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The Party Edge: Consultant-Candidate Networks in American Political Parties

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Abstract

From David Axelrod to Karl Rove, political consultants have come to play a crucial role in American elections, and yet we know little about how they influence the political process. In particular, consultants serve as an important part of the web of informal relationships that play an important role in contemporary parties. Using data from *Politics* magazine (formerly *Campaigns & Elections*), we present the first systematic analysis of the networks of Republican and Democratic consultants and their House and Senate general election clients from 1992–2008. After introducing the characteristics of these networks, we estimate a spatial lag model demonstrating that campaigns' positions in the network of campaign consultants influences the strategies they use. We then show that consultants whose clients achieve significant electoral victories become increasingly central to the consultant-candidate network in the subsequent election cycle. In this way, consultants play a crucial role in helping parties successfully adapt to changing electoral circumstances.

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1 Introduction

From both a theoretical and empirical standpoint, the study of American political parties is plagued by difficulties. There is no longer much room to doubt in this historical era that party institutions "matter" in a generic sense, at least with respect to the behavior of candidates and elected officials. Indeed, there is abundant evidence in recent scholarship showing that parties are more influential and important now than at any other point in the post-war era. However, the precise organizational mechanisms and institutional configurations through which parties exert influence remain obscure. This is particularly true when it comes to the study of the "parties-as-organizations." Although formal party organizations exist, their influence and capacity has lagged the growth in partisanship we observe amongst elites in the last few decades (Aldrich 2000; Gibson et al. 1983). This growth in partisanship may instead be rooted in informal and often unobserved interactions outside of formal party organizations and institutions (Masket 2009).

Specifically, we argue that political party organizations should be viewed not as formal hierarchical institutions, but rather as an adaptive network of formal and informal relationships. An important component of this contemporary party structure is the network of relationships between candidates and their political consultants. Although relatively little scholarship has focused on consultants, there are many reasons to suspect that they are central players in the contemporary party, especially given the organizational and strategic challenges of modern political campaigns. Most importantly, consultants bring strategies to their clients, these strategies are transmitted through a network of working relationships as consultants collaborate, and firms that win important races become more central within the network. In this way, parties adapt and adjust the tactics and issues they use in a decentralized manner, rewarding success and penalizing failure.

The paper proceeds as follows. We begin by describing our theoretical perspective on the role of consultants in contemporary parties and specifying several empirical hypotheses that must hold for our theory to be applicable. Next, we describe our data—listings of consultant-candidate relationships that were pub-

lished *Politics* (formerly *Campaigns & Elections*) from 1992–2008—and analyze the resulting set of consultant-candidate networks. Using spatial statistics techniques, we find support for the hypothesis that the strategies candidates implement is in part determined by their location in the consultant-candidate network. We also show that consultants become more central within the network when they achieve significant electoral victories. We conclude with a brief discussion of our results and future directions for research.

2 How consultants help parties adapt

Our theory is that campaign consulting firms are a crucial mechanism for accomplishing two basic tasks of party organizations: adaptation and coordination. The network of consultant-candidate relationships represent an institution that is well-designed to test and refine innovative campaign tactics and messages, spread those innovations through the network to other competitive campaigns, and thus facilitate the coordinated response of agents across many constituencies to changes in the electoral environment. Thus, parties can best be conceived not as a formal institution characterized by centralized control and coordination, but rather as a more flexible adaptive network of both formal and informal relationships (Monroe 2001; Koger, Masket and Noel 2009; Herrnson 2009). This adaptive network is capable of promoting efficient and coordinated responses to changing conditions throughout the party in ways not otherwise achievable given the heterogeneity of campaign environments and the institutional limits of centralized party control in the American setting.

This view of party organizations as adaptive networks rests on four basic assumptions, which will be the focus of our empirical tests below:

- *Consultants are partisans*: Consultants who play a strategic role in campaigns (i.e., general, media, and polling consultants) should rarely, if ever, cross party lines. While they operate outside formal party institutions, these consultants are informally members of one of the two major parties.

- *Consultants influence campaigns*: Consulting firms influence the strategies, tactics, and messages of the campaigns and candidates who employ them.
- *Consultants disseminate strategies*: Consultant-candidate relationships should be viewed as a network through which political strategies are transmitted across space (campaigns) and time (between elections). Consultant firms should learn from their experience in the campaigns and from their interaction with other consultants employed by campaigns.
- *Consultant success is rewarded*: Consulting firms that are more successful earn more prominent positions in this network, and thus both their direct and indirect influence increases over time.

In this section, we elaborate on each of these points and discuss how they relate to previous studies of party organizations and political consultants. We then specify the empirical relationships that we would expect to observe if these conditions are met.

2.1 Rethinking the consultant-party relationship

Party organizations, like all organizations, must fulfill a set of basic functions that include acquiring and transmitting information internally and recruiting and instructing new members (David 1994). These tasks are especially critical for political parties given their need to quickly adapt to changes in the political environment while maintaining message consistency and preserving the valuable party "label" (Grynaviski 2010; Snyder and Ting 2002). However, the means by which these tasks are accomplished by parties are not well understood. In part, this lack of understanding stems from the fact that the mechanisms the parties have evolved to perform these functions are nothing like the hierarchical structures common in corporate firms or more centralized parties in Europe. American parties achieve these goals via indirect, informal, and often hidden interactions between actors that exist at the edges of the formal party organizations (Noel 2010). Consulting firms—like think tanks, bloggers, interest groups, 527s, and campaign

staffers—hold no formal positions within the parties, yet serve as important conduits through which effective political tactics are discovered and transmitted.

Specifically, parties face difficult problems of adaptation and coordination in responding to changing electoral circumstances during campaigns that consultants help to address. Given time pressures and coordination difficulties during a campaign, it is often not possible for formal party institutions to develop a centralized message, nor is it always clear that such an approach can develop a message that will be effective. Consultants can facilitate decentralized exchanges of information within the party regarding effective messaging, responses to opponent criticisms, and other tactics. Those consultants who are successful gain influence and new clients as a result of their record, helping the party disseminate these strategies and tactics more widely.

The view that campaign consulting firms are a valuable component of strong party institutions stands in stark contrasts to several past studies of consultants in American politics. Scholars such as Sabato (1981) and Shea (1996) argue that consultants are either a worrying symptom of or significant causes of candidate-centered elections, weak party organization, and the growth of party-rivaling organizations such as PACs (see also Magleby, Patterson and Thurber 2000). However, such perspectives often take a narrow and hierarchical view of the content and role of political parties. Indeed, the literature typically measures the strength of party organizations based on the number of services they provide, their budgets, and their ability to directly influence campaigns and candidates through financial contributions or services (e.g., Aldrich 2000; Gibson et al. 1983).

However, parties may operate successfully while employing less hierarchical institutional arrangements that reduce transactions costs and facilitate coordination and cooperation in a fluid and complex environment North (1990). Such arrangements may even outperform more centralized structures (Enemark et al. N.d.; Axelrod and Cohen 2001). Along these lines, some anecdotal evidence suggests that the parties have purposefully shied away from more centralized models of party activity as less efficient and adaptive to changing environments:

> In a time of continued technological advancement and when more and

> more candidates are taking advantage of that technology, parties have discovered that it is inefficient for them to provide all the necessary services to their candidates form inside their headquarters. Therefore, the parties have scaled back tremendously in the services they *provide* to candidates, and have increased the amount of money they spend *paying bills for* their candidates (Dulio 2004, 108-109).

By providing funding in place of services, parties allow candidates (and the consultants) to determine how best to allocate resources.

Another critique states that consultants pursue their own agenda at the expense of parties (Magleby, Patterson and Thurber 2000). While there are obviously principal-agent issues associated with these relationships (Walton and Walter 2009), the reputation and profitability of these firms are at least partially linked to the success of their clients, which aligns many of their incentives with those of the parties. Similarly, commercial concerns encourage consulting firms to invest in building their campaign expertise and institutional capacities, creating institutional resources that will help elect party members in the future.

We are not the first to argue that the relationship between parties and consultants is not competitive but rather complementary (c.f., Dulio 2004; Kolodny and Logan 1998; Dulio and Nelson 2005). Numerous scholars have argued that parties and consultants are engaged in a symbiotic relationship that largely benefits both. In this view, consultants and parties are allies. However, our stance is stronger. We do not view consultants as *allies* of the political parties, but as a *component* of the parties. This view rests on the theoretical point that parties are not individual agents with specific goals, but institutions that have evolved to fulfill certain tasks (Aldrich 1995).

This view is consistent with a growing body of theoretical and empirical research that has sought to move beyond formal organizations and rules to focus on the informal patterns of behavior and interactions that help shape American parties (e.g., Noel 2010; Monroe 2001; Masket 2009; Skinner 2005; Herrnson 2009; Nyhan and Tofias N.d.). Specifically, research on contemporary party organizations must broaden its focus to include the wider class of agents that coordinate

on the task of electing candidates such as interest groups, 527s, bloggers, and think tanks. This paper seeks to add campaign consultants to the growing list of actors that exist at the party edge—not fully incorporated within its formal institutions but still key players in the larger partisan network.

