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Testing the Strategic Response Model to Show Joint Effect of Resource Dependency and Centrality in Donor Network on NGO Response to Donor Demand

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The Strategic Response Model (SRM) integrates two constructs, an organization's resource dependence and network centrality, to predict response to an external demand. This article puts the SRM to test to demonstrate its applicability as a management tool to help with decision-making. Using forty-nine Lebanese nongovernmental environmental organizations' (NGOs') responses to bilateral donors who changed funding interests, the results are consistent with the model's prediction of three types of responses, *exit*, *voice*, and *adjustment*, regardless of which of three resource dependency variables are used. To add context to this test of the SRM model, the dynamics within a larger system of resource pursuit and allocation across sectors, especially for non-Western settings characterized by turbulence and uncertainty, are discussed. Donors and nonprofits need to consider short- and long-term strategic decisions, knowing that relationships created and fostered may be as important as resources provided and consumed.

Keywords: Resource Dependence, Network Centrality, NGOs, Funding, Strategic Response Model

Introduction

There is still much to learn about NGO pursuit of funding and the network-related effects of a donor's involvement in a mission domain. The literature on NGOs and donors primarily focuses on dyadic relationships, not on dynamics within a network of a donor's potential and existing funding recipients. Scholars also tend to examine the donor, not the NGO resource seeker, as the decision-maker (e.g., Doerfel et al., 2017; Mosely, 2012; Van Slyke, 2007). As important as it is to understand the decisions of funding organizations, it also is important to understand the decisions of potential recipients of funding (Eng at al., 2012). AbouAssi and Tschirhart (2018) help fill this gap with a Strategic Response Model (SRM) to predict NGO responses to a donor with changed funding demands and interests, illustrating the responses with four qualitative case studies but no quantitative analysis.

This article presents the first quantitative test of the SRM using measures that NGO leaders could easily employ as part of active decision-making and reflections on old decisions. The

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SRM shows what leaders implicitly or explicitly said influenced their decisions; and the qualitative analysis of interviews revealed the model components. To make the model more useful as a management tool, we test objective measures that likely could be calculated by leaders as they are making their decisions. Given that our quantitative approach shows that the model has predictive power, we argue that it may be useful to NGO leaders to help them assess their options and examine assumptions and biases that may be affecting their decisions.

We analyze NGO responses within two donor networks and demonstrate that, as the SRM suggests, resource dependency combined with network centrality predicts NGO response to changed donor demands. After briefly presenting the model and hypotheses for empirical testing, we present the methodology and findings, and then discuss possible implications.

The Strategic Response Model (SRM)

The SRM fills a needed gap in the public and nonprofit management literature that treats resource allocation and disbursement as important subjects. Resources are a necessary element of the capacity of joint action in the complex system of collaborative governance that brings together public and private actors to make and implement public decisions and policies (Emerson et al., 2012). Scholars (e.g., Lambright, 2008; Mosely, 2012; Suárez, 2011; Van Slyke, 2007) have examined how a funder—a government agency or a private donor—makes decisions to contract out to, allocate and distribute resources to, or renew funding to organizations across the collaborative system. Understanding the strategies and decisions of funding-recipient organizations is as important as understanding donors' decisions.

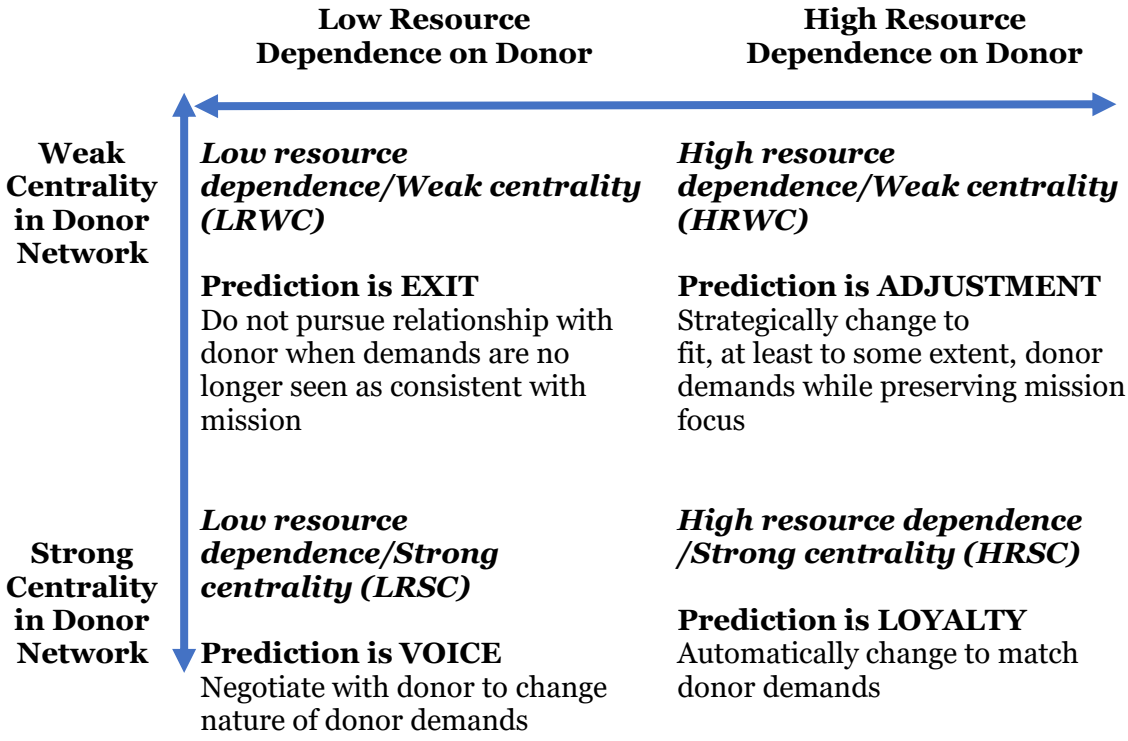
Towards that end, AbouAssi (2013) identifies four responses of nonprofits to changes in the funding priorities of their donors. An NGO may decide to exit a relationship with a donor by taking no action to pursue further funding, use *voice* to try to insert its priorities into the donor's funding guidelines and goals, use *adjustment* by strategically changing the nature of its activities to meet the donor's demands in order to sustain the funding relationship while acting to protect its own priorities, or exhibit *loyalty* by doing what the donor wants without question in a quick manner without consideration of any alternative option.

