

Before They Were Ties: Predicting the Value of Brand-New Connections

Daniel Z. Levin

Rutgers University

Jorge Walter 

The George Washington University

Complementing and extending prior studies on the value of existing work relationships, this study examines whether we can predict the value of brand-new ties before people ever meet. We examine this question by developing three sets of hypotheses reflecting the three main perspectives in the social networks literature: the resource (actor), dyadic (tie), and structural (network) perspective. To test our hypotheses, we asked executives to reach out for advice from someone they had never met and to complete a survey of their various thoughts about the other person both before and after making a connection. We find support for all three perspectives after a connection has been made; however, before tie formation, we find evidence only for the structural perspective. Our results suggest that the lack of reliable information about strangers obscures which brand-new ties will turn out to be more valuable but that surrounding network structures remain a reliable predictor of value, even for brand-new ties.

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A central tenet of research on organizations is that people rely on networks of interpersonal relationships for the knowledge and resources they need to successfully complete their

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Corresponding author: Daniel Z. Levin, Management and Global Business Department, Rutgers Business School–Newark and New Brunswick, Rutgers University, 1 Washington Park, Newark, NJ 07102, USA.

E-mail: levin@business.rutgers.edu

work (Cross, Borgatti, & Parker, 2001; Seibert, Kraimer, & Liden, 2001; Sparrowe, Liden, Wayne, & Kraimer, 2001). Prior studies have examined the predictors—at the actor, tie, or network level (e.g., Cross & Sproull, 2004; Levin & Cross, 2004)—of what makes some established connections more valuable than others. Yet when it comes to brand-new ties—defined as a new connection with someone you have never met and never interacted with before, regardless of whether you are or are not connected to anyone in common—we know little about what predicts value. We know even less about whether we can predict this value *before* a tie is initiated.

This oversight is surprising, given that every relationship once began as a brand-new tie and that tie formation is an important topic in its own right (Dahlander & McFarland, 2013; Grossman, Yli-Renko, & Janakiraman, 2012; Hallen & Eisenhardt, 2012; Porter & Woo, 2015; Tasselli, Kilduff, & Menges, 2015; Vissa, 2011). Indeed, much has been written about people's selection preferences, such as propinquity (physical proximity), homophily (attraction to similar others), and liking (Casciaro & Lobo, 2008; Hofmann, Lei, & Grant, 2009; Kleinbaum, Stuart, & Tushman, 2013; McPherson, Smith-Lovin, & Cook, 2001; Nebus, 2006), but we are still left with the question of the actual value of these brand-new connections.

Imagine the following hypothetical scenario. Let us say you need advice on a work project and want to ask someone outside your usual network of contacts, perhaps to get a fresh perspective or perhaps for some other reason. Among the many, many potential new contacts in the world, your goal is to find someone most likely to provide you with valuable advice. But what characteristics or clues should you look for when selecting someone you have never met? Should you focus on how high status they are? How trustworthy they seem? Other factors? This question is what we hope to answer in our study: Which types of selections will turn out to be most useful?

This question is particularly difficult to answer for executives who, as a result of the broad scope of their work and hierarchical position, tend to have access to a vast pool of potential new contacts to choose from but likely need advice in a timely manner to be useful for their ongoing problems at work. Executives therefore have little time to engage with many potential contacts, even if just in a preliminary fashion, until they have gathered enough information to be fairly confident that they have narrowed down the pool to someone who will be an excellent source of advice. In fact, building rapport, engaging in small talk, finding commonalities, learning about each other's jobs and career histories, and so forth are time consuming and, thus, at least for executives, render the approach of trying to maximize the benefits of their advice-seeking network by employing such a "funnel" impractical. Hence, the question of which potential brand-new tie to tap remains a crucial challenge and one for which little theoretical guidance exists. Addressing this gap in our understanding, our research question asks whether we can predict in advance the value of advice that people will be able to obtain from a brand-new connection on the basis of whatever information and expectations people have regarding the potential contact *before* they ever meet.

To that end, we synthesize the literature on the value of (existing) network ties to develop a theoretical model of the drivers of value in advice-seeking relationships at the actor, tie, and network level. We then apply these ideas to brand-new ties. To test our predictions, we analyze a unique set of longitudinal data from executives seeking work advice from someone they have never met. Critically, we ask these executives what they think and feel about the

other person *before* they first meet to see whether we can predict which connections will turn out to be most valuable. In line with the literature on advice seeking (e.g., Cross & Sproull, 2004; Reagans & McEvily, 2003; Tortoriello, Reagans, & McEvily, 2012), we conceptualize the value received from a brand-new connection as the value of advice as perceived by the recipient, since “a knowledge seeker is the best, perhaps the only, judge of the usefulness of knowledge received” (Levin & Cross, 2004: 1482). For simplicity, we refer to this perceived value of advice as “value.”

Our study makes three theoretical contributions. First, prior experimental and cross-sectional field study approaches have often raised generalizability, external validity, and causality concerns and “offer—at best—only a very limited ‘snapshot’” of advice seeking (Bamberger, 2009: 89). In contrast, our study surveys advice seekers in a real-world setting *before* rather than after people have made a connection, thereby allowing us to look inside the phenomenon of tie formation and value. This unique approach allows us to address the theoretical (and practical) problem of identifying the most valuable sources for advice, an understudied but important topic in the organizational and psychological literatures (Bamberger, 2009; Hofmann et al., 2009).

Second, there is a fair amount of research on tie formation, especially on factors like homophily or propinquity, that make certain potential ties more comfortable or convenient than others (Kleinbaum et al., 2013; McPherson et al., 2001). Complementing and extending the important descriptive insights this body of work has provided, our focus on the ultimate value of brand-new ties offers normative implications, especially concerning the value of potential ties. Thus, our research could be used to identify which brand-new ties are most likely to provide value for advice seekers. Other social network research has been used to provide answers to normative questions as well but only for established ties. Given that many value drivers, such as trust, typically emerge from direct interaction (Levin & Cross, 2004; Levin, Whitener, & Cross, 2006; Uzzi, 1997), it remains unclear how to apply insights on the value of established ties to that of brand-new ties. Our study addresses these open questions, thereby expanding the domain of social network research—especially vis-à-vis performance outcomes—to include not just ties that already exist but also ties that have not yet come into existence.

Third, our theorizing and empirical results provide novel insights into the relative merits of actor, tie, and structural network characteristics under limited, if not absent, information—insights that complement and extend established theories on value drivers among existing ties. Our results suggest that the presence or absence of reliable information about strangers—at the actor, tie, and network level—is critical in predicting which brand-new ties will turn out to be more valuable. Specifically, we suggest that the network level is somewhat unique among the three levels in that it not only includes (often insufficient or unreliable) information about the new contact, as the actor and tie levels do, but also incorporates information about one’s current ties, where people often *do* have reliable information. In sum, brand-new ties are not just like existing ties; they differ in significant ways, with important implications for both theory and practice.

Theory and Hypotheses

Valuable advice from work relationships can come in a variety of forms, such as solutions to a work problem, pointers to other sources of information, help in reformulating a problem

or developing confidence in one's solutions, or legitimation of one's solutions (Cross & Sproull, 2004). These examples of "receiving value" from a work colleague reflect the idea that knowledge transfer—whether tangible or intangible—includes not just simple information but rather anything that contributes positively to the recipient's work performance.

What we know from prior research is that contrary to popular belief, brand-new contacts are often quite willing to offer help and advice due in part to implicit social and professional norms of benevolence that would be violated should they choose to reject a request for help (Constant, Sproull, & Kiesler, 1996; Flynn & Lake, 2008). They may also be motivated by the prospect of future reciprocity (Ferrin, Bligh, & Kohles, 2008). Moreover, establishing a brand-new tie can free advice seekers from the limits imposed by their current network of ties: If new contacts are outside the "echo chamber" of the advice seeker's usual circle, then they are likely to provide novel or nonredundant knowledge (Burt, 1992, 2001; Granovetter, 1973). Also, repeated interactions with established contacts tend to result in more similar stocks of knowledge, leading to the problem of knowledge saturation (Perry-Smith, 2006; Reagans, Argote, & Brooks, 2005). In contrast, pursuing brand-new contacts, who are likely to possess more nonredundant knowledge, allows for more novel insights that have not yet been shared. In sum, brand-new ties allow people to resolve the conundrum that while their network of interconnected current ties may promote trust, fine-grained information transfer, and joint problem solving, it may also isolate them from knowledge beyond their current network—what Uzzi (1997) and others (e.g., Lazzarini, Miller, & Zenger, 2008) have called the "paradox of embeddedness." A key benefit for advice seekers in forming a brand-new tie is therefore the potential to access novel knowledge or to explore beyond their current circle of contacts and insights (Constant et al., 1996).

