdam (Eds.), *Social movements and network: Relational approaches to collective action* (pp. 105–121). New York: Oxford University Press.

Doerfel, M. L., & Taylor, M. (2004). Network dynamics of interorganizational cooperation: The Croatian civil society movement. *Communication Monographs, 71*(4), 373–394.

Dozier, D. M., & Lauzen, M. M. (2000). Liberating the intellectual domain from the

practice: Public relations, activism, and the role of the scholar. *Journal of Public Relations Research*, *12*(1), 3–22.

Ferguson, M. A. (1984, August). *Building theory in public relations: Interorganizational relationships as a public relations paradigm*. Paper presented to the annual conference of the Association for Education in Journalism and Mass Communication, Gainesville, FL.

Flanagin, A. J., Monge, P., & Fulk, J. (2001). The value of formative investment in organizational federations. *Human Communication Research*, *27*(1), 69–93.

Freeman, J. (1979a). Resource mobilization and strategy. In M. N. Zald & J. M. McCarthy (Eds.), *The dynamics of social movements* (pp. 167–189). Cambridge, MA: Winthrop.

Freeman, L. (1977). A set of measure of centrality based upon betweenness. *Sociometry, 40*(1), 35–41.

Freeman, L. (1979b). Centrality in social networks: I. Conceptual clarification. *Social Networks, 1*(3), 215–239.

Freeman, L. (1996). Some antecedents of social network analysis. *CONNECTIONS, 19*(1), 39–42.

Glassmeyer, D. M., & Dibbs, R.-A. (2012). Researching from a distance: Using live web conferencing to mediate data collection. *International Journal of Qualitative Methods, 11*(3), 292–301.

Granovetter, M. S. (1973). The strength of weak ties. *American Journal of Sociology, 78*(6), 1360–1380.

Granovetter, M. S. (1974). *Getting a job*. Cambridge, MA: Harvard University Press.

Grunig, G. E. (2001). Two-way symmetrical public relations: Past, present, and future. In R. L. Heath (Ed.), *Handbook of public relations* (pp. 11–30). Thousand Oaks, CA: Sage.

Grunig, J. E. (1992). Communication, public relations, and effective organizations: An overview of the book. In J. E. Grunig (Ed.), *Excellence in public relations and communication management* (pp. 1–30). Hillsdale, NJ: Lawrence Erlbaum Associates.

Grunig, J. E., & Huang, Y. H. (2000). From organizational effectiveness to relationship indicators: Antecedents of relationships, public relations strategies and relational outcomes. In J. A. Ledingham & S. D. Bruning (Eds.), *Public relations as relationship management: A relational approach to the study and practice of public relations* (pp. 23–53). Mahwah, NJ: Lawrence Erlbaum Associates.

Grunig, J. E., & Hunt, T. (1984). *Managing public relations.* New York: Holt, Rinehart & Winston.

Grunig, L. A. (1992). Activism: How it limits the effectiveness of organization and excellent public relations departments respond. In J. E. Grunig (Ed.), *Excellence in public relations and communication management* (pp. 503–530). Hillsdale, NJ: Lawrence Erlbaum Associates.

Hallahan, K. (2001). The dynamics of issues activation and response: An issues process model. *Journal of Public Relations Research 13*(1), 27–59.

Hanneman, R. A., & Riddle, M. (2005). *Introduction to social network methods*. Riverside, CA: University of California, Riverside.

Haythornthwaite, C. (1996). Social network analysis: An approach and technique for

the study of information exchange. *Library and Information Science Research, 18*(4)*,* 323–342.

Hazleton, V., & Kennan, W. (2000). Social capital: Reconceptualizing the bottom line. *Corporate Communications: An International Journal*, *5*(2), 81–87.

Heath, R. L. (1992a). Critical perspectives on public relations. In E. L. Toth & R. L. Heath (Eds.), *Rhetorical and critical approaches to public relations* (pp. 131–164). Hillsdale, NJ: Lawrence Erlbaum Associates.

Heath, R. L. (1992b). The wrangle in the marketplace: A rhetorical perspective of public relations. In E. L. Toth & R. L. Heath (Eds.), *Rhetorical and critical approaches to public relations* (pp. 17–36). Hillsdale, NJ: Lawrence Erlbaum Associates.

Heath, R. L. (1993). A rhetorical approach to zones of meaning and organizational prerogatives. *Public Relations Review*, *19*(2), 141–155.

Heath, R. L. (2000). A rhetorical perspective on the values of public relations: Crossroads and pathways toward concurrence. *Journal of Public Relations Research*, *12*(1), 69–91.

Heath, R. L. (2006). Onward into more fog: Thoughts on public relations' research directions. *Journal of Public Relations Research*, *18*(2), 93–114.

Heath, R. L. (2009). The rhetorical tradition: Wrangle in the marketplace. In R. L. Heath, E. L. Toth, & D. Waymer (Eds.), *Rhetorical and critical approaches to public relations II* (pp. 17–47). New York: Routledge.

Heath, R. L. (2013). The journey to understand and champion OPR takes many roads, some not yet well traveled. *Public Relations Review, 39*(5), 426–431.

Heath, R. L., & Abel, D. D. (1996). Proactive response to citizen risk concerns: Increasing citizens' knowledge of emergency response practices. *Journal of Public Relations Research*, *8*(3), 151–171.

