If You Do Not Know Who Knows What: Advice Seeking Under Changing Conditions of Uncertainty After an Acquisition

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Abstract

In this study we develop a model to explain the dynamics of advice seeking after an acquisition. We build on a theory of advice seeking that draws from prospect theory and expectancy theory. We theorize that immediately after an acquisition there is uncertainty about who knows what, but over time individuals become more aware of the expertise within the organization and they change their advice networks based upon this increased awareness. Our model examines four micro-processes of advice seeking: reciprocity, preferential attachment, transitivity, and legacy-firm tie preferences. To test our hypotheses we use post-acquisition data over four time periods in a recruitment consulting firm. Our longitudinal analysis uses a stochastic actor-orientated model and our results indicate that immediately after the acquisition individuals have a tendency to seek advice based upon reciprocity and preferential attachment. However, over time these tendencies diminish. Surprisingly, transitivity does not play a significant role, which suggests that other micro-processes such as reciprocity are dominant. In addition, individuals in the acquired firm have a tendency to make more ties and there is a preference for same firm ties in both legacy firms, with the tendency being higher in the acquired firm. Our findings add to theories on the process of advice seeking under conditions of uncertainty, on knowledge transfer processes in mergers and acquisitions, and the knowledge based view of the firm.

Key words: advice seeking, social networks, merger and acquisition, changing uncertainty

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The knowledge based view of the firm (Grant, 1996) suggests that the role of an organization is to integrate the knowledge of its employees. Likewise, there is a considerable body of research indicating that competitive advantage can be gained by having diverse knowledge within an organization (Conner & Prahalad, 1996; Kogut & Zander, 1992). Having knowledge within a firm, however, is not sufficient for competitive advantage, the knowledge needs to be transferred between individuals (Argot & Fahrenkopf, 2016; Argot & Ingram, 2000). This often occurs through a process of one individual seeking advice from another (Lomi, Lusher, Pattison, & Robins, 2014; Reagans & McEvily, 2003; Tsai, 2001). Considerable research has focused on the processes by which knowledge is transferred across the organization (Lomi et al., 2014; Reagans & McEvily, 2003; Tortoriello, Reagans, & McEvily, 2012; Tsai, 2001) as well as on factors influencing advice seeking and giving between individuals within organizations, such as social status (Bapuji & Crossan, 2004; Borgatti & Cross, 2003; Kilduff & Tsai, 2003), homophily (Brass, 1985), formal structures (Brennecke & Rank, 2016), performance feedback (Parker, Halgin, & Borgatti, 2016) or friendship (McDonald & Westphal, 2003). In addition, a group of studies have explicitly examined the dynamics of advice networks over time and identified factors driving the emergence and evolution of advice relations in organizations (Agneessens & Wittek, 2012; Lazega, Lemercier, & Mounier, 2006;. Lazega, Mounier, Snijders, & Tubaro, 2012; Snijders, Lomi, & Torló, 2013; Tröster, Parker, van Knippenberg, & Sahlmüller, 2019).

Yet, while these studies have shown important insights on advice network dynamics, their underlying assumption has been that the conditions under which the advice seeking occurs remain constant. This is surprising given that today's organizations are constantly in

flux as a result of organizational change, reorganizations, and mergers and acquisitions (M&A) (Weick & Quinn, 1999). Therefore, a more satisfying theory of advice seeking would take into account uncertainty and how this can change over time.

We develop a model that helps to explain the dynamics of advice seeking under changing conditions of uncertainty. In particular we focus on an acquisition event. We posit that immediately after an acquisition there is more uncertainty about who knows what, but over time individuals become more aware of where expertise resides within the organization and they change their advice seeking network based upon this increased awareness. We build from advice seeking theory (Nebus, 2006) that contrasts advice seeking decisions based upon having a rich awareness of what colleagues know and hence decisions are based on rational action; with situations of higher uncertainty where there is limited awareness of who knows what in the organization. Nebus' framework uses expectancy theory (Vroom, 1995) as the bases of decision making under relatively certain conditions and prospect theory (Kahneman & Tversky, 1979) for decision making in an uncertain environment. Within this framework our model examines four micro-processes of advice seeking: 1) reciprocity, which we define as the tendency for an individual to seek advice from those individuals that seek advice from them (Blau, 1964; Gouldner, 1960)[1]; 2) preferential attachment, which is the tendency for people to seek advice from those individuals that are already sought for advice by others (Barabási & Albert, 1999); 3) transitivity, which is the tendency to form relationships with "friends of friends" (Heider, 1946; Newcomb, 1961) or here with "advisors" of "advisors"; and 4) legacy firm tie preferences, notably the preference to make ties and whether these ties are within or between each legacy firm. We theorize that under conditions of higher uncertainty these tendencies will be prominent, but over time as uncertainty diminishes these

[1] Individuals can reciprocate advice through other means. Our focus is on advice seeking so we take a very narrow view of reciprocation and only theorize reciprocity in the context of the flow of advice within a dyad.

tendencies will change with the structural tendencies diminishing and the tendency for the acquired firm to make ties also reducing.

To test our hypotheses we use data over four time periods in a recruitment consulting firm that had undergone an acquisition. Transferring complementary market and product-based knowledge between legacy firms was one important rational underlying the acquisition. As this knowledge is highly tacit in both firms, advice seeking from other individuals constitutes the main means through which knowledge can be accessed and shared. In this particular case, high uncertainty about who knows what existed in the first period following the acquisition, as no prior contact between both firms and their personnel had taken place. In addition, the acquisition brought about changes in roles as a result of people leaving. This further increased the amount of uncertainty of who knows what within and between each legacy firm. Over time, as the integration took place, individuals had the opportunity to interact on a regular basis, resulting in decreased uncertainty. While there were people being hired and leaving throughout the time-period of the study this is likely to be less of an exogenous shock compared to the acquisition, as the change in one person is considerably smaller than that of many people joining a firm at the same time. To analyze the longitudinal network data we use a stochastic actor-orientated model that allows us to model the interdependencies in the network data and how they change over time (Ripley, Snijders, Boda, Vörös, & Preciado, 2019; Snijders, van de Bunt, & Steglich, 2010). Our findings add to theories on the process of advice seeking under conditions of uncertainty, M&A knowledge transfer, and the knowledge-based view of the firm.