After many decades of research on workplace ties and networks, why do we still know so little about how to predict the value of brand-new ties? One reason is methodological: It can be difficult in a real-world setting to catch people right before they meet a new person for the first time, that is, to ask people about their perceptions prior to any communication with the other person. Past research has attempted to do this retrospectively, asking people months later to recall what they had been thinking or feeling (e.g., Levin et al., 2006). This approach is problematic, however, given how faulty and biased people's memories can be. Thus, ours is the first study to our knowledge that aims to predict the value of brand-new ties *prospectively* by surveying advice seekers before they meet someone new.

Another potential reason for the lack of research on predicting the value of brand-new ties is theoretical. That is, despite a brand-new tie's potential for providing useful knowledge, predicting its value is complicated by the fact that there is little, if any, reliable information on what to expect from any potential connection. Given this lack of information, one might ask whether the usual value drivers in relationships even apply to new ties, that is, whether there are *any* significant predictors of value before a connection takes place. Thus, one view is that it is essentially impossible to predict a brand-new tie's value ahead of time, and if that is the case, then it makes sense that the field would largely avoid studying this issue. Yet people tend to stereotype (McKnight, Cummings, & Chervany, 1998) or quickly form impressions or opinions about the characteristics of strangers all the time—for example, "people with glasses are smarter"—despite scarce or unreliable information (Ambady, Bernieri, & Richeson, 2000; Schneider, Hastorf, & Ellsworth, 1970). Moreover, even without direct experience with a potential contact, people can nonetheless learn about potential

new contacts who may be valuable for the task at hand, “perhaps by reading a document written by them, hearing their names mentioned in a conversation with colleagues, or hearing them speak at a conference” (Nebus, 2006: 618). Such secondhand information about strangers is increasingly easy to obtain in our virtually connected world, where any potential contact is only a few steps away and information about them abounds on social networking sites such as LinkedIn, Facebook, or other social media. Hence, our research question is whether we can predict in advance the value of advice that people will be able to obtain from a brand-new connection on the basis of whatever information and expectations people have regarding the potential contact before they ever meet.

To be clear, our goal is to see whether we can predict in advance, based only on what is in the head of an advice seeker, which new connections will turn out to be more valuable. Our study is *not* an attempt to examine why people might prefer to create certain brand-new ties but not others, that is, the drivers of tie formation (e.g., Dahlander & McFarland, 2013; Grossman et al., 2012; Kleinbaum et al., 2013; McPherson et al., 2001; Porter & Woo, 2015; Vissa, 2011). Our study is also *not* an attempt to examine people’s overall preconnection assessment of how much value they expect to receive in the future (Grossman et al., 2012), as people can have misguided “theories in action” (Argyris & Schön, 1974) for what they think might be predictive of future value received. Thus, we do not rely on advice seekers’ own predictions for how valuable a connection might be. Rather, we use their perceptions of specific characteristics—for example, How generally competent does this person seem? How trustworthy?—to see whether we can predict which connections will turn out to be more valuable. Finally, our study is *not* an attempt to examine the accuracy of these perceptions by advice seekers of a potential contact’s various characteristics—either in the sense of their continuing to feel this way in the future or of having these perceptions reciprocated by the other person. That is, some people may form preconnection impressions that are prescient of how they end up feeling about different aspects of another person (or about how that person feels about them), or conversely, these impressions could turn out to be dead wrong. Similarly, it would be interesting to examine the perspective of the other person (i.e., the advice giver), such as, his or her know-how, motivation, and perceptions of the relationship, as having such knowledge would likely improve people’s choices of and, consequently, value received from brand-new ties. Since such knowledge about a brand-new tie is unavailable to the advice seeker before connecting, however, our goal here is to respond to the challenge in our earlier hypothetical scenario: to examine whether an advice seeker’s various *preconnection* perceptions, accurate or not, can be used to predict postconnection value received.

To understand potential determinants of value in brand-new ties, we build on the social capital literature, which has long focused on the value inherent in people’s interpersonal connections. While there are disagreements as to what exactly constitutes someone’s social capital, and definitions abound (see Kwon & Adler, 2014, for a recent review), the common denominator across studies is that social capital is the ability to obtain and/or create value via networks of relationships (Adler & Kwon, 2002; Bourdieu & Wacquant, 1992; Burt, 1992; Coleman, 1990; Lin, 2001; Nahapiet & Ghoshal, 1998; Payne, Moore, Griffis, & Autry, 2011; Seibert et al., 2001). Building on this foundation, we distinguish value drivers at three levels: (1) actor-level (or resource) drivers, such as contacts’ general abilities, specific expertise, and relative status (Lin, 1999; Lin, Ensel, & Vaughn, 1981); (2) tie-level (or dyadic) drivers, focusing on the content of the relationship, such as dyadic trust and

Table 1
Theoretical Model

Analytical focus	Social capital perspective	Value drivers	Outcome
Social actor (node)	Resource	Hypothesis 1a: General competence Hypothesis 1b: Task-specific expertise Hypothesis 1c: Higher-status alter	
Tie (line)	Dyadic	Hypothesis 2a: Dyadic trust Hypothesis 2b: Shared perspective	
Network structure (pattern of lines)	Structural	Hypothesis 3a: Referral (bonding) Hypothesis 3b: No one in common (bridging)	

shared perspective (Granovetter, 1973; Hansen, 1999; Krackhardt, 1992; Uzzi, 1997); and (3) structural network-level drivers, that is, the patterns of ties providing opportunities and constraints, such as brokerage and closure (Burt, 1992; Coleman, 1988). These three levels correspond to the graphical representation of a standard sociogram or network diagram, where each node represents an actor (who possesses a variety of resources), each line between two nodes represents a tie (which has a variety of dyadic characteristics), and each network, or pattern of lines, represents the underlying social structure (which has a variety of configurational properties). Research on advice seeking has drawn from each of these three levels but only in the context of established relationships, that is, *after* tie formation has already been accomplished. In contrast, we investigate actor, tie, and structural network drivers of value for *brand-new* ties, where the applicability of these drivers is an open question. Accordingly, in this section we develop our theoretical model (see Table 1) by first identifying the most prominent value drivers—at the actor, tie, and network level—that have been identified for existing ties. We then examine how these might apply to brand-new ties.

The Resource (Actor) Perspective

Scholars have long emphasized that social capital is more than mere social relations and networks; it is the set of social resources embedded in relationships (Borgatti & Foster, 2003; Burt, 1992; Lin, 2001; Payne et al., 2011; Tsai & Ghoshal, 1998). In this view, advice seeking is, first and foremost, about getting access to knowledge and other resources. This resource perspective is reflected in the popular view that “who you know” is what matters in one’s life and career—that is, knowing smart and powerful people is essential, as they can provide access to resources that others cannot. In short, actors (i.e., “nodes” in a network diagram) with more resources at their disposal should be more useful sources of advice.

A review of the literature suggests that the relative value of being connected to different actors has at least three facets: an actor’s general competence (Nebus, 2006), task-specific expertise (Nebus, 2006), and status (Cross & Cummings, 2004; Lin, 2001; Seibert et al., 2001). First, to be useful, an actor should be competent (Nebus, 2006). This seems obvious for ties in general: someone who has high ability, professionalism, and dedication is likely to know more useful things that can be shared during an advice-seeking interaction. Although

this type of general competence should be beneficial in an advice giver in general, it is an open question whether this type of resource can be detected from afar. That is, people may be able to infer relative levels of general competence among the existing members of their network as a result of direct interactions, but for brand-new ties, less information is available for making such judgments of general competence. Of course, people do make judgments of strangers all the time (Ambady et al., 2000; Schneider et al., 1970), but these may or may not be predictive of how valuable the advice turns out to be. We hypothesize, however, that these judgments will be predictive, despite the absence of direct contact. In line with the key tenet of social information processing theory (Salancik & Pfeffer, 1978), people can learn about someone—and his or her general level of competence—through other means, such as formal education, current and past employers, public writings such as articles or blog posts, observations from afar, and so on. Although not perfect indicators of general competence, such ancillary markers could be used by advice seekers to identify knowledge sources who will prove to be more valuable.

Apart from the issue of competence in general, some people have more specific expertise in a particular domain, that is, they have task-specific expertise (Nebus, 2006) and, thus, are likely to provide more valuable advice when asked about something within that domain. Presumably, if a potential advice giver's task-specific expertise is in the same domain as the advice seeker's project or topic of interest, then this expertise would be a fairly obvious resource that should prove valuable. Much less obvious, though, is whether advice seekers have enough information to form an accurate judgment about another person's area(s) of expertise. Direct communication—as occurs with existing relationships—should be especially helpful in determining this, as such information often surfaces in the course of conversation. For brand-new ties, however, it remains an open question whether judgments of expertise areas will be useful. We would expect, again, that it is possible to determine *indirectly* the task-specific expertise of a stranger, for example, by examining that person's job title, departmental affiliation, public writings, professional training and background, and so forth. If so, then the perception that a stranger has relevant task-specific expertise should positively predict the value of the advice ultimately received from that person.