2.2 Consultants as agents of party adaptation

This theoretical perspective on the role of consultants in parties generates three empirical expectations that we test below. First, we predict that almost all campaign consulting firms are highly partisan (excluding technical consultants who provide specific services like direct mail and websites). If campaign consulting firms are actors existing at the edge of the party organizations, it seems clear that they cannot cross party lines. Thus, our theory requires that consultants work primarily (or even exclusively) with clients of one major party. This hypothesis has also received some support in past research, which shows that in recent years most consultants work primarily with candidates from a single party. For instance, a 1997 survey of consultants by Kolodny and Logan (1998) found that only 8% of general consultants reported working about equally with candidates from both parties. In addition, it is well known that parties purposefully direct candidates towards "loyal" consulting firms, and may even premise the distribution of party funds on contracting with approved consultants (Kolodny and Logan 1998).

> *Hypothesis 1: Consulting firms will very rarely work with congressional campaigns from both major parties.*

In addition, we expect that consulting firms influence the messages and tactics employed by their clients. As a general matter, the evidence seems clear that consulting firms play a key role in modern elections. Campaigns must organize what is essentially a small corporation in the months leading up to an election and successfully carry out a series of complex logistical, organizational, and strategic tasks. They msut raise and millions of dollars, conduct polls, develop media campaigns, coordinate hundreds (if not thousands) of volunteers and much more.

These wild temporal fluctuations in organizational capacity can only be accomplished with reliance on the expertise and organizational capacity of consulting firms, who thus have a great deal of leverage to guide campaigns toward specific strategies and messages. For instance, previous studies provide support for claims of consultant influence on negative advertising (e.g., Swint 1998; Francia and Herrnson 2007; Grossman N.d.), fundraising (Herrnson 1992; Dulio 2004), electoral outcomes (Medvic and Lenart 1997; Dulio 2004), messaging (Johnson 2001), and public policy (Lathrop 2003).

This process places consulting firms in a unique position to learn about effective techniques and strategies and implement the lessons that have been learned throughout the party. Campaigns often hire general strategists, pollsters, and/or media consultants who must work together in support of clients. These interactions create a network of professional relationships that facilitates the spread of innovative and effective strategies and messages across campaigns and over time. We therefore expect campaigns' locations in the consultant-candidate network to be associated with the strategies that they employ.

> *Hypothesis 2: The tactics used by candidates will be associated with their location in the consultant-candidate network.*

Finally, we expect that the process of strategic adaptation described above will be reinforced by market pressures on consultants. Firms that are successful should tend to earn contracts with more campaigns, especially those that are more prominent (and lucrative). In network terms, these firms should subsequently gain in prestige, influence, and centrality. By contrast, market pressures should work to ensure that firms that fail to develop effective strategies are marginalized and eventually eliminated. This selection process is the mechanism by which the interests of consulting firms, candidates, and parties are (imperfectly) aligned. The rewards for success encourage consultants to learn about effective strategies and spread them to their clients. Although there is anecdotal evidence supporting this claim, we are not aware of empirical research on the subject.

Hypothesis 3: Consulting firms who are more successful in winning elections become increasingly central in the consultant-candidate network.

3 The consultant-candidate network

We study consultant-candidate networks for House and Senate general elections during the 1992–2008 period (excluding special elections). The data were gathered from scorecards published at the end of each election cycle in *Politics* magazine, which was previously known as *Campaigns & Elections*. The scorecards, which are typically a combination of self-reports by consulting firms and research by the magazine's staff, provide the most comprehensive information available on consultant-candidate relationships in federal elections. Rather than studying an individual election cycle as in previous research (e.g., Medvic and Lenart 1997), we aggregate data from nine election cycles, allowing us to examine changes in the consultant-candidate network over time.[1] The *Politics*/*C&E* scorecards unfortunately do not include specifics on the consultant-candidate relationship such as services provided or total spending. However, the services provided by each firm are listed. Since our interest is primarily in the substance of campaigns, we restrict our sample to firms providing general , media, and/or polling consulting; all dyads in which the firm does not provide one of those services (typically these are specialists in discrete functions such as fundraising, direct mail, etc.) are excluded. The resulting dataset was then merged with election data from CQ's Voting and Elections Collection and processed into a network format for analysis.

3.1 Stability in consultant usage over time

Before proceeding to our analysis of the networks themselves, we first briefly characterize general patterns in consultant usage during the period of our analysis. While early studies emphasized the explosive growth of the consulting in-

[1] We exclude 1990 since there were approximately half as many consultant-candidate dyads as in 1992, which could indicate that the industry had not yet matured or that the data are incomplete.

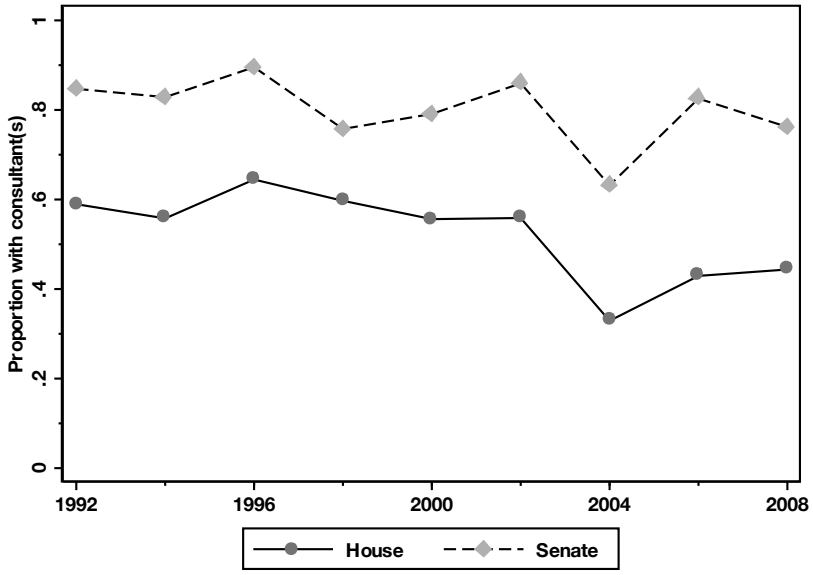
dustry in the 1980s, our data indicate that the industry subsequently reached maturity. As more recent work suggests, consultants are ubiquitous in competitive federal election campaigns. However, the number of campaigns that use professional consulting services is relatively stable. For instance, Figure 1 indicates that the proportion of candidates with one or more consultants whose firms provide general, media, or polling consulting services is relatively flat in this period.This trend holds when we disaggregate the data by chamber, which is plotted in Figure 1(a), and by party, which is plotted in Figure 1(b).[2]

Similarly, Figure 2 shows that consultant usage is approximately stable over time when we break out the data by race type and consultant service. Figure 2(a) shows that House candidates with previous electoral experience (who we call "quality" candidates following Jacobson [1989]) running for open seats are the most likely to have one or more consultants. They are followed by incumbents (since many don't have competitive races), open seat candidates without previous electoral experience, challengers with previous electoral experience, and challengers who lack such experience. With the exception of a significant increase in consultant usage by non-quality open seat candidates in 1994 and the significant decrease in consultant usage by incumbents since 2002, each of these categories is relatively stable over time. Finally, Figure 2(b) shows that usage of consultants by the types of services provided is also relatively stable during this period, although there is again a noticeable decrease in overall usage (mostly since 2002) that is primarily driven by incumbents.

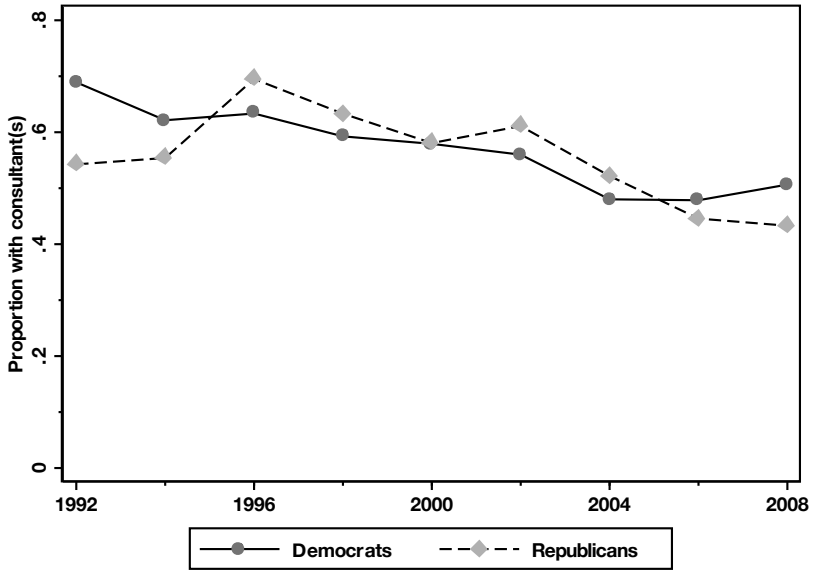
While the consulting industry is hardly static, this relative stability in the scope of consultant usage allows us to leverage our data over time and make inferences that are not possible in the cross-sectional framework typically used in previous studies. Specifically, we can (in some cases) pool data across years to increase our sample size and also characterize firm trajectories across election cycles.

[2]It also holds if we consider the mean number of consultants per candidate rather than the proportion of candidates with at least one consultant (results available upon request).