Heath, R. L., & Frandsen, F. (2008). Rhetorical perspective and public relations: Meaning matters. In A. Zerfass, B. van Ruler, & K. Sriramesh (Eds.), *Public relations research: European and international perspective and innovations* (pp. 349–364). New York: Springer.

Heath, R. L., & Palenchar, M. (2000). Community relations and risk communication: A longitudinal study of the impact of emergency response messages. *Journal of Public Relations Research*, *12*(2), 131–161.

Heath, R. L., Waymer, D., & Palenchar, M. J. (2013). Is the universe of democracy, rhetoric, and public relations whole cloth or three separate galaxies?. *Public Relations Review*, *39*(4), 271–279.

Henderson, A. (2005). Activism in "Paradise": Identity management in a public relations campaign against genetic engineering. *Journal of Public Relations Research*, *17*(2), 117–137.

Hesse-Biber, S., & Griffin, A. J. (2013). Internet-mediated technologies and mixed methods research: Problems and prospects. *Journal of Mixed Methods Research,* *7*(1), 43–61.

Hon, L. C., & Grunig, J. E. (1999). Guidelines for measuring relationships in public relations. *Institute for Public Relations*. Retrieved from www.instiuteforpr.org.

Huang, Y. H. (2001). OPRA: A cross-cultural, multiple-item scale for measuring organization–public relationships. *Journal of Public Relations Research*, *13*(1),

61–90.

Ihlen, Ø. (2005). The power of social capital: Adapting Bourdieu to the study of public relations. *Public Relations Review, 31*(4), 492–496.

Ihlen, Ø. (2007). Building on Bourdieu: A sociological grasp of public relations. *Public Relations Review*, *33*(3), 269–274.

Ihlen, Ø. (2010). The cursed sisters: Public relations and rhetoric. In R. L. Heath (Ed.), *The SAGE handbook of public relations* (pp. 59–70). Thousand Oaks, CA: Sage.

Ihlen, Ø., & van Ruler, B. (2007). How public relations works: Theoretical roots and public relations perspectives. *Public Relations Review*, *33*(3), 243–248.

Kamler, E. M. (2013). Negotiating narratives of human trafficking: NGOs, communication and the power of culture. *Journal of Intercultural Communication Research, 42*(1), 73–90.

Kasper-Fuehrer, E. C., & Ashkanasy, N. M. (2001). Communicating trustworthiness and building trust in interorganizational virtual organizations. *Journal of Management, 27*(3), 235–254.

Kauffman, S. A. (1993). *The origins of order: Self-organization and selection in evolution*. New York: Oxford University Press.

Kauffman, S. A. (1995). *At home in the universe: The search for laws of self-organization and complexity*. New York: Oxford University Press.

Kennan W. R., & Hazleton, V. (2006). Internal public relations, social capital, and the role of effective organizational communication. In C. H. Botan & V. Hazleton (Eds.) *Public relations theory II* (pp. 311–338). Mahwah, NJ: Lawrence Erlbaum Associates.

Kent, M. L., & Taylor, M. (1998). Building dialogic relationships through the World Wide Web. *Public Relations Review*, *24*(3), 321–334.

Kent, M. L., & Taylor, M. (2002). Toward a dialogic theory of public relations. *Public Relations Review*, *28*(1), 21–37.

Kent, M. L., Taylor, M., & White, W. J. (2003). The relationship between Web site design and organizational responsiveness to stakeholders. *Public Relations Review*, *29*(1), 63–77.

Kikuchi, M., & Coleman, C. L. (2012). Explicating and measuring social relationships in social capital research. *Communication Theory*, *22*(2), 187–203.

Kleinnijenhuis, J. (2008). Empirical research in contemporary social sciences relevant to public relations: Toward a network approach. In D. van Ruler, A. T., Verčič, & D. Verčič (Eds.), *Public relations metrics: Research and evaluation* (pp. 60–87). New York: Routledge.

Knoke, D., & Yang, S. (2008). *Social network analysis* (2nd ed.). Thousand Oaks, CA: Sage.

Ledingham, J. A. (2003). Explicating relationship management as a general theory of public relations. *Journal of Public Relations Research*, *15*(2), 181–198.

Ledingham, J. A., & Bruning, S. D. (1998). Relationship management in public relations: Dimensions of an organization–public relationship. *Public Relations Review*, *24*(1), 55–65.

Ledingham, J. A., & Bruning, S. D. (2000). A longitudinal study of organization–public relationship dimensions: Defining the role of communication in the practice of relationship management. In J. A. Ledingham & S. D. Bruning (Eds.), *Public*

relations as relationship management: A relational approach to the study and practice of public relations (pp. 55–69). New York: Routledge:

Lin, N. (1999). Building a network theory of social capital. *CONNECTIONS, 22*(1), 28–51.

Lin, N. (2001). *Social capital: A theory of structure and action,* London: Cambridge University Press.

Lin, N. (2008). A network theory of social capital. In D. Castiglione, J. W. van Deth, & G. Wolleb (Eds.), *The handbook of social capital* (pp. 50–69). New York: Oxford.

Lindlof, T. R., & Taylor, B. C. (2011). *Qualitative communication research methods* (3rd ed.). Thousand Oaks, CA: Sage.