A third indicator that an actor has valuable resources is status (Cross & Cummings, 2004; Lin, 2001; Seibert et al., 2001). Social resource theory suggests that people in high-status positions “have desirable resources such as wealth, prestige, power, and access to others and that ties to such people can improve job rewards (de Graaf & Flap, 1988; Lin, 1999; Marsden & Hurlbert, 1988). Those higher in a hierarchy [are also] likely to have greater breadth of information and perspective than those lower in the hierarchy” (Cross & Cummings, 2004: 930) by virtue of serving as powerful “pumps” in the flow of ideas and resources (Seibert et al., 2001). This is especially likely within an organization, as senior leaders have formal control over the flow of organizational knowledge and resources, but even across organizations, higher status tends to equate to more resources. A link to a high-status person also provides legitimacy to people and to ideas and thereby helps people implement their ideas (Brass, 1984; Cross & Cummings, 2004).

At the same time, potential advice givers who are higher in status may not have the time, or be willing to spend the time, to assist an advice seeker. This may be a particular problem for brand-new ties, as there is no history of interaction or of reciprocity to engage the higher-status person's attention. For example, even if higher-status people take a meeting with a

lower-status stranger, they may look at their computer or phone the whole time or be otherwise distracted. Moreover, higher-status contacts' hierarchical position may make them so distant that they are out of touch with a lower-level advice seeker's problems (Pfeffer, 2007), or they may not be able to divulge as many insights if they are privy to proprietary or confidential information.

Nevertheless, on balance, we would expect higher-status contacts to provide more value as a result of the greater resources they possess or have access to. Moreover, people are usually skilled at sizing up the relative status of others (Boster, Johnson, & Weller, 1987), including strangers (Kraus & Keltner, 2009), so an advice seeker should be able to evaluate whether potential advice givers have high status and are thus in a better position to provide more value if approached. In sum, we propose the following:

Hypothesis 1: People will receive more value by connecting with brand-new contacts whom they perceive to be higher in (a) general competence, (b) task-specific expertise, and (c) relative status.

The Dyadic (Tie) Perspective

People can also derive value from their ties as a function of the nature of the relationship. Here the critical issue is less about the resources possessed by the advice giver and more about the match between the two people (i.e., their relationship). A review of the relevant literature on existing ties suggests two prominent aspects at the dyadic level that influence value: *dyadic trust*, or a greater willingness to engage in productive knowledge transfer, and a *shared perspective*, or an enhanced ability to understand and make use of transferred knowledge (Levin, Walter, & Murnighan, 2011). If people are willing to listen to and share with each other, because they care about and trust each other (Krackhardt, 1992; Levin & Cross, 2004), and if they can understand each other's jargon, ideas, and ways of thinking, because they have a shared perspective (Nahapiet & Ghoshal, 1998; Tsai & Ghoshal, 1998), then the value received will be greater. Not all useful knowledge is freely given or self-explanatory, so a relationship (i.e., a "line" in a network diagram) in which people trust and understand each other is an important driver of value in advice-seeking contexts.

In this study we focus on dyadic trust, sometimes called relational trust, which we define here as the belief in another person's benevolence towards you (Levin, 2008; Levin et al., 2006; Mayer, Davis, & Schoorman, 1995). This belief in the trustworthiness of a potential contact will likely be based on not only how much the advice seeker trusts people in general (e.g., Lazzarini et al., 2008; Yamagishi, Cook, & Watabe, 1998) but also factors unique to the specific situation, such as the other person's reputation, background, similarity, and so on. In sum, our focus here is on dyadic trust regarding the brand-new contact.

Dyadic trust has been shown to be a strong predictor of the receipt of useful knowledge not only with existing ties (Levin & Cross, 2004) but also with reconnected dormant ties where there has been no recent interaction for years (Levin et al., 2011; Walter, Levin, & Murnighan, 2015). When a person is trusted, people are more willing to give (Tsai & Ghoshal, 1998) and listen to and absorb useful knowledge and advice (Levin & Cross, 2004): They are generally more willing to engage in social exchange and cooperative interaction (Nahapiet & Ghoshal, 1998). Because trust helps the parties predict how their counterparts will use transferred knowledge, trust acts as a governance mechanism that facilitates knowledge exchange

(Krackhardt, 1992). Moreover, trust is typically reciprocated (Ferrin et al., 2008), which creates a virtuous cycle of mutual willingness to cooperate and help (Nahapiet & Ghoshal, 1998; Tsai & Ghoshal, 1998). As a result, advice seeking is more valuable because each person is willing to listen and share their ideas without holding back.

Dyadic trust can in theory exist even among brand-new ties (McKnight et al., 1998; Meyerson, Weick, & Kramer, 1996). Since there is less information available about a stranger's actual trust behaviors and attitudes, such "swift trust" is typically based on the advice seeker's propensity to trust in general (Lazzarini et al., 2008; Mayer et al., 1995; Yamagishi et al., 1998), as well as dyadic or other factors such as sharing a superordinate identity (Kane, 2010), demographics (Levin et al., 2006), subliminal cues (Huang & Murnighan, 2010), or reputations (Meyerson et al., 1996). Dyadic trust at this earliest stage of a relationship is often more shallow, malleable, and potentially wrong. Advice seekers may know in advance how much they initially trust a stranger, but predicting how much the stranger will trust and cooperate in return can be problematic. Trust and cooperation are often reciprocal (Ferrin et al., 2008), but interactions are rarely straightforward, and a person's preconnection views may or may not predict how a brand-new connection actually plays out.

Ultimately, however, we would hypothesize that sufficient social information is available (Salancik & Pfeffer, 1978)—based on employment and educational backgrounds, public writings, observations from afar, and so on—to determine whether a brand-new tie is likely to be a trusted and, as a result, a valuable tie. Also, high initial trust expectations could create a self-fulfilling prophecy in which one person's trust stimulates the other's, with the end result that the advice giver is happy to help (Ferrin et al., 2008; Weber, Malhotra, & Murnighan, 2005).

Besides trust, a second aspect of a relationship that has been shown to lead to more value for advice seekers is the ability to understand what the other person says and means, that is, the extent to which people think alike and have a similar way of looking at things. This shared perspective (also known as shared cognition; Nahapiet & Ghoshal, 1998) is particularly helpful as it allows the advice seeker to understand and absorb—rather than glaze over and ultimately ignore—what the other person has said (Reagans & McEvily, 2003; Uzzi, 1997). A shared perspective includes not just the words themselves, such as the use of familiar jargon, but also the shared meaning and interpretation behind the words (Nahapiet & Ghoshal, 1998). When two people inhabit the same "thought world" (Dougherty, 1992), this "facilitates a common understanding" (Tsai & Ghoshal, 1998: 465) and makes their knowledge and advice more accessible to each other, thereby reducing the likelihood of misinterpretations or misunderstandings (Cronin & Weingart, 2007). Thus, shared perspective is not so much a normative concept but rather a cognitive one: Can two people understand each other? For existing ties—or even reconnected dormant ties—a shared perspective yields significant value for an advice seeker (Levin et al., 2011). It is an open question, though, whether two strangers will know enough about each other before meeting to be able to determine whether they have a shared perspective. On balance, though, we would expect that it is possible to glean this kind of information from a person's public writings, educational and professional background, observations from afar, and so on. Thus, we predict:

Hypothesis 2: People will receive more value by connecting brand-new ties that they expect to be higher in (a) dyadic trust and (b) shared perspective.

The Structural (Network) Perspective

A third way that people gain access to valuable knowledge and advice is by making the most of the surrounding network structure. That is, the pattern of relationships among third parties can create opportunities for cooperative behavior (Coleman, 1990) and/or access to localized pockets of unique and novel knowledge (Burt, 1992; Granovetter, 1973, 1982). In the context of network structure (i.e., the “pattern of lines” in a network diagram), scholars have identified two approaches for obtaining value from one’s ties: bonding and bridging (Burt, 1992; Coleman, 1990; Granovetter, 1973).

Bonding is typified by being embedded in a dense, tight-knit group of social actors who are all interconnected (i.e., network closure). One of the advantages of bonding is that people feel a sense of obligation to help one another (Coleman, 1990). This obligation to cooperate comes in part from the constant presence of mutual third parties, monitoring and noticing everyone’s interactions with one another. Indeed, knowing that mistreating or ignoring a request from someone will get back to your other contacts is often a sufficient deterrent, thereby encouraging cooperative and helpful behavior. Among existing ties, the most common form of bonding is network closure; for brand-new ties, however, such closure would be less likely, as it is extremely rare that two people who have never met are each in active communication with many mutual contacts who all know one another (Granovetter, 1973). Nevertheless, another salient form of bonding, one that involves the same principles of cooperation and third-party monitoring, is a referral. Referrals encourage people to engage in new interactions as a result of reputational endorsement by a third party (Granovetter, 1973; Nahapiet & Ghoshal, 1998; Putnam, 1993). When a third party refers an advice seeker to another person, that other person’s reaction to the advice seeker is now likely to be subject to third-party monitoring. Perhaps the third party will expect an update afterwards, or either the advice seeker or the giver may feel obliged to provide such an update. Moreover, even if the third party did not tell the advice giver about the referral, it is likely that the advice seeker will bring it up. This is especially true for brand-new ties, because when meeting someone new, people seek out commonalities—including knowing mutual third parties—and so it is natural to bring up the referral, and people often feel the need to justify to brand-new contacts why they are approaching them and, thus, mentioning the referral is a natural way to justify their reaching out. As a result, the referral aspect of the interaction is likely to be salient, thereby encouraging both the advice seeker and the giver to take the interaction seriously. This can make the difference between just going through the motions of trying to help versus trying to be as helpful as possible. We would therefore expect the value received from advice seeking to be higher when there is bonding in the form of a referral to a brand-new contact.

