6-9-2007

HOMOPHILY AND RESOURCE-SEEKING BEHAVIOR IN NEW VENTURE NETWORK FORMATION

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Recommended Citation
Grossman, Elissa; Yli-Renko, Helena; and Janakiraman, Ramkumar (2007) "HOMOPHILY AND RESOURCE-SEEKING BEHAVIOR IN NEW VENTURE NETWORK FORMATION," Frontiers of Entrepreneurship Research: Vol. 27: Iss. 11, Article 1. Available at: http://digitalknowledge.babson.edu/fer/vol27/iss11/1

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HOMOPHILY AND RESOURCE-SEEKING BEHAVIOR
IN NEW VENTURE NETWORK FORMATION

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ABSTRACT

We draw upon resource-based and sociological theories to shed light on nascent entrepreneurs’ network development. Employing a unique empirical dataset of nascent entrepreneurs at the earliest stages of venture creation, we examine resource search and homophily as two antecedents of entrepreneurs’ value attributions in network development. Our results confirm that resource multiplexity increases perceived relationship value. Contrary to our prediction, however, homophily does not have a significant direct effect; instead, homophily amplifies the positive effects of resource multiplexity. These results suggest a view of entrepreneurial network development in which instrumental resource search is the primary driver, with interpersonal similarity playing a moderating role.

INTRODUCTION

Within the entrepreneurship community, it has become a truism that “who you know” is a critical component to new venture success – that ideas are often spawned, that opportunities are often recognized or exploited, and that funding is often provided either directly or indirectly through personal contacts. A driver and consequence of this perspective is an abundance of academic literature that addresses the why of a new venture network’s emergence. This work explores the role of social networks in securing essential resources for firm formation and confirms those networks’ criticality (e.g., Aldrich & Zimmer, 1986; Dubini & Aldrich, 1991; Larson, 1991, 1992; Larson & Starr, 1993). Relatedly, a number of studies have been published that explore the how of social network emergence. This work addresses (i) the ways in which entrepreneurs identify, initiate, and utilize relationships; and (ii) the processes by which network relationships strengthen and become embedded over time (Hite, 1999; Hoang & Antoncic, 2003).

The challenge in the network emergence literature is that little of it addresses the mechanisms by which nascent entrepreneurs – those in the earliest stages of venture creation – identify the specific individuals who they perceive as most valuable to their efforts. The empirical work on early tie formation looks retrospectively at the organizational benefits conferred through an organization’s partner set (Birley, 1985; Aldrich, Rosen, & Woodward, 1999) or network location (Aldrich, Reese, & Dubini, 1990; Knoke, 1990). The empirical work on emergent embeddedness deconstructs how various features of extant exchange relationships (e.g., interaction ease, interaction quality) drive trust and reciprocity between network partners (Hite, 1999). While each offers limited consideration of the value derived through realized relationships, neither explores the larger network search preceding the nascent entrepreneur’s selection of useful individuals (i.e., the entrepreneur’s decisions with respect to network inclusion and exclusion).

Extant theoretical work addresses issues of network selection – but it does so on the basis of limited empirical data and over a time period that arguably goes well beyond nascency. Larson and Starr (1993), for example, posit a stage-based “network model of organization formation” in which entrepreneurs form essential dyads, use a subset of those dyads to conduct socioeconomic exchange, and develop a subset of those exchange relationships into multiplex relationships. Though the authors note that social or instrumental motivations drive decisions with respect to initial dyad identification, they neither identify the motivations more specifically nor elaborate on the motivations’ role in decision-making. Recent empirical work (Greve & Salaff, 2003) has explored network selection using a similar stage model of
networks, but it does so utilizing a retrospective cross-sectional design focused on discussion networks. Hence, the question remains: How do nascent entrepreneurs determine which network dyads merit ongoing pursuit? If it is the case that entrepreneurs cultivate relationships with individuals perceived to deliver new venture value and, conversely, minimize relationships with individuals perceived to be negative or neutral contributors, it becomes essential to understand: What determines value attributions?