Figure 1: Consultant usage by chamber and party

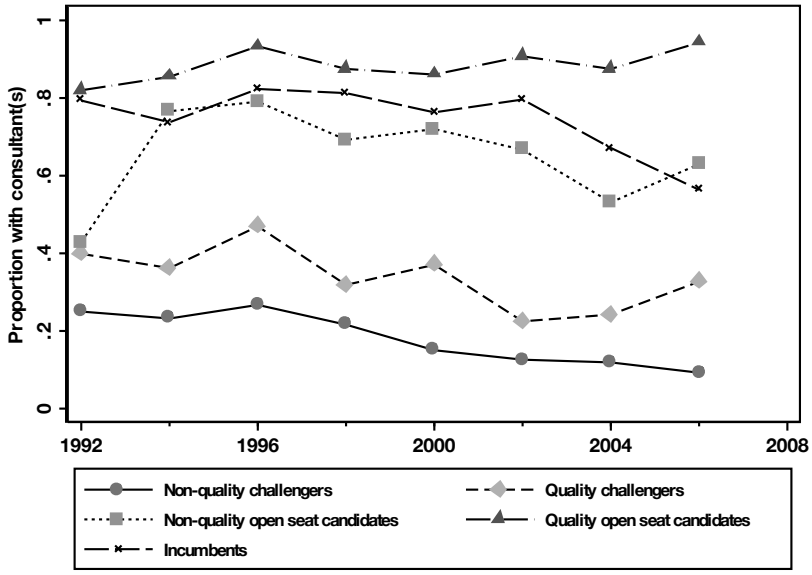


(a) Proportion of candidates with consultant(s) by chamber

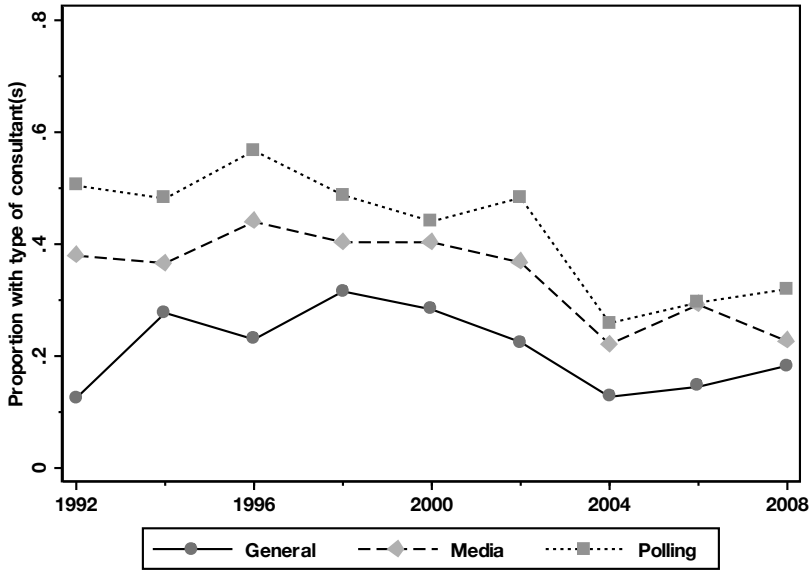


(b) Proportion of candidates with consultant(s) by party

Figure 2: Consultant usage by race type and service

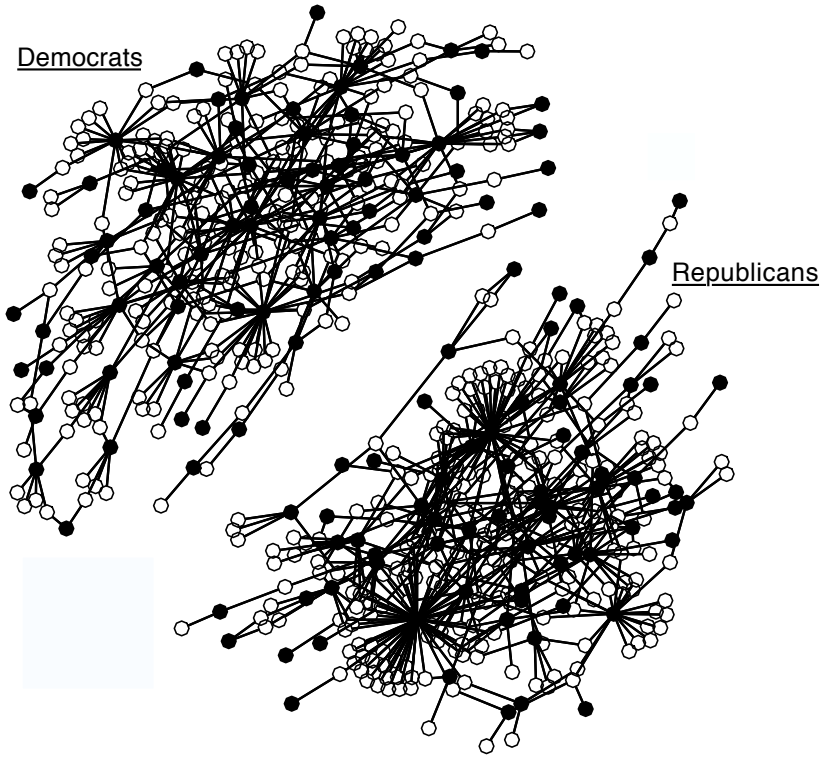


(a) Proportion of House candidates with consultant(s) by race type



(b) Proportion of all candidates with consultant(s) by consultant type

Figure 3: 2002 consultant-candidate network



3.2 Network descriptive analysis

When we convert these data into bipartite network format and plot the results, we observe that these networks do not overlap in any meaningful way, providing support for Hypothesis 1. Figure 3 provides an illustrative example—the 2002 consultant-candidate network. The two largest components in the network are portrayed in the figure (consultant nodes are solid black while candidate nodes are white with black edges). Each one corresponds to a single party and there is no overlap between them. Across nine election cycles, there are only five cases in the data of consultants contracting with campaigns in both major parties in the same year—a tiny fraction of all consultant-candidate dyads in our data. This behavior

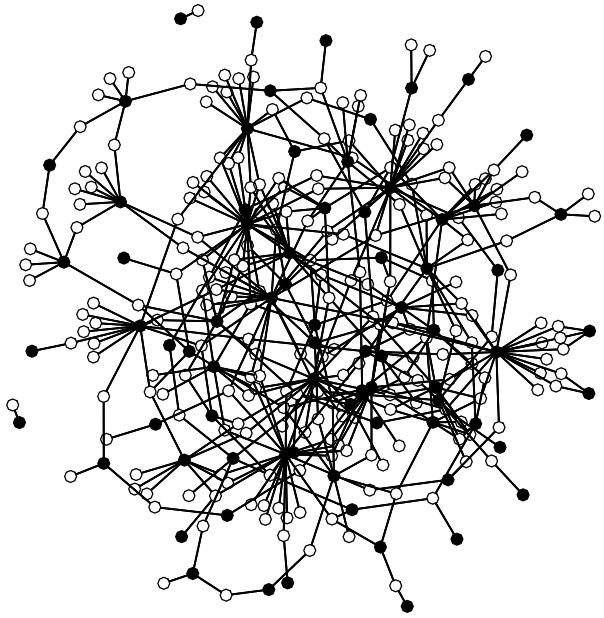
reflects a combination of party loyalty by consultants and intense market pressure from clients to remain loyal to the party. For instance, Public Opinion Strategies, a Republican polling firm, preemptively resigned from Florida governor Charlie Crist's Senate campaign when he announced he would leave the party to run as an independent (Halperin 2010).

Based on these results, we split the data and analyze the party networks separately. Figure 4 displays plots of the consultant-candidate network by party for 2002 (again, consultant nodes are solid black while candidate nodes are white with black edges; labels are omitted for visual clarity). Both the Democratic network in Figure 4(a) and the Republican network in Figure 4(b) are relatively low density (approximately .02 on average) and have a large connected component to whom most nodes are connected.

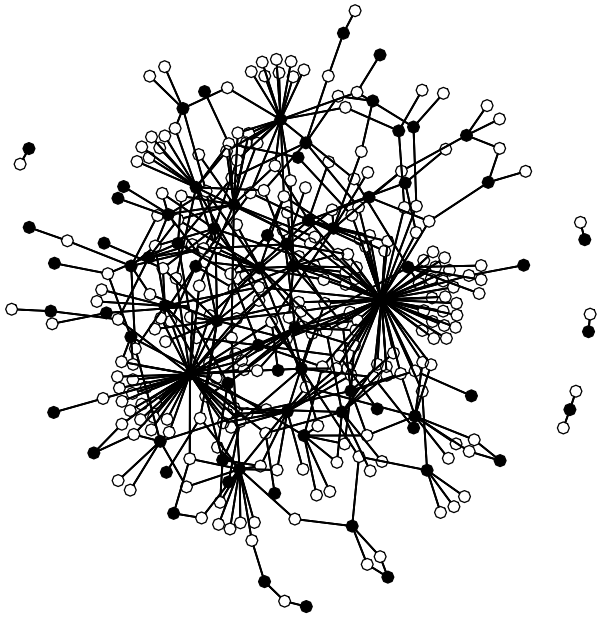
One notable feature of the data is that some consultant nodes are connected to a disproportionate number of candidates. We examine this supposition about the distribution of candidate relationships more formally in Figure 5, which presents degree distributions for both candidates and consultants in 2002 pooled across the two parties (results are similar across election cycles). Figure 5(a) plots the degree distributions of consultant relationships separately for House and Senate candidates in 2002. While Senate campaigns tend to use more consultants providing general, media, or polling services, neither group of candidates displays the highly unequal degree distribution that is characteristic of many social networks (likely a reflection of capacity and financial constraints on the usage of large numbers of consultants.) However, Figure 5(b) provides evidence of such a pattern among consulting firms. Most have only a few candidates, but the largest have a huge number of clients. For example, the Republican polling firm Public Opinion Strategies had 73 House and Senate clients in 2002 alone.

