

## Another dimension to explicating relationships: measuring inter-organizational linkages<sup>☆</sup>

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### Abstract

This paper introduces network analysis as a way to theorize about another dimension of relationships: inter-organizational relationships. Through a case study of inter-organizational relationships in the civil society movement in Croatia, this paper outlines the various ways public relations serves a relationship building function. Through the use of network analysis, we propose a model of how organizations should work together to successfully achieve their common goal to build and maintain civil society. The model proposes a public relations approach to understanding inter-organizational relationships in civil society.

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The essence of democratic philosophy is that individuals are safe from violence, persecution, and oppression. Ideally, people articulate their needs to their governments and citizen voices are heard. Unfortunately, citizens in many nations have little power to participate in their own governance. What is missing in many parts of the world is *civil society*. “Public relations, through its focus on media relations and relationship building, is an integral part of the civil society function. Civil society organizations need to reach various publics with information and create links between like-minded groups” (Taylor, 2000a, p. 3).

The purpose of this paper is to introduce network analysis to public relations scholars and practitioners as a way to understand one type of relationship: inter-organizational relationships. It briefly reviews the

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communication imperatives in a civil society, and outlines how network theory and method explicates inter-organizational relationships.

### **1. Formulating a public relations model of civil society**

We draw on relational public relations research (Broom, Casey, & Ritchey, 1997; Huang, 2001; Ledingham & Bruning, 1998, 2000) and view the strength (or weakness) of a civil society in the relationships between partners. The first step in creating a theoretical model is to define the components of the model. In this normative public relations model of civil society, there are seven partners, three levels of interaction, and cooperative, and even sometimes competitive, relationships between the partners.

The seven partners include the (1) public, (2) societal institutions, (3) independent media (4) non-governmental organizations, (5) international non-governmental organizations (INGOs), (6) business organizations, and (7) the offices of government. Each partner has multiple roles to play in limiting or facilitating civil society. These seven partners create the foundation of civil society. While each partner has its own issues, needs, and will represent different citizen interests, the goal of civil society is to have inter-related objectives among these different groups. When the interests of two or more partners converge, then opportunity for those groups to achieve their goals is enhanced. An effective civil society rests in the intersection of all of these partners' interests. Indeed, it is in this intersection of interests that the role for public relations becomes most clear. Public relations, with its ability to create, maintain, and change relationships is at the nexus of civil society development (Taylor, 2000b).

The existence of these seven partners is necessary, though not sufficient, for the development and maintenance of civil society. Relationships between the partners are needed to fully leverage the potential of each group. Interactions between the partners create a synergy that multiplies the reach and effectiveness of the partners. Face-to-face communication, media relations, and inter-organizational relationships facilitate such interactions. While all seven partners should be engaged in regular communication and coordination, three sets of interactions in particular are crucial to civil society—the NGO–NGO relationship, the NGO–media relationship, and the NGO–donor relationship.

What is the link between these relationships and public relations? Public relations, as a relationship-building function and as a strategic communication function, must be at the center of the civil society process. Public relations is suitable for understanding inter-organizational alliances in civil society because of its focus on relationships. Each of the seven civil society partners can enter into a relationship with the other partners as they participate in fostering civil society. Public relations theory offers guidance on how these relationships should be enacted and changed. For instance, citizens can mobilize around issues and protest, boycott, or march in solidarity for important issues. Institutions and NGOs provide the information subsidy to the media on relevant social issues. INGOs can mentor indigenous NGOs to help them become more focused or socially active. Business groups can partner with NGOs or institutions to sponsor events or endorse issues that benefit all citizens. And, of course, government officials who listen to the voices of civil society will be in a much better position to serve their constituents. How can we as public relations scholars better understand these inter-organizational relationships? The next section explains network analysis theory and method and illustrates how network analysis provides an additional theoretically grounded method to measure relationships.