This paper explores entrepreneurs’ attributions of dyadic value in the context of nascent ventures. Entrepreneurship is considered by many to integrally involve the acquisition and use of a broad range of resources external to the firm (Stevenson & Gumpert, 1985; Jarillo, 1989). Further, the entrepreneurial pursuit of resources is believed to primarily manifest itself in the entrepreneur’s development and management of social networks (Jarillo, 1987, 1989; Miles & Snow, 1984; Thorelli, 1986; Larson & Starr, 1993). It thus might be argued that value attributions are driven by instrumental processes of resource acquisition. At the same time, research has repeatedly affirmed the primacy of homophily as a formative mechanism in networks (e.g., McPherson, Smith-Lovin, & Cook, 2001) and in entrepreneurial founding teams (e.g., Ruef, Aldrich, & Carter, 2003). It thus might be argued that value attributions are driven by social processes of interpersonal similarity and attraction. While the researchers in each group do not make claims of mutual exclusivity (and, in fact, acknowledge the probability of interacting mechanisms), only limited research to date considers the two either comparatively or jointly (e.g., Forbes, Borchert, Zellmer-Bruhn, & Sapienza, 2006 on entrepreneurial founding teams).

Our work builds on that of Forbes et al. (2006) and their predecessors by exploring resource-seeking behavior and homophily in the context of new venture network formation. Specifically, we explore resource multiplexity (here defined as the number of resource types exchanged within a dyad) and homophily (here defined as the gender, age, and geographic similarity of those in a dyad) in driving nascent solo entrepreneurs’ identification and cultivation of valued network members. By incorporating both resource-based and social explanations, we hope to (i) develop new theory predicated on an integrated view of the two mechanisms; (ii) broaden the integrated application of extant theory to encompass new venture network emergence; and (iii) shed light on the decision processes that precede and thus are critical to entrepreneurial network and team formation.

**HYPOTHESES**

**Resources**

For nascent entrepreneurs, success in launching a new venture is dependent on obtaining essential resources from external stakeholders (e.g., Starr & MacMillan, 1990; Stevenson & Gumpert, 1985). Acquisition of an ongoing resource flow signals legitimacy to third parties and provides the motivation for further exchange (Zimmerman & Zeitz, 2002). Thus, as resource mobilizers (e.g., Starr & MacMillan, 1990; Greene, Brush, & Brown, 1997) and bricoleurs (e.g., Baker, Miner, & Eesley, 2003; Garud & Karnøe, 2003), entrepreneurs proactively pursue the exchange relationships through which new venture resources are anticipated to derive (Brush, Greene, & Hart, 2001; Lichtenstein & Brush, 2001; Zimmerman & Zeitz, 2002).

Following the instrumental logic of the resource-based view, entrepreneurs’ attributions of value for early network relationships should be driven by the resources sought and anticipated from those relationships. If, as theorized, more mature relationships tend to be increasingly multidimensional and complex in nature (Larson & Starr, 1993), then relationships that show the promise of resource multiplexity seem likely to be more highly valued by entrepreneurs. In other words, the perceived value of a relationship seems likely to increase in parallel with the number of resources available through that relationship. We therefore hypothesize,
Hypothesis 1. Resource multiplexity in a network relationship will be positively associated with the perceived value of the relationship.

Homophily

In sociology, homophily describes individuals’ tendency to interact with others of shared personal characteristics, such as age, gender, and ethnicity (Lazarsfeld & Merton, 1954; McPherson et al., 2001). In social psychology, similarity/attraction theory describes how perceived similarity enhances interpersonal communication (Byrne, 1971). Similarity disposes individuals toward greater levels of interpersonal attraction, trust, and understanding. Further, similar individuals tend to provide positive feedback on abilities and ideas, thus enhancing self-esteem and enforcing personal goals. With this work as background, entrepreneurship research has explored and confirmed the tendency of individuals to form teams with people of similar backgrounds, values, and other identifiable characteristics (Ruef et al. 2003; Forbes et al. 2006). It seems likely, therefore, that similarity would play a role in how entrepreneurs select those in their networks. In the following, we consider three particular dimensions of homophily: age, gender, and location.