Marin, A., & Wellman, B. (2011). Social network analysis: An introduction. In J. Scott & P. J. Carrington (Eds.), *The SAGE handbook of social network analysis* (pp. 11–25). Thousand Oaks, CA: Sage.

McAdam, D., & Paulsen, R. (1993). Specifying the relationships between social ties and activism. *American Journal of Sociology, 99*(3), 640–667.

McAdam, D., & Snow, D. A. (2010). Social movements: Conceptual and theoretical issues. In D. McAdam & D. A. Snow (Eds.), *Readings on social movements: Origins, dynamics and outcomes* (2nd ed., pp. 1–8). New York: Oxford.

McAllister-Spooner, S. (2009). Fulfilling the dialogic promise: A ten-year reflective survey on dialogic Internet principles. *Public Relations Review, 25*(3), 320–322.

McCarthy, J. D., & Zald, M. N. (1977). Resource mobilization and social movement. *American Journal of Sociology, 82*(6), 1212–1241.

McGee, M. C. (1980). The “ideograph”: A link between rhetoric and ideology. *Quarterly Journal of Speech*, *66*(1), 1–16.

Meijer, M. M., & Kleinnijenhuis, J. (2006). News and corporate reputation: Empirical findings from the Netherlands. *Public Relations Review*, *32*(4), 341–348.

Melucci, A. (1995). The process of collective identity. In H. Johnston & B. Klandermans (Eds.), *Social movements and culture: Social movements, protest, and contention* (vol. 4; pp. 41–63). Minneapolis, MN: University of Minnesota Press.

Monge, P. R. (1987). The network level of analysis. In C. R. Berger & S. H. Chaffee (Eds.), *Handbook of communication science* (pp. 239–270). Newbury Park, CA: Sage.

Monge, P. R., & Contractor, N. (2003). *Theories of communication networks*. New York: Oxford University Press.

Mukherjee, D., Renn, R. W., Kedia, B. L., & Mukherjee, D. (2012). Development of interorganizational trust in virtual organizations: An integrative framework. *European Business Review, 24*(3), 255–271.

Murphy, P. (2010). The intractability of reputation: Media coverage as a complex system in the case of Martha Stewart. *Journal of Public Relations Research*, *22*(2), 209–237.

Nahapiet, J., & Ghoshal, S. (1998). Social capital, intellectual capital, and the organizational advantage. *Academy of Management Review, 23*(2), 242–266.

Oliveira, M. D. F., & Murphy, P. (2009). The leader as the face of a crisis: Philip Morris' CEO's speeches during the 1990s. *Journal of Public Relations Research*, *21*(4), 361–380.

Olson, M. (1965). *The logic of collective action: Public goods and the theory of groups.* Cambridge, MA: University of Harvard Press.

Ostrom, E. (2003). Towards a behavioral theory linking trust, reciprocity and reputation. In E. Ostrom & J. Walker (Eds.), *Trust and reciprocity: Interdisciplinary lessons from experimental research* (pp. 19–79). New York: Russell Sage Foundation.

Palazzolo, E. T., Serb, D. A., She, Y., Su, C., & Contractor, N. S. (2006). Coevolution of communication and knowledge networks in transactive memory systems: Using computational models for theoretical development. *Communication Theory*, *16*(2), 223–250.

Palenchar, M. J., & Heath, R. L. (2002). Another part of the risk communication model: Analysis of risk communication process and message content. *Journal of Public Relations Research*, *14*(2), 127–158.

Pearson, R. (1990). Perspectives on public relations history. *Public Relations Review*, *16*(3), 27–38.

Pearson, R. (2009). Perspectives on public relations history. In R. L. Heath, E. L. Toth, & D. Waymer (Eds.), *Rhetorical and critical approaches to public relations II* (pp. 94–109). New York: Routledge.

Pfeffer, J., & Salancik, G. (1978). *The external control of organizations.* New York: Harper & Row.

Pompper, D. (2012). On social capital and diversity in a feminized industry: Further developing a theory of internal public relations. *Journal of Public Relations Research*, *24*(1), 86–103.

Portes, A. (1998). Social capital: Its origins and perspectives in modern sociology. *Annual Review of Sociology*, *243*(1), 1–24.

Provan, K. G., Fish, A., & Sydow, J. (2007). Interorganizational networks at the network level: A review of the empirical literature on whole networks. *Journal of Management*, *33*(3), 479–516.

Putnam, R. D. (1995). Bowling alone: America's declining social capital. *Journal of Democracy, 6*(1)*,* 65–78.

Putnam, R. D. (2000). *Bowling alone: The collapse and revival of American community.* New York: Simon & Schuster.

Reber, B. J., & Kim, J. K. (2006). How activist groups use websites in media relations: Evaluating online press rooms. *Journal of Public Relations Research, 18*(4), 313–333.

Saffer, A. J., Taylor, M., & Yang, A. (2013). Political public relations in advocacy: Building online influence and social capital. *Public Relations Journal, 7*(4), 1–35.

Sallot, L. M., Lyon, L. J., Acosta-Alzuru, C., & Jones, K. O. (2003). From aardvark to zebra: A new millennium analysis of theory development in public relations academic journals. *Journal of Public Relations Research*, *15*(1), 27–90.

Samuelson, P. A. (1954). The pure theory of public expenditure. *The Review of Economics and Statistics*, *36*(4), 387–389.