AbouAssi and Tschirhart (2018) developed the SRM to predict these responses by matching each response to a combination of an NGO's level of resource dependency on the donor (low or high) and its location in a donor's network, addressed in this article using the closeness centrality measure (weak or strong). Four different combinations are depicted in Figure 1.

Resource dependency has a long tradition in scholarship on organizational behavior. The Resource Dependency Theory posits that organizations seek to maintain flows of resources from providers while trying to buffer their demands (Pfeffer & Salancik, 1978). Scholars (e.g., Delfin & Tang, 2008; Ebaugh et al., 2005; Hughes & Luksetich, 2004) have examined the impact of a resource provider on the performance and decisions of nonprofits. NGO leaders' pursuit of a current donor's funding is thus influenced by the nature of dependence on that particular resource stream. That dependency may help in predicting which response in AbouAssi's (2013) typology an NGO pursues, but with limitations. Not all organizations with the same resource dependency behave the same. Nonprofits are proactive in managing their institutional and resource environments (Schafer & Zhang, 2019; Tschirhart, 1996). These organizations are equipped with social missions, viable information, and strong connections to stakeholders (Ebrahim, 2005b; Saidel, 2000).

The literature on resource dependency as a predictor of behavior shows its limitations as well as its value if used in interaction with other theories (Drees & Heugens, 2013). To address the limitation and value opportunity, the SRM adds network centrality as a key influence interacting with resource dependency. Combining a network lens with resource dependence

Figure 1. The Strategic Response Model (SRM)



Note: Elaborated from AbouAssi (2013) and AbouAssi & Tschirhart (2018)

to create the SRM is a parsimonious yet informative framework useful to practitioners (AbouAssi & Tschirhart, 2018).

Organizations are embedded in networks of relations and ties (Granovetter, 1973, 1983) with varied connections through shared missions and information exchanges to stakeholders inside and outside a particular network (Ebrahim, 2005b; Saidel, 2000). The location of an organization in a donor network can, consequently, influence its response to the donor's demands. Network members can use their networks to gain information useful for deciding resource targets and resource pursuit strategies, leverage network contacts for bargaining power with donors, and vary from other network members in their perception of the value they get from their membership in the network (e.g., Mitterlechner, 2019). Centrality in a donor network typically affords the member the most power or leverage with the donor (Boje & Whetten, 1981; Ibarra, 1993; Wasserman & Galaskiewicz, 1994). Relationships that involve more frequent and trusted information flow, but with more redundant and confirmatory rather than new information exchange, are typically among organizations with the most network centrality. Those with the most centrality occupy the most central nodes of a network, that is they are closest to all other organizations in the network, calculated using the shortest possible (geodesic) paths (Lee et al., 2012; Ofem et al., 2018; Paarlberg & Varda, 2009; Provan et al., 2005). The benefits of centrality are direct connection, shorter transaction times, lower costs, less free-riding, and direct access to others in the network (Luo & Kaul; 2019), but the risk of redundancy of connections and information exists (Granovetter, 1973, 1985).

This article quantitatively examines the degree to which the SRM is parsimonious and its applicability as a management and decision-making tool. The first step is to decide on quantitative measurement of each part of the combination and then, secondly, to combine them. To capture resource dependence, scholars typically use one of three measures; we use all three separately to allow a more nuanced comparison of their value as a measure for the

model. First, we use *resource criticality* which captures the percentage of revenues an NGO can generate internally, which reflects the ability of an organization to survive without the donor funding (Delfin & Tang, 2008; Guo, 2007; Pfeffer & Salancik, 1978). Next, we use *resource discretion* which looks at the percentage of the overall funding that is given by the particular donor that needs a strategic response, helping to capture the funding portfolio's dependence on the one donor (McCaskill & Harrington, 2017; Neumayr at al., 2015; Shea & Wang, 2016). Last, we use *resource concentration*, which indicates how many donors are currently funding the NGO, giving a different lens on how much the NGO depends on the one donor versus the larger set of the organization's donors (AbouAssi, 2015; Malatesta & Smith, 2011).

To capture centrality in a donor network, we use *closeness centrality* (Lazzarini & Zenger, 2002). Some scholars advocate for closeness centrality as the best measure of centrality (Baer, 2010; Levin & Cross, 2004; Marsden & Campbell, 1984). It captures the ability of an actor to independently access all other actors in the network (Borgatti, 2005; Freeman, 1979; Wasserman & Faust, 1994) and it is associated with fast access to network flows (Priante et al., 2021) and relates to others' perceptions of the power an actor has in the network (Rotolo & Petruzzelli, 2013). In using a closeness centrality network measure to test the SRM, we move beyond examining dyadic ties between an NGO and a donor and capture the position of an NGO in a donor network. With the closeness centrality measure the focus is not on the NGO's relationship to the donor, but rather to the other NGOs in the donor's network. By using this measure, we follow Sedereviciute and Valentini's (2011) call for more attention to network dynamics. While there may be patterns in having closeness centrality in a donor network and having one of the largest grants from that donor the SRM does not make that assumption but looks at the network and resource dependency aspects in combination empirically and from the NGO's, not the donor's perspective.