Because people in the same age cohort are raised within the same socio-historical context, they share life course experiences that shape their expectations, skills, and values (Elder, 1999). Age homophilous ties tend to be closer, to last longer, and to involve a larger number of exchanges than heterophilous ties (Fischer, 1982). Age is known to be one of the strongest predictors of close friendships and a strong predictor of one’s overall circle of friends (Verbrugge, 1977). Further, within organizations, age is known to drive the emergence of spontaneous conversations and the recognition of shared experiences (Zenger & Lawrence, 1989).

Given the strength of these findings, we would expect nascent entrepreneurs to (i) more easily approach and communicate with people of similar age, and (ii) more easily secure high quality information and other assistance from those people. Relatedly, we expect the increased ease and likelihood of acquiring assistance through these dyad partners to drive higher value attributions. Thus, we hypothesize,

Hypothesis 2a. Age similarity in a network relationship will be positively associated with the perceived value of the relationship.

Gender homophily has been observed in a variety of network and group settings, including confidante networks (Marsden, 1987), political discussion networks (Huckfeldt & Sprague, 1995), and MBA student projects (Mehra, Kilduff, & Brass, 1998). In the context of entrepreneurship, Ruef et al. (2003) found that gender homogeneous teams were five times more likely to occur than heterogeneous teams (after accounting for the presence of “romantic couples”). Supplementing this work are network studies that have shown a marked tendency for male and female entrepreneurs to have predominantly male networks (Aldrich, Reese, & Dubini, 1989). Though this latter finding might suggest a lack of gender homophily among women, research supports the notion that heterophily might here be a reaction to the higher representation of men in business. Female entrepreneurs are, in fact, more likely to seek and attain information from other women (Smeltzer & Fann, 1989), and women's business support groups are often formed in reaction to male dominance in entrepreneurial activities (Aldrich, 1989).

Underlying this preference for gender homophilous networks must be a perception by nascent entrepreneurs that same gender contacts provide more accessible and/or substantial assistance in the start-up process – a perception that appears to be driven by gender-specific shared communication styles, life experiences, interests, and values. These similarities are known to facilitate the development of interpersonal trust and reciprocity. Thus, we hypothesize,

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Hypothesis 2b. Gender similarity in a network relationship will be positively associated with the perceived value of the relationship.

The importance of geographic proximity has long been recognized in the literatures on group formation (e.g., Goffman, 1963), social capital (e.g., Putnam, 1995), and regional business agglomerations (e.g., Marshall, 1920). Proximity has been shown to enable face-to-face contact and the development of strong relational ties (Gordon & McCann, 2000; McDermott & Taylor, 1982; Saxenian 1994), and to facilitate the exchange of information – including, in particular, the exchange of tacit, difficult-to-codify knowledge (Adams & Jaffe, 1996; Rosenfeld, 1997; Sorenson & Audia, 2000).

While past entrepreneurship research has examined the ecological constraints on team formation (Ruef et al. 2003), the growth of young firms through local “constellations” (Lorenzoni & Ornati, 1988; Shepherd, 1991), and the regional environments which foster the growth of new, technology-based firms (Saxenian, 1991, 1994), little has been said about the role that physical proximity plays in the development of entrepreneurs’ networks. We expect that, by facilitating more frequent face-to-face contact, geographic proximity enables the exchange of tacit information regarding nascent entrepreneurs’ needs. We also expect that geographic proximity facilitates a more ready and inexpensive exchange of tangible resources. Proximate network contacts will thus have greater opportunity to help entrepreneurs than will distant contacts (e.g., Kalnins & Chung, 2006) and will be more likely to be perceived by entrepreneurs as valuable. We hypothesize,

Hypothesis 2c. Geographic proximity in a network relationship will be positively associated with the perceived value of the relationship.

Interaction Effects

In our earlier hypotheses, we identified two distinct mechanisms – resource search and homophily – that we believe will independently affect the value an entrepreneur ascribes to a network relationship. We now suggest that these two mechanisms interact to produce effects that explain further variance in value attributions.