Indeed, when we plot the degree distribution of candidate relationships among consultants from 2002 in log-log format in Figure 6, we observe an approximately linear relationship (again, results are similar across years). We should be cautious about asserting that the relationship is distributed according to a power law without conducting more extensive empirical tests (Clauset, Shalizi and Newman

Figure 4: 2002 consultant-candidate networks by party

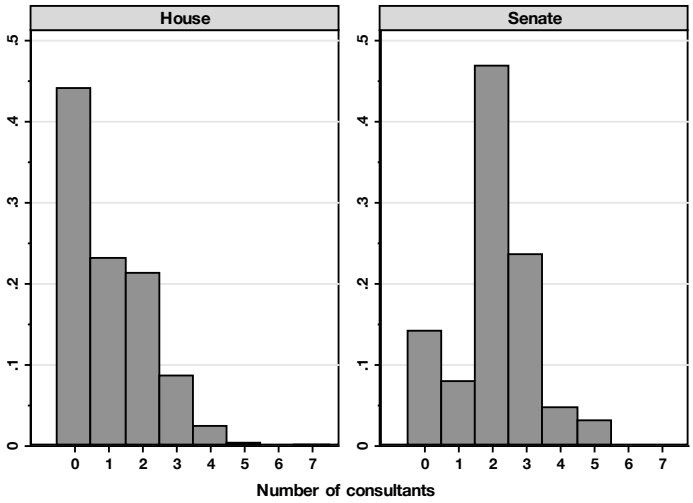


(a) Democrats

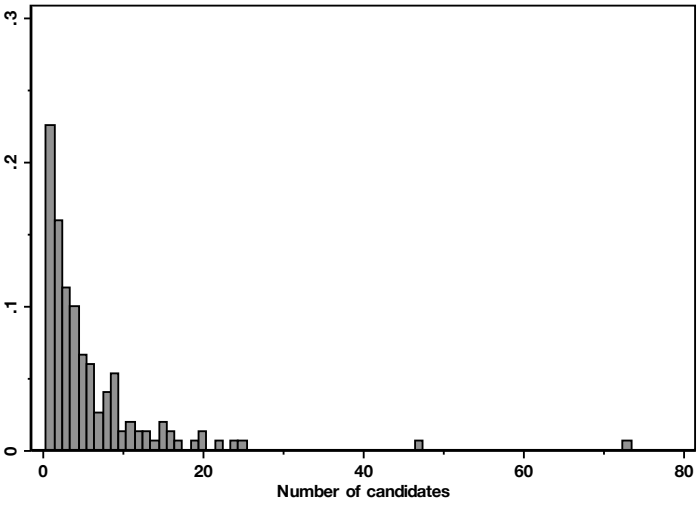


(b) Republicans

Figure 5: Degree distributions of consultant-candidate networks

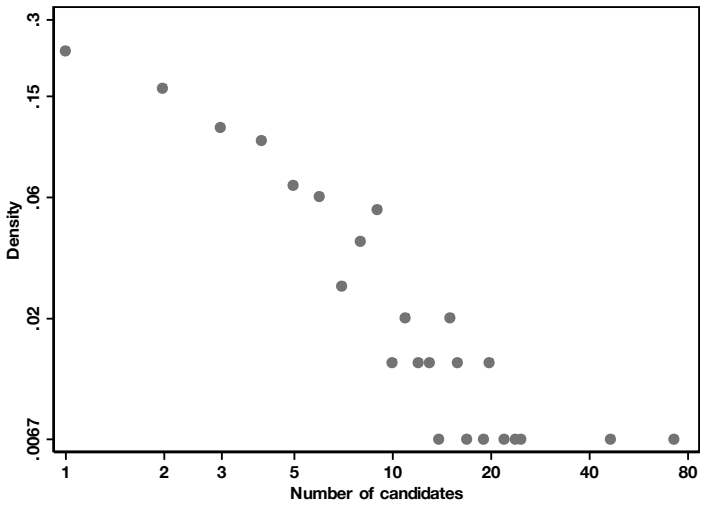


(a) Candidates



(b) Consultants

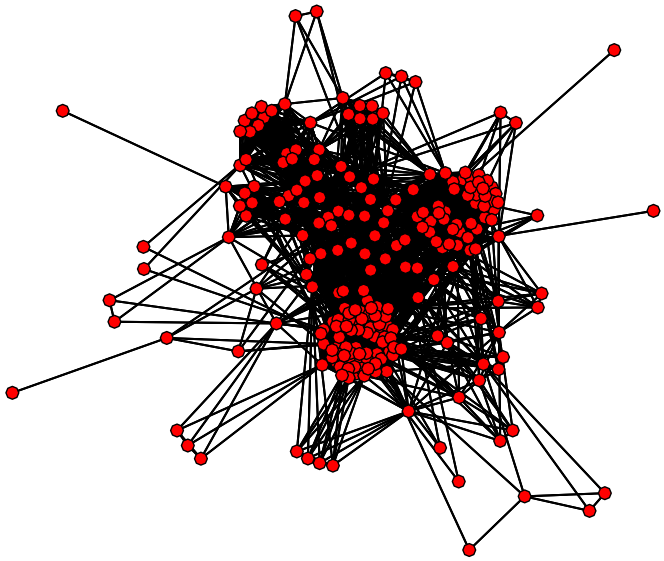
Figure 6: Degree distributions for consultants (log-log plot)



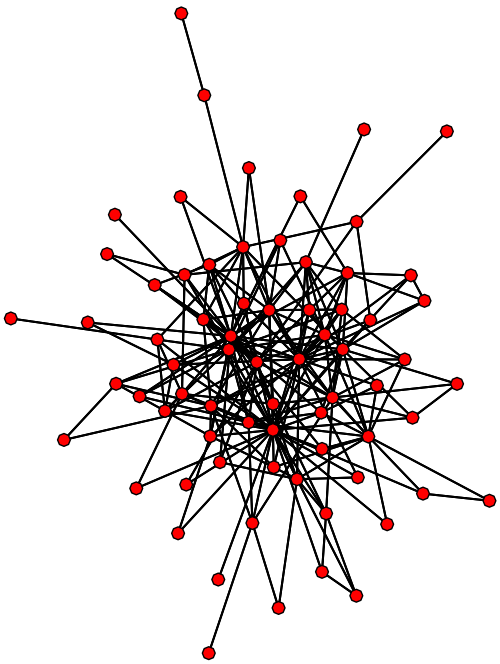
2009), but it is, at least, highly unequal.

To facilitate analysis, we also project the network into one-mode format for both candidates and consultants. Figure 7 presents the projected GOP networks for 2002 (labels are omitted for visual clarity). The projected candidate-by-candidate network (where ties represent shared consultant relationships) is presented in Figure 7(a) and the projected consultant-by-consultant network (where ties represent shared shared clients) is presented in Figure 7(b). The projected candidate network displays very high levels of clustering. However, such a result is often an artifact of the projection of bipartite network data (Latapy, Magnien and Vecchio 2008). In this case, projection creates cliques among all candidates who share a common consultant (and vice versa). Given the highly unequal degree distributions of candidate relationships among consultants, very large cliques of candidates are formed when the network is projected.

Figure 7: 2002 GOP networks of candidates and consultants (projected)



(a) Candidates



(b) Consultants

4 Consultant influence on campaign strategy

After constructing consultant-candidate networks from our data, we next turn to exploring the extent to which the strategies adopted by campaigns are correlated with their location in the networks. Previous studies have primarily focused on whether campaigns with consultants raised more money or received more votes (e.g., Herrnson 1992; Medvic and Lenart 1997). Other research has focused on the relationship between specific consulting firms and the particular strategy of negative campaigning (Grossman N.d.). However, consultants are likely to influence campaign strategy on multiple dimensions such as issue emphases, policy positions, ideological location, fundraising tactics, allocation of advertising dollars, and the emphasis placed on grass roots mobilization.

Unfortunately, there is surprisingly little easily accessible data on such campaign tactics, especially among unsuccessful challengers. One reason is that many campaigns, especially non-competitive races or those that are distant from major media markets, provide little direct evidence by which their activities can be evaluated. These campaigns often receive low levels of media coverage and do not advertise on television. The most comprehensive effort to date to collect information on campaign messages and strategies is provided by Druckman, Kifer and Parkin (2009, 2010), who collected information from the websites of federal campaigns during the 2002–2006 time period, including all major party Senate candidates and a random sample of major party candidates for the House.