THEORETICAL FOUNDATIONS

Advice seeking and knowledge transfer

A considerable body of research indicates that work-related network ties—the

relationships individuals have with work colleagues—can be a source of diverse information and social support that results in increased individual performance and productivity (e.g., Cross & Cummings, 2004; Reagans, & Zuckerman, 2001; Shah, Parker & Waldstrøm, 2017; Sparrowe, Liden, Wayne, & Kraimer, 2001). In particular, advice seeking ties have been shown to provide information to solve work related problems (Borgatti & Cross, 2003), they are also a source of meta-information about who has specific knowledge in an organization (Cross, Borgatti & Parker, 2001). Advice seeking ties are also an important way in which knowledge is transferred across organizational units (Caimo & Lomi, 2015; Lomi et al., 2014). Some research has explicitly investigated the dynamics of advice networks over time and identified processes underlying the emergence and evolution of advice relations in organizations. Studying employees in a housing corporation, Agneessens and Wittek (2012), for instance, stress the influence of reciprocity at the dyad-level and of status at the triad-level as micro-processes shaping the emergence of advice ties. Lazega et al. (2006, 2012), studied the evolution of advice ties between judges in a commercial court and found evidence for the importance of status hierarchies and homophily in advice dynamics. Network centralization around an elite group of advisors tended to remain stable and eventually to oscillate as central advisors leave or are overloaded, a phenomenon the authors called the 'spinning top model'. In a study of MBA students Snijders et al. (2013) find reciprocation and homophily in advice ties are largely mediated by friendship relations.

A review of the M&A literature suggests that firms which have success in cross-firm knowledge transfer have better performance outcomes than those where knowledge transfer has not been achieved (Gammelgaard, Husted, & Michailova, 2004; Junni, Sarala, Tarba, & Weber, 2015; Zollo & Singh, 2004). In addition, knowledge transfer between the acquiring and the acquired firm is associated with efficient synergy implementation (Capron & Pistre, 2002) and increased organisational efficiency through the exploration and exploitation of

complementary knowledge (Inkpen, Sundaram & Rockwood, 2000; Schoenberg, 2001; Westphal & Shaw, 2005). Several M&A scholars have underlined the social embeddedness of the knowledge transfer process. For example, Greenberg and Guinan (2004) stressed the importance of emergent social relations among individuals in their study of advice sharing in the course of an acquisition in the IT sector. Similarly, research stressed the importance of socio-cultural integration of both firms, i.e., in terms of work processes, work teams, rules and norms, as providing a more fruitful ground for knowledge transfer to occur (Bresman, Birkinshaw, & Nobel, 1999; Junni & Sarala, 2013; Sarala & Vaara, 2010).

While there has been considerable research about the importance of knowledge transfer by macro-level scholars and advice seeking by more micro-level scholars there has only been limited research that has taken uncertainty into account when examining how knowledge is transferred within and between firms. In general, the findings suggest that when there is a high level of uncertainty individuals decrease the size of their advice network and tend to rely on the colleagues they have strong relationships with (McDonald & Westphal, 2003; Parker et al., 2016; Srivastava, 2015). However, this line of research has examined general uncertainty in an organization as opposed to specifically examining uncertainty with regard to who knows what within an organization. In addition, none of these studies have explicitly examined how advice seeking network micro-processes change under different levels of uncertainty regarding who knows what. To explain this we turn to Nebus' (2006) theory of advice seeking.

Nebus (2006) posits a theoretical framework of advice seeking that contrasts expectancy theory (Vroom, 1995), where individuals make decisions based upon a high degree of information about a situation; with prospect theory (Kahneman & Tversky, 1979), where decision making occurs under conditions of uncertainty. Expectancy theory (Vroom, 1995) suggests individuals who have rich information about the knowledge that a colleague

possesses will make a decision whether to approach this colleague based upon the expected value of the knowledge compared to the cost of obtaining the knowledge. If the value outweighs the cost they will approach them for advice. Alternatively, prospect theory (Kahneman & Tversky, 1979) indicates that when an individual has little information about the value of the knowledge an individual possesses, they base their decision on the accessibility of the individual and their perception of the willingness of a colleague to share their knowledge (Nebus, 2006).

While Nebus' (2006) theory of advice seeking was not developed specifically to look at post M&A advice seeking processes it can usefully be used as a framework for understanding changes in advice seeking after this type of exogenous event. In the following section we develop Nebus' (2006) model of advice seeking in the context of an acquisition and theorize about four micro-processes—reciprocity, preferential attachment, transitivity and legacy-firm tie preferences—that constitute the advice network; we then hypothesize how these processes change over time as the level of uncertainty diminishes.

THEORY DEVELOPMENT AND HYPOTHESES

After an acquisition event, there is heightened uncertainty about the pool of knowledge sources and the way to access these resources (Birkinshaw, Bresman, & Nobel, 2010). As a result of the acquisition employees from different firms become part of the same company and there is an increase in the set of colleagues an individual can seek knowledge from. In addition to the increase of potential knowledge providers, another particular effect of acquisition led growth is that there is a global lack of knowledge on who knows what in the new organization. In acquisitions where there are no links between the two firms prior to the acquisition, employees find themselves having new colleagues whose knowledge and skills they know little about. This situation leads to uncertainties about how to identify and how to

access this new knowledge pool (Sarala & Vaara, 2010). In addition, some people usually leave a firm at the time of the acquisition which results in changes in roles within both legacy firms and increased uncertainty regarding who knows what (Lakshman, 2011). Furthermore, a person in a new role will often need to acquire a different type of advice and hence there will be increased uncertainty regarding where this advice can be best obtained both within and across legacy firms.

At the same time, along with the increased uncertainty of who knows what, there are also opportunities (Battilana, 2006). We suggest that individuals react to the exogenous shock of an acquisition by reassessing the way in which they go about doing their work which includes how they obtain advice from their network. Furthermore, we suggest that this reassessment does not just include whom to seek advice from in the newly acquired or acquiring firm, but also more generally with regard to all possible advice ties within both legacy organizations. Breaking out of old routines requires motivation and an acquisition event is likely to provide a driver for network change as it presents new opportunities for individuals to develop their advice seeking network (Battilana, 2006). There is also likely to be senior management emphasis on cross-legacy firm collaboration which will also motivate individuals to change their advice seeking behaviors.