While both resource multiplexity and homophily impact perceived relationship value, they do so in very different ways. Resource multiplexity, in essence, increases the scope of the content provided to or anticipated by an entrepreneur. Homophily, on the other hand, delivers what might be termed process benefits, increasing the perceived effectiveness and efficiency of a dyad; these benefits are manifested as higher levels of interpersonal trust and affection, better or more frequent interpersonal communication, and a resultant improvement in the dyad partner’s willingness and speed in providing new venture assistance.

We propose that when broader relationship content is combined with what are seen as more effective and efficient processes, there will be an amplified effect on value attribution. The positive effect of high resource multiplexity will be even more pronounced when it is accompanied by age, gender, or location homophily, as both the “what” and the “how” of the relationship are improved. Conversely, when the scope of resources is narrowed, a lack of homophily will further dampen the perceived value of the relationship. We hypothesize,

Hypothesis 3a. Resource multiplexity and age homophily will have a positive interaction effect on the perceived value of a network relationship.

Hypothesis 3b. Resource multiplexity and gender homophily will have a positive interaction effect on the perceived value of a network relationship.
Hypothesis 3c. Resource multiplexity and geographic proximity will have a positive interaction effect on the perceived value of a network relationship.

METHODS

Data

Data were collected from individual entrepreneurs over six months of nascent venture activity and related social network development. Between March 2003 and March 2004, after soliciting interest for the study in consultation with or through several hundred individuals and organizations across multiple channels (e.g., email lists, message boards), 49 nascent entrepreneurs were identified as satisfying the eligibility criteria and agreed to participate. The eligibility criteria, developed via extensive conversations with entrepreneurship experts and refined based on a pilot test, ensured that each entrepreneur, at the outset of the study, (i) was the primary manager and founder of a California-based venture; (ii) spent at least 10 hours per week working on the venture; (iii) had been working on the venture for fewer than 24 months; and (iv) had received less than $100,000 in private or $250,000 in grant-based funding. Thirty-two entrepreneurs remained in the study throughout the study period and provided information on a total of 1,256 network dyads.

The data were collected from each entrepreneur via an in-person initial interview, a series of periodic surveys, and a final survey. All surveys were completed by the entrepreneurs at www.networkmapper.com, a website created for the current study. NetworkMapper, an advanced web application custom-developed and -implemented in partnership with a programmer, supported data input encompassing all aspects of the research, as well as data export for network and statistical analysis.

The study commenced with a 1½-hour, semi-structured interview in which entrepreneurs described the development of their business concept and mapped the core network perceived to support that development. A name generator approach was here used to solicit names and detailed descriptions of those listed as central to the provision of assistance for the venture. Entrepreneurs also provided demographic information (e.g., age, sex, education) about themselves and those in their core network. Thereafter, roughly every two weeks over the next six months, entrepreneurs completed periodic surveys regarding existing and new network ties. Questions for new contacts encompassed demographics and the resources expected or realized through the dyad. Questions for existing contacts addressed ongoing business interaction and relationships with other network members. At the end of the six-month study period, entrepreneurs completed a final survey in which they assessed the contribution made by each network contact to the new venture’s development. The time lag between measuring our independent variables (in the initial and periodic surveys) and measuring our dependent variable (at the end of the six-month study period) serves to alleviate the common method variance issue that is often a concern in cross-sectional, single-respondent studies (e.g., Phillips 1981).

Dependent Variable

Our dependent variable is the perceived value of a network relationship. We measured this by instructing each entrepreneur in the final survey to distribute a mythical bonus pool of $1,000 among those in his or her network as based on each contact’s perceived utility to the new venture. (See Table 1 for descriptive statistics and for correlations among our model variables.)

Independent Variables

Resource multiplexity was measured as the number of different resource categories provided by or anticipated from each dyad partner. Entrepreneurs selected from the following pre-set list of resource
categories: strategy, hiring, capital, customers, and other. Resource categories were consistent with those in extant research (e.g., Birley, 1985; Hart, Greene, & Brush, 1997; Starr & MacMillan, 1990), but simplified in response to pilot test data. Because “other” responses were uncommon and often consistent with another of the four primary categories, we reallocated these (or, in rare instances, excluded them). Responses ranged from zero to four, with a mean of 1.25.