The combination process for quantitatively testing the SRM is simple. An organization rates high or low in resource dependency and weak or strong in network centrality resulting in the four classifications captured in four hypotheses. To be clear, in this article, we are using the SRM to look at grant-making dynamics from the NGO, not the donor perspective. This makes sense in the research context because the donor invited all NGOs to seek renewal of their funding, as long as the NGO could meet the donor's revised interests. We are interested in the responses taken by the NGOs in the donor's existing network of funded organizations. Following are our hypotheses, grounded in the SRM.

Under conditions of weak centrality and low resource dependency, there are low financial and information access incentives to maintain a relationship and we hypothesize *exit* from a donor funding relationship. Given little bargaining power in the network due to low closeness centrality, an NGO leader's perception of the likelihood of success in trying to change the donor's interests or demands is likely to be low. Also, it is likely to strategically not be perceived as worth the effort to pursue the donor's funding if the donor's funding is not critical for survival (low resource criticality dependency with the donor), there are other options for resources (low resource discretion dependency on this donor), and the NGO can turn to its other donors' networks for information to support resource pursuit (low resource concentration dependency on this donor). The more donor networks in which an NGO participates, the less dependent it is on any one of the donors, given that each donor network contains potential or existing relationships that may assist with successful resource pursuit. Also, if one is on the periphery of a donor network, the pressure to maintain relationships with other members of the donor network is low. There is little to sustain network relationships except a common interest in getting funds from the donor, and interest in that is likely to be low if funding exists elsewhere (discretion and concentration). If you are a decision-maker in an NGO that is a member of multiple donor networks (resource concentration), those donor networks in which you have a less central presence are the least worrisome to exit from in the face of unappealing donor demands. The more central you are in a particular provider network

and the fewer of these types of networks are available to you to navigate, the more investment you are likely to make to try to keep your funding and thus are less likely to use an *exit* response.

> *H1: Likelihood of an NGO using EXIT is highest when there is LOW resource dependence on the donor (H1a: resource criticality, H1b: resource discretion, and H1c: resource concentration) combined with WEAK closeness centrality in the donor's network.*

Dowding et al. (2000), Gehlbach (2006) and Hirschman (1970) suggest that effective use of a *voice* response depends on adequate communication structures, a certain degree of trust and openness, and strong bargaining power. An NGO acquires potential power for *voice* through its links with others on whom the donor depends for a resource exchange (Zheng et al., 2019) and its willingness to risk being unsuccessful with *voice*. Network centrality expands the bargaining position (Carolan & Natriello, 2005; Paarlberg & Varda, 2009; Provan et al., 2005) and low dependency may increase willingness to try and bargain. There is likely to be more *voice* when the donor's resources are less critical to preserve than internal ones (resource criticality); the consequences of an ineffective *voice* attempt are less serious due to other source options (resource concentration and discretion) and a central position in the network gives some confidence that *voice* is worth trying.

> *H2: Likelihood of an NGO using VOICE is highest when there is LOW resource dependence (H2a: resource criticality, H2b: resource discretion, and H2c: resource concentration) on the donor combined with STRONG closeness centrality in the donor's network.*

With weak centrality in a donor's network, but a high degree of dependency on the donor, we expect to see *adjustment* to reduce risk that needed donor funding will be stopped. NGOs are committed to their missions and may wish to avoid significant mission drift so if the donor is asking for something outside their mission, an NGO may work to buffer its core mission-related activities from what the donor is willing to fund or find a way to link what it wants to do to what the donor wants without using the *voice* strategy to try and change the donor. *Adjustment* allows an organization to adapt to a changed environment in a strategic fashion, and aid its capacity to survive (Grimes et al., 2019). With *adjustment*, compared to a *loyalty* response, the NGO is also able to respond to external perceptions of mission drift, justifying its choices of how to satisfy the donor to retain resource flows. As Bennett and Savani (2011) explained, charities can operate outside their original missions to receive funding without sacrificing their ability to be proactive in directing and controlling their activities in a strategic fashion. If they have weak closeness centrality in the network and thus not much leverage as a member of the donor network, they may still find that it is worth their effort to adjust their activities given that they have few other donors to work with (resource concentration) and this donor provides a high percentage of their donor-provided funds (resource discretion) and funds overall (resource criticality).

> *H3: Likelihood of an NGO using ADJUSTMENT is highest when there is HIGH resource dependence on the donor (H1a: resource criticality, H1b: resource discretion, and H1c: resource concentration) combined with WEAK closeness centrality in the donor's network.*

At the other extreme from *exit*, an NGO may engage in *loyalty* responses. If resource dependence is especially high and closeness centrality is very strong, it may be unquestioned that the NGO should maintain its central place in the funder's network and pursue continued flow of resources from the funder, no matter what the donor is asking the NGO to do to receive the funding (Cornforth, 2014). Unlike *adjustment*, where the nonprofit internally crafts a way to respond to new demands, with the *loyalty* response, the decision to pursue the funding

occurs without attention to what the changed demands will do to the pursuit of the NGO's stated mission. The NGO is captured by the donor and has little desire for independence, and in some cases the NGO may have a donor acting as a puppet master, which substantially risks a mission drift.