The data provided by Druckman, Kifer, and Parkin (hereafter DKP) evaluate campaign websites along numerous dimensions. Some of these (e.g., whether the website provide interactive features) are presumably more likely to be influenced by campaign technology specialists rather than the pollsters, media consultants, and general strategists on whom we focus. However, the DKP dataset also evaluates the substantive content of campaign websites, which they demonstrate provides an accurate representation of the more general strategies adopted by the campaigns. Here, we focus specifically on three sets of campaign strategies: the level of negativity of the campaigns, the general strategy employed ("issue own-

ership" and "risk-taking"), and the level of emphasis on specific personal features of the candidate.[3]

To test the hypothesis that campaigns' location in the consultant-candidate network influences campaign strategy, we estimated a spatial lag model that takes the form $y = \rho Wy + X\beta + \epsilon$, where W is the $N \times N$ weighted matrix of network ties in the projected (single-mode) candidate network. Following DKP, we include members of both parties and pool across the elections of 2002, 2004, and 2006 (only about 21% of candidates appear in the dataset more than once, and only 6% appear in all three cycles). ρ is a spatial autoregressive coefficient that estimates the extent to which a campaign's placement in the network is correlated with the outcome y. In other words, ρ estimates the extent to which candidates who are located "near" each other in the consultant-candidate network are more similar than might be expected by chance. Note that W is a *weighted* matrix that takes into account the number of consulting firms shared by each pair of candidates.

In addition to our measure of network associations, we also include several important covariates in our statistical models. In each of the analyses below, we include fixed effects for year, party, challenger status, open seats, candidate gender, and chamber (Senate or House). We also include a measure of the percent of the district or state that voted for President Bush in 2000 (for the 2002 election) or 2004 (for the 2004/2006 elections). Other control variables are noted below.[4]

[3]The following analyses are not direct replications of DKP and should not be interpreted as such. In most instances, we began our own empirical analysis by replicating their published results and then making adjustments to suit our own needs. Readers interested in a more detailed description of the data and coding procedures are directed to the originally published articles and the data documentation on Druckman's website.

[4]We deviate from the models reported by DKP by excluding variables that are likely to be highly endogenous to both the outcomes of interest (campaign strategies) and our main explanatory variable of interest (consultant effects). In particular, we exclude the variable "front-runner status," which is actually measured as a function of the final vote total the candidate receives. We also exclude their measure of "competition", which is the *Cook Political Report* rating of the competitiveness of each race. With one exception, we also exclude the variable "funds raised," which is the amount of money raised by the campaign as reported to the FEC. In each case, these variables have been previously examined as outcomes of interest in studies of the effects of campaign consultants. For more on problems with including post-treatment variables in statistical models, see King and Zeng (2006).

Our first outcome of interest is the probability that the campaign website includes negative information about the opposing candidate. DKP provide information on (i) whether the website included any negative statements about the opponent at all, (ii) whether the website included negative information that was focused on the person (e.g., "my opponent is not trustworthy"), and (iii) whether the website included negative statements about the opponent's issue positions. These latter variables, however, were only collected for the 2004 and 2006 cycles. Because negative campaigning has been shown to be associated with highly contested races, we include control variables for the campaign funds raised by the candidates and an indicator of whether the opposing candidate had made negative statements.[5] Table 1 reports the results of our model. Our primary interest in these tables is in the estimate of ρ and the likelihood-ratio test for a statistically significant effect of the spatial lag parameter (indicating network effects). For both the general negativity and the personal negativity models this estimate is positive and statistically significant. The third column of Table 1 shows the results for the issue negativity model, which shows no significant effect for the spatial lag ($p < .05$). However, when disaggregated by chamber in columns 4-5, we observe a strong positive estimate for ρ amongst Senate candidates.

DKP develop two more generalized scales of campaign strategy based on campaign websites. First, they generate a scale for the "riskiness" of a given campaign's strategy. This scale, which ranges from -3 to 8, is higher for campaigns that emphasize issues over experience, negative information, party, current polling data, and personal information not directly related to experience as an elected official or within the district.[6] DKP provide a second general strategy variable referred to as "issue ownership." This variable, which ranges from -20 to 26, is the "weighted relative partisan advantage of issues discussed" (Druckman, Kifer and Parkin 2009, 348). This variable is higher for candidates that focus their message on issues where the candidates' party is viewed as having an advantage in public opinion polls. The results of our analysis are shown in Table 2. In addition to the

[5]Results are robust to the exclusion of these variables.

[6]More information on this variable is available in Druckman, Kifer and Parkin (2009).

Table 1: Network effects on use of negativity

	Negativity	**Personal neg.**	**Issue neg.**	**Issue neg. (Senate only)**	**Issue neg. (House only)**
Intercept	-0.1274	-0.0146	-0.0117	0.0336	-0.0340
	(0.0842)	(0.0941)	(0.0941)	(0.2761)	(0.1004)
2004	0.0662	-0.1345	-0.0657	-0.0519	-0.0667
	(0.0418)	(0.0369)	(0.0365)	(0.0771)	(0.0409)
2006	0.1408	–	–	–	–
	(0.0419)				
Democrat	0.0601	0.0565	0.0141	0.0564	0.0087
	(0.0315)	(0.0359)	(0.0358)	(0.0759)	(0.0407)
Challenger	0.5760	0.3677	0.5943	0.5697	0.6339
	(0.0368)	(0.0419)	(0.0419)	(0.0921)	(0.0482)
Open seat	0.2796	0.2774	0.2431	0.1674	0.2796
	(0.0485)	(0.0594)	(0.0594)	(0.1032)	(0.0721)
Female	0.0890	0.0082	0.0919	0.1708	0.0486
	(0.0420)	(0.0477)	(0.0477)	(0.1021)	(0.0538)
District GOP	0.0021	0.0014	0.0017	0.0021	0.0011
	(0.0014)	(0.0015)	(0.0016)	(0.0045)	(0.0016)
Senate	0.0355	-0.0239	0.0340	–	–
	(0.0453)	(0.0535)	(0.0536)		
Funds raised	0.6859	0.4959	0.6514	0.5810	2.5884
	(0.2299)	(0.2465)	(0.2472)	(0.2743)	(1.0667)
Opp. negativity	0.0462	0.0831	0.0806	-0.1237	0.1079
	(0.0357)	(0.0411)	(0.0412)	(0.0902)	(0.0467)
ρ	0.0079	0.0104	0.0008	0.0317	-0.0098
	(0.0033)	(0.0050)	(0.0045)	(0.0100)	(0.0087)
LR test	5.6134	4.0303	0.0309	8.0738	1.2936
(p-value)	0.0178	0.0447	0.8604	0.0045	0.2554
N	714	546	546	129	417

standard controls, we also include DKP's measure of issue salience and interactions between year and party as well as between party and the district or state's support for Bush. Again, our focus is not on the regression coefficients themselves, but on the estimate of ρ and the likelihood-ratio test reported at the bottom of Table 2. Both the risk-taking and issue ownership models provide statistically significant evidence of a correlation between campaign strategy and proximity in the consultant-candidate network ($p < .10$ and $p < .05$, respectively).

Finally, we turn to several more disaggregated measures of campaign strategy. In Table 3, we examine four dimensions of campaign messaging identified by DKP: whether the campaign website emphasizes the candidate's leadership (i.e., statements about his or her general goals); competence (information on prior relevant experience); empathy (details about the candidates' family); and the inclusion of polling results.[7] The results in Table 3 again provide strong support for our claims. In the competence, empathy, and polling models, the results show statistically significant evidence that a candidate's location in the consultant-candidate network is correlated with their messaging strategy ($p < .05$). However, there is no evidence to support our hypothesis with regards to the leadership variable.

5 Consultant victories and network centrality

Given this evidence that campaign strategies are associated with their location in the consultant-candidate network, we now examine changes in consultants' ability to influence campaigns over time. Do successful consultants become more central in the network and thus more influential in shaping campaign strategies in subsequent election cycles? To assess this hypothesis, we first validate our measures of network centrality in the projected consultant networks and then assess how relative positions change when consultants win important races.

We use measures of weighted centrality to estimate consultant positions within the projected networks. In this case, edge weights reflect the number of candidates

[7] Information on polling results was collected only for the 2004 and 2006 cycles.