Over time, however, there is likely to be a reduction in the level of uncertainty regarding who knows what within the newly integrated organization as people learn more about each other's knowledge and expertise. Research suggests that familiarity between individuals makes it easier to identify and exchange knowledge efficiently (Hinds, Carley, Krackhardt & Wholey, 2000). Therefore, we expect that as time passes after the acquisition event there will be changes with regards to how individuals utilize their advice seeking network.

Reciprocal advice seeking

After an acquisition there will be an opportunity to gain valuable advice from new colleagues and also to re-evaluate the advice of existing colleagues. Prospect theory (Kahneman & Tversky, 1979) suggests that under conditions of higher uncertainty individuals will evaluate whom to seek out for advice based upon an individual's likely willingness to share knowledge and expertise (Nebus 2006; Szulanski, 2000). One way in which to evaluate willingness to share is to give advice to an individual with the view that when they are approached in the future they will be willing to share advice. Research on reciprocity shows that when you give something you expect to receive something in return (Agneessens & Wittek, 2012; Blau, 1964; Gouldner, 1960). M&A research has also highlighted the importance of individual expectations regarding the reciprocation of transferring knowledge. Empson (2001) and Junni (2011) observed an increase in an individual's *fear of exploitation*, when individuals' felt that the sharing of knowledge might translate into losing personal power sources when it was not accompanied by the receipt of valuable knowledge. The giving and getting of advice can lead to trust and cooperation (Blau, 1964; Friedkin, 2004), which in turn are important drivers of reciprocal knowledge exchange after an acquisition event (Bresman et al., 1999; Castro & Neira, 2005).

In addition, there are normative pressures to give advice in return for receiving it as a lack of reciprocation can have a negative effect on an individual's reputation within an organization as well as reducing their future access to advice (Flap & Volker, 2001; Gargiulo & Benassi, 2000; Gouldner, 1960). After an acquisition the high level of uncertainty will increase the likelihood that individuals will reciprocate advice relationships as normative pressures will be heightened. Individuals have the opportunity to build their reputation by creating reciprocal advice relationships with people in the acquired or acquiring firm that were not previously known to them. In addition, the reputations of people within an individual's own legacy firm will need to be reaffirmed as major change events such as an

acquisition can affect institutionalized roles within an organization (Barley, 1986) as well as power structures and status hierarchies (Blau, 1964; Brass & Burkhardt, 1992; Ibarra, 1993).

Overall the increased desire to evaluate the advice of others and normative pressures based upon affirming and reaffirming reputation will result in a tendency for individuals to have reciprocal advice seeking relationships after an acquisition event.

Hypothesis 1a: After an acquisition event, there will be a tendency for advice seeking reciprocity to occur.

While we would expect there to be a tendency towards reciprocity immediately after an acquisition, we suggest that the mechanism driving this tendency will diminish over time. There will be a move away from a mechanism based upon willingness to share as suggested by prospect theory (Kahneman & Tversky, 1979; Nebus, 2006) to one in which advice seeking ties are based upon expectancy theory with a focus on whether the benefits of the potential knowledge that might be acquired outweigh the costs of obtaining the knowledge (Nebus, 2006; Vroom, 1995). This change in the mechanism is a result of the decrease in uncertainty regarding where the most useful advice is located in the network. Knowledge and expertise tend to be unevenly distributed in a network (Borgatti & Cross, 2003), which suggests that not every person has valuable advice to give and that not all advice giving will be reciprocated nor will it be expected to be reciprocated. While some reciprocal advice seeking ties will remain others will fall away as greater certainty regarding who are the optimum sources of advice re-establishes itself. In addition, the need to affirm and reaffirm reputation will recede as reputations become more stable within each legacy firm and across the acquiring and acquired organizations. Giving low value advice as a result of the desire to be seen as having a reputation for reciprocating will diminish with the re-asserted belief that not reciprocating is better for an individual's reputation than reciprocating with advice of

little value.

Overall, we suggest that the tendency for reciprocation will diminish the greater the time elapses after an acquisition.

Hypothesis 1b: The tendency for advice seeking reciprocity declines over time after the acquisition.

Advice seeking and preferential attachment

As indicated previously, an acquisition event increases the level of uncertainty regarding where knowledge resides within an organization. There are individuals in the acquired and acquiring firm that are unaware which people possess the most useful advice. Therefore, from a prospect theory perspective individuals will seek out those who are most willing to share their knowledge (Nebus, 2006). The micro-process of preferential attachment in networks is one way that an individual will make a decision as to which colleagues to seek out for advice (Dahlander & McFarland, 2013). Preferential attachment is the uneven distribution of advice seeking ties in a network, whereby many people seek advice from a small number of colleagues (Barabási & Albert, 1999). An initial difference in who is sought out for advice can grow over time and this leads to a cumulative advantage effect or what Merton (1973) termed the Matthew effect.

Status hierarchies within a network can also affect the tendency for some individuals to be sought out for advice more than others (Blau, 1955; Montgomery, 1996). M&A research suggests that status within knowledge networks can be attributed to key knowledge holders or experts who are indispensable to successful value exploration and exploitation (Reus, Lamont, & Ellis, 2016; Zollo & Singh, 2011). Status can also be associated with the way individuals perceive the value of their colleagues within the other legacy firm. Empson (2001) stressed the effect of individuals' *fear of contamination* on knowledge sharing, which

occurs when individuals perceive others as having low quality knowledge and reputation. Similar effects about the perception of status differences have been put forth by Schweiger and Goulet (2005). Therefore, in a situation of high uncertainty there will be a tendency to seek advice from those that have high status, such as individuals whom many others seek advice from. While individuals who have more knowledge don't necessarily have to share it, the giving of advice increases an individual's status and hence, as most individual's desire status, there is a general tendency to give advice (Blau, 1955; 1964; Huberman, Loch, & Onculer, 2004; Loch, Yaziji, & Langen, 2001).

Overall, the prospect theory explanation of advice seeking behavior suggests that in situations of uncertainty those that are seen as popular sources of advice will be further sought out for advice, resulting in a reinforcement of the tendency for preferential attachment to occur after an acquisition.