Age similarity was measured using a binary variable that indicated whether or not the entrepreneur and the contact were less than 10 years apart in age. Gender similarity was measured using a binary variable that indicated whether or not the dyad partners were of the same gender. Geographic proximity was measured as a categorical variable that described a contact as (i) located in the same California county as the entrepreneur; (ii) located elsewhere in California; (iii) located elsewhere in the US; or (iv) located outside of the US. Higher values of the variable indicate greater geographic proximity.

**Control Variables**

We control for the entrepreneur’s age (categorical measure), gender (binary measure), net worth (categorical measure), level of education (categorical measure), and work experience (categorical measure). We also control for the type of business (service or product; binary measure) and the status of the business venture at the end of the study period (ordinal measure). Venture status was measured by operationalizing the existence of four properties theorized by Katz and Gartner (1988) as indicative of organizational emergence, i.e., intentionality, boundaries, exchange, and resources. Ventures were assigned a score (the higher the score, the greater the organization’s emergence) as based on their achieving the following milestones: possession or desired possession of an operational business, maintenance of a formal (non-home) office space, incorporation, achievement of positive cash flow, revenues of at least $100,000, revenues of at least $250,000, and employment of four or more employees. Responses ranged from one to seven, with a mean of 3.41.

**Model**

The dependent variable in our model is the entrepreneur $i$’s perceived value of each contact $j$. We formulate $Value_{ij}$ as a function of the hypothesized and control variables as follows:

$$Value_{ij} = \beta_1 * Age\ similarity_{ij} + \beta_2 * Gender\ similarity_{ij} + \beta_3 * Geographic\ proximity_{ij} + \beta_4 * Resource\ multiplexity_{ij} + \beta_5 * Resource\ multiplexity_{ij} * \ Age\ similarity_{ij} + \beta_6 * Resource\ multiplexity_{ij} * \ Gender\ similarity_{ij} + \beta_7 * Resource\ multiplexity_{ij} * \ \text{Geographic\ proximity}_{ij} + \beta_8 * Age_i + \beta_9 * Gender_i + \beta_{10} * Net\ worth_i + \beta_{11} * Education_i + \beta_{12} * Work\ experience_i + \beta_{13} * Business\ type_i + \beta_{14} * Venture\ end\ status_i$$

An analysis of the distribution of the values assigned by entrepreneurs indicates that the values are discrete, that a majority of the contacts (71%) are valued at zero, and that most of the values (98%) are concentrated in the range of $0 to $200. In order to account for the excessive zeros and value concentration, we convert the assigned values to a categorical variable, $Value_{ij}$ where $Value_{ij} = 0$ if entrepreneur $i$ assigned contact $j$ a value of 0, $Value_{ij} = 1$ if entrepreneur $i$ assigned contact $j$ a value of $1 to $200, and $Value_{ij} = 2$ if entrepreneur $i$ assigned contact $j$ a value greater than $200.

According to our hypotheses, we model $Value_{ij}$ to be a function, F, of the explanatory variables denoted by vector X. Since the variable $Value_{ij}$ takes on discrete outcomes, we formulate an ordered logit model to capture the effect of the variables of interest on $Value_{ij}$ as follows (see Train 2003, p. 166):
\[
\text{Prob}(\text{Value}_{ij} = 0) = F(\delta^1_{ij} - \beta'X)
\]
\[
\text{Prob}(\text{Value}_{ij} = 1) = F(\delta^2_{ij} - \beta'X) - F(\delta^1_{ij} - \beta'X)
\]
\[
\text{Prob}(\text{Value}_{ij} = 2) = 1 - F(\delta^2_{ij} - \beta'X)
\]

In Equation 2, $\delta^1_{ij}$ and $\delta^2_{ij}$ represent the threshold or cutoff points in the utility function for each dyad $ij$. If the utility or the value that the entrepreneur received was below the cutoff value, $\delta^1_{ij}$, the contact was assigned a value of 0. If the utility was between the thresholds of $\delta^1_{ij}$ and $\delta^2_{ij}$, the contact was assigned a value of 1, and if the utility was greater than the threshold of $\delta^2_{ij}$, the contact was assigned a value of 2.