Scott, J. (2000). *Social network analysis: A handbook* (2nd ed.). Thousand Oaks, CA: Sage.

Shumate, M., & Dewitt, L. (2008). The north/south divide in NGO hyperlink networks. *Journal of Computer-Mediated Communication*, *13*(2), 405–428.

Shumate, M., & Pike, J. (2006). Trouble in a geographically distributed virtual network organization: Organizing tensions in Continental Direct Action Network. *Journal of Computer-Mediated Communication*, *11*(3), 802–824.

Smith, J. (2005). Globalizations and transitional social movement organizations. In G. Daus, D. McAdam, W. R. Scott, & M. Zald (Eds.), *Social movements and organizational theory* (pp. 226–248). New York: Cambridge University Press.

Smith, J. (2008). *Social movements for global democracy.* Baltimore, MD: The Johns Hopkins University Press.

Smith, M. F. (1997, November). *Public relations from the "bottom-up": Toward a more inclusive view of public relations.* Paper presented at the annual meeting of the National Communication Association, Chicago, IL.

Smith, M. F., & Ferguson, D. P. (2001). Activism. In R. L. Heath (Ed.), *Handbook of public relations* (pp. 291–300). Thousand Oaks, CA: Sage.

Sommerfeldt, E. J. (2013a). Networks of social capital: Extending a public relations model of civil society in Peru. *Public Relations Review. 39*(1), 1–12.

Sommerfeldt, E. J. (2013b). The civility of social capital: Public relations in the public sphere, civil society, and democracy. *Public Relations Review, 39*(4), 280–289.

Sommerfeldt, E. J., & Kent, M. L. (2012, May). A network approach to measuring organization–public relationships. Research directions for public relations using

social network analysis. Paper presented at the annual conference of the International Communication Association, Phoenix, AZ.

Sommerfeldt, E. J., & Taylor, M. (2011). A social capital approach to improving public relations' efficacy: Diagnosing internal constraints on external communication. *Public Relations Review, 37*(3), 197–206.

Sommerfeldt, E. J., Kent, M. L., & Taylor, M. (2012). Activist practitioner perspectives of website public relations: Why aren't activist websites fulfilling the dialogic promise?. *Public Relations Review*, *38*(2), 303–312.

Soule, S. A. (2012). Social movements and markets, industries, and firms. *Organization Studies, 33*(12), 1715–1733.

Stohl, M., & Stohl, C. (2005). Human rights, nation states, and NGOs: Structural holes and the emergence of global regimes. *Communication Monographs*, *72*(4), 442–467.

Su, C. (2012). Who knows who knows what in the group? The effects of communication network centralities, use of digital knowledge repositories, and work remoteness on organizational members' accuracy in expertise recognition. *Communication Research*, *39*(5), 614–640.

Taylor, M. (2009). Civil society as a rhetorical public relations process. In R. L. Heath, E. L. Toth, & D. Waymer (Eds.), *Rhetorical and critical approaches to public relations II* (pp. 76–91). New York: Routledge.

Taylor, M. (2010). Public relations in the enactment of civil society. In R. L. Heath (Ed.), *The SAGE handbook of public relations* (pp. 5–16). Thousand Oaks, CA: Sage.

Taylor, M. (2011). Building social capital through rhetoric and public relations. *Management Communication Quarterly*, *25*(3), 436–454.

Taylor, M., & Sen Das, S. (2010). Public relations in advocacy: Stem cell research organizations' use of the internet in resource mobilization. *Public Relations Journal*, *4*(4), 1–22.

Taylor, M., & Doerfel, M. L. (2003). Building interorganizational relationships that build nations. *Human Communication Research, 29*(2), 153–181.

Taylor, M., & Doerfel, M. L. (2005). Another dimension to explicating relationships: Measuring inter-organizational linkages. *Public Relations Review*, *31*(1), 121–129.

Taylor, M., & Kent, M. L. (2006). Public relations theory and practice in nation building. In C. H. Botan & V. Hazleton (Eds.) *Public relations theory II* (pp. 341–359). Mahwah, NJ: Lawrence Erlbaum Associates.

Taylor, M., Kent, M. L., & White, W. J. (2001). How activist organizations are using the Internet to build relationships. *Public Relations Review*, *27*(3), 263–284.

Toth, E. L. (1992). The case for pluralistic studies of public relations: Rhetorical, critical, and systems perspective. In E. L. Toth & R. L. Heath (Eds.), *Rhetorical and critical approaches to public relations* (pp. 3–15). Hillsdale, NJ: Lawrence Erlbaum Associates.

van Deth, J. W. (2008). Measuring social capital. In D. Castiglione, J. W. van Deth, & G. Wolleb (Eds.), *The handbook of social capital* (pp. 150–176). New York: Oxford.

van Dyke, N., & McCammon, H. J. (2010). Introduction: Social movement coalition

formation. In N. van Dyke & H. J. McCammon (Eds.), *Strategic alliances: Coalition building and social movements* (pp. xi–xxviii). Minneapolis, MN: University of Minnesota Press.

Vasquez, G. M., & Taylor, M. (2000). Public relations: An emerging social science enters the new millennium. In W. B. Gudykunst (Ed.), *Communication Yearbook 24* (pp. 319–342). Thousand Oaks, CA: Sage.