## 2. Theories and method of network analysis

All organizations, whether for-profit or not-for-profit, operate in networks. When organizations network, they rely on many of the tenets of public relations—reputation management, media relations, strategic communication, and relationship management. There are several network concepts that have direct application for studying public relations fostered relationships. The concept of *centrality* identifies the extent to which an organization shares connections with others relative to the set of organizations as a whole. There are several types of centrality including *degree* and *betweenness centrality* (for an extended discussion of all centrality types and their relevant measures, see Freeman, 1979). Degree centrality is a measure of the extent to which a focal organization has the most communication partners relative to others in the system and explains the extent to which an organization is in the thick of things (Freeman, 1979). The more an organization collaborates with others, the greater that focal organization's degree centrality will be. Betweenness centrality is a measure of the extent to which an organization is central in the system—not solely due to many connections—but because organizations who have high betweenness centrality connect groups of organizations. Simply put, betweenness centrality is seen as the extent to which a focal actor or organization is a go-between for other organizations.

Another key concept is *structural holes*. It is both a theory and a measure developed by Burt (1992a, 1992b). The measure calculates the extent to which system members have efficient and effective network connections. Burt (1992a, 1992b) theorizes that a balanced system is one in which the links among its members are not too redundant, but also, the links in the system connect its members so that communication flows throughout it. He argues, “balancing network size and diversity is a question of optimizing structural holes. The number of structural holes can be expected to increase with network size, but the holes are the key to information benefits” (Burt, 1992a, p. 67). Burt recognizes that the bigger a system's membership, the more likely there will be missing connections (holes) among members. Thus, he argues, strategic connections can, at the very least, provide indirect contact with others in the system.

Public relations scholars and practitioners can learn how to use this additional method and theory to understand and strategize the building of inter-organizational relationships. Taken together, the characteristics of the nature of connections among members of a system, including degree centrality, betweenness centrality, and structural holes, suggests a model of collaboration for participants to better facilitate goals achievement. The case study below applies network analysis procedures with the qualitative description of the inter-organizational relationships on which this paper focuses, namely, NGO–NGO, donor–NGO, and NGO–media relationships.

## 3. Civil society network illustration

One of the most recently successful civil society movements occurred in Croatia from 1998 to the present. Croatia, once part of the Federal Republic of Yugoslavia, voted for independence in 1991 and then fought a civil war. After the war ended with the signing of the Dayton Peace Agreement in 1995, dozens of humanitarian organizations and INGOs started funding civil society initiatives. Their goal was to foster political change before Croatia's nationalist leaders could once again destabilize the entire region. Through the monetary and mentoring support of USAID, Soros, the British Civil Society Initiatives, and the European Union, a civil society movement emerged in late 1997. This organizational network reached its peak during the 2000 parliamentary election. Relationships forged during this

movement between NGOs, donors and NGOs, and the media and NGOs offer a rich description of the network.

This study focuses on the six top-rated and most important organizations in the civil society movement (USAID, 2000). Respondents included (a) the Croatian office of the United States Agency for International Development (USAID), which opened in 1997 in Zagreb and provided millions of dollars in civil society initiatives; (b) GONG (an acronym for Citizens Organized to Monitor Elections), an election monitoring coalition that coordinates close to 7000 volunteers, mostly from NGOs, to help Croatians navigate a complicated election, registration, and parliamentary system; (c) GLAS 99 (Voice 1999), coordinated NGO and media strategies for the 2000 campaign; (d) Radio 101, the Zagreb-based independent media outlet, considered the nation's most influential media and produces critical, informative, and unbiased programming (USAID, 2000); (e) The Women's Ad Hoc Coalition, which coordinates women's groups around the nation; and (f) HRT (Croatian Radio and Television), the government controlled media outlet, included here to show how state controlled media can enhance or impede civil society initiatives.

In the civil society movement there were interactions including: (a) NGOs with other NGOs, (b) donors and NGOs, and (c) different types of media and NGOs. Network analysis conducted on the entire inter-organizational system included measures of structural holes, degree centrality, and betweenness centrality. See Taylor and Doerfel (2003) for the complete analysis and related details of the larger system. Together, these measures describe the emergent communication relationships among the organizations and of the overall system. The network measures make sense of which organizations worked together, which have highly prominent locations (e.g., high centrality measures), and which are the liaisons in the information flows.