> *H4: Likelihood of an NGO using LOYALTY is highest when there is HIGH resource dependence on the donor (H1a: resource criticality, H1b: resource discretion, and H1c: resource concentration) combined with STRONG closeness centrality in the donor's network.*

Methodology

Context

This article uses a sample of NGOs in Lebanon working in the environmental sector to test the SRM. During the time of the research, the most active international donors of Lebanese environmental NGOs decided to shift their funding focus, creating an opportunity to examine what happens when an NGO's current donor decides that resources will no longer be forthcoming for activities related to the organization's core mission.

Lebanon is a young democracy with a weak economy and ailing public sector that has suffered from wars and civil unrest (El-Zein & Sims, 2004). Its turbulent and uncertain context is similar to other countries such as Cambodia, Nepal, and Uganda (Contu & Girei, 2014; Marshall & Suárez, 2014). In such a context, civil society organizations often step into roles elsewhere assumed by the national government (Martin-Howard, 2019); in Lebanon, this is particularly the case in service areas like the environment.

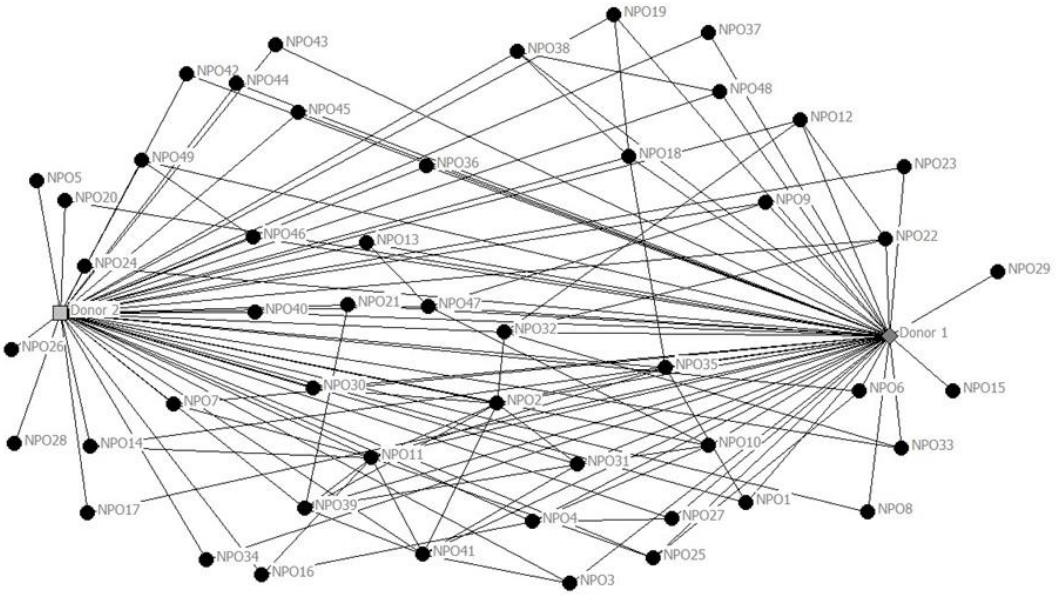
NGOs with environmental missions operate relatively autonomously from the government (AbouAssi, 2015; AbouAssi et al., 2021). With limited local financial support, these organizations rely on foreign government aid agencies and other international organizations to provide substantial funding streams with limited in-country government oversight (AbouAssi, 2015; Haddad, 2017). This reliance has mixed effects. On one hand, the funding has been instrumental in the development and professionalization of the sector and in its ability to fill the gap created by the inability or absence of government agencies. On the other hand, the funding also potentially risks dependency on donors, competition over resources, creation of donors' closed circles of NGOs that exclude other actors, and disconnection from local beneficiaries and needs (AbouAssi, 2013; Clark & Salloukh, 2013; Haddad, 2018).

Sample and Data Collection

For network analysis, sampling is limited to try to capture the entire network (Barnes, 1979; Burt, 1983; Marsden, 1990). To limit variation in service category, we focus on environmental NGOs; these are local, formally-registered organizations with environmental missions as per the United Nation Development Program's database. These organizations are actively engaged in environmental policy and management activities sometimes in collaboration or competition with the governments (AbouAssi et al., 2021). We also limit variation by geography to focus on Mount Lebanon, which is the largest region in the country where 60 out of the 153 environmental NGOs in Lebanon during data collection were located and operating.

The data was derived from a survey administered in 2010–2011 to the 60 NGOs both online and in a hard copy. Relevant survey questions solicited details on programs (name and nature of projects being implemented, number of beneficiaries, project budget and funding sources with percentile breakdowns, and implementing partners), financial resources (annual budget, financial resources, and breakdown of funding sources), and institutional relations

Figure 2. Plotted Network of Two Donors



Note: Donor 1 (shown with diamond) and Donor 2 (shown with square) are the funders; the circles indicate the NGOs. The line between an NGO and a donor indicates funding; subsequent lines between NGOs indicate partnership, not funding, on projects funded by the donor during the time of the study.

(partnerships and networking). For some questions, including programs and finances, respondents were asked to provide information for multiple years (2005–2009). Organizational reports and websites were used to verify some of the information.

Out of these sixty environmental organizations registered in the region, seven had no funding relationship at any time with Donor A or B and are not in this research, leaving 53 NGOs who received an online and hard-copy survey with questions on programs, funders, financial resources, and institutional relationships. Most, 50 out of 53, returned responses, with one dropped due to insufficient information. The final dataset includes 49 NGOs, approximately 92% of the targeted population, which is above the acceptable threshold for network analysis (Diani, 2002).