A second approach related to network structure is bridging, which is typified by a sparse network of few or no connections among one’s contacts. These “structural holes” in a network—if bridged—provide opportunities to create value because bridging structures share less redundant knowledge (Burt, 1992; Granovetter, 1973). That is, if everyone knows everyone else, then hearing something new and useful becomes less likely. In contrast, a network bridge—a tie where two people know no one in common—can likely provide more novel knowledge.

We note that a referral is not merely the opposite of bridging a structural hole. For example, knowledge seekers who go on LinkedIn or an industry newsletter to find—and then reach out to—a brand-new contact from among their contacts’ contacts can do so without a

direct referral or even anyone else knowing about it. This example would not be a bonding strategy as described above, as the third party in common is uninvolved and unaware (and, thus, unlikely to enforce cooperation), nor is it a bridging strategy, because there actually is someone in common, thereby increasing the likelihood of redundant knowledge. This “neither here nor there” strategy was actually fairly common in our sample of executives, as we discuss below. Conversely, it is theoretically possible both to have a referral and to know no one in common, if the third party suggests a brand-new contact whom he or she does not know personally (“Have you thought of reaching out to someone like Warren Buffet?”); however, this was very rare in our sample.

Bridging is apt to be valuable for brand-new ties because the other person can offer advice and insights that are not available from the advice seeker’s usual network of contacts (or contacts’ contacts). It is an open question, though, whether people are aware enough of their own and other people’s networks to detect mutual overlap. We argue that this kind of social information is typically available (Salancik & Pfeffer, 1978). People are not perfect at knowing the details of a network structure, but they are reasonably good at it (Casciaro, 2016), particularly with their advice networks (Krackhardt, 1990), and this should be the case for network overlap with a brand-new contact as well. For example, if a brand-new contact has never been mentioned in any conversations with an advice seeker’s current contacts, nor are there any likely points of observable overlap (e.g., same employer, location, training/background), then it seems reasonable to assume that the brand-new contact does not know the people in the advice seeker’s current network. Although there may be unknown exceptions (“Hey, I didn’t realize you went to college with my coworker.”), the key point is that preconception perceptions of not knowing anyone in common are likely to be good, albeit rough, approximations of network bridging. As a result, we would expect advice seekers to obtain more value from a brand-new contact with no mutual contacts as a result of the novel knowledge more likely to be available across a network-bridging structure. In sum, we hypothesize the following:

Hypothesis 3: People will receive more value by connecting with brand-new contacts (a) whom they contact as a result of a referral (bonding) and (b) with whom they know no one in common (bridging).

Method

To test our hypotheses, we asked 255 executives attending seven sections of an executive master of business administration program in two different North American locations (one in the United States, one in Canada) to reach out to a brand-new contact for information and/or advice on an important work project. The executives were directed to a website where they were told to “think of a current, major project at work. Ideally this will be a project that has real significance for your career.” They were then asked to list 10 brand-new contacts (nicknames were acceptable) whom they could potentially contact to provide information, knowledge, and/or advice to help with their work project. We focused on 10 people because we wanted to get a broad sense of the pool of potential brand-new ties, not just the top 1 or 2 people, as prior research has suggested that executives typically consult about 10 established ties for advice on important work projects (Levin et al., 2011). We defined a brand-new contact as “someone you have never met and never interacted with before (even on-line or in

passing).” Executives rank-ordered their 10 brand-new names from 1 (*most preferred choice*) to 10 (*least preferred*). One of these names was selected at random by the computer, and executives were asked to connect with that individual either via phone or in person. The executives were encouraged to complete a voluntary survey both before and after connecting and were assured that the course instructor would never know who responded to the survey. If the brand-new contact could not be reached or was unwilling to talk, then we asked executives how long they had spent tracking down the original person (e.g., 4th on the list), and we gave them an adjacent name (e.g., 5th on the list) to contact instead. Executives also submitted an essay describing their experiences, which we used to confirm whether a connection had been made as well as to substantiate and corroborate our dependent variable, value received.

Sample

A total of 138 executives connected with a brand-new contact and completed both the pre- and postconnection surveys (response rate = 54.1%). The only variable available to us for all surveyed executives was gender, and respondents in our final sample (24.6% female) did not differ significantly from nonrespondents (23.1%, $z = 0.29$, $p = .771$). Some nonrespondents, despite not completing both surveys, did provide partial data. To check for response bias, we compared the brand-new contacts in our final sample with those about whom we had only partial data. Controlling for whether the executive did or did not connect, we found no statistically significant differences across our seven hypothesized variables.

Respondents ranged in age from 29 to 62, but most were either in their 30s (70.3%) or 40s (25.4%), with a median age of 36. Several respondents (18.1%) worked at organizations with fewer than 100 employees, the majority of respondents (60.9%) worked at organizations with 1,000-plus employees, and the median was 4,250 employees, with many respondents (42.8%) at organizations with 10,000-plus employees. Nearly two thirds of our respondents (65.2%) had previously worked for one or more other companies within their current industry.

Variables

Dependent variable. We measured *value received* on the postconnection survey using three items ($\alpha = .92$) from Levin and Barnard (2013). (All survey items are listed verbatim in the appendix.) Although some scholars have developed a variety of knowledge typologies—for example, Cross and Sproull’s (2004) five types of actionable knowledge—we followed Levin and Barnard, who report that their “three overall items and [Cross and Sproull’s] five items corresponding to each type of actionable knowledge all loaded onto a single factor . . . thereby suggesting that a single, overall indicator of receipt of useful knowledge would be most appropriate, rather than multiple types of knowledge” (686). This use of an overall factor, measured empirically with multiple items, is consistent with other studies of advice seeking as well (e.g., Walter et al., 2015). As is typical in studies of advice seeking, we measured the value received based on the recipient’s judgment (e.g., Cross & Sproull, 2004; Levin & Cross, 2004; Reagans & McEvily, 2003; Tortoriello et al., 2012). This approach is further supported by prior research on knowledge transfer (e.g., Hansen, 1999; Krackhardt, 1990; Wong, Ho, & Lee, 2008), which has provided corroboration for high and statistically

significant levels of consistency between both parties' assessments of interpersonal knowledge sharing.

To further substantiate and corroborate our dependent variable, we selected the top and bottom quintile (20%) of essays with respect to that executive's reported *value received* score on the postconnection survey (2 essays were missing, so 54 essays in all were selected), randomly reordered them, and had two raters independently code each of them for any evidence of Cross and Sproull's (2004) five dimensions of actionable knowledge: (1) solutions, or both know-what and know-how; (2) pointers to knowledge, such as to other people or databases; (3) problem reformulation, or help in thinking through a problem; (4) validation, or an interaction bolstering confidence in one's own plan or solution; and (5) legitimation, or referencing an interaction to lend credibility to a plan or solution. Interrater reliabilities for the five dimensions were acceptable, with the two raters agreeing on 80% to 98% of all cases and Cohen's (1960) kappas ranging from .51 (moderate agreement; Landis & Koch, 1977) to .77 (substantial agreement; Landis & Koch, 1977). All disagreements were resolved by discussion. Comparing the top- and bottom-quintile essays with regard to the proportion of essays indicating the receipt of each dimension of actionable knowledge reassured us that our dependent variable in the survey was in fact capturing the real-life benefits that our respondents did (or did not) receive from their brand-new ties: 89% (in the top quintile) versus 26% (in the bottom quintile) for solutions (z test for comparing two proportions, $p < .001$), 33% versus 11% for pointers to knowledge ($p = .0495$), 59% versus 22% for problem reformulation ($p = .006$), 30% versus 4% for validation ($p = .011$), and 4% versus 0% ($p = .313$) for legitimation. We found similar differences for the presence of at least one dimension (100% vs. 48%, $p < .001$) or at least two (78% vs. 15%, $p < .001$).

It was also instructive to see what the *absence* of useful benefits looked like. For example, one executive wrote: "She made some vague comments about managing clients effectively and delivered a few platitudes on the importance of trust in a relationship, but I really didn't feel like there was anything tangible (and I daresay, comprehensible) in what she was saying. . . . I was hoping to be dazzled and inspired . . . ; instead, I was bombarded with trite observations with little substance." Not surprisingly, this turned out to be a brand-new tie with a low rating for *value received* on the postconnection survey.