Walker, G., Kogut, B., & Shan, W. (1997). Social capital, structural holes and the formation of an industry network. *Organization science*, *8*(2), 109-125.

Walker, K. L., & Stohl, C. (2012). Communicating in a collaborating group: A longitudinal network analysis. *Communication Monographs, 79*(4), 448–474.

Walter, J. Lechner, C., & Kellermanns, F. W. (2007). Knowledge transfer between and within alliance partners: Private versus collective benefits of social capital. *Journal of Business Research, 60*(7), 698–710.

Warner, B. J., & Neville-Shepard, R. (2011). The polarizing influence of fragmented media: Lesson from Howard Dean. *Atlantic Journal of Communication, 19*(4), 201–215.

Wasserman, S., & Faust, K. (1994). *Social network analysis: Methods and applications* (Vol. 8). Cambridge, UK: Cambridge University Press.

Willis, P. (2012). Engaging communities: Ostrom's economic commons, social capital and public relations. *Public Relations Review, 38*(1), 116–122.

Yang, A. (2013a). Building global strategic alliances in the virtual space: A structural analysis of international nonprofit and nongovernmental organizations' transnational relationship networks. *Journal of Public Affairs, 13*(3), 239–250.

Yang, A. (2013b). When transnational civil network meets local context: An exploratory hyperlink network analysis of Northern/Southern NGOs' virtual network in China. *Journal of International and Intercultural Communication*, *6*(1), 40–60.

Yang, A., & Taylor, M. (2012, November). *Toward a model of contextualizing organizational relationships: A network ecology framework.* Paper presented at the annual meeting of the National Communication Association, Orlando, FL.

Yang, A., Klyueva, A., & Taylor, M. (2012). Beyond a dyadic approach to public diplomacy: Understanding relationships in multipolar world. *Public Relations Review*, *38*(5), 652–664.

Yang, S.-U., & Lim, J. S. (2009). The effects of blog–mediated public relations (BMPR) on relational trust. *Journal of Public Relations Research, 21*(3), 341–359.

Zaheer, A., & Harris, J. (2006). Interorganizational trust. In O. Shenkar & J. Reuer (Eds.), *Handbook of strategic alliances* (pp. 169–197). Thousand Oak, CA: Sage.

Zaheer, A., McEvily, B., & Perrone, V. (1998). Trust matter? Exploring the effects of interorganizational and interpersonal trust on performances. *Organization Science, 9*(2), 141–159.

Zald, M. N., & McCarthy, J. D. (1987). *Social movements in an organizational society: Collected essays.* New Brunswick, NJ: Transaction Publishers.

APPENDIX A
Interview Guide: Interviews and Focus Group Discussion

The following are interview questions were used for the study. The interview questions seek to reveal the fantasy theme within the network. Each has been provided below. The fantasy theme related questions are based on the work of Broom and Avanzino (2010), Kamler (2013), and Palenchar and Heath (2002). To follow Lazega's (1997) suggestion for qualitative network analysis research, the study included questions about organizations' relationships with others in the SuSanA network.

Interview/Focus Groups Questions:

1. Tell me about your organization.
    a. How were you founded?
    b. What does your do?
    c. What are the strengths and challenges of your organization?
    d. If you could imagine your organization in five years, what would it look like?
2. Tell me about the sustainable sanitation sector of development.
    a. Is it a competitive sector? Collaborative sector? Emerging sector?
    b. How did your organization become involved in the sector?
    c. Can you tell me a story about how your organization has made an impact in the sector?
3. Tell me how your organization became involved in SuSanA and the history of the alliance?
    a. Why did your organization become a partner in the alliance?
    b. What is your role in regards to working with SuSanA?
4. What are some of the successes of SuSanA?
    a. What is your favorite success story? How was organization involved?
5. What are some of the challenges SuSanA has faced?
    a. What was the outcome of this challenge?
6. What do you see as some of the overarching, long-term goals of SuSanA?
    a. Can you tell me a story about a time when your relationship with that organization helped advance the objectives/goals of the coalition?
7. If you could imagine SuSanA in five years, what would it look like?
    a. Who do you see as the key organizations/individuals that will help achieve those goals for the alliance?
8. Who do you see as a visionary organization in SuSanA?
    a. What makes them visionary?
    b. Can you tell me a story about a time their were visionary?
9. What organizations do you see as directing the actions of SuSanA?

10. Which organizations do you communicate with most frequently?
    a. In what ways do you communicate?
    b. What role does social media play in maintain these communicative relations and relationships with audiences important to your organization?
11. How would you characterize you organization's relationships with other sanitation organizations? When do you feel the need to establish collaboration with them?
    a. Why do you believe you all work well/or not well together?
    b. Can you tell me a story about a time when your relationship with that organization was tested?
    c. Is a specific time/even that brought your two organizations together/split apart.
12. What external organizations, groups, or entities do you see as a "threat" to the objectives and goals of SuSanA?
    a. What is threatening about those organizations?
    b. Can you describe an event or possible scenario where you could see this external actor negatively influencing SuSanA?
13. Is there anything else you would like to tell me about your organization or SuSanA?

APPENDIX B
Zones of Meaning and Network Survey Questions

IRB approved message stating the purpose and requirements for completing the study.