We focus on networks of two donors that most environmental NGOs in the region received funding from for multiple years preceding our research. Labeled as Donor A and Donor B, the donors are the aid agencies of western governments. When the donors' shifted funding away from environmental programs, it was not obvious how their previous environmental NGO funding recipients would respond to the changed call for proposals. We show that the SRM predicts most of the NGO responses.

UCINET was used to plot the donors' network (Borgatti et al., 2002). Attributes are associated to the organizations (nodes) in the mapped network; networks are plotted according to the need and based on various attributes including the connections or relations between the organization during the time of this research. As Figure 2 shows, there is overlap in membership in both donors' networks; two organizations received funding only from Donor A and five only from Donor B. The networks yield 91 observations of responses to a donor (44 responses to Donor A and 47 responses to Donor B).

Variables

Dependent Variable. This is the response to what happened in the funding cycle after donors' interests changed: *exit, voice, adjustment,* or *loyalty*. Following an approach used by Rusbult and colleagues (1988), NGO responses were coded using survey data and then two local experts confirmed the categorizations. NGOs that used to have donor funding but did not submit a proposal in the new funding cycle got an *exit* categorization (29 observations). Proposing a new project that is still environmentally focused but also meets the changed interests of the donor is coded as *voice* (24 observations). Submitting a proposal that no longer had an environmental component is coded as *adjustment* (38 observations). None of the organizations in this research reported anything that could have been interpreted as a blind commitment or response to a donor; consultations with experts verified the absence of *loyalty* responses.

To root out bias in this approach, we examined a list of applicants secured from Donor A that included information on whether the NGO applied for funding or not, and what the NGO proposed for the use of funding from the donor. Donor B did not provide a similar list. Using the list from Donor A, we determined that observations categorized by the coders and experts matched the donor's categorization of what happened after funding interests changed. For example, we determined that we did not code something as *exit* if an application was submitted after the funding interest shift but was rejected by the donor. There were no cases of this for responses to Donor A. This could have been possible for Donor B, given that we did not get Donor B's perception of what happened, but our coding is wrong only if the NGO respondent lied to us about what response they had to Donor B.

Independent Variables. The predictor variable is the combination of an NGO's characteristics related to its resource dependency level and closeness centrality in a donor's network. We first calculate the resource dependency and network centrality separately and then combine them to classify organizations into one of the four categories.

Resource Dependency. To capture resource dependence, scholars typically use one of three measures and treat it as continuous (e.g., Delfin & Tang, 2008; Neumayr et al., 2015; Shea & Wang, 2016). We use all three to allow a more nuanced testing of SRM. Also, we treat resource dependency as dichotomized: high or low, resulting in a conservative test of the model, increasing its ease of use, and consistent with some prior measures (Elo & Beale, 1985; Stedman et al., 2004) which justify a cutoff point between low and high based on the feasibility of analysis. The median as our cut between high and low allows for enough observations in each category for analyses. Following are details for each measure.

Resource criticality is measured using percentage of internal revenue from the total annual budget. Internal sources of revenue are membership fees, income-generating activities such as sales and fees-for-service; external sources include donations and grants. The range is 0 to 1 with a lower score indicating more dependency. Low (LR criticality) is 0.051 to 0.99 and high (HR criticality) is 0.01 to 0.5. Criticality is low for 18% of the observations and high for 82%.

Resource discretion is measured as the percentage of that donor's funding from total external funding of the organization. This recognizes that the presence of multiple sources of funding does not necessarily mean dependency is equal across the sources. The range is 0 to 1 with a higher score indicating more dependency. Low (LR discretion) is 0.01 to 0.50 and high (HR discretion) is 0.51 to 0.99. Discretion is low in 41% of the observations and high for 59%.

Resource concentration is measured as the number of external sources of funding with more sources indicating lower dependency. Low (LR concentration) is anything over 4 sources and high (HR concentration) is 4 or less sources. Concentration is low for 33% of observations and high for 67%.

Table 1. Descriptive Statistics

Variable	Min.	Max.	Mean	Std. Dev.
Resource Criticality	0.06	1.00	0.515	0.198
Resource Concentration	0	15	3.775	3.495
Resource Discretion	0.00	1.00	0.545	0.282
Network Centrality-Donor A	0.21	18.30	5.096	2.847
Network Centrality-Donor B	0.35	11.40	4.782	2.862

Network Centrality. Centrality is an individual actor's position in a network relative to other network members, affording the actor certain power or leverage (Boje & Whetten, 1981; Ibarra, 1993; Wasserman & Galaskiewicz, 1994). To capture centrality as either strong or weak within a donor network we use the closeness centrality score (Lazzarini & Zenger, 2002). Some scholars advocate for closeness centrality as the best measure of centrality (Baer, 2010; Levin & Cross, 2004; Marsden & Campbell, 1984). It captures the ability of an actor to independently access all other actors in the network (Borgatti, 2005; Freeman, 1979; Wasserman & Faust, 1994).

Using survey data, we calculated the closeness centrality score for a response within the network of grant recipients for each donor separately, allowing for the effect of the other donor to be isolated and variation in the position of each NGO in each network to be detectable (Diani, 2002; Freeman, 2000; Lazzarini & Zenger, 2002; Scott, 2000). Calculated using UCINET as the sum of distance from the NGO's node in the network to all others, each NGO gets a closeness centrality score for each donor network. We then use the median score as the cutoff point to code if network centrality is weak or strong. In Donor A network, a closeness centrality measure between 4.2 and 18.3 is categorized as strong centrality (SC) and if less than 4.2, as weak (WC). In the Donor A network there are 56% observations with strong centrality and 44% with weak. For Donor B's network, if the closeness centrality measure is between 3.6 and 11.4, we categorize it as SC (45% of observations) and if less than 3.6, as WC (55% of observations).