In sum, these essay-comparison results suggest that our dependent variable in the survey corresponded to benefits that were indeed "real" and valuable to our executives.

Independent variables. All independent variables were asked on the preconnection survey before the two people ever met (see the appendix for all survey items). For the resource perspective, we measured three perceptions of the new contact person ("alter"): *general competence* (two items focused on general ability; adapted from Levin & Cross, 2004; McAllister, 1995), *task-specific expertise* (two new items focused on experience and expertise related to the respondent's work project), and *higher-status alter* (two items focused on relative status/prestige and rank/level; Walter et al., 2015). For the dyadic perspective, we measured two perceptions of the potential tie: *dyadic trust* (two items focused on benevolence; adapted from Levin & Cross, 2004; Walter et al., 2015) and *shared perspective* (two items focused on thinking alike and having a similar way of looking at things; one item adapted from Walter et al., 2015; the other, new). For the dyadic variables, since we were interested in the respondent's preconnection perceptions, we added relevantly worded phrases (e.g., "I expect that

. . .”; “I assume that . . .”; “. . . are likely to have . . .”). For the structural network perspective, we measured bonding in the form of a *referral* (0 = no, 1 = yes), for getting in touch with the new person, from someone the respondent already knew. We measured bridging in the form of knowing *no one in common* (0 = yes at least one person in common, 1 = no one) with the new person, with “no” indicating that the new tie will bridge unconnected network structures.

One potential concern with our bridging item is that people might not know whether their own network overlaps with that of someone with whom they have never interacted. To reassure ourselves that people can do this, we conducted a robustness test of this item in a bounded-network survey at a separate U.S. company in the automotive parts and industrial products industry. Average respondent age was 44.7 years ($SD = 12.0$), average tenure was 9.5 years ($SD = 9.8$), and 35% of respondents were women. All 125 employees—from warehouse worker to CEO—were asked on a confidential, computerized network survey (83.2% response rate) to indicate with whom they interacted from a list of all employee names. The computer then randomly selected two names, one each from the company’s two locations, whom the respondent had indicated were *not* among the respondent’s interaction partners. The survey then asked our bridging question (i.e., Do you and this person know anyone in common?) about each of these two noncontacts. Using UCINET 6.586, we calculated redundancy, a standard measure of a lack of network bridging (Burt, 1992), for each dyad in the full matrix of interaction ties: “The dyadic redundancy measure calculates, for each actor in ego’s neighborhood, how many of the other actors in the neighborhood are also tied to the other. The larger the proportion of others in the neighborhood who are tied to a given ‘alter,’ the more ‘redundant’ is ego’s direct tie” (Hanneman & Riddle, 2005: 138). To be conservative, we coded a tie as existing if either person indicated its existence. For the randomly selected noncontacts where respondents indicated knowing no one in common, redundancy was very low ($M = 0.025$, $n = 71$), as expected, and not significantly different from 0 (10,000-sample bootstrapping mean-difference test, $SE = 0.014$, $p = .115$). In contrast, redundancy was four or five times higher on average ($M = 0.116$, $n = 127$) for randomly selected noncontacts where respondents indicated that they *did* know someone in common with the other person; this difference was statistically significant (10,000-sample bootstrapping mean-difference test, $SE = 0.029$, $p = .001$). We also checked this difference using a multilevel hierarchical linear model to account for the fact that two noncontacts were nested within each respondent and, thus, were not independent observations (Bryk & Raudenbush, 1992; Moliterno & Mahony, 2011); our results were unchanged. This robustness test of our bridging variable thus suggests that people do have at least a general sense of network overlap with people with whom they have never interacted. Although a universe of 125 people is obviously smaller than the pool of brand-new ties considered by the executives in our main sample, the results of this robustness sample are consistent with other research on people’s awareness of their second-order networks (e.g., Krackhardt, 1990), especially people’s notably accurate “gestalt” sense of their surrounding network structure (Casciaro, 2016).

Control variables. When seeking advice, people “expect a greater likelihood of a response from others with similar demographics” (Nebus, 2006: 629) as well as higher perceived value (Grossman et al., 2012).¹ However, in controlling for homophily (i.e., attraction to similar others), we were concerned that demographic categories might not capture which groups our

executives identified with most strongly, be it via ethnicity, gender, functional background, and so forth. Thus, we relied on respondents themselves to indicate how much they perceived a *shared identity* (two items; Walter et al., 2015) with the other person, such as “belonging to the same groupings or categories of people.” In addition, we controlled for respondent demographics (*gender*), experience (*prior organizations*), and context (*novel project for industry*). We did so because men and women sometimes differ in their approaches to and results from networking (Ibarra, 1993) and because executives who have worked at fewer organizations or are working on a novel project may have more to learn (Levin et al., 2011). We also controlled for whether the new person was in the *same organization* as the respondent, as this could make it easier to connect and the knowledge shared more relevant. To reduce preconception survey length, we collected some of these controls in the postconnection survey, but only those that were unrelated to the contact person (respondent gender, prior organizations, novel project for industry) or that would have been known before connecting and unchanged since (same organization). Finally, because one of the main disadvantages of seeking out a brand-new tie can be *search costs*, we controlled for the logarithm of how many minutes our respondents spent tracking down their new contacts.

To reduce the burden on busy executives—and ensure a high response rate—several controls were single items, but these were either self-reported facts (respondent gender, prior organizations, same organization, search costs) or sufficiently narrow (novel project for industry) and, thus, though not ideal, fairly common and less problematic (Walter et al., 2015; Wanous & Reichers, 1996), especially for a control variable. For the six independent and control variables with two items each, we conducted an unweighted least squares factor analysis with direct oblimin rotation on all our data. A scree plot of eigenvalues confirmed the presence of six factors, each with expected factor loadings above 0.47 ($M = 0.77$) and no cross-loadings above 0.17 ($M = 0.05$). Reliabilities were above .70, with two exceptions: general competence ($\alpha = .65$) and shared perspective ($\alpha = .65$). Reliabilities above .60 can be acceptable (Schmitt, 1996), especially for new scales, as was the case with shared perspective. General competence has been used before in the literature (e.g., Levin & Cross, 2004) but with existing ties, not with strangers, which could explain the slightly lower-than-expected reliability.

Statistical Analyses

We analyzed our data using ordinary least squares (OLS) regression. All variance inflation factors were less than 1.7, well below the standard cutoff of 10, suggesting that there is little or no multicollinearity in our model.

To address common-method concerns, our study follows state-of-the-art practice for executive survey design. Specifically, we established a time lag between the measurement of the predictor and criterion variables—that is, our criterion (dependent) variable is obtained about 1 month later. Podsakoff, MacKenzie, and Podsakoff recommend this time lag as a “procedure that should help to diminish method bias” (2012: 563), as such a separation helps “reduce the respondent’s ability and/or motivation to use previous answers to fill in gaps in what is recalled, infer missing details, or answer subsequent questions . . . by allowing previously recalled information to leave short-term memory” (549). Podsakoff et al. further conclude that “the weight of the evidence suggests that introducing a temporal separation is an

effective means of controlling for some method biases” (549). In keeping with this approach, we were careful not to allow respondents to see their preconnection survey responses after they were submitted.

Because not every executive in our study was able to connect with a brand-new contact to get information and/or advice, we investigated the possibility that some unobserved factor determines whether a connection is made in the first place and whether this might also affect our dependent variable. To test for such endogeneity (or, selection bias), researchers often use a two-stage Heckman selection model (Heckman, 1979), which has also been deemed effective for social network research (Carpenter, Jiang, & Li, 2012). These models work as follows: First, data are collected not just on observations that have been selected for analysis (in our case, this would be the 138 brand-new ties where a connection was made) but also on observations that were not selected for inclusion (in our case, we have complete data on 12 additional observations where a connection was *not* made). Thus, the selection variable in our case would be *connection made*.

In Stage 1, called the selection model, all the independent and control variables are used in a probit equation to predict the selection variable (in our case, this means predicting *connection made* for all 150 observations). Stage 1 must also include an additional independent variable, called the exclusion restriction, which is used to “identify” the model, that is, the exclusion restriction must be a theoretically supported, exogenous variable—it must be a statistically significant predictor of the selection variable (in Stage 1) but uncorrelated with the structural error term in Stage 2. In our case, the exclusion restriction was respondent organization size—“approx. total number of people employed by your organization (i.e., size). If it’s just you, then put ‘1’”—recoded as logarithm. That is, someone working at a larger organization is more likely to get the attention of and get an initial meeting with potential contacts, whether in the same organization (due to expected norms) or not (due to organizational prominence). Organization size is exogenous, however, with respect to value received, as potential contacts will not necessarily be more valuable to an advice seeker from a large versus small organization. Moreover, organization size is more or less fixed in the short term and depends on a host of other factors beyond a person’s control. In line with the above arguments, organization size was, in fact, a significant predictor in Stage 1 of connection made ($p = .042$) but was not correlated with our ultimate dependent variable, value received ($r = -.03$, $p = .746$), nor did it significantly predict or change our results if added to an OLS model predicting value received.