Table 2: Network effects on message strategy

	Risk-taking	**Issue ownership**
Intercept	-0.4515	-1.2567
	(0.3205)	(1.7423)
2004	0.2807	-5.3779
	(0.1588)	(0.7575)
2006	0.5280	-11.5368
	(0.1548)	(0.7845)
Democrat	1.3619	6.0045
	(0.1238)	(2.3470)
Challenger	2.6347	0.6662
	(0.1302)	(0.5118)
Open seat	1.5997	0.6385
	(0.1831)	(0.6523)
Female	0.1648	0.3469
	(0.1582)	(0.5500)
District GOP	0.0059	0.0394
	(0.0053)	(0.0279)
Senate	0.0575	-0.4338
	(0.1383)	(0.4672)
Issue salience	–	3.4526
		(1.4487)
District GOP $\times$ Democrat	–	-0.0866
		(0.0426)
2004 $\times$ Democrat	–	8.4128
		(1.1264)
2006 $\times$ Democrat	–	19.7092
		(1.1846)
ρ	0.0050	0.0059
	(0.0030)	(0.0026)
LR test	2.7302	5.0533
(p-value)	0.0985	0.0246
N	692	701

Table 3: Network effects on message choices

	Leadership	**Competence**	**Empathy**	**Polls**
Intercept	0.0339	0.4915	0.2600	0.0445
	(0.0919)	(0.0730)	(0.0991)	(0.0767)
2004	0.0501	-0.0104	-0.1014	-0.0919
	(0.0458)	(0.0364)	(0.0499)	(0.0309)
2006	0.0850	0.0154	-0.0199	–
	(0.0447)	(0.0355)	(0.0483)	
Democrat	0.1152	0.0156	0.0485	0.0281
	(0.0348)	(0.0273)	(0.0370)	(0.0304)
Challenger	0.2471	0.2849	0.1693	0.1360
	(0.0376)	(0.0297)	(0.0402)	(0.0322)
Open Seat	0.1466	0.2209	0.0492	0.1243
	(0.0532)	(0.0417)	(0.0567)	(0.0502)
Female	-0.0437	-0.0286	0.0753	-0.0140
	(0.0463)	(0.0363)	(0.0493)	(0.0404)
District GOP	0.0019	0.0031	0.0018	0.0009
	(0.0015)	(0.0012)	(0.0016)	(0.0013)
Senate	0.0175	-0.0279	0.0533	0.0142
	(0.0401)	(0.0317)	(0.0429)	(0.0362)
ρ	-0.0021	0.0035	0.0078	0.0139
	(0.0051)	(0.0018)	(0.0035)	(0.0065)
LR test	0.1797	3.9305	4.6650	4.6789
(p-value)	0.6716	0.0474	0.0308	0.0305
N	715	715	715	548

shared by a given consultant ("co-occurrences" in network jargon). Larger values indicate a consultant-consultant dyad that shares close ties via a set of shared clients. As such, these relationships will be treated as stronger in computing measures of centrality, a claim we believe has substantive merit in understanding the network of consultants. In contrast, the alternative approach of treating the edge weights as binary would have the effect of erasing many candidate relationships from the network. Empirically, 78% of dyads have an edge weight of 1, 14% have a weight of 2, 4.2% have a weight of 3, 1.7% have a weight of 4, and 1.3% have a weight greater than 4 up to a maximum of 11 (the Democratic firms of Cooper & Secrest and Sutter's Mill during the 2000 election cycle).

We compute measures of centrality using four metrics appropriate for weighted data. We employ the generalizations of degree, closeness, and betweenness centrality for weighted networks introduced by Opsahl, Agneessens and Skvoretz (forthcoming) and implemented in the `tnet` package for R. We also estimate eigenvector centrality (Bonacich 1972*a*,*b*) on a bipartite adjacency matrix. Since the first three will not be familiar to many readers, we briefly introduce them in the appendix (the fourth is a standard measure and the procedure by which it is estimated is therefore not discussed further). In each case, the measures differ from previous centrality measures for weighted networks in the way in which they combine information about both the number of ties and the strength of those ties. Measures for unweighted networks only use information about the number of ties, while previous weighted centrality measures focused on tie strength.

5.1 The most central consulting firms

Table 4 presents the most central Democratic consulting firm by election cycle according to each of the four weighted centrality measures. The list is strikingly varied. First, while the measures are relatively highly correlated (as most centrality measures are), the firms identified as most central within a given election cycle frequently vary. In only two election cycles was one firm identified as most central by all four measures (Murphy Putnam Media in 2004 and Anzalone Liszt

Table 4: Most central Democratic consultants

	Degree	**Eigenvector**	**Closeness**	**Betweenness**
1992	Cooper & Secrest	Cooper & Secrest	Greenberg-Lake	Squier Knapp Dunn
1994	Cooper & Secrest	Squier Knapp Dunn	Cooper & Secrest	Cooper & Secrest
1996	Shrum Devine	Fenn & King	Fenn & King	Cooper & Secrest
1998	Fraioli & Assoc.	Sutter's Mill	Fraioli & Assoc.	Fraioli & Assoc.
2000	Sutter's Mill	Cooper & Secrest	Cooper & Secrest	Garin Hart Yang
2002	Fraioli & Assoc.	Cooper & Secrest	Fraioli & Assoc.	Fraioli & Assoc.
2004	Murphy Putnam	Murphy Putnam	Murphy Putnam	Murphy Putnam
2006	Bennett, Petts	Lake Research	Blaemire Comm.	Anzalone Liszt
2008	Anzalone Liszt	Anzalone Liszt	Anzalone Liszt	Anzalone Liszt

Table 5: Most central Republican consultants

	Degree	**Eigenvector**	**Closeness**	**Betweenness**
1992	Tarrance Group	Tarrance Group	Tarrance Group	Tarrance Group
1994	Tarrance Group	Public Opinion Strat.	Tarrance Group	Tarrance Group
1996	Public Opinion Strat.	Public Opinion Strat.	Public Opinion Strat.	Public Opinion Strat.
1998	Tarrance Group	Keelen Comm.	Keelen Comm.	Tarrance Group
2000	Public Opinion Strat.	Public Opinion Strat.	Public Opinion Strat.	Public Opinion Strat.
2002	Public Opinion Strat.	Public Opinion Strat.	Public Opinion Strat.	Public Opinion Strat.
2004	Public Opinion Strat.	Public Opinion Strat.	Public Opinion Strat.	Public Opinion Strat.
2006	Public Opinion Strat.	Moore Information	Public Opinion Strat.	Public Opinion Strat.
2008	Public Opinion Strat.	Public Opinion Strat.	Public Opinion Strat.	Public Opinion Strat.

Research in 2008) and four different firms were identified by one measure as most central in 2006. In addition, the list shows relatively significant turnover—none of the firms identified as most central in 1992 and 1994 were among the most central in 2004, 2006, or 2008.

The list of the most central Republican consultants presented in Table 5 suggests very different conclusions. Only four firms appear in the table, which is dominated by the Tarrance Group (which appears to be the most central firm in the 1992 and 1994 election cycles) and Public Opinion Strategies (which reached a position of centrality in 1994 and largely took over the list starting in 2000).

These findings provide an empirical basis for qualitative claims that the Demo-

cratic consultant network is more decentralized than the Republican one. A more formal comparison is provided by Figure 8, which compares the unweighted degree centralization of the two party networks. The figure suggests that the Republican was consistently more centralized until the last two election cycles when Democrats caught up. In both 2006 and 2008, degree centralization was virtually identical across parties.

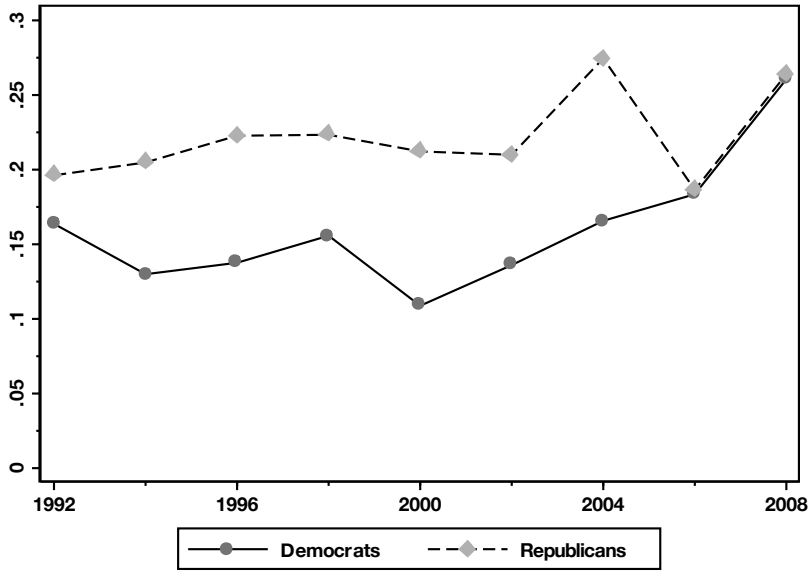
5.2 Electoral success and subsequent network centrality

Since the centrality measures seem to capture meaningful substantive information about the practice of political consulting within the two major parties, we therefore seek to determine whether firms' relative positions change depending on their electoral track record. Assessing the effect of consultants on campaign outcomes is a difficult inferential problem for social scientists, but within politics it is an article of faith that "better" consultants improve the chances of victory for their clients. As such, we expect firms will be rewarded for success and penalized for failure. In this way, the decentralized party network can adapt (however imperfectly) to the electoral environment, broadening the usage of tactics and strategies that seem to be working and discarding those that seem less effective.