To create the predictor variable, we combined low and high resource dependency (LR and HR) and weak and strong network centrality (WC and SC) into four categories: (1) LRWC: low resource dependency and weak closeness centrality in donor network; (2) LRSC: low resource dependency and strong closeness centrality in donor network; (3) HRWC high resource dependency and weak closeness centrality in donor network; and (4) HRSC: high resource dependency and strong closeness centrality in donor network. This composite variable creates a conservative test of SRM given that we force the classifications as weak or strong centrality and low or high dependency to test the model. Table 2 reports the frequencies using the three versions of this predictor variable.

Results

We use cross tabulations, rather than regressions, for this analysis to maintain the spirit of SRM as a parsimonious tool. If the composite variable predicts response according to the

Table 2. Observations by Resource Dependence Measure

Predictor	Criticality Measure	Concentration Measure	Discretion Measure
LRWC: low resource dependency, weak centrality	10	11	15
LRSC: low resource dependency, strong centrality	6	21	22
HRWC high resource dependency, weak centrality	40	39	35
HRSC: high resource dependency, strong centrality	35	20	19
Total Number of Observations for Analysis	91	91	91

hypotheses, we will see the NGOs falling into the expected cells. However, given we had no *loyalty* responses, we could not test the predictors for that cell. We find support for the predictors of SRM's other three cells, as shown in Table 3. Two analyses are significant at the p<.001 level and one at p<.10 using Pearson Chi Square statistics.

As additional tests, we did the analysis without the *loyalty* category given we had no responses in it. We also did the cross tabulations for each network separately and the results are similar. Plus, we ran the analysis without the HRSC cases since, theoretically, only some of these are strongly theorized for the *loyalty* response. The very high dependency and very strong centrality cases fit under HRSC, but the moderately high and moderately strong cases do as well with our measurement schema. Our hypothesis is that *loyalty* is limited to cases at the extreme ends of the strong centrality and high dependency continuums. With the HRSC category excluded, the level of significance increases for all versions of our composite variable. For consistency with the four cell SRM, we show the analysis with HRSC included in Table 3.

To illustrate, Table 3 shows that with criticality as a resource dependency measure, 7 organizations that had high resource dependence due to limited internal revenues and enjoyed strong centrality in the donor's network (HRSC) used *exit* when faced with changes in donor funding, compared to 18 and 10 that used *voice* and *adjustment* respectively. With discretion as a resource dependency measure, among the 21 organizations that had low dependence on the donor, 14 organizations with weak centrality in the network (LRWC) used *exit* compared to the 7 with strong centrality (LRSC). Among organizations that depended on the donor for a considerable percentage of their external funding, 5 organizations with weak centrality in the donor's network used *exit* compared to 3 that were central in that network. Therefore, as hypothesized, *exit* is the most common response when there is low resource dependency and weak centrality. This is the case, regardless of the resource dependency measure: 80%, 82% and then 93% of LRWC cases are *exit* responses, using criticality, concentration, and discretion measures respectively.

As predicted, *voice* is most common under conditions of low resource dependency and strong centrality when using concentration (*voice* in 62% of LRSC cases) and discretion (*voice* in 46% of LRSC).

With the criticality measure, the responses split 50% between *exit* and *voice* for the six observations; two possible explanations deserve further study. One explanation is that an NGO might have informally used *voice* first but when it was not well-received by the donor, the

Table 3. Cross Tabulations of Responses Showing Support for SRM[1]

Response	Combo using Criticality Measure				Combo using Concentration Measure				Combo using Discretion Measure				Total for Row Sets
	HRSC	*HRWC*	*LRSC*	*LRWC*	*HRSC*	*HRWC*	*LRSC*	*LRWC*	*HRSC*	*HRWC*	*LRSC*	*LRWC*	
	7	**11**	**3**	**8**	**4**	**10**	**6**	**9**	**3**	**5**	7	**14**	**29**
Exit	24.1%	37.9%	10.3%	27.6%	13.8%	34.5%	20.7%	31.0%	10.3%	17.2%	24.1%	48.3%	
	20.0%	27.5%	50.0%	80.0%	20.0%	25.6%	28.6%	81.8%	16.7%	13.9%	31.8%	93.3%	31.9%
	18	**2**	**3**	**1**	**8**	**3**	**13**	**0**	**11**	**3**	**10**	**0**	**24**
Voice	75.0%	8.3%	12.5%	4.2%	33.3%	12.5%	54.2%	0.0%	45.8%	12.5%	41.7%	0.0%	
	51.4%	5.0%	50.0%	10.0%	40.0%	7.7%	61.9%	0.0%	61.1%	8.3%	45.5%	0.0%	26.4%
	10	**27**	**0**	**1**	**8**	**26**	**2**	**2**	**4**	**28**	**5**	**1**	**38**
Adjustment	26.3%	71.1%	0.0%	2.6%	21.1%	68.4%	5.3%	5.3%	10.5%	73.7%	13.2%	2.6%	
	28.6%	67.5%	0.0%	10.0%	40.0%	66.7%	9.5%	18.2%	22.2%	77.8%	22.7%	6.7%	41.8%
	35	**40**	**6**	**10**	**20**	**39**	**21**	**11**	**18**	**36**	**22**	**15**	**91**
Total for Column Sets	38.0%	43.5%	6.5%	10.9%	22.0%	42.9%	23.1%	12.1%	19.6%	39.1%	23.9%	16.3%	100.0% 100.0%
Pearson $\chi 2$(df)	132.385[a] (12)***				134.526[b] (12)***				154.249[c](12)*				
Cramer's V	0.303***				0.398***				0.284***				

*p<0.1, *** p<0.001

[1]Loyalty was not included in analyses given zero cases.

organization decided not to pursue funding, resulting in a coding of *exit*. In our data set, we only have the final response. Second, those NGOs that rely more on internal resources than external resources may, on average, have lower capacity (such as having staff devoted to donor relations) for negotiating with external donors than their fellow NGOs in the donor network who rely more heavily on external funding. In other words, we may be seeing the effects of a capacity difference related to criticality difference combined with network position. We did not include capacity measures in this analysis. Its multidimensional nature, including but not limited to human, structural, financial and information dimensions (Christensen & Gazley, 2008), would make the analyses much more complex.