Hypothesis 2a: After an acquisition event, there will be a tendency for preferential attachment advice seeking ties to occur.

We expect that as time progresses after an acquisition that employees knowledge of the best sources of advice will increase, hence there will be a move from decision making based upon prospect theory (Kahneman & Tversky, 1979) towards decisions being based upon expectancy theory (Vroom, 1995). Based upon an expectancy theory view of decision making, with regard to whom to seek out for advice, there should be a shift towards seeking advice from those that offer the highest knowledge gain at the lowest cost. This should decrease the need for individuals to depend on those individuals who are merely the most popular sources of advice and hence the tendency for preferential attachment will decrease.

Those who are heavily sought for advice likely do have a considerable amount of knowledge, however some of the reason for their popularity might be because of their meta-

knowledge, i.e., who knows what (Cross et al., 2001), as opposed to their technical knowledge. Therefore, as the general awareness of who knows what increases there will be less need to seek out the popular individuals for meta-knowledge. In addition, while popularity from giving advice results in higher status it also results in collaborative overload (Cross, Rebele, & Grant, 2016). While individuals can sustain collaborative overload for short time periods, they will be less willing to give advice to numerous colleagues over long time periods. Therefore, some advice seeking directed at popular individuals will be rebuffed or the responses will be quick and of low value (Dahlander & McFarland, 2013), resulting in the tendency for preferential attachment to decline over time after an acquisition event.

Overall, the tendency for preferential attachment should decline as more awareness of who knows what in the organization increases and as individuals switch their decision making frame from a prospect theory perspective to one based upon expectancy theory.

Hypothesis 2b: The tendency for preferential attachment in advice seeking ties declines over time after an acquisition.

Advice seeking transitivity

In situations of uncertainty, such as after an acquisition event, prospect theory (Kahneman & Tversky, 1979) suggests that there will be a tendency to seek advice from individuals who are more willing to share advice (Nebus, 2006). When an individual is looking around for advice one relatively obvious option is to ask the colleagues they already seek advice from if they know of another advice resource. From a network micro-process perspective this mechanism is called transitivity (Wasserman & Faust, 1994). Transitivity in networks occurs when there are ties between three individuals that produce a triadic structure, i.e., each of the three individuals has ties to the other two. Transitivity has been found to be an influential mechanism in advice network evolution (Agneessens & Wittek, 2012).

Transitivity normally occurs in two stages, first the focal actor creates an advice seeking tie with a colleague. In the second stage, the focal actor creates an advice seeking connection to a colleague of the colleagues they initially had an advice seeking tie with. Triadic structures represent cohesiveness or closure in a network (Friedkin, 2004; Granovetter, 1973) as well as creating norms of trust and information exchange (Coleman, 1988; Obstfeld, 2005; Reagans & McEvily, 2003). Transitive ties are similar to reciprocal ties in that an individual's reputation is at stake if they are not willing to offer advice to colleagues that they share a common third tie with. Therefore, from a prospect theory perspective individuals who are part of a transitive network structure should have higher willingness to give advice than those not part of a transitive network structure.

In sum, after an acquisition where there is heightened uncertainty regarding who knows what, there should be a tendency for transitive ties to occur in the advice seeking network.

Hypothesis 3a: After an acquisition event, there is a tendency for transitivity in the advice seeking network.

In general, transitive structures are stable in which norms of commitment are reinforced by each individual being embedded in a closed triad. This is especially the case in friendship networks (Krackhardt, 1998). However, in more transactional networks such as advice seeking as awareness about where knowledge resides in the network increases there is less reason to develop and maintain advice seeking ties through "colleague-of-colleague" ties. We suggest that individuals will move away from their prospect theory perspective of decision making and adopt an expectancy theory view and seek advice from those individuals where the expected value outweighs the cost (Nebus, 2006, Vroom, 1995). The value of transitive ties is likely to diminish as awareness of who are the true experts on an issue

increases. The costs with regard to transitive ties are the likely need to reciprocate advice giving to two individuals. In addition, being part of a triadic structure likely necessitates creating a balance between both relational partners; too much time or energy spent with one partner may obligate an individual to undertake additional expenditures toward the other (Heider, 1946; Simmel, 1950). An individual is likely to view these costs as being too high, especially when the value of the advice received is not necessarily of as high quality as might be obtained elsewhere. Therefore, as the level of uncertainty regarding who knows what in an advice network increases the tendency for transitive ties will decrease.

> **Hypothesis 3b**: The tendency for transitivity in the advice seeking network declines over time after an acquisition.

Advice seeking by legacy firms

As mentioned previously, immediately after an acquisition there will be uncertainty regarding who knows what in the organization. M&A research has mixed findings with regard to the desire to interact with others across organizational boundaries. While some scholars stress a tendency towards in-group and out-group barriers (e.g., Cartwright & Cooper, 1996), others have found employees to be strongly motivated to relate to their new colleagues, especially in the first period following a firm's integration (Teerikangas, 2012). Especially in professional service firms, and notably the consultancy sector, individuals' willingness to exchange knowledge with the acquisition partner has been found highly determinant for integrating knowledge bases (Ejenäs & Werr, 2005; Junni, 2011). Given the fact that business development in this sector depends very much on the scope of market and client knowledge held by individual consultants (Ejenäs & Werr, 2005), the access to an entire new knowledge pool offered by the acquisition appears attractive. Research suggests individuals show in the first instance positive attitudes towards cross-firm interactions,

including knowledge sharing (Löwstedt, Schilling, Tomicic, & Werr, 2003).

We suggest, however, that the tendency to have advice ties differs between acquired and acquiring legacy firms. Individuals within the acquired firm will see the opportunity to expand their advice network to a greater extent than those in the acquiring firm. This tendency will be for advice ties within and between legacy firms. The advantage of building more ties for those in the acquired firm is that it presents an opportunity for gaining new knowledge on markets and clients, although the quality and relevance of this advice will initially be uncertain (Empson, 2001). In addition to advice, ties to more people can potentially open up new opportunities with regard to access to resources as well as to new business opportunities and clients outside the firm. It is likely that interactions between individuals in the legacy firms will also be promoted by managers and the merger integration team, notably within the acquired firm. We suggest that there will be higher perceptions of the willingness of a colleague to share their knowledge within the acquired firm. This aligns with the prospect theory aspect of Nebus' (2006) advice seeking model. It is also in the best interests of people in the smaller acquired firm to reach out within and across the legacy firms for advice. In contrast, employees in the acquiring firm will not be as motivated to have a preference for advice seeking ties, unless they are to individuals they already know in the acquiring firm. This is more aligned with expectancy theory (Vroom, 1995) whereby there is more certainty of who know what.