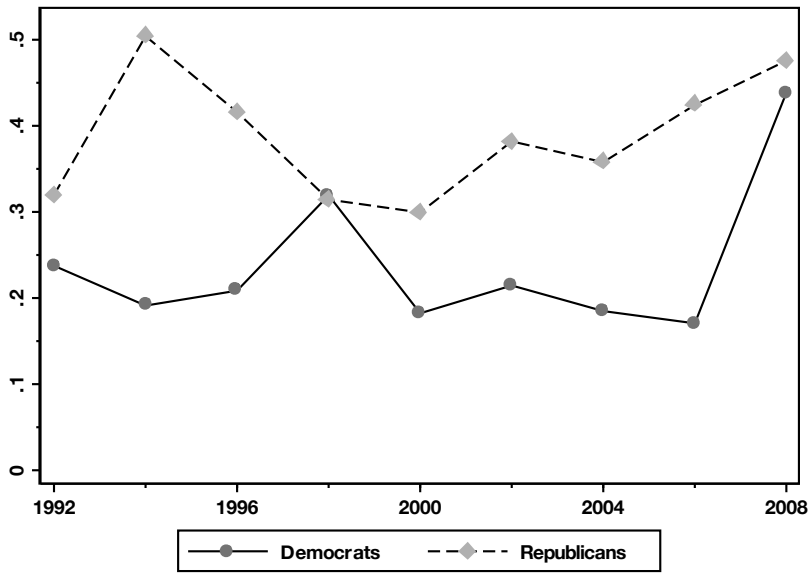
The dependent variable in our analysis is each consulting firm's percentile rank to each of the four weighted centrality measures described above. For instance, the weighted degree centrality dependent variable for firm i represents the percentage of all firms within i's party that are less central than i in a given election cycle. Firms with undefined values for closeness and betweenness are assumed to be tied as the least central. In practice, the dependent variables are centered near 50 and typically range from 0 to 98 with the exception of betweenness centrality (which has a higher minimum value of 16 for Democrats and 24 for Republicans due to ties). To control for persistence in firm reputation and clients over time, we include a lagged dependent variable as a predictor.

We operationalize significant electoral successes in two ways. First, *Campaigns & Elections* published a list of "big winners" in House and Senate races after each

Figure 8: Degree centralization of projected candidate and consultant networks



(a) Candidates



(b) Consultants

election cycle from 1996 to 2002. Given its status as the trade magazine of the campaign business, *C&E* (now *Politics*) is an important arbiter within the industry. Its list also reflects elite perceptions on which victories were most significant. As such, we include a count of the number of "big winner" victories for each firm by election cycle as a predictor of network centrality in the subsequent cycle.

Second, we include the number of non-incumbent victories for a firm in each cycle. We restrict this analysis to the period covered by the "big winners" list (1996–2002). Since open-seat and challenger campaigns are typically the most competitive and demanding settings in which to succeed, a string of victories in such races can electrify the political elite. For instance, the Washington Post described John Anzalone as "[t]he best pollster you've never heard of," stating that "The Democratic survey research firm became among the hottest in the nation after the 2006 cycle in which it conducted polling for Reps. Heath Shuler (N.C.), Ron Klein (Fla.), Paul W. Hodes (N.H.) and Jason Altmire (Pa.)—all of whom defeated Republican incumbents" (2008). Anzalone's firm, Anzalone Liszt Research, was subsequently the most central Democratic consulting firm on all four weighted centrality measures in the 2008 cycle.

Given the likelihood that the residuals for the models of the four centrality rank measures are highly correlated, we estimate seemingly unrelated regressions (Zellner 1962; Zellner and Huang 1962; Zellner 1963) with small-sample statistics and a small-sample correction for all firms in our sample that appear in the data in two consecutive election cycles. Table 6 presents the results for Democratic consultants. Model diagnostics indicate that the residuals were very highly correlated across the four equations, validating the SUR approach (Breusch-Pagan test of independence: $\chi^2(6) = 673.64$, $p < .01$).

Despite variation over time in the most central firms, we observe the expected persistence in centrality over time, which is reflected in the highly significant lagged dependent variable. More interestingly, the number of non-incumbent victories by Democratic firms is strongly associated with subsequent network centrality across each of the four dependent variables ($p < .01$) even after accounting for expected levels of persistence in centrality between cycles. By contrast, the

Table 6: Democratic consultants: Track record and centrality

	Degree	**Eigenvector**	**Closeness**	**Betweenness**
Lagged DV	0.34***	0.36***	0.39***	0.31***
	(0.04)	(0.04)	(0.05)	(0.04)
Non-incumbent victories	4.51***	5.04***	3.40***	4.70***
	(0.99)	(1.01)	(0.92)	(1.14)
"Big winners" (*C&E*)	1.02	-0.07	1.06	-0.09
	(1.24)	(1.26)	(1.15)	(1.43)
Constant	28.66***	26.53***	27.55***	29.11***
	(2.40)	(2.32)	(2.65)	(2.65)
R^2	0.44	0.46	0.44	0.34
N	209	209	209	209

* $p < .10$; $p < .05$; *** $p < .01$

number of "big winners" is not significant for any of the dependent variables.

Table 7 shows comparable results for the Republican network (residuals were again very highly correlated across equations—Breusch-Pagan test of independence: $\chi^2(6) = 490.39$, $p < .01$). As in the Democratic results, the lagged dependent variable is highly significant, indicating that firms' relative status is persistent over time. The GOP results also indicate that the number of non-incumbent victories by a consulting firm is closely related to its subsequent electoral centrality ($p < .01$ for all four dependent variables). However, unlike the Democratic results, the number of "big winner" victories is also consistently associated with future centrality ($p < .05$ in all four cases). The substantive implications of this apparent difference in party behavior are unclear. However, these results confirm that consulting firms' relative positioning changes meaningfully in response to electoral track records, providing a mechanism by which apparent success may generate increased influence within the party in future elections.

Table 7: Republican consultants: Track record and centrality

	Degree	**Eigenvector**	**Closeness**	**Betweenness**
Lagged DV	0.24***	0.20***	0.19***	0.22***
	(0.05)	(0.05)	(0.07)	(0.05)
Non-incumbent victories	2.60***	2.92***	2.68***	2.79***
	(0.92)	(0.96)	(0.81)	(0.96)
"Big winners" (*C&E*)	0.58**	0.58**	0.55**	0.58**
	(0.25)	(0.27)	(0.22)	(0.27)
Constant	36.42***	37.23***	42.58***	36.01***
	(3.25)	(3.29)	(3.68)	(3.35)
R^2	0.27	0.23	0.27	0.23
N	148	148	148	148

* $p < .10$; $p < .05$; *** $p < .01$

6 Discussion and conclusion

Thurber (1998) once described scholarship on campaign consultants as "a subfield in search of a theory." In this paper, we have sought to address that gap, developing a new theoretical perspective on the role of consultants in contemporary parties, the process by which they disseminate campaign strategies within the party, and the way in which they are rewarded (or punished) based on the success of those tactics. We analyze these claims with the most comprehensive dataset on consultant-candidate relationships that has been assembled to date, showing not not just that "consultants matter" in a broad sense, but providing evidence of how a candidate's specific location in the consultant-candidate network influences the content of the campaign. These findings provide support for the notion that a broader perspective is needed on contemporary parties that takes into account the many supporting actors who operate outside formal party institutions.

In future research, we hope to broaden this agenda to include data on consultants' role in primary elections—an important part of contemporary parties—as well as presidential elections. We also hope to consider other measures of cam-

paign behavior and strategy such as television advertising data from the Wisconsin Advertising Project (Goldstein, Franz and Ridout 2002; Goldstein and Rivlin 2005, 2007) or issue position data from the National Political Awareness Test (Ansolabehere, Snyder and Stewart 2001).

We wish to conclude with two important caveats. First, it is important to note that the optimistic perspective on the role of consultants advanced in this article depends on their ability to contribute meaningfully to the electoral success of the candidates they advise. If instead consultants are largely hired as a result of irrelevant factors such as personal charisma, the system will not operate effectively. Second, the party system we describe is an institutional arrangement that serves the purpose of helping candidates who share a common label to win office. Ideological goals are largely irrelevant to that system except insofar as they advance the probability of victory for affiliated candidates. While consultants may help advance a common party message, they are unlikely to put the ideological agenda of party activists ahead of the electoral interests of their clients. Indeed, the market pressure to win implies that consultants may neglect the ideological goals of their clients in pursuit of electoral advantage. For better or worse, the currency of the adaptive party network we have described is winning.

Appendix: New measures of weighted centrality

Opsahl, Agneessens and Skvoretz (N.d.) define degree centrality as $k \times \left(\frac{s_i}{k_i}\right)^{\alpha} = k_i^{(1-\alpha)} \times s_i^{\alpha}$ where k_i is the standard measure of degree centrality for node i in an unweighted network, s_i is the sum of all edge weights for node i, and α is a tuning parameter set by the researcher. Setting $\alpha = 0$ returns the standard degree centrality measure, while setting $\alpha = 1$ returns what is called the measure of node strength (Barrat et al. 2004). Values of α between 0 and 1 represent a combination of information about the number of ties to i and the strength of those ties. In the case of our projected consultant networks, we expect consultants who have shared clients with a large number of other firms to be especially important and influential, but we also wish to incorporate information about the strength of those relationships, which are likely to vary depending on the number of clients in common between two firms. We therefore set α to 0.5 to incorporate information from both measures.