Adjustment is the most common response in this research and its relevant hypotheses are well-supported. For all three measures of resource dependency, when there is high resource dependency and weak closeness centrality, we find that NGOs chose to change in response to a donor's new demands. For the HRWC category, *adjustment* is the response for 68% of cases using criticality, 67% using concentration, and 78% using discretion as the resource dependency measure.

With Table 3, we also can compare types of responses across all possible combinations and find support for our hypotheses. As predicted, the most common combination for an *adjustment* response is HRWC, no matter if using criticality (71% of *adjustment* observations), concentration (68% of *adjustment* observations) or discretion (74% of *adjustment* observations). Also as predicted, *voice* was most common for the LRSC category using the concentration measure (54% of *voice* observations). However, it was more common for HRSC than LRSC using criticality (75% versus 12.5% of *voice* observations) and discretion measures (46% versus 42%). We predicted *loyalty* under the more extreme conditions within HRSC. Without any *loyalty* observations, the HRSC condition is linked to *voice* as the most common response. *Voice* was even more common for the HRSC condition than for the predicted LRSC condition for it.

As predicted, *exit* was most common under LRWC, and most common using the discretion measure (48% of *exit* observations under LRWC conditions). However, looking just at the *exit* observations, it was more common for HRWC than LRWC using criticality (38% for HRWC versus 28% for LRWC), and concentration (35% for HRWC versus 31% for LRWC, a small difference). Perhaps this is due to NGO capacity strengths. When NGOs rely less on internal than external resources, leaders may develop a stronger capacity to understand their external donors' interests and demands. They may more routinely and expertly gather information to judge if they can change the donor's interests to better suit their organization. In the context of this research, despite their weak closeness centrality in the network, the NGO leaders with high dependence on external donors, compared to their counterparts with low dependence, may have had more capacity to understand the donor was serious about the funding interest change and chose to *exit* rather than divert resources from their core mission to try and please a donor.

Discussion

The SRM predicts NGO's *exit, voice,* and *adjustment* to donors' changed funding demands. Though *adjustment* is the most common response in our sample, we also find NGOs practicing *exit* or inserting their environmental priorities into a proposed project. The results are fairly consistent, no matter the measure of resource dependency. However, the three measures are not fully substitutable. All three measures are great predictors of *adjustment*. Also, all are effective for predicting *voice* under conditions of LRSC, again supporting the model. We did not find *loyalty* so the SRM prediction that it would occur under the HRSC condition is not evaluated. For predicting *exit*, using discretion to create the composite variable, is particularly effective. While the concentration and criticality measures also have value in predicting *exit*

under conditions of LRWC, *exit* may be even more popular for HRWC conditions than for LRWC conditions.

That *exit* occurs under all conditions deserves further discussion. As noted earlier, it is possible that an NGO was unsuccessful in informal attempts to use *voice* so then used *exit*. However, other explanations are worth considering and studying. There are reasons to *exit* even if *voice* would have been effective. Organization leaders may consider the importance of the issue at stake, the consequences for future interactions, the difficulty to mobilize resources to exert power, and the cost of exerting it (Ebrahim, 2005a; Lee et al., 2012; Ofem et al., 2018). Also, unappealing donor demands may spur NGO leaders to engage in a conscious or unconscious recommitment to the existing mission or leverage the situation to signal their legitimacy to others by protecting their mission and rejecting the donor. Finally, there may be internal dynamics such as a leadership transition and personal relations that affect ability and desire to use a *voice* or *adjustment* response. These factors might explain some of our results that show NGOs practicing *exit* despite their strong centrality in the network and/or high level of dependency.

The SRM allows for tracking over time, something we did not do. The response an NGO adopts in one funding cycle reinforces or alters the network position and dependencies in a subsequent one. Scholars may be able to monitor centrality and dependencies to not only predict responses to a particular donor but also to examine how a response to a specific donor might impact relationships with others in the donor's network. Future research should consider these issues along with potential institutional factors that create increasingly normed responses like *loyalty* (DiMaggio & Powell, 1983; Meyer & Rowan, 1977). *Loyalty* may be more common in other contexts besides the one of this research. For example, perhaps a setting with fewer available resource providers would expose *loyalty* responses becoming more frequent over time.

This research raises many normative and empirical questions, some concerning democracy and development. How much influence should and do international actors have in sovereign nations? Foreign donors can have a major role in funding environmental policy and implementation through local NGOs. Changes in donors' agendas can leave funding gaps and redirect NGOs to new mission areas. This is an opportunity for the sovereign government to set aside the tension that underlies aid management relationships (Green & Curtis, 2005) and position itself as a partner for both donors and NGOs; the government can step in as a substitute when donor relationships end and put some mission domains, like environmental conservation, at risk. It can be an 'entrepreneurial government' (Brinkerhoff & Brinkerhoff, 2002) that steers rather than rows, facilitates interactions, sometimes competes against the other sectors and may itself be a member of a donor's network.