#### **4. Data collection**

The researchers identified a system and created a roster of all the organizations in that system. The survey also contained (a) questions for rating how much each responding organization communicated with each of the other organizations; (b) the channels through which they made communication connections; and (c) to what extent each organization rated the others in terms of how important the other organizations in the civil society movement.

Each organization was solicited to have several members complete surveys. In this way, the organizational representatives' answers could be aggregated in order for their answers to represent the organization's behaviors; not the idiosyncratic behaviors that represent one personality or role within the organization. In the Croatian data, there were no outlying behaviors.

Results from the two-page paper-and-pencil survey provided data for calculating the network measures. Organizations rated the value of their communication relationship with each of the others on a scale from 0 (not at all important) to 10 (very important). When senders and receivers of communication links are specified, two types of degree centrality reflect the direction of the connection into account. In-degree measures the extent to which a focal organization receives links from others in the system. The more the other organizations agree that the focal organization is important and merits a high rank, the higher the in-degree centrality.

A second area of interest for studying networks is betweenness centrality. High betweenness centrality indicates the extent to which an organization connects pairs of other organizations. Krackhardt (1992) suggested using the betweenness centrality measure in the UCINET computer program (Borgatti, Everett,

& Freeman, 1992; Freeman, 1979) and describes an actor with “high betweenness is in a position to act as gatekeeper for information that flows through a network. Moreover, betweenness is an indication of the non-redundancy of the source of information” (p. 223). In an ideal network, organizations do not have to communicate with every organization to achieve goals. Instead, they should strategize connections so that their direct links might provide them indirect access to other organizations.

Third, structural holes analysis in UCINET reports *effective size*, *efficiency*, *constraint*, and *hierarchy* (for extended discussion, see Burt, 1992a, 1992b). *Effective size* measures the extent to which the focal organization’s contacts provide access to contacts beyond the direct one. They should be “nonredundant so as to reach separate, and therefore more diverse, social worlds of network benefits” (Burt, 1992a, p. 69). *Effective size* is measured by the number of contacts an organization has beyond their initial contact, ranging from zero to the total number of other members in the system (in this case, 16). The greater the value, the more effective the connection. *Efficiency* refers to connections to a subgroup by way of a single member of that subgroup and is calculated by dividing *effective size* by the number of alters in the network.

*Constraint* considers the extent to which the focal organization is invested in organizations that are invested in the ‘others’ of the focal organization’s alters (Borgatti et al., 1992). Scores vary from zero to one, where zero means equal constraint from all contacts and one means that constraints come from one contact. Susskind, Miller, and Johnson (1998) explain it is “positively related to the formation of structural holes, as high constraint indicates more structural holes” (p. 36). *Hierarchy* indicates the extent to which constraint on the focal organization is concentrated in a single other organization (Borgatti et al., 1992). *Hierarchy* includes the constraint measure, ranges from zero (refers to an equal distribution of communication among all contacts) to one (communication comes from just one contact). Together, these measures—*effective size*, *efficiency*, *constraint* and *hierarchy*—identify where structural holes exist in the network.

In sum, this case examines three aspects of inter-organizational networks, communication impact (in degree centrality), importance (betweenness centrality), and overall system networking (structural holes). The network analysis procedures in the UCINET program enable an examination of the civil society partners and show us how inter-organizational relationships, created and maintained by strategic communication, are played out in a civil society movement.

## 5. Network results

In order to study the three different interactions, NGO–NGO, donor–NGO, and NGO–media, we conducted three types of analyses, including in-degree centrality, structural holes, and betweenness centrality. The complete system results are reported in Taylor and Doerfel (2003), so for the purposes of this illustration, we will present the results of only the focal organizations that exemplified the three types of public relations interactions.

Table 1 provides the values for the organizational in-degree centralities, and shows that USAID (an INGO) was the most frequently contacted organization by other organizations in the system. The media organizations including the state-run HRT and independent Zagreb Radio 101 received the fewest communication contacts from other organizations with a degree centrality of 54. It is important to note that strength of connections is represented in the degree centrality measure, which is why the number far exceeds the number of alters in the system ( $n = 16$ ).