Similarly, standard measures of closeness and betweenness rely on computations of the minimum distance between nodes i and j in unweighted networks where each connected dyad is treated as being one unit apart. Newman (2001) and Brandes (2001) generalize this to weighted networks by treating the distance between nodes i and j as $\frac{1}{w}$ where w is the weight of the edge. Opsahl, Agneessens and Skvoretz propose a generalization in which the distance is instead $\frac{1}{w^{\alpha}}$ with α again representing a tuning parameter and $\alpha = 0$ returns the standard unweighted measure. This distance measure is incorporated straightforwardly in the standard definitions of closeness and betweenness (Freeman 1979) (see Opsahl, Agneessens and Skvoretz for details). We again set α=0.5 to allow both tie strength and the number of ties to influence computations of the minimum distance between nodes. Substantively, consultants that are high on closeness are (on average) not far from most other firms in network terms, while those who are high on betweenness fall on a relatively high number of shortest paths between other firms—both could reasonably be expected to reflect positions of influence and stature within the industry.

References

Aldrich, John H. 1995. *Why Parties?* University of Chicago Press.

Aldrich, John H. 2000. "Southern Parties in State and Nation." *Journal of Politics* 62(3):643–670.

Ansolabehere, Stephen, James M. Snyder and Charles Stewart. 2001. "Candidate positioning in US House elections." *American Journal of Political Science* 45(1):136–159.

Axelrod, Robert and Michael D. Cohen. 2001. *Harnessing complexity: Organizational implications of a scientific frontier*. Basic Books.

Barrat, A., M. Barthélemy, R. Pastor-Satorras and A. Vespignani. 2004. "The architecture of complex weighted networks." *Proceedings of the National Academy of Sciences* 101(11):37–47.

Bonacich, Phillip. 1972*a*. "Factoring and weighting approaches to status scores and clique identification." *Journal of Mathematical Sociology* 2(1):113–120.

Bonacich, Phillip. 1972*b*. "Technique for Analyzing Overlapping Memberships." *Sociological Methodology* 4:176–185.

Brandes, Ulrik. 2001. "A faster algorithm for betweenness centrality." *Journal of Mathematical Sociology* 25(2):163–177.

Clauset, Aaron, Cosma R. Shalizi and M. E. J. Newman. 2009. "Power-law distributions in empirical data." *SIAM Review* 51(4):661—703.

David, Paul A. 1994. "Why are institutions the 'carriers of history'?: Path dependence and the evolution of conventions, organizations and institutions." *Structural change and economic dynamics* 5(2):205–220.

Druckman, James N., Martin J. Kifer and Michael Parkin. 2009. "Campaign Communications in US Congressional Elections." *American Political Science Review* 103(3):343–366.

Druckman, James N., Martin J. Kifer and Michael Parkin. 2010. "Timeless Strategy Meets New Medium: Going Negative on Congressional Campaign Web Sites, 2002–2006." *Political Communication* 27(1):88–103.

Dulio, David A. 2004. *For Better or Worse? How Political Consultants are Changing Elections in the United States*. State University of New York Press.

Dulio, David A. and Candice J. Nelson. 2005. *Vital Signs: Perspectives on the health of American campaigning*. Brookings Institution Press.

Enemark, Daniel, Mathew McCubbins, Ramamohan Paturi and Nicholas Weller. N.d. "Good Edge, Bad Edge: How Network Structure Affects a Group's Ability to Coordinate." Unpublished manuscript.

Francia, Peter L. and Paul S. Herrnson. 2007. "Keeping it Professional: The Influence of Political Consultants on Candidate Attitudes toward Negative Campaigning." *Politics & Policy* 35(2):246–272.

Freeman, Linton C. 1979. "Centrality in social networks: Conceptual clarification." *Social Networks* 1(3):215–239.

Gibson, James L., Cornelius P. Cotter, John F. Bibby and Robert J. Huckshorn. 1983. "Assessing party organizational strength." *American Journal of Political Science* 27(2):193–222.

Goldstein, Kenneth and Joel Rivlin. 2005. "Political Advertising in 2002." Combined File [dataset]. Final release. Madison, WI: The University of Wisconsin Advertising Project, The Department of Political Science at the University of Wisconsin-Madison.

Goldstein, Kenneth and Joel Rivlin. 2007. "Congressional and Gubernatorial Advertising, 2003–2004." Combined File [dataset]. Final release. Madison, WI: The University of Wisconsin Advertising Project, The Department of Political Science at The University of Wisconsin-Madison.

Goldstein, Kenneth, Michael Franz and Travis Ridout. 2002. "Political Advertising in 2000." Combined File [dataset]. Final release. Madison, WI: The Department of Political Science at The University of Wisconsin-Madison and the The Brennan Center for Justice at New York University.

Grossman, Matt. N.d. "What (or Who) Makes Campaigns Negative?" Unpublished manuscript.

Grynaviski, Jeffrey D. 2010. *Partisan Bonds: Political Reputations and Legislative Accountability*. Cambridge University Press.

Halperin, Mark. 2010. ""Statement: Public Opinion Strategies on Crist"." The Page. Downloaded from http://thepage.time.com/statement-public-opinion-strategies-on-crist/, May 20, 2010.

Herrnson, Paul S. 1992. "Campaign Professionalism and Fundraising in Congressional Elections." *The Journal of Politics* 54(03):859–870.

Herrnson, Paul S. 2009. "The Roles of Party Organizations, Party-Connected Committees, and Party Allies in Elections." *Journal of Politics* 71(4):1207–1224.

Jacobson, Gary C. 1989. "Strategic politicians and the dynamics of US House elections, 1946–86." *The American Political Science Review* 83(3):773–793.

Johnson, Dennis W. 2001. *No place for amateurs: How political consultants are reshaping American democracy*. Routledge.

King, Gary and Langche Zeng. 2006. "The dangers of extreme counterfactuals." *Political Analysis* 14(2):131–159.

Koger, Gregory, Seth Masket and Hans Noel. 2009. "Partisan webs: Information exchange and party networks." *British Journal of Political Science* 39(3):633–653.

Kolodny, Robin and Angela Logan. 1998. "Political consultants and the extension of party goals." *PS: Political Science and Politics* 31(2):155–159.

Latapy, Matthieu, Clémence Magnien and Nathalie Del Vecchio. 2008. "Basic notions for the analysis of large two-mode networks." *Social Networks* 30(1):31–48.

Lathrop, Douglas A. 2003. *The campaign continues: How political consultants and campaign tactics affect public policy*. Praeger Publishers.

Magleby, David B., Kelly D. Patterson and James A. Thurber. 2000. "Campaign Consultants and Responsible Party Government." Paper presented at the annual meeting of the American Political Science Association.

Masket, Seth. 2009. *No Middle Ground: How Informal Party Organizations Control Nominations and Polarize Legislatures*. University of Michigan Press.

Medvic, S.K. and S. Lenart. 1997. "The influence of political consultants in the 1992 Congressional elections." *Legislative Studies Quarterly* 22(1):61–77.

Monroe, J.P. 2001. *The Political Party Matrix: The Persistence of Organization*. State Univ of New York Press.

Newman, Mark E.J. 2001. "The structure of scientific collaboration networks." *Proceedings of the National Academy of Sciences USA* 98(2):404–409.

Noel, Hans. 2010. Methodological Issues in the Study of Political Parties. In *The Oxford Handbook of American Political Parties and Interest Groups*, ed. L. Sandy Maisel and Jeffrey M. Berry. Oxford University Press.

North, Douglass C. 1990. *Institutions, institutional change, and economic performance*. Cambridge University Press.

Nyhan, Brendan and Michael Tofias. N.d. "Passing the Bucks: The Congressional contribution network 1985–2006." Unpublished manuscript.

Opsahl, Tore, Filip Agneessens and John Skvoretz. N.d. "Node Centrality in Weighted Networks: Generalizing degree and shortest paths." Forthcoming, *Social Networks*.

Post, Washington. 2008. "McCain Campaign Returns to Its Stopgap Model." Published on April 6, 2008.

Sabato, Larry. 1981. *The rise of political consultants: New ways of winning elections*. Basic Books.

Shea, Daniel M. 1996. *Campaign craft: The strategies, tactics, and art of political campaign management*. Praeger Publishers.

Skinner, Richard M. 2005. "Do 527's Add up to a Party? Thinking About the 'Shadows' of Politics." *The Forum* 3(3).

Snyder, James M. and Michael M. Ting. 2002. "An Informational Rationale for Political Parties." *American Journal of Political Science* 46(1):90–110.

Swint, Kerwin C. 1998. *Political consultants and negative campaigning: The secrets of the pros*. University Press of America.

Walton, Nina and Nicholas Walter. 2009. "Moral Hazard in Campaigns: Do Political Candidates Keep Hiring Their Consultants?" Social Science Research Network working paper.

Zellner, Arnold. 1962. "An efficient method of estimating seemingly unrelated regressions and tests for aggregation bias." *Journal of the American Statistical Association* 57(298):348–368.

Zellner, Arnold. 1963. "Estimators for seemingly unrelated regression equations: Some exact finite sample results." *Journal of the American Statistical Association* 58(304):977–992.

Zellner, Arnold and David S. Huang. 1962. "Further properties of efficient estimators for seemingly unrelated regression equations." *International Economic Review* 3(3):300–313.