In sum, we suggest that there is higher uncertainty regarding the knowledge and expertise of employees within the acquired firm, however the motivation to explore new opportunities and potential sources for individual learning, will result in individuals in the acquired firm undertaking more advice seeking than those in the acquiring firm.

Hypothesis 4a: After an acquisition event, there will be a higher tendency for advice seeking ties by individuals in the acquired firm.

Over time greater awareness will develop as to the value of advice ties by those in the acquired firm and there will be a move away from the prospect theory mechanism of willingness to share under conditions of uncertainty (Kahneman & Tversky, 1979). The mechanism driving advice seeking will switch to one based upon expectancy theory, whereby an individual determines whether to reach out to a colleague for advice based upon the expected value and the cost of the advice (Vroom, 1995). As greater knowledge of who knows what is gained, some of the potential advice ties previously developed by those in the acquired firm will be seen as not being as valuable. Westphal and Shaw (2005) underline the significance of individuals' attitudes towards each other in post-acquisition knowledge transfer, and these attitudes evolve as experiences develop. The initial opportunity-driven "tapping" into a new knowledge pool becomes more selective as time goes by and individuals develop a more in-depth awareness of whether what others know is of interest to them or not (Löwstedt et al., 2003). In addition, in situations where legacy firms maintain different organizational locations the effort required to reach out for advice by those in the acquired firm to a different location may outweigh the benefits of the knowledge that can be gained. Finally, after the initial enthusiasm has passed, employees in the acquired firm might fall back into old relation patterns (Tsang, 2008). This phenomenon has also been observed by Allatta and Singh (2011) when studying changing communication patterns after a merger over a three-year time window. Overall, as time passes after an acquisition the desire for ties by individuals in the acquired firm will decrease.

Hypothesis 4b: After an acquisition the tendency for individuals in the acquired firm to have advice seeking ties will decrease.

METHOD

Sample

Our study uses network data from a longitudinal single case study of an acquisition in the recruitment consultancy sector. The sample comprises a total of 42 consultants (30 of the acquiring firm and 12 of the acquired firm). Network data was collected through a network survey following the acquisition event and then every six months after the acquisition to all consultants of both legacy firms. In total we analyze four observation periods, covering the two-year period following the acquisition. Response rates vary from 91% to 100% according to the observation period. In addition, interviews were conducted at the time of the acquisition and one year post-acquisition with a sample of the consultants. As part of the interviews the consultants were asked about work practices, their work and support relations, as well as the change induced by the acquisition in their daily work, position within the firm and relationships to their colleagues, as well as whether they was any personal resentment about the situation. Table 1 gives an overview of both legacy firms and their population.

<Insert Table 1 about here>

The recruitment consultancy sector is highly knowledge-intensive (Alvesson, 2004; Kipping, & Engwall, 2002) and one important objective underlying the acquisition was to ensure that knowledge transfer occurred between the legacy firms. Work practices, markets and clients were complementary in both legacy firms, and the management and employees from both sides perceived this complementarity as highly valuable at the time of the deal. Client bases were not overlapping as the acquirer dealt mostly with large groups and the acquired firm with SMEs. Work methods and processes differed with regard to techniques used to identify and contact potential candidates for a given job offer (headhunting at the acquirer and advertisements at the acquired firm), and market segments (top management positions at the acquirer and middle management and employees at the acquired firm). Also the focus of the work differed as consultants at the acquirer were specialized in a given

industry sector (for instance, banking & finance, logistics, healthcare, etc.) whereas consultants at the acquired firm are generalists, dealing with all types of industries and job positions. The acquired firm also had a personnel assessment tool that could improve the recruitment service provided by the acquirer. The senior managers believed there would be a benefit from each firm's complementary expertise that would enable the new firm to propose enhanced and more encompassing services to clients. For the consultants, knowledge sharing across the legacy firms would enable them to develop individual skills and competencies in order to provide clients with enhanced services, combining expertise from both firms.

In both legacy firms, knowledge is mostly tacit. No actual explicit knowledge base existed regarding processes, tools or market information. Even client information was very factual in the accounting based information system, giving no information about potential future needs or objectives of specific clients. Also no expertise directory or other knowledge data base was developed in the legacy firms, either before or after the acquisition. As knowledge mostly resided with the individual consultants, advice seeking constituted the main means through which knowledge could be accessed and shared. At the acquirer firm, consultants work in a large open space, a decision made by senior management to notably promote interpersonal communication and knowledge sharing. Also, consultants work on a given assignment in teams, most often in pairs of two consultants with different specialties (for instance for a recruitment of a CFO for a pharmaceutical company, a consultant specialized in finance would co-work with a consultant specialized in the healthcare sector). At the acquired firm, on the contrary, consultants worked mostly alone on assignments and occupied individual offices.

Based upon discussions with managers and consultants, advice seeking across legacy firm boundaries between individuals should occur for three main reasons: learning new techniques from the other legacy firm to develop personal skill sets, access to information

about market trends and potential new clients to develop each consultants business portfolio, and getting insights about the different services and tools so as to be able to sell a combined offer to their clients.