In Stage 2 (the substantive model), the nonselected observations are excluded (lowering our sample from $n = 150$ to $n = 138$), and all the independent and control variables (but not the exclusion restriction) are used to predict our dependent variable (value received). In addition, a new independent variable is added to the substantive model: lambda, which is a selection bias control factor derived from the selection model. If lambda, which is equivalent to the inverse Mills ratio, is statistically significant in the substantive model, then this indicates the presence of selection bias. In our case, lambda was not statistically significant ($p = .191$), indicating that OLS is the more efficient and appropriate approach. As the ability of Heckman models to detect a significant lambda depends on the strength of the exclusion restriction, we followed recommendations in the literature (Certo, Busenbark, Woo, & Semadeni, 2016) to examine (1) the correlation between the exclusion restriction (in our case, respondent’s organization size) and lambda, which should be, and in our case was, relatively small ($r = -.18$), and (2) the probit equation’s pseudo R^2 , which should be, and in our case was, relatively large

(.491). Together, these results provide support for the strength of our exclusion restriction and the efficacy of our model.

In our data sample, we actually have complete data on the 12 observations where a connection was not made—including data for our dependent variable, value received (not surprisingly, these 12 nonconnections were rated as pretty unhelpful). This is a special case known as “endogenous treatment effects,” which is similar to a Heckman selection model but incorporates the fact that data on the dependent variable exist for all of the (in our case, 150) observations (Heckman, 1978). In this procedure (“*etregress*” in the statistical program, Stata), Stage 1 predicts the endogenous independent variable (i.e., previously known as the selection variable; in our case, connection made) just like before, that is, again including the exclusion restriction (in our case, organization size; $p = .042$) along with all the other independent and control variables. Stage 2, however, involves all the observations (in our case, $n = 150$), and this substantive model includes not only the independent and control variables (minus the exclusion restriction), as before, but also the endogenous independent variable itself (in our case, connection made). These are the predictors in Stage 2 of the ultimate dependent variable (value received), along with a correction to the covariance matrix (Clougherty & Duso, 2015). Not surprisingly, in our study, connection made was a significant predictor in this substantive model, as connections that were not made are not likely to be seen as valuable. Finally, as part of Stage 2, a hazard variable, also called lambda, derived from Stage 1 is added to the substantive model to assess whether an endogeneity problem is present with respect to the endogenous independent variable. In our case, lambda was not statistically significant ($p = .804$), indicating that no endogeneity problem is present with respect to connection made, that is, OLS is more efficient than the endogenous treatment-effects model and is therefore the proper and preferred approach. (In any case, our results are the same using either approach.) We therefore report the OLS regression results below.

Results

Table 2 describes our variables; Table 3 describes our regression results.

Hypotheses Testing

As shown in Table 3's Model 2, Hypothesis 1 was not supported, as none of the three resource variables were statistically significant. Though multicollinearity was low, we checked to see whether these three variables had a significant combined impact on value received; they did not ($F_{3,124} = 0.943, p = .422$). Hypothesis 2 was also not supported, as neither of the two dyadic variables was significant, nor did they have a significant combined impact ($F_{2,124} = 1.504, p = .226$). Hypothesis 3, however, was fully supported, as both network variables were statistically significant predictors of value received. Specifically, as predicted, we find a positive coefficient for *referrals* (Hypothesis 3a; $p = .001$) and for *no one in common* (Hypothesis 3b; $p = .049$). The combined impact of adding these two network variables was significant as well ($F_{2,124} = 6.463, p = .002$).

In terms of the economic/practical significance of our findings, all else equal, a brand-new tie that results from a referral (with the associated bonding benefits) yields an average *value received* score of 6.24 (on a scale from 1 to 7), compared to only 5.45 when there is no referral. Similarly, a brand-new tie where there is no one in common (with the associated bridging

Table 2
Correlations, Means, and Standard Deviations

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	<i>M</i>	<i>SD</i>
1. Value received															5.64	1.00
2. Shared identity	.12														4.29	1.19
3. Respondent gender	.05	.09													0.25	0.43
4. Prior organizations	.13	.07	-.06												0.33	0.28
5. Novel project for industry	.00	-.12	-.02	-.03											3.80	2.04
6. Same organization	-.01	.09	.12	-.06	.16										0.21	0.41
7. Search costs	.08	-.06	-.07	.19*	.02	-.19*									1.48	0.51
8. General competence	.05	.09	-.02	.00	.13	-.21*	.09								5.75	0.98
9. Task-specific expertise	.07	.13	-.05	.13	.05	-.01	.03	.32**							5.56	0.95
10. Higher-status alter	-.06	-.04	.01	.11	.00	-.18*	.03	.53**	.32**						5.18	1.34
11. Dyadic trust	.12	.14	-.07	.06	.09	.08	-.02	.07	.05	-.02					3.86	1.03
12. Shared perspective	.02	.22**	.00	-.01	-.10	-.12	-.05	.27**	.30**	.08	.24**				4.23	0.69
13. Referral	.24**	.04	.11	.10	-.20*	.04	-.07	-.20*	-.09	-.06	-.06	-.31**			0.24	0.43
14. No one in common	.02	-.13	.09	-.15	-.05	-.14	-.02	.00	-.12	.05	-.22*	-.09	-.25**		0.25	0.44

Note: *N* = 138. Two-tailed tests.

**p* < .05.

***p* < .01.

Table 3
Regression Results for Value Received

	Model 1		Model 2	
Shared identity	0.09	(0.07)	0.06	(0.07)
Respondent gender	0.12	(0.20)	0.04	(0.20)
Prior organizations	0.39	(0.32)	0.37	(0.32)
Novel project for industry	0.01	(0.04)	0.03	(0.04)
Same organization	-0.02	(0.22)	0.01	(0.22)
Search costs	0.14	(0.18)	0.18	(0.17)
Hypothesis 1a: General competence			0.13	(0.11)
Hypothesis 1b: Task-specific expertise			0.08	(0.10)
Hypothesis 1c: Higher-status alter			-0.11	(0.08)
Hypothesis 2a: Dyadic trust			0.13	(0.09)
Hypothesis 2b: Shared perspective			0.09	(0.15)
Hypothesis 3a: Referral			0.79***	(0.23)
Hypothesis 3b: No one in common			0.42*	(0.21)
R^2	.03		.15	

Note: The table presents unstandardized coefficients with standard errors shown in parentheses. $N = 138$. Two-tailed tests. (See the Statistical Analyses subsection in the Method section for models with a sample of 150.)

* $p < .05$.

*** $p < .001$.

benefits) has an average *value received* score of 5.95, compared to only 5.53 when there is someone in common. These differences are statistically significant, per our regression results in Table 3. They also represent a fairly substantial (i.e., noticeable) difference in terms of the magnitude of the increase (0.79 and 0.42, respectively, on the scale from 1 to 7) in our dependent variable. Interestingly, the impact of the bonding variable (referral) is nearly twice that of the bridging one (no one in common).

Robustness and Additional Testing

In a robustness test to check whether our results might be due to our procedures (e.g., asking executives to first list 10 potential contacts), we also controlled for a contact's initial preference rank (from 1 to 10) and for the number of other contacts previously approached, if any, before reaching out to the focal contact (in case some respondents were more likely to list hard-to-reach contacts). Our results were unchanged. Interestingly, we reran our Model 2 with the initial preference rank, rather than value received, as the dependent variable. However, this model of tie-selection preferences was not statistically significant, both overall and as the individual predictor variables. This suggests either that executives were unaware of the potential benefits of following a bonding or bridging strategy for new-tie selection or that they made their selections on the basis of factors unrelated to value, such as convenience (Kleinbaum et al., 2013) or anxiety reduction (Walter et al., 2015).

In another robustness test, we investigated whether we did not detect results for either resource or dyadic variables because only the combination of these two types of variables can lead to a valuable connection. That is, one could argue that dyadic variables provide full access to a resource, for example, where the other person is willing (via dyadic trust) and able

(via shared perspective) to explain the relevant knowledge. According to this alternative explanation, a resource is valuable only if it can be fully accessed, so we should expect to see results only when a new connection involves both a resource and full access (Lin, 2001; Portes, 1998). To test this idea, we interacted each of the three resource variables with each of the two dyadic variables. None of these six moderator effects, however, had a significant effect on value received—either collectively or individually.

We also investigated several additional controls, but they were not statistically significant, and our results were unchanged. Specifically, we controlled for how novel the work project was for the respondent personally, separate from how novel it was for the industry. We also checked two time-related variables: (1) the respondent's age, since younger executives might be savvier about how to search for potential contacts; and (2) the survey date, since social media continued to expand during our study's time frame, making it easier to search for and reach out to potential new contacts. And we also controlled for the geographic location of our respondents (United States vs. Canada) as well as coding our respondents' surnames as Hispanic or not based on last names identified as belonging 50% or more of the time to someone Hispanic, a procedure which accounts for 79% of U.S. Hispanics (U.S. Census Bureau, 2016). As none of these were statistically significant or changed our results, we excluded them from our models.