Zones of Meaning Questions
The below statements are based on analysis of documents and interviews with members of the focal coalition. The purpose of this portion of the survey is to determine your level of agreement or disagreement with these states. On a scale from 1 (strongly disagree) to 7 (strongly agree), please rate your level of disagreement or agreement with each statement.

- Question 1
- Question 2
- Question 3

Network Analysis Questions
Now you will be asked a series of questions about your organization's relationship with other members of the focal coalition.

Communication/Interaction (adapted from Burt, 1998; Doerfel & Taylor, 2004; Sommerfeldt, 2013a; Taylor & Doerfel, 2003)

The following questions are regarding your communication relationships with organizations you interact with in the coalition. Please think of the organizations you have worked with over the past year regarding the focal coalition. On a scale from 1 (strongly disagree) to 7 (strongly agree), please indicate your disagreement or agreement with the follow statements.

- On the roster below, select the organizations with which you have worked with over the past year regarding the focal coalition?
- On a scale from 0 (not at all important) to 10 (very important), rate the value of your organization's communication relationships with each organization listed.
- On average, how often do you talk to representatives from each organization listed? (daily, weekly, monthly, quarterly, less often, none [Reserve code: daily = 5, none = 0).

[Filter all remaining questions based on organization selected in the above questions]

Media Richness Questions (adapted from Taylor & Doerfel, 2003)
[Continue filter organizations selected in Q1–Q3]

Please indicate each medium you use to communicate with the following organizations.

- *Respondents will be given a range of options that are valued as follows:*
    - 1 = fax, email, text message, or indirect contacts
    - 2 = phone, Skype (video/audio conferencing)

- 3 = face-to-face meetings

Organization Importance (adapted from Sommerfeldt, 2013a; Taylor & Doerfel, 2003)
[Continue filter organizations selected in Q1–Q3]

- From time to time most people discuss important matters with other people. Looking back over the last year—what are the organizations on this roster with which you discussed matters important to your organization?

- Please rate the intensity of your organization's relationship with each organization based on the descriptions below:

    1. Are you **especially close** with this organization in the sense that this is one of your closest professional or personal contacts?
    2. Or are you merely **close** in the sense that you interact with the organization, but do not count it among your closest professional or personal contacts?
    3. Or are you **less than close** in the sense that you don't mind working with the organization, but you have no wish or need to develop a relationship?
    4. Or are you **distant** in the sense that you do not interact with the organization unless it is necessary?

Trust (Zaheer, McEvily, & Perrone, 1998)
[Continue filter organizations selected in Q1–Q3]

The following questions are regarding your trust in the representatives and organizations you interact with in the coalition. On a scale from 1 (strongly disagree) to 7 (strongly agree), please indicate your disagreement or agreement with the follow statements.

Interorganizational Trust

1. Organization X has always been evenhanded in its negotiations with us.
2. Organization X may use opportunities that arise to benefit at our expense. [R]
3. Based on past experience, we cannot with complete confidence rely on Organizaiton X to keep promises made to us. [R]
4. We are hesitant to transact with Organization X when the specifications are vague [R].

Interpersonal Trust

1. My contact person at Organization X has always been evenhanded in negotiation with me.
2. I know how my contact person at Organization X is going to act. S/he can always be counted on to act as I expect.
3. I have faith in my contact person at Organization X to look out for my interests even when it is costly to do so.
4. I would feel a sense of betrayal if my contact at Organization X performance was below my expectations.

Cooperation (adapted from Doerfel and Taylor, 2004)
[Continue filter organizations selected in Q1–Q3]

The following questions are regarding the type of relationships you have with other organizations in the coalition. On a scale from 1 (strongly disagree) to 7 (strongly agree), please indicate your disagreement or agreement with the follow statements.

Cooperation

- This organization help my organization:
    - accomplish our goals.
    - have access to useful information.
- This organization:
    - engages in respectful activities.
    - collaborates with my organization.
    - overall, provides important information.
- My organization:
    - relies on this organization for important info.
    - trust information from this organization.
    - Can be confidential with this organization
- Information from this organization is:
    - accurate
    - truthful

Competition

- This organization:
    - hinders my org's access to funding
    - should be achieve more than it is
    - provides misleading information
    - is deceptive

Information Exchange (adapted from Haythornthwaite, 1996; Sommerfeldt, 2013; Taylor & Doerfel, 2003)
[Continue filter organizations selected in Q1–Q3]

The following questions are regarding the information you receive from organizations in the coalition. On a scale from 1 (strongly disagree) to 7 (strongly agree), please indicate your disagreement or agreement with the follow statements.

1. I trust the information I receive from this organization.
2. The information I receive from this organization is timely.
3. The information I receive from this organization is accurate.
4. How often do you receive information from each organization?

Items measured on 5 point scale, strongly disagree to strongly agree, or
(5 point scale, very rarely to very frequently)

End of Survey [Thank you message for participating.]