At the time of the acquisition, the consultants within both legacy firms were not familiar with each other. In addition, several people had left the firms, notably in the acquired firm. Overall, this resulted in a general reappraisal of who to seek advice from. This created a context of uncertainty where consultants, although being motivated to get into contact with their new colleagues as well as their old colleagues and learn more about their work processes and methods, were unsure who knew what, especially in the other legacy firm. In interviews, consultants in both firms regularly underlined that especially in the beginning, they had very limited insights on the operational activities of consultants inside the other legacy firm, and even less on the kind of competencies or skills they might possess. As one consultant indicated: *"An important limit in seeking advice from somebody is the lack of knowledge of the others. It needs a lot of time to know who does what and who knows what. Even if we are just some hundred meters away, we do not cross each other so often, or even not at all."* Another consultant stated that: *"I will not cross the street or take my phone to contact a person that I do not really know and who I did not see working. When I have a question, I turn to the persons I know, because I work with them."*

The promotion of interpersonal contacts allowing knowledge transfer to occur more easily was however an important concern for the acquirer's management. On the leadership level, one of the acquiring partners became managing director of the acquired legacy directly after the deal had been signed. This allowed the partner to have close contact to the acquired legacy's consultants and to learn more about their work and field of expertise. Within both legacy firms, partners were keen to put consultants into contact with each other and to help with identifying potential advice givers. In addition, senior management decided to move the

acquired firm's office only one block away and thus closer to their own headquarters so that consultants could meet and exchange knowledge more easily. However, as pointed out by the quotes above, the closer physical location of the two legacy firms did not always enhance interactions between both groups, since these interactions did not occur "spontaneously," but implied an intentional visit to the other firm's office. In addition, eight months after the acquisition the management organized a one-day integration seminar. A further nine months later, work groups to determine common practices and synergetic opportunities were instigated. Also, cross-firm work collaborations on consulting assignments were financially incentivized to promote cross-firm relationships. The interpersonal contact that occurred during these events increased consultants' awareness of each other's' competencies and skills and also reduced initial reluctances to contact a member of the other firm directly. For example, a junior consultant indicated: *"I have a better idea now of the different persons' work and skills. We had several occasions to meet, so it's easier now to know who to contact when I have a question."*

Measures

Advice network. The focus of our analysis is the changing network of advice ties. In our survey we measured advice seeking by asking respondents to indicate the people that they had sought advice from during the previous six months. Answer options for the advice seeking questions were 1 = sporadic one-time advice seeking, 2 = periodic advice seeking and 3 = regular advice seeking. Since we are interested in understanding advice seeking relationships that occur on at least a semi-regular basis, we chose to dichotomize the data at responses of two and above, i.e., periodic or regular advice seeking. For a discussion and analysis of the other two ways in which the data could be dichotomized see Appendix A.

Endogenous processes of the advice network: The first three of our endogenous processes of interest measure overall network tendencies and our fourth process of interest specifically

examines interactions between the two legacy firms. Our measure of *reciprocity* accounts for the tendency for people who are sought by others for advice to reciprocate by asking for advice (Blau, 1964; Gouldner, 1960). There are various measures available to account for transitivity in a network. We use the *transitive ties* measure, which accounts for the tendency of an individual seeking advice from two people when there is also an advice seeking tie between those two individuals (Cartwright & Harary, 1956; Heider, 1946). More formally, if i (focal actor) has a tie to j and j has a tie to k, then it increases the likelihood of i forming a tie to k.[2] Our measure of *indegree popularity* accounts for the tendency of individuals who are sought out for advice by many people to attract additional advice seeking ties (Barabási & Albert, 1999). Based upon the recommendation of Ripley et al. (2019) we have used the square root of *indegree popularity* in our model. Our measure of *ego firm* ties accounts for whether individuals in a specific legacy firm have a tendency to make ties, a positive parameter indicates that it is individuals in the acquired firm that have a greater tendency to make ties. We also include ties for *alter firm* and *same firm* as this will allow us to test which firm the two legacy firms are making ties to. Our *alter firm* parameter accounts for whether individuals in a legacy firm are more likely to have others seek them for advice, ties, a positive parameter indicates that it is individuals in the acquired firm that are more likely to be sought for advice. Our measure of *same firm* ties is based upon whether an individual has a tendency to make ties to others in the same legacy firm (a positive parameter) or in the other legacy firm (a negative parameter).

In addition to the main effects of our four endogenous processes of interest we also include measures for time heterogeneity within the data, i.e., whether a variable is nonlinear over time (Schaefer, Light, Fabes, Hanish, & Martin, 2010). To do this we include a time

[2] There are numerous theoretical configurations of transitivity. Measures of these in the SIENA framework include six different measures of transitive triplets, as well as measures of balance and betweenness. We tested each of these in our model with no changes in the significance of the transitivity measure.

dummy variable for the second and third wave of data, i.e., T2 to T3 and T3 to T4. We include time dummies for each of our four endogenous processes of interest: *reciprocity*, *transitivity*, *indegree popularity*, *ego firm* ties (for further details see Lospinoso, 2010; Lospinoso, Schweinberger, Snijders, & Ripley, 2011). A positive parameter indicates an increasing tendency of the network effect over time with regard to the objective function and a negative parameter is a decreasing tendency of the network effect with regard to the objective function.

Structural effect controls: We also control for other structural network tendencies in our model. The most basic measure we include is that of *outdegree* which accounts for the tendency of people to make advice seeking ties to others in the network, this can be viewed as the intercept in a SIENA model. As recommended by Ripley and colleagues (2019) we include an additional transitive measure, namely *three-cycles*. The *three-cycles* variable controls for the tendency for person i to seek advice from person j, person j to seek advice from person k, and finally person k to seek advice from person i, so forming a closed unidirectional triangle. When the *three-cycles* parameter is positive it indicates a tendency for generalized exchange (Malinowski, 1922; Yamagishi & Cook, 1993).

As suggested by Ripley et al. (2019) we also account for other degree distribution variables besides that of *indegree popularity*. The *outdegree activity* variable accounts for likelihood that people who seek out many colleagues for advice will seek out others in the next time period. The measure of *outdegree popularity* is the tendency of actors who seek advice from many of their colleagues to have others seek advice from them.

Attribute effect controls: We also control for the possibility that individual attributes can affect micro-level processes of network change. There are three types of individual attribute or covariate variables that can be included in the model. First, ego covariate variables, which account for the tendency for individuals with high/low measures of an attribute to have

outgoing network ties. Second, alter covariate variables, which account for the tendency for individuals with high/low measures of an attribute to be sought out by others (incoming ties). Third, an attribute similarity effect, which accounts for the tendency for people with the same (or similar) attributes to have ties with each other.