An ordered logit model lets us account for the preponderance of zero values in our data and for the cutoff points associated with each scenario.

There is a possibility that unobserved factors associated with entrepreneurs or their dyad partners might affect value attributions (e.g., an entrepreneur with better networking ability might assign different values than an entrepreneur with lower networking ability). It is important to account for such unobserved factors to get correct estimates of the parameters associated with the variables of interest. We account for unobserved factors by following the approach of random coefficients (McFadden & Train, 2000). Specifically, we allow the two cutoff points, $\delta^1_{ij}$ and $\delta^2_{ij}$, to vary across the set of entrepreneurs and their contacts, i.e., $\delta^1_{ij} \sim N(\delta_1, \sigma^2_1)$ and $\delta^2_{ij} \sim N(\delta_2, \sigma^2_2)$. The final log likelihood, $LL_{ij}$, across all the observations of entrepreneurs and their contacts is then given by Equation 3. The optimal parameters are estimated by maximizing this log likelihood function via the simulated maximum likelihood approach (McFadden & Train, 2000).

\[
LL_{ij} = \sum_i \sum_j \log(\text{Prob}_{ij})
\]

RESULTS

The results of our analyses are presented in Table 2. Model 1 includes only the control variables. In Model 2, we added the hypothesized direct effects variables. Model 3 includes all hypothesized variables and interaction terms. When estimating Model 3, we first centered the interaction variables to reduce multicollinearity (Aiken & West, 1991).

The overall fit of our hypothesized Model 3 is good with a statistically significant chi-square (p<0.01). The Wald test rejects Model 2 in favor of Model 1 (the calculated $\chi^2 = 362.94$ while the critical $\chi^2(7, 0.01) = 18.47$). Comparing the fit between Model 2 (with no interaction effects) and Model 3 (with interaction effects), the Wald test favors Model 3 over Model 2 (the calculated $\chi^2 = 15.32$ while the critical $\chi^2(3, 0.01) = 11.34$). Since Model 3 has the best fit, we describe the results of each hypothesis based on that model.

Hypothesis 1 suggested that resource multiplexity will have a positive effect on the value an entrepreneur perceives in a network relationship. The results of the model support this hypothesis ($\beta_1 = 0.21, p<0.001$). Hypothesis 2 suggested a positive relationship between homophily and the value of the relationship as perceived by the entrepreneur. The results of the model provide no evidence of a relationship for any of the examined types of homophily. In Hypothesis 3, we argued that homophily and resource multiplexity would together have an amplified effect on dyadic value attribution. The positive interaction effects between resource multiplexity and age homophily ($\beta_5 = 0.02, p<0.05$), resource multiplexity and gender homophily ($\beta_6 = 0.03, p<0.01$), and resource multiplexity and geographic proximity ($\beta_7 = 0.09, p<0.01$) on relationship value provide support for Hypothesis 3.

DISCUSSION
In this paper, we have attempted to contribute to the literature on new venture emergence by shedding light on some of the critical mechanisms driving nascent entrepreneurs’ network development. In examining the effects of resource search and homophily on entrepreneurs’ value attributions in network dyads, we have sought to develop an integrated model of network formation that considers both the independent and interdependent significance of resource multiplexity and interpersonal similarity.

Consistent with an instrumental, resource-based view of relationships, our results confirm that resource multiplexity increases perceived relationship value, thus affirming the salience of resource search to the nascent entrepreneur. While previous research has widely recognized that resources are an important outcome of network relationships, our model emphasizes resources’ dual role as both antecedents and outcomes of new venture networks. Resource multiplexity impacts network development – which, in turn, drives future resource outcomes for the entrepreneur. Thus conceptualized, the nascent entrepreneur’s challenge might well be described as both the acquisition of needed resources (Lichtenstein & Brush, 2001) and the ability to identify that limited subset of network partners most likely to provide those resources.