We also investigated two external factors that might make bridging ties less or more valuable: *prior organizations* and *novel project for industry*. That is, an advice seeker who has worked at many companies within an industry may have less need for a brand-new bridging tie because his or her network may already include plenty of existing bridging ties that can provide sufficient novel information. Conversely, an advice seeker whose work project is novel for the industry will be someone who needs to explore new opportunities and new information and, thus, may benefit especially from a brand-new bridging tie. To investigate these possibilities, as a robustness test, we created two interaction terms (*prior organizations * no one in common* and also *novel project for industry * no one in common*) and added them to our regression models to test for these potential moderator effects. These two variables, however, were not statistically significant, and our results were unchanged.

Postconnection Analysis

To replicate prior research on established ties, we measured three variables in the postconnection survey that were worded similarly to their counterparts in the preconnection survey (although still earlier in the postconnection survey than our dependent variable). These three postconnection variables had two items each: general competence ($\alpha = .72$), dyadic trust ($\alpha = .80$), and shared perspective ($\alpha = .76$). The first two variables were worded identically as in the preconnection survey; shared perspective was reworded slightly from future tense ("I assume that this person and I will share . . ."; "This person and I are likely to have . . .") to present tense ("This person and I share . . ."; "This person and I have . . .").

We replaced the three corresponding variables in Model 2 to see whether our results would change if we examined these variables post connection. In terms of postconnection resources, general competence became positive and significant ($B = 0.43, p < .001$). The two dyadic variables, trust ($B = 0.19, p = .016$) and shared perspective ($B = 0.23, p = .027$), also became significantly positive.² Thus, although we do not find support in our main analyses for either the resource or the dyadic perspective when measured before a brand-new tie has formed, we

do find support for both these perspectives when measured *after* a connection has been established. A potential limitation of these postconnection findings is that they could be due to common method; however, we note that these postconnection findings are consistent with the literature on established ties (Levin & Cross, 2004; Levin et al., 2011; Nebus, 2006; Tsai & Ghoshal, 1998).

Discussion

To our knowledge, this is the first study of its kind to collect data on real-world ties *before* they are actually formed, providing a rare look inside the important phenomenon of tie formation and value. The results from our two-wave survey of executives engaging in brand-new connections to obtain work-related advice show that the usual value drivers are not very predictive when the connection in question does not yet exist. Although people may have expectations and make judgments about another person they do not yet know, little or none of that seems to matter—at least in terms of receiving value—until people actually meet. So if actor- and tie-related factors do not strongly predict value, then what does? Our results indicate that it is factors related to *existing* contacts: Only two preconnection factors predicted value in our study, *network bonding*, where the executives had received a referral recommending that they contact a particular person, which makes the executive and the new person more likely to engage with each other (i.e., to share and learn) because of mutual third parties encouraging cooperation and reputation effects, and *network bridging*, where the new contact travels in different social circles, allowing him or her to provide novel knowledge that the executive's usual network of contacts cannot. These two approaches—getting a referral (bonding) or knowing no one in common (bridging)—were both significant.

From a theory standpoint, we know from prior research that people are information processors when engaging their external environments. Salancik and Pfeffer's research on social information processing, for example, notes that "one important source of information is the person's immediate social environment, which is why we call this perspective social information processing. The social environment provides cues which individuals use to construct and interpret events. It also provides information about what a person's attitudes and opinions should be" (1978: 226). Translated to a work setting, if you see an existing coworker make a series of careless errors and foolish blunders, with little or no improvement over time, then you will remember this information, and it would not be unusual for you to conclude that this coworker is incompetent. If you were then to seek advice on a work task from this coworker, perhaps out of obligation or convenience, then your information about the coworker's general incompetence is likely to be a good indicator that the advice will not turn out to be very valuable. More generally, with enough input and observation, information about other people (i.e., social information) can be a fairly good predictor of the value that people are likely to receive in their interactions. This logic is further reflected in our post hoc analyses, in which all three types of value drivers—actor, tie, and network structure—were strong predictors of value for existing ties, as predicted by the literature on existing ties (e.g., Burt, 1992; Coleman, 1988; Granovetter, 1973; Hansen, 1999; Krackhardt, 1992; Lin, 1999; Lin et al., 1981; Tsai & Ghoshal, 1998; Uzzi, 1997). Thus, in the case of existing ties, people seem to have enough reliable information to rely on their assessments of all three types of value drivers.

If social information is limited or wrong, however, then the information processor's perceptions may be of little or no use in predicting value. Returning to our workplace example, if you had never met the incompetent coworker, then your assessment would likely lack the relevant information to determine whether that coworker might give you valuable advice. Alternatively, you may have other input from your social world, such as information from public records or third parties, that could be useful in forming accurate judgments of the other person. It has remained an open question in the literature, however, whether such secondhand information is enough to overcome the lack of direct information in the case of brand-new ties. Our results, though, suggest that when it comes to actor- or tie-level secondhand information about a brand-new contact (e.g., "Do any publicly available records or any of my existing contacts suggest this brand-new contact is trustworthy?" or "Do any of these sources suggest that the brand-new contact and I share the same perspective?"), people often do not even know the basics because available social information is limited and secondhand sources can be inadequate or misleading. Indeed, a brand-new contact is less apt to be studied, observed, or even noticed before being sought out for advice. Thus, there seems to be little or no firsthand experience when it comes to a brand-new contact's actor- and tie-level features. As a result, there is little useful information about brand-new contacts, and if information is available, it may not be accurate enough to distinguish them in advance from other potential advice sources.

In contrast, people do notice contacts who are already in their existing network, what those contacts are up to, and with whom they interact (Krackhardt, 1990), that is, such network-based social information seems to be typically—and fairly reliably (Casciaro, 2016)—available. As a result, advice seekers actually do have some preexisting knowledge about how a brand-new contact might (or might not) fit into an existing network—at least at a broad, gestalt level (Casciaro, 2016)—because they have some direct, firsthand knowledge of their own existing contacts (e.g., "Did I get a referral?" or "Has anyone in my network ever mentioned this person?"). This knowledge of the existing network appears to be accurate enough to be useful, allowing us to reliably predict value based on people's direct, firsthand experiences with existing contacts. In contrast, features of the actor or tie are focused solely on information about the brand-new contact, which is much harder to know in advance. Contributing to and extending prior research, our results thus point to the primacy of information about *existing* contacts—even, ironically enough, for brand-new ties.

Yet, surprisingly, more than half of the time (53%), our executives pursued neither network bonding nor network bridging as a strategy for connecting with a brand-new contact. This may be because people, even executives, often feel anxiety about reaching out for help (e.g., Flynn & Lake, 2008; Lee, 2002; Walter et al., 2015), and so they may be reluctant to "bother" anyone they know to get a referral, thereby avoiding the bonding strategy. Contacting a brand-new contact who is totally disconnected from the executive's existing network might also be intimidating, due to a fear of rejection and general discomfort with the unknown, leading some executives to avoid the bridging strategy. As a result, many executives perhaps deal with these anxieties by picking the suboptimal strategy of reaching out to somewhat "closer" strangers with whom they at least know someone in common but without the benefit of a specific referral. If so, this suggests that the search for value may involve not just cognitive elements of information processing, as described above, but an emotional component as well (Casciaro, Gino, & Kouchaki, 2014; Casciaro & Lobo, 2008; Lee, 2002).

Our study also offers guidance to practitioners as to which brand-new contacts may be more fruitful to approach for work-related advice. Specifically, we would suggest that people rely on a strategy either of bonding, in the form of a referral, or of bridging, in the form of reaching out to someone who is not connected to one's existing network. As noted, most executives in our sample pursued neither network strategy, so there would appear to be room for improvement in this regard. Indeed, this research has considerable relevance for practitioners who have had little or no theory- or evidence-based guidance from the literature as to which brand-new ties are most worth initiating from a value perspective.

Organizations may also find practical implications from our research. For example, in sending employees to business conventions or on trade delegations, there may be value in sending one person at a time, to encourage employees to reach out beyond their usual circles and not just talk to existing ties (Ingram & Morris, 2007). In addition, an organization might consider both bonding *and* bridging benefits when appointing outsiders to its board of directors or when having its own executives join outside boards (Johnson, Schnatterly, & Hill, 2013). Specifically, our findings suggest that a firm might consider complementing its (bonding) board ties to strategically related firms and their associated benefits (Carpenter & Westphal, 2001) by selecting new directors from—or placing its own executives on outside boards—beyond their usual circle of relationships to take advantage of the nonredundant and novel knowledge arising from bridging between otherwise disconnected parties.