It is possible that individuals possessing certain types of attributes will seek out more advice from others or be sought out for advice by more people. Therefore we include ego and alter effects for hierarchy (*hierarchy ego* and *hierarchy alter*), tenure (*tenure ego* and *tenure alter*), gender (*gender ego* and *gender alter*), and age (*age ego* and *age alter*) since an individual who is more senior, older, or who has been with a firm longer may be more likely to be know others or be sought out by them for advice. Since individuals are likely to have relationships with people who are similar to them (McPherson, Smith-Lovin, & Cook, 2001) we account for homophily based upon tenure (*tenure similarity*), gender (*same gender*), age (*age similarity*), hierarchy (*hierarchy similarity*) and specialization (*same specialization*).

Time period controls: Our SIENA model includes rate effects variables, which account for the underlying opportunities for change in the network. We model them for each wave of our data (for further details see Ripley et al., 2019).

Method of analysis

We examine the micro-processes of network change at four points in time after an acquisition event. To analyze our data we need a modeling framework that takes into account the dependencies between the cases and the changes in the network over time. To do this we use an actor-orientated Simulation Investigation for Empirical Network Analysis (SIENA) modeling framework in the RSiena software package (Ripley et al., 2019). The SIENA framework is a stochastic actor-orientated model which assesses the probability of different types of network change. The model can account for network structural changes such as reciprocity, and changes concerning individual attributes such as age (Snijders et al., 2010).

The model has certain assumptions such as changes in network ties being continuous and that these changes are based upon a Markov process (Snijders et al., 2010). In addition, an actor is only able to change one tie a time and hence individuals are restricted from coordinating changes (Snijders et al., 2010).

There are two processes that are modeled in the SIENA framework: change opportunity and change determination. Change opportunity is the expected rate of change of each individuals' network ties and is modeled as a rate function for each wave in the study (e.g., T1 to T2, T2 to T3, etc.). Change determination is the probability of an individual changing their network in a certain way, i.e., by adding a tie or dropping a tie. Change determination is modeled as an objective function containing micro-steps. In each micro-step, an actor that is randomly selected, examines all possible changes to their network with a view to maximizing their objective function. The objective function for the network is as follows:

$$f_i(\beta,x) = \sum_k \beta_k S_{ki}(x)$$

In the equation, $f_i(\beta,x)$ is the objective function with i being the focal actor and x the network. The function $S_{ki}(x)$ is the effects on the network from the perspective of i. These effects include the tendency for reciprocity or transitivity as well as the tendency of people with a certain individual attribute, such as gender or age, to change their network ties in a certain way. In the model, β_k is the weight of the change. The significance of a parameter is calculated by comparing the t-ratio, i.e., the estimated parameter divided by standard error, with a standard normal distribution.

Missing data in SIENA models. We address missing data in two ways. First, individuals are coded as structural zeros if they are not present in the dataset during a specific time period, for example, if they have not yet joined the firm or if they have left the firm. By coding them as structural zeros it means they do not have ties and other individuals do not have the option to make ties to them (Ripley et al., 2019). In addition, we follow the suggestions of Huisman

and Steglich (2008) with regard to missing data due to non-responses. We coded non-responses as NA and allowed RSiena to handle missing data internally. The missing data is imputed for the simulations during the parameter estimation, but is not directly used for the parameter estimation. This method has been shown to best decrease bias from having missing data (Huisman & Steglich, 2008). In our data the amount of missing data ranges from 1.4% in the first period to a high of 8.6% in the final period. This is well within the 20% maximum amount of permissible missing data that would potentially make the simulation unstable (Ripley et al., 2019).

RESULTS

In Table 2 we present descriptive statistics for each of the four time periods in our study. The average density varies from 0.057 to 0.115, with a general trend of increasing connectedness in the advice network. However, there is a decreasing tendency for reciprocity from 0.361 in the first wave to 0.215 in fourth wave. The number of ties within the acquirer firm rises over time, while the ties between the legacy firms first increases and then decreases. The descriptive statistics highlight that there is an overall increase in the number of advice ties. In contrast, the micro-processes of network change are not necessarily aligned with this overall network change.

<Insert Table 2 about here>

In Figures 1a-d are visual representations of the network at the four times points in our analysis. From the network diagrams it is clear that there is clustering of advice ties within each of the legacy firms. This is particularly noticeable at T1. Even by T4 there is still notable differentiation between the advice ties of the acquired and acquiring firm. The overall growth of the firm is also noticeable in the figures. In T1 there are 17 triangles on the left of

the diagram indicating individuals who had not joined the firm at that time period. By T4 there are only four triangles indicating that four individuals had left the firm by that time period.

<Insert Figure 1a-d about here>

Table 3 details tie changes over time in the advice seeking network. Between the first two waves almost 91% of dyads continue to have no advice seeking tie between them, whereas between the last two waves this has decreased to 82%. The number of advice seeking ties that are maintained between waves ranges from 2.5-8.1%. In comparison the number of ties added ranges from 4.2-6.5%, and advice seeking ties dropped ranges from 2.4-3.3%. The overall amount of network change during the four periods is measured by Jaccard coefficients (Snijders et al., 2010). In a network where all ties change the coefficient's value is zero and when no ties change the value is one. The Jaccard coefficients range from 0.337 to 0.401 in the advice seeking network in our data. This is within the appropriate range for SIENA models where high levels of change (below 0.3) are problematic for the convergence of the model (Ripley et al., 2019).

<Insert Table 3 about here>

Our SIENA model shows good convergence as all t-ratios are all less than 0.1 and the overall maximum t-ratio convergence is 0.17 (Ripley et al., 2019). In addition, we also calculated goodness of fit statistics for the indegree, outdegree, geodesic distributions and triad census and find that the test p-values are all above the recommended level of 0.05 (Ripley et al., 2019). Violin plots for the goodness of fit statistics are detailed in Figure 2. The red line shows the observed value and the violins show the distribution of values simulated by the model. The dashed lines show the 95% confidence interval. Overall, we are able to conclude that the simulated networks in the SIENA model are a good fit with the

changes in the actual network.

<Insert Figure 2 about here>

In Table 4 we detail the results of our SIENA model. The parameter estimates in a SIENA model framework are log odds ratios. Negative parameter estimates indicate a tendency to not have a certain type of network micro-process, whereas positive parameters show a tendency for the particular micro-process. An examination of our structural network control variables indicates there is a positive but not significant *three-cycles* parameter indicating there is no tendency for generalized exchange. The negative and significant *outdegree popularity* parameter suggests that there is a tendency for actors who seek advice from many of their colleagues being likely to have others that seek advice from them. The positive and significant *outdegree activity* parameter indicates that individuals who seek out advice from many others have a tendency to continue to do so.