Contrary to our prediction, homophily in the form of age, gender, and location similarity does not have a significant direct effect on perceived relationship value. This finding surprised us given the extant empirical support for homophilous entrepreneurial networks (Aldrich 1989; Smeltzer & Fann, 1989) and founding teams (Ruef et al. 2003), but it need not be wholly inconsistent with that prior work. There is a difference between a network overall and that component which is valued; thus, it is not improbable that homophilous overall networks might include non-homophilous subnetworks. Relatedly, while one might expect network valuations to drive founding team selection, it is possible that the very early stage of our research predated real entrepreneurial consideration of the team. The management team literature has found mixed results on the link between homophily and team performance, suggesting that it may be contingent upon the level of uncertainty in the environment or the time horizon taken (Harrison, Price, & Bell, 1998; Webber & Donahue, 2001); it could be that these same contingencies affect the value that homophily brings to the entrepreneur.

The result for our interaction hypothesis suggests a different interpretation. When we conceptualized homophily as a modifier, rather than a direct determinant, of relationship value, we found that it amplified the effects of resource multiplexity. In essence, thus, homophilous contacts were not valued in the absence of multiple resources, but were valued when accompanied by those resources. In fact, homophily and resource multiplexity together were more highly valued than resource multiplexity alone. Given this finding, our research affirms homophily’s persistence as a central mechanism in network emergence. Further, and importantly, it provides support for the notion that resources might become more accessible by virtue of similar dyad partners’ shared motivations for and greater efficiency in exchange. In fact, to the extent that homophily and resource multiplexity are jointly perceived by nascent entrepreneurs as offering the ability to enhance the likelihood of new venture success, we might expect the selection pattern evidenced here to result in the eventual formation of homophilous networks and teams.

To summarize, our results suggest a view of entrepreneurial value attribution and new venture network development in which instrumental resource search serves as the primary driver and interpersonal similarity plays a moderating role. The content benefits conferred through real or anticipated resource acquisition form a clear basis for nascent entrepreneurs’ assessments of dyad value. The process benefits often perceived by individuals to derive from homophily (e.g., trust, affection, more frequent communication) facilitate the further strengthening of resource-based relationships.

To our knowledge, the current study is the first to directly examine the comparative and interactive roles of resources and homophily in the context of nascent entrepreneurs’ networks. Further, it is the first to directly examine new venture network development as it happens rather than after the fact. Our results
thus make several theoretical and empirical contributions to the extant literature. We provide an empirical lens through which to interpret resource-based and social mechanisms of nascent network development – a lens which might well be effective when deployed in a more general environment of organizational uncertainty and resource deficiency. We broaden existing theory on “gestational” (Van de Ven, 1980) organizational processes within the field of entrepreneurship. We elucidate specific aspects of partner selection and, uniquely, deselection in the process of nascent network construction. With respect to this latter point, it is also possible that our work might contribute over the long term to an enhanced understanding of entrepreneurial team formation. Insofar as entrepreneurs’ value attributions directly impact decision processes with respect to ongoing network development, a clearer understanding of those attributions might bridge the gap between the two closely related, but hitherto largely separate streams of research on new venture networks and new venture teams.

Managerial Implications

Our results yield practical insight supporting the entrepreneurial deployment of instrumentality and social heuristics. The results indicate that entrepreneurs associate significant business value with individuals who represent an array of resources – and, thus, should prioritize the identification and cultivation of those relationships. The results also suggest that entrepreneurs should be aware of their tendency to associate greater value with individuals who are both resource-bearing and homophilous. While partnering with like individuals might facilitate enhanced trust and communication, partnering with too many like individuals might inhibit those benefits traditionally associated with diversity (e.g., creativity). If it is the case that the observed patterns with respect to resources and homophily do indeed persist through to entrepreneurial team formation, then it becomes even more important that entrepreneurs be made aware of homogeneity’s potential downside.