In addition, organizations may benefit internally from creating a culture of referrals, where employees are encouraged to take the time to help one another in finding the best connections. In the long term, perhaps social media or other technology companies will develop algorithms—based on resource, dyadic, and network structure data from multiple sources—that will help predict which individuals are likely to provide a particular advice seeker with the most useful knowledge on a particular topic or issue. In terms of external ties for an organization's board of directors, our findings suggest that it might be valuable to rely on referrals when seeking outside directors, to take advantage of the associated cooperation and third-party monitoring benefits (Brown, 2007). It is also important, however, to remember a potential downside of referrals in this context, as they can contribute to board interlocks (Koskinen & Edling, 2012), which can foster managerial opportunism via impaired monitoring by the board, thereby undermining corporate governance (Davis, 1996; Zona, Gomez-Mejia, & Withers, 2018).

As with most studies, ours also has limitations. First, a likely boundary condition for our study is that there was a restricted range for the brand-new ties established by our executives. That is, executives were randomly assigned to 1 of their top 10 selections for an advice giver. We limited their list both for practical reasons and because prior research suggests that executives typically consult about 10 people on their work projects (Levin et al., 2011). This design likely simulates the idea that advice seekers narrow down their options to a "shortlist" based on opportunities and aspirations (Kleinbaum et al., 2013; Srivastava, 2015) and then select from that shortlist. As a result of our research design, however, our analysis can examine the relative merits only among people's top 10 preferences, and it is possible that people may ignore certain types of potential brand-new contacts, both in our design as well as in "real-life" advice seeking. Future research might examine the interaction between the heuristics people use to select their shortlists of potential advice seekers versus our predictors of value obtained from brand-new ties. That is, people's search and selection strategies—whether

based on propinquity, homophily, or liking (e.g., Casciaro & Lobo, 2008; Hofmann et al., 2009; Kleinbaum et al., 2013; McPherson et al., 2001; Nebus, 2006) or some other strategy altogether, such as industry affiliation or contacts' contacts on LinkedIn—may moderate the impact of brand-new-tie characteristics on value received from connecting. In particular, future research could test whether the effects we found for resource, dyadic, and structural value drivers are stronger or weaker contingent on the approach people use to derive their shortlist of brand-new ties.

Second, while we have examined value drivers at the actor, tie, and network level, the specific constructs we examined within each level represent only a sample of possible variables—albeit ones reflecting the most prominent and commonly used theoretical constructs in social capital research. Nevertheless, future research could extend our theory to include other potential value drivers, such as whether a brand-new contact hails from a different functional or expertise area (Tortoriello et al., 2012) or the centrality of a brand-new contact in the advice network (Brass, 1984), to help us establish the relative merits of value drivers at these three levels even more comprehensively.

A third limitation of our findings relates to our measure of referrals. A referral is an indicator that a third party is involved and may notice and monitor the interaction between the advice seeker and giver, thereby—as we argue in Hypothesis 3a—encouraging greater cooperation and engagement, leading to a more valuable connection. It is also possible, however, that the third party simply made a great suggestion as to whom the advice seeker ought to contact. We believe this alternative explanation is unlikely, as any such selection proficiency should already be captured by perceptions of the advice giver's task-specific expertise or general competence either beforehand (if the third party's reasons were shared with the advice seeker) or afterwards (if the reasons were discovered by the advice seeker after interacting with the advice giver). Future research, however, could explore in more depth the nuances of third-party referrals (Obstfeld, 2005), including how all three parties react to the creation of the brand-new tie.

A fourth limitation is related to the geographic and cultural context of our study and the extent to which our results are generalizable to different contexts (Fischer & Shavit, 1995). It is conceivable, for instance, that geographical, regional, or cultural differences, such as more collectivist versus individualist cultures (Hofstede, 2001), represent potential boundary conditions for our findings, such that more collectivist cultures may make brand-new contacts more receptive to requests for advice and/or more likely to go above and beyond in their efforts to help. Or a lower level of economic development in a given country, including weaker public institutions and less emphasis on the rule of law, may enhance the impact of dyadic trust if it is otherwise rare or unsupported (Zak & Knack, 2001). And given these potential cultural and geographic contingencies, what is the influence of *cross*-cultural advice seeking on value received, over and above the dyadic differences already captured in shared identity and shared perspective? Only future research can provide definite answers to these questions.

In sum, given social capital's outsized influence in terms of both opportunities and constraints (Adler & Kwon, 2002; Kwon & Adler, 2014), it seems only fitting to examine whether one can predict in advance which of the potentially thousands of brand-new ties will turn out to be the most valuable. Our study represents such an attempt, thereby acknowledging the importance of, but also the dearth of research on, tie-formation processes

(Bamberger, 2009; Parkhe, Wassermann & Ralston, 2006). Our empirical findings not only advance the literature by illuminating the relative merits of brand-new ties' value drivers at the actor, tie, and network level but also suggest which theories are most applicable to established ties and which more broadly encompass both established *and* new ties and, finally, they also help practitioners navigate the myriad of choices with respect to brand-new ties.

Appendix: Survey Items

Value received. Outcomes: Note: If the project that you identified is on-going, then estimate what your answers would be once the project is completed. (1) This person's contribution to your performance on your work project. (2) This person's contribution to the success of your work project. (3) This person's contribution to helping you deliver a better work project. (1=contributed very negatively; 2=contributed negatively; 3=contributed somewhat negatively; 4=contributed neither positively nor negatively; 5=contributed somewhat positively; 6=contributed positively; 7=contributed very positively) [$\alpha = .92$]

Shared identity. (1) This person and I both likely identify with the same groups or categories of people, demographically, professionally, personally, etc. (2) I see myself and this person as belonging to the same groupings or categories of people. (1=strongly disagree; 2=disagree; 3=somewhat disagree; 4=neutral; 5=somewhat agree; 6=agree; 7=strongly agree) [$\alpha = .74$]

Respondent gender. What is your gender? (0=male; 1=female)

Prior organizations. Number of prior organizations you have worked for in the same industry (do not count your current organization) [recoded as logarithm of raw number (plus one)]

Novel project for industry. To what extent does the work project you selected for this assignment ([project name inserted]) demand skills, knowledge, and/or expertise that are new for your industry? (1=not at all; [etc.]; 7=to a very great extent)

Same organization. Does this person currently work in the same company or organization as you? (0=no; 1=yes)

Search costs. If you were to add it up, about how much time did you spend tracking down this person? (Note: not "elapsed time" (e.g., a week) but how much time was solely devoted just to tracking down this person.) [in minutes; recoded as logarithm of raw number (plus one)]

General competence. (1) Given his or her track record, I see no reason to doubt this person's competence and preparation. (2) I believe that this person approaches his or her job with professionalism and dedication. (1=strongly disagree; [etc.]; 7=strongly agree) [$\alpha = .65$]

Task-specific expertise. (1) I expect that this person has a lot of experience dealing specifically with the issues I am facing on my work project. (2) I believe that this person has specific expertise in the same area as my work project. (1=strongly disagree; [etc.]; 7=strongly agree) [$\alpha = .72$]

Higher-status alter. Even if you are in different organizations, please do your best to compare the relative status or rank of each person: (1) How much status/prestige does this person have? (2) What is this person's organizational rank/level? (1=much lower than me; 2=lower than me; 3=somewhat lower than me; 4=same as me; 5=somewhat higher than me; 6=higher than me; 7=much higher than me) [$\alpha = .92$]

Dyadic trust. (1) I expect that this person will always look out for my interests. (2) I expect that this person will go out of his or her way to make sure I am not damaged or harmed. (1=strongly disagree; [etc.]; 7=strongly agree) [$\alpha = .78$]

Shared perspective. (1) I assume that this person and I will share the same perspective, e.g., think a lot alike. (2) This person and I are likely to have a similar way of looking at things. (1=strongly disagree; [etc.]; 7=strongly agree) [$\alpha = .65$]

Referral. Someone I know suggested that I get in touch with this person. (0=no; 1=yes)

No one in common. I believe that this person and I currently know at least one person in common. (reverse coded so that 0=yes; 1=no)

Notes

1. Grossman et al. (2012), however, found in their analysis of network search by nascent entrepreneurs that similarity served as an amplifier for resource multiplexity rather than a direct determinant of perceived value.

2. For these post hoc tests, we also included shared identity as an updated control, but it was not significant. Task-specific expertise was not measured after the connection, and this preconnection variable remained nonsignificant. Higher-status alter was also measured only before the connection, but in the new model it actually became significantly negative ($B = -0.14$, $p = .023$). Upon further investigation, this appeared to be at least partly due to a suppression effect, as this variable became only marginally significant ($p = .095$) when we removed general competence and task-specific expertise from the new equation. That is, higher-status alters may have more knowledge, but they are harder to engage and/or are more “out of touch” when asked for advice, and it may be these latter forces that made them less valuable sources of advice once we took into account the postconnection (i.e., revised based on actual interaction) measure of ability. The two network variables—referrals ($B = 0.53$, $p = .004$) and no one in common ($B = 0.45$, $p = .014$)—were from before the connection, but they both remained fully significant in the new model.

ORCID iD

Jorge Walter  <https://orcid.org/0000-0002-9844-1263>

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