Table 1  
In-degree centralities, betweenness centralities, and structural holes of key organizations

Organization	Centrality (rank) <sup>a</sup> : in-degree/between	Structural holes (based on multiplex network)			
		Effectiveness	Efficiency	Constraint	Hierarchy
USAID	104.00 (1)/2.36 (6)	6.477	0.589	0.299	0.045
GONG	90.00 (2)/9.76 (2)	10.248	0.683	0.249	0.102
GLAS 99	86.00 (3)/12.06 (1)	10.492	0.656	0.281	0.145
Ad Hoc	59.00 (4)/1.38 (10)	6.354	0.635	0.266	0.073
Radio 101	54.00 (5)/4.43 (4)	7.548	0.581	0.312	0.160
HRT	54.00 (5)/0.83 (13)	5.555	0.617	0.300	0.105
<i>M</i>	48.82/2.88				
<i>S.D.</i>	24.83/3.31				

<sup>a</sup> Rank is out of 17 organizations (see Taylor & Doerfel, 2003).

Table 1 provides the betweenness centralities with GLAS 99 having the highest score and the governmental media organization, HRT, having with the lowest. Betweenness scores indicate that GLAS 99 and GONG act as liaisons in the system to a greater degree than the other organizations. The media organizations (HRT and Radio 101) differed from each other in that the government-run media (HRT) had relatively a low score (0.83) while independent media Radio 101 was 4.43, indicating the greater liaison role of this independent outlet in the movement.

Table 1 features the four values that together provide an indicator of structural holes in the system. This analysis reveals that there are few structural holes in the NGO–media–donor system, as seen by contrasting effectiveness and efficiency values with the constraint and hierarchy values. For example, while GONG and GLAS 99 had effective size values of 10.25 and 10.49, and HRT's value was 5.56, the efficiency scores are all fairly equal with small constraint and hierarchy measures. These values indicate a moderately redundant network with few constraints.

The results provide a picture of the relationships these organizations have with each other and the extent to which some organizations emerged as more relied upon as key communicators in the system. The next section discusses the network roles that these relationships played during the civil society effort.

## 6. Discussion

Beginning with structural holes and betweenness centrality, we identified organizations that are connected in the network in an efficient—but relatively redundant—way. Table 1 indicates the liaisons or gatekeepers of information among groups. GONG and GLAS 99 were reported to have the most effective and efficient connections in the system (i.e., structural holes results). GONG and GLAS 99's betweenness centralities were the two highest in the network; meaning, they were connected to those organizations that provided indirect links to other organizations. Together, structural holes and betweenness centrality identified GONG and GLAS 99 as having effective reach to others and served as liaisons in the communication network.

The Women's Ad Hoc Coalition's role in the network also shows relatively more efficient and effective relationships and high degree centrality than the other organizations. Additionally, it did not cluster directly

with GONG and GLAS 99. This group's high in-degree centrality measure indicates that collectively all of the organizations agreed that they are highly important and rank high on the one-to-ten scale. The effective/efficiency measure indicates that the Women's Ad Hoc Coalition provided indirect links to other organizations in the network. This reveals an important role that the organization played in this particular movement—other organizations relied on them for information. Ad Hoc coordinated activities of dozens of small women's organizations from both urban and rural areas. Although many of Ad Hoc's member organizations were not politically motivated, member organizations were able to fully participate in the civil society movement. Funding organizations like USAID can benefit from knowing that such an organization is prominent (high degree centrality) in working with other organizations. As past network research has shown, the high centrality implies Ad Hoc's highly influential role in the system (Burt, 1992a, 1992b; Mizruchi & Galaskiewicz, 1993; Galaskiewicz, 1979; Galaskiewicz & Krohn, 1984).

GLAS 99 and Ad Hoc were short-term coalition organizations yet they served important functions in the Croatian civil society movement. They brought together a large number of organizations under their leadership and helped maintain communication throughout the network. They linked previously unlinked organizations and maximized efforts by coordinating the actions of many small NGOs. Future civil society efforts should focus on creating a strong network of single-issue organizations under the umbrella of coalitions.