Appendix C
Alphabetical Roster of SuSanA Partners' Names, Abbreviations and Organization Types

ACEPESA	ACEPESA	NGO
ACRA	ACRA	iNGO
Action Centre la Faim	ACF	iNGO
AEE INTECT	AEE INTECT	Research
African Applied Health, Education, And Development	Africa AHEAD	Network
African Sanitation Knowledge Network	ASKNet	Network
AFRIpads Ltd.	AFRI	Private
AGUATUYA	AGUATUYA	NGO
AHT Group AG	AHT	Private
Akvo	Akvo	iNGO
ALUF Department of Geography	ALUF	Research
Amka	Amka	Private
An Organization for Socio-Economic Development	AOSED	NGO
Appropriate Technology	App Tech	Research
Aqua for All	A4A	NGO
Arche Nova	Arche Nova	iNGO
areal GmbH	areal GmbH	Private
Austrian Development Agency	ADA	Gov
AVRDC The World Vegetable Center	AVRDC	Research
Backlund Aps	Backlund Aps	Private
Bangladesh Association for Social Advancement	BASA	NGO
Banka BioLoo Pvt Ltd	BBL	Private
Bauhaus-Universität Weimar	BUW	Research
Better World Cameroon	BWC	NGO
Biobox	Biobox	Private
Bioforsk	Bioforsk	Research
Birzeit University - Institute of Environmental and Water Studies	IEWS	Research
BOATA	BOATA	Private
BOKU University Institute of Sanitary Engineering and Water Pollution Control	BOKU	Research
Bremen Overseas Research and Development Association	BORDA	iNGO
Busoga Trust	Busoga	iNGO
Capacity Building for Integrated Water Resources Management	Cap-net	Network
Center for Advanced Philippine Studies	CAPS	NGO
Center for Development	CFD	NGO
Centre for Affordable Water and Sanitation Technology	CAWST	iNGO
Centre for Community Health Research	CCHR	NGO
Centre for Community Organisation and Development	CCODE	NGO
Centre for Environmental Management and Participatory	CEMPD	NGO

Development		
Centre for Science and Environment	CSE	Research
Centre of Sustainable Environmental Sanitation	CSES	Network
Centro Ecologico Akumal	CEA	NGO
CEPT	CEPT	Research
cewas	cewas	Private
Climate Foundation	Climate Foundation	iNGO
Community Cleaning Services	CCS	Private
Community Led Total Sanitation	CTLS	NGO
Community Self Improvement	COSI	NGO
Concern Worldwide	Concern	iNGO
CWSR- University of Technology	CWSR	Research
Decentralised Environmental Solutions	DES	NGO
Deutsche Gesellschaft für Internationale Zusammenarbeit	GIZ	Gov
Development Organization of The Rural Poor	DORP	NGO
Devolution Trust Fund	DTF	Gov
Dunster House Ltd	Dunster House	Private
Earth Forever	Earth Forever	NGO
East Kolkata Wetland Management Authority	EKWMA	Gov
Eawag/Sandec	Eawag	Research
ECODOMEO	ECODOMEO	Private
Ecological Sanitation for Latin America and the Caribbean	ECOSANLAC	Network
EcoLoo AB	EcoLoo AB	Private
Ecopsis sa	Ecopsis	Private
EcoSan Club	EcoSanClub	iNGO
Ecosan Services Foundation	ESF	NGO
EcoSolutions	EcoSolutions	NGO
EcoSur	EcoSur	Network
Ecotact	Ecotact	Private
Engicon	Engicon	Private
Engineers without Borders, Germany Chapter	EwoB	iNGO
Environment and Public Health Organization	ENPHO	NGO
Environmental Information System	ENVIS	NGO
Envirosan Sanitation Solutions	ESS	Private
Eram Scientific Solutions	ESP	Private
Ethopian Federal Ministry of Health	EFMH	Gov
Excloosive Ltd.	Excloosive	Private
Federal Institute for Geosciences & Natural Resources	BGR	Gov
Financial Inclusion Improve Sanitation and Health	FINISH	Network
Food and Agriculture Organization of the United Nations	FAO	Multilateral
Foundation Ensemble	Ensemble	NGO
Foundation SODIS	SODIS	NGO

Friends of Nature	FON Nepal	NGO
Friends of Orchha	Orchha	NGO
Gender and Water Alliance	GWA	Network
German Toilet Organization	GTO	NGO
Global Development Research Center	GDRC	Research
Global Dry Toilet Association of Finland	GDTAF	NGO
GOAL	GOAL	iNGO
Guarantee Environment on Water Sanitation and Hygiene	GEOWASH	NGO
Homeless International	Homeless	iNGO
ICLEI	ICLEI	Multilateral
iDE	iDE	iNGO
Indian Water Works Association	IWWA	Network
Innovations Unlimited	IU	Private
INREM Foundation	INREM	NGO
Institute for Sustainable Futures	ISF	Research
Institute for Technology Assessment & Systems Analysis	ITAS	Research
Institute of Water and Sanitation Development	IWSD	Research
Instituto de Desarollo Urbano	CENCA	NGO
International Biogas and Bioenergy Centre of Competence	IBBK	Research
International Code Council	ICC	Network
International Ecological Engineering Society	IEES	NGO
International Rainwater Harvesting Alliance	IRHA	Multilateral
International Water and Sanitation Centre	IRC	iNGO
International Water Association	IWA	Network
International Water Centre	IWC	Research
International Water Management Institute	IWMI	iNGO
IPStar B.V.	IPStar B.V.	Multilateral
IRIDRA	IRIDRA	Private
Japan International Cooperation Agency	JICA	Gov
Japan Water Forum	JWF	Network
Japanese Association of Drainage and Environment	JADE	iNGO
Jimma University	Jimma	Research
JINJ Ltd.	JINJ	Private
KfW	KfW	Gov
Knoten Weimar	KW	Private
Land and Water Bolivia	LWB	Private
LeAF	LeAF	Private
Local Governance Network	LGNet	Network
Makerere University	Makerere	Research
Millennium Water Alliance	MWA	iNGO
National Institute of Health Islamabad	NIH	Gov
National Institute of Medical Science and Nutrition	INNSZ	Gov
Nature Healing Nature	NHN	iNGO