NGO decision-makers' responses may have been influenced by their opinions on how much influence a foreign donor and sovereign government should have. Perhaps some of the *exit* responses reflect NGO leaders' resistance to a donor trying to change NGOs' missions. They may have felt that maintaining a relationship with the donor would undermine their own NGO's independence or standing with the sovereign government which granted them the discretion, if not the financial resources, to pursue an environmental mission. One donor had the new priority of promoting democratic participation and this could be perceived as a foreign entity overstepping into domestic affairs. Perhaps some NGO leaders share the view that their organizations should be seen as partners, based on support, stewardship, and mutuality (Brinkerhoff, 2002; Fischer et al., 2017; Van Slyke, 2007), and not as the extended agencies of their donors. Some NGO leaders may have been disappointed by the heavy hand of the donors in making drastic changes without NGO input and without concern about what would happen to environmental programs due to their funding withdrawal.

Risk aversion is one reason donors may prefer to fund organizations they funded before (Chen & Bozeman, 2012; Zheng et al., 2019). A question is whether risk aversion is optimal in the context of uncertainty and instability that characterizes many developing countries. Scholars (e.g., Batley & Rose, 2011; Suárez, 2011; Zhan & Tang, 2016) argue that Western donors favor a subset of professional and well-connected NGOs whose success in attracting foreign resources may undermine the capacity building of other NGOs and domestic donor networks. This research illustrates that membership in a donor network may shift, most demonstrably when donor interests change. How do these shifts affect the risk-taking and capacity of the NGO sector as a whole? We encourage scholars, and practitioners, to examine risks and opportunities associated with establishing funding relationships with NGOs that are not currently in the donor network. The introduction of new members into a donor network and *exit* of others may affect not only closeness centrality measures for existing members but also the pattern of resource dependencies across the network and in the larger NGO sector.

The parsimony of SRM may encourage practitioners to use it for reflection on past and future decisions and by scholars who have limited data collection capacity or wish to rely on general perceptions of network centrality and resource dependency. For NGOs, the model can provide a framework for considering perceptions of existing and possible donor arrangements. This framework may help in making short- and long-term strategic decisions. For example, NGO leaders may be able to track how certain responses to donors are likely to affect future ones due to resulting changes in their dependencies and location in a donor's network. They also may be able to use the model to surface what may have been subconscious influences on their responses to donors and thus be more strategic in their future decision-making.

Our results do not offer specific guidance on what NGOs should do in the face of donor demands. Relevant benefits and costs depend on the type of funding portfolio and the nature of the relations in an associated network (Ebrahim, 2005a; Froelich, 1999). Private funding and international aid, for example, may be highly volatile and encourage goal displacement (Malhotra, 2000). While diversification of funding sources may reduce financial dependence, it may create network interdependencies that NGOs could struggle with and need to negotiate (Ebrahim, 2005a, 2005b). The availability of multiple funding increases the operational costs and efforts for an NGO to manage the funding (Froelich, 1999; Henderson, 2002). That is why NGO leaders might find it more rewarding to practice *voice*—or even *exit*—with an established donor to mitigate the cost of managing multiple sources of revenues, depending on capacity to do so.

Donors may learn much by using the SRM to examine variations in NGOs' responses to their demands as well as their responses to NGOs; the relationships they create and foster may be at least as important as the funding they provide. The common use of *adjustment* in our results reflects acceptance or tolerance of donors' changing demands. However, the *exit* and *voice* responses remind donors that they should not assume that *adjustment* will occur. *Exit* and *voice* are clear signals to donors that NGO leaders may find a continuing relationship on the donor's terms to be undesirable and this signal, in general, is predictable by the SRM. Such signals, over time, may lead to corrections in NGO-donor interactions and ultimately the broader donor network. It is important, then, to consider funders' expectations for and reactions to NGO responses to their changed demands to have a more comprehensive understanding from the two sides of the relationship.

Conclusion

To conclude, there are multiple ways to advance research using the Strategic Response Model. First, future research could address some of the methodological limitations of this research, such as the size of the sample and measurement issues. While verified by outside experts, the empirical coding of the independent variables is subjective, and it is also dichotomous for the

purpose of testing the most parsimonious version of the SRM. A study that looks at moderate responses or uses continuous variables may have more predictive power.

Second, while we took a network perspective, we looked at each NGO's response and treated it independently from other NGO' responses, not as part of a set of responses. It could be useful to look for consistency in responses of previously collaborating NGOs. Also, it may be useful to capture how much a behavior towards one donor influences the behavior towards another when the donor networks overlap and when they do not. The question of whether NGOs try more than one response before reaching a final response also is worth exploring; we only examine the final behavior in the funding cycle. Future research could use the model to track a progression in responses or behaviors.

Third, factors such as organizational capacity and philosophical stance on donor influence may moderate responses and could be integrated into the SRM in future empirical tests; these factors also include the length and durations of relations which could impact both dependency and centrality. Longitudinal data would help researchers examine how the application of the SRM evolves over time. Organizations are embedded in networks within which ties evolve (Eng et al., 2012; Granovetter, 1985). Therefore, it is important to understand an organization's changing position in their networks relative to other network members. Network position also relates to future formation, and maintenance and strengths of network dyadic ties (Lai et al., 2017; Lee & Monge, 2011).

Fourth, social construction scholarship suggests looking at how well perceptions of relations and resource dependency match our measures, as well as other factors that may influence responses. We did not solicit NGO leaders' perceptions which may not match the more objective measures we used and could be more or less predictive of response.

Finally, it is important to address how personal networks are embedded within and have a direct impact on donor networks. Personal relations and resource exchanges among individuals may substitute for, strengthen, or weaken network location and dependencies among organizations.

Disclosure Statement

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