USAID, as the major INGO in Croatia from 1997 to 2000, ranked very low on efficient and effective connections (from the structural holes analysis). Table 1 shows that USAID had multiple and redundant communication with organizations throughout the system, despite the fact that some of their links could have provided them indirect connections to other organizations. The highly redundant nature of USAID's role is corroborated by the fact that they had the highest degree centrality—all the organizations forged strong links with USAID. This is not surprising since USAID was one of the major donor organizations that funded the civil society initiative, and these organizations were highly dependent as USAID's grantees. Grantees relied on USAID for mentoring and guidance in their efforts. This is not to suggest that USAID should reduce its redundant links. Rather, the data suggest that having USAID in the network had a positive impact on the civil society movement, as providers of monetary resources, mentors, and relationship coordinators among the civil society partners. The network analysis shows that USAID had regular contact with all of the organizations in this study and through redundant links it was able to help mentor these organizations through their first serious attempt at civil society mobilization.

A model of civil society should include donor organizations that foster cooperative relationships among the network of NGOs. In the beginning of civil society transitions donors should stay in contact with their grantees. However, by arranging cooperative ventures, collaborative projects, and by identifying and training future leaders, donor organizations can have a long-term impact on civil society in a nation. To accomplish this goal, donors such as USAID should adapt a program where veteran organizations become mentors to newly funded groups. This would lessen the burden on the donor and further strengthen the civil society in the developing nation by strategizing a balance of structural holes. This decentralization would disperse power and created connected civil society organizations.

Looking to the media-NGO relationships, HRT and Radio 101 provide an interesting dichotomy. HRT was the government-run media organization and Radio 101 is the newly formed and most independent media outlet in Croatia. Table 1 shows that HRT's network role is highly redundant versus Radio 101's relatively efficient and effective scores. However, both outlets have the exact same degree centrality and their betweenness centralities differ—HRT's is very low (their connections do not mediate other organizational groups) while Radio 101's betweenness centrality is nearly as high as the betweenness

measures for GLAS 99 and GONG. These results inspire speculation about the collective perceptions of the two media outlets. Having highly redundant and inefficient connections is a strong indicator that organizations do not trust the government-run HRT. On the other hand, though the results show that organizations rely heavily on Radio 101, there is not a need for redundancies, indicating they trust information from their liaisons and do not need to go directly to the source. Their high betweenness centrality and that they significantly communicated with the coalitions (GLAS 99, GONG, USAID) implies their central, and therefore, influential role in the civil society movement.

An effective civil society effort, like effective public relations efforts, requires communication and cooperation with media. All over Croatia, independent media are competing with state controlled media for public attention and respect. The objective programming and news content helped many independent stations provide balanced, fair information during crucial times. The public has benefited from having access to alternative media (USAID, 2000). Croatians have noticed a difference in media coverage of political news. There are now adequate media outlets with programming for people who seek alternative perspectives. NGOs need to develop relationships with all media outlets, both state controlled and independent, which will help create the information subsidy that allow NGOs to participate in agenda setting and framing.

## **7. Implications for building public relations theory**

This paper introduced network analysis as an additional tool for theorizing and measuring relationships. By looking to the structure of relationships in Croatia—where cooperative efforts resulted in a positive outcome—we are able to learn three fundamental aspects of inter-organizational communication relationships: (a) donor organizations must expect to be available to their grantees for guidance and mentoring; (b) coalitions need to work closely with other coalitions and the donor organizations (in this case, USAID) so that they function as liaisons without being over burdened by being connected to all other organizations; and (c) government-run media can expect to be watched closely by the other civil society partners.

The next step in the development of a public relations model of civil society is to continue to study, test, and measure the relationships advocated by this model. Future research may identify new partners, refine the concept of reciprocal relationships, and better articulate how public relations contributes to the advancement of civil society. There are several implications for public relations theory and research inherent in this study. First, public relations theory has been moving toward relational communication models and network analysis is uniquely situated to study inter-organizational relationships. Second, as the appreciation of international public relations and public relations for nation building grows, public relations scholars now have a way to measuring relationships in civil society efforts. Finally, increased interest in international development issues also shows that the field is moving toward fully understanding its potential impact in the development of national, and someday, global civil societies.

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