Limitations and Future Directions

Several limitations exist in the current study, thereby providing avenues for future research. First, the sample was collected from a small subset of nascent entrepreneurs in one US state over a particular period of time, and it cannot, therefore, be considered representative. In making the inevitable tradeoff between depth and breadth in empirical data collection, we prioritized depth. This choice was driven by the paucity of equivalent empirical data for truly nascent ventures, and, relatedly, by long acknowledged barriers to representative data collection (Aldrich, Kalleberg, Marsden, & Cassell, 1989; Busenitz & Murphy, 1996).

Second, our dependent variable was the perceived value of relationships. While, arguably, perception drives the nascent entrepreneur’s actions (Forbes, 1999; Hill & Levenhagen, 1995), future studies could explore potential ways to assess relationship value objectively. This exploration might prove particularly difficult at the earliest stages of firm development. Despite this challenge, future longitudinal studies of longer duration might enhance our understanding of both resource realization and, as per our earlier discussion, the relationship between value, network selection, and management team selection.

Third, our investigation focused on resource variety, rather than on the magnitude, quality, or timing of individual resources. Where previous research has examined the importance of particular resource types and the sequence in which they are acquired during the venture creation process (Lichtenstein & Brush, 2001; Delmar & Shane, 2004), we here focused on capturing the aggregate resources available through network dyads. We also restricted our analysis to three particular types of homophily. Future studies could include more comprehensive measures of resources and interpersonal similarity. The latter could include, for example, achieved characteristics such as education, net worth, and functional expertise.
CONCLUSION

In conclusion, our study provided new insight into the phenomenon of entrepreneurial network formation. We offered resource-based and sociological perspectives to elucidate the antecedents of entrepreneurs’ value attributions in network development. We attempted to provide both conceptual and empirical bases for further investigation of this important topic and hope that our results will prompt further research in the area.

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REFERENCES


Table 1: Descriptive Statistics and Correlations of the Variables in the Model

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<td>0.52**</td>
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*** p ≤ .001, ** p ≤ .01, * p ≤ .05, + p ≤ .10. The covariances among entrepreneur-specific control variables (variables 6-12) are calculated with entrepreneur-level data (N=32). The covariances including relationship-specific variables (variables 1-5) are calculated with dyad-level data (N=1,256).
### Table 2: Maximum Likelihood Estimates of the Parameters

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
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</thead>
<tbody>
<tr>
<td>Age similarity</td>
<td>0.07</td>
<td>0.11</td>
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</tr>
<tr>
<td>Gender similarity</td>
<td>0.04</td>
<td>0.09</td>
<td></td>
</tr>
<tr>
<td>Geographic proximity</td>
<td>-0.14</td>
<td>-0.17</td>
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</tr>
<tr>
<td>Resource multiplexity</td>
<td>0.23***</td>
<td>0.21***</td>
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</tr>
<tr>
<td>Resource multiplexity × Age similarity</td>
<td></td>
<td>0.02*</td>
<td></td>
</tr>
<tr>
<td>Resource multiplexity × Gender similarity</td>
<td></td>
<td>0.03**</td>
<td></td>
</tr>
<tr>
<td>Resource multiplexity × Geographic proximity</td>
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<td>0.09**</td>
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<td>Threshold point value 0 (δ₁)</td>
<td>3.57***</td>
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<td>5.09***</td>
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<tr>
<td>Threshold point value 200 (δ₂)</td>
<td>5.12***</td>
<td>6.62***</td>
<td>6.67***</td>
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</table>

**Control Variables**

| Entrepreneur age                      | 0.01    | 0.01    | 0.01    |
| Entrepreneur gender                   | 0.20*** | 0.18*** | 0.16*** |
| Entrepreneur’s net worth              | 0.06*** | 0.05*** | 0.05*** |
| Entrepreneur’s level of education     | 0.49*** | 0.52*** | 0.47*** |
| Entrepreneur’s work experience        | 0.10**  | 0.16**  | 0.12**  |
| Business type                         | 0.41*** | 0.35*** | 0.31*** |
| Venture end status                    | -0.12** | -0.15** | -0.14** |
| Log-likelihood                        | -723.45 | -541.98 | -534.32 |

*** p ≤ .001, ** p ≤ .01, * p ≤ .05, + p ≤ .10; two-tailed. Standardized coefficients.