Network for Water and Sanitation	NETWAS	Network
Network of Environmental Concerns and Solutions	NECOS	NGO
New Directions Foundation	NDF	NGO
NGO Forum for Public Health	NGO-FPH	NGO
Northern Youth Network	NYN	NGO
Norwegian University for Life Sciences UMB	UMB	Research
Oxfam GB	Oxfam	iNGO
Partners in Development	PID	Private
PATH	PATH	iNGO
Peepoople	Peepoople	Private
Plan International	Plan	iNGO
Population Services and Training Center	PSTC	NGO
Practical Action Southern Africa	PASA	iNGO
Programme Solidarite Esu	pS-Eau	iNGO
Public Hygiene Lets Us Stay Human	PHLUSH	NGO
Quicksand	Quicksand	Private
Rebuild Lasting Together	RLT	NGO
Resource Centres on Urban Agriculture & Food Security	RUAF	iNGO
RTI International	RTI	Research
Ruby Cup	Ruby Cup	Private
Rural Africa Water Development Project	RAWDP	NGO
Rwanda Environmental Conservation Organization	RECO	NGO
Safi Sana	Safi Sana	iNGO
Sanergy	Sanergy	Private
SaniTronics International BV	SaniTronics	Private
SaniWater Solutions	SaniWater	Private
Sara Transformacion	Sara	Private
Sardar Vallabhbhai National Institute Of Technology	SV NIT	Research
seecon gmbh	seecon	Private
Sejuti Health and Education Development Foundation	SHEDF	NGO
Separett AB	Separett AB	Private
SES Efficiency	SES Efficiency	Private
SEWAHAR	SEWAHAR	NGO
Sisternet	Sisternet	iNGO
Skat Consulting Ltd.	Skat Consulting	Private
SNV Netherlands Development Organization	NDO	iNGO
Social AID	Social AID	NGO
Society for Community Organization and People's Education	SCOPE	NGO
Society for People's Action in Change and Equity	SPACE	NGO
Stockholm Environment Institute	SEI	Gov
Sulabh International Social Service Organisation	Sulabh	iNGO
SuSanA Secretariat	SuSanA Secretariat	Network

Sustainable Organic Integrated Livelihoods	SOIL	NGO
Sustainable Sanitation Design	SSD	iNGO
Sustainable Water Management Group	SWMG	Research
Swedish International Development Agency	SIDA	Gov
Swedish University of Agricultural Sciences	SUAS	Research
Swedish Water House	SWH	Network
Synergy International	Synergy	Private
Tansworld Publishers Limited	Tansworld	Private
Tanzania Association of Environmental Engineers	TAEE	NGO
Tanzania Water and Sanitation Network	TWSN	NGO
Tearfund	Tearfund	iNGO
Technologies for Economic Development	TED	NGO
Terre Des Hommes	TDH	iNGO
The Institute of Wastewater Management and Water	TUHH	Research
The Network University	TNU	Research
Toilettes Du Monde	TDM	iNGO
Tribhuvan University	Tribhuvan	Research
ttz Bremerhaven	ttz	Research
TU Delft	TU Delft	Research
Udyama	Udyama	NGO
UG EKOPOT	UG EKOPOT	NGO
Umande Trust	Umande	NGO
UN-HABITAT	UN-HABITAT	Multilateral
UNESCO-IHE	UNESCO-IHE	Research
UNICEF	UNICEF	Multilateral
University of Bonn-Center for Development Research	ZEF	Research
University of Essex	UofEssex	Research
University of KwaZulu-Natal	UKZN	Research
University of Sao Paulo	USP	Research
Unnayan Shahojogy Team	UST	NGO
Urban Water Management Sweden AB	UWMS	Private
Vent-Choir	Vent-Choir	NGO
Vrutti Livelihoods Resource Centre	VLRC	Private
WAND Foundation	WAND	NGO
Wash United	Wash United	iNGO
WASTE	WASTE	iNGO
Water and Sanitation for Africa	WSA	Multilateral
Water for People	Water for People	iNGO
Water Research Commission	WRC	Research
Water, Engineering and Development Centre	WEDC	Research
WaterAid	WaterAid	iNGO
Watershed Management Group	WMG	iNGO
Welthungerhilfe	Welthungerhilfe	iNGO

Wetlands Work!	WW!	Research
Wherever The Need	WTN	NGO
Women for Sustainable Development of Moldova	WISDOM	NGO
Women for Water Partnership	WfWP	NGO
Women in Europe for a Common Future	WECF	NGO
Woo Woo Waterless Toilets	WWWT	Private
Work for a Better Bangladesh	WBB	NGO
World Bank: Water and Sanitation Program	WSP	Multilateral
World Toilet Organization	WTO	NGO
WorldStove	WorldStove	Private
x-runner Venture	x-runner	Private
Xavier University	Xavier	Research