<Insert Table 4 about here>

In our attribute controls we find a positive and significant effect of *tenure alter* indicating that people have a tendency to seek advice from others with more experience in the firm. There is also a cohort effect (*tenure similarity*) with people tending to seek advice from those of a similar level of tenure. There is an *age ego* effect indicating a tendency for older employees to have more advice ties. In addition there is a homophily effect for specialization, indicating a tendency to seek advice from those in the *same specialization*. This homophily tendency is to be expected in the workplace.

Finally, the network rate parameter is the average number of opportunities for change by each actor within the simulations of the SIENA modeling framework. The rate parameter measures the opportunity for change in the simulation rather than actual change, with some opportunities for change leading to no change and others resulting in a change that is later

cancelled out, e.g., adding a tie and then dropping it (see Ripley et al., 2019 for further details). The opportunity for change between T1 and T2 is 2.440, from T2 to T3 it is 4.090 and from T3 to T4 it is 10.335. The large difference in the rate parameter between the last two time periods is because of the increase in the amount of change in the network with more adding and dropping of ties (see Table 3) resulting in greater volatility in the opportunities for change.

Our results in Table 4, indicate a positive and significant *reciprocity* parameter which supports Hypothesis 1a that after an acquisition individuals have a tendency to reciprocate advice seeking ties. An examination of the time dummy variables for *reciprocity* indicates that from T2 to T3 there is a negative parameter and T3 to T4 there is a negative and significant parameter, indicating that the reciprocity parameter contributes less to the objective function over time. This offers some support for Hypothesis 1b that the tendency for reciprocity diminishes the more time elapses after the acquisition. The *indegree popularity* parameter is positive and significant providing support for Hypothesis 2a that after an acquisition there is a tendency for people to reach out to the most central people in the advice network. The time dummies for *indegree popularity* follow a similar pattern as for reciprocity with a negative parameter from T2 to T3 and a negative and significant parameter for T3 to T4, indicating that the indegree popularity parameter contributes less to the objective function over time. This provides support for Hypothesis 2b that the tendency to seek advice from the most central people in the advice network diminishes the greater the amount of time that elapses after the acquisition event. The parameter estimates for *transitive ties* is positive and not significant and the estimates for the time dummies are not significant. There is no support for a tendency for transitivity after the acquisition, nor any nonlinear change in the parameters. Therefore there is no support for Hypotheses 3a and 3b. Finally the parameter for *firm ego* ties is positive and significant. Individuals in the acquired firm have a

tendency for advice ties compared to those in the acquiring firm. Therefore there is support for Hypothesis 4a. The time dummies are negative and significant for T2-T3 and T3-T4, indicating that the *firm ego* parameter contributes less to the objective function over time. This suggests that the tendency of individuals from the acquired legacy firm to seek advice decreases. This result supports Hypothesis 4b.

In additional analysis we constructed an ego-alter table to allow us to see the overall tendency of people in the two legacy firm to create ties and whether these ties are to same legacy firm or a different legacy firm. In Table 5, individuals in the acquired firm have a positive tendency to create ties to both colleagues in their own legacy firm (1.461) but also to the acquiring firm (0.806). Individuals in the acquiring firm have a low tendency for cross-legacy firm advice ties (-0.073) and a somewhat low tendency for same legacy firm ties (0.206).

<Insert Table 5 about here>

DISCUSSION

Our analysis reveals that in the initial stages after the acquisition when uncertainty of who knows what is high there is a tendency for people to seek advice based upon the micro-processes of reciprocity and preferential attachment. This is in accordance with decision making based upon the tenets of prospect theory where under conditions of uncertainty individuals choose to seek advice from colleagues they believe will be willing to share advice (Kahneman & Tversky, 1979; Nebus, 2006). There is no support for our transitivity hypothesis and we return to this later in this section. In addition, we do find support for the tendency for the acquired firm to seek advice. This tendency decreases over time. In supplemental analysis we find that individuals in the acquired firm had a tendency to make ties with both legacy firms, this was much less the case for individuals in the acquiring firm.

This is despite there being considerable organizational support from senior management to share knowledge across legacy firm boundaries in the immediate aftermath of the acquisition event.

The results indicate that there is a nonlinear relationship over time for some of our hypothesized variables. As time progresses after the acquisition event we suggest that individuals have a greater understanding of where knowledge resides in the network. This results in a decrease in uncertainty and decision making that is based on a more rational perspective that is in accordance with expectancy theory (Nebus, 2006; Vroom, 1995). Our results show a decline in the tendency for reciprocity and preferential attachment and a decline in the acquired firm to make advice seeking ties. This suggests a move towards decision making based upon evaluating the costs and benefits of network micro-processes, with the benefits of reciprocal ties, preferential attachment ties and a preference by the acquired firm to make ties being outweighed by their costs. In the following section, we discuss how this research addresses gaps in existing knowledge. We then highlight the managerial implications and opportunities for future research.

Theoretical contribution

Our research sheds some light on how individuals adapt their advice seeking networks under changing conditions of uncertainty—in our case after an acquisition event. Previous research has indicated that in times of high uncertainty individuals have a tendency to contract their network (McDonald & Westphal, 2003; Parker et al., 2016), whereas in situations of low uncertainty individuals develop their networks (Parker et al., 2016). However, the focus of these previous studies has been about general uncertainty and on the number of ties. In contrast, our focus is specifically related to uncertainty with regard to who knows what in an organization and we examine more nuanced micro-processes as opposed to just whether individuals increase or decrease the size of their network. Importantly, we

extend an existing model of advice seeking (Nebus, 2006) that explains how changes in the level of uncertainty result in changes to the way in which decisions are made regarding the network micro-processes of advice seeking. We show that initially after an organizational shock, i.e., an acquisition, there is a tendency for reciprocity and preferential attachment to people popular in the advice network, but this tendency diminishes over time. Our reciprocity finding aligns with that of Quintane, Pattison, Robins and Mol (2013) who indicate that reciprocal relationships in teams tend to occur as a result of the need for task related advice in the short-term, which does not necessarily translate into the need for long-term reciprocity. We also show that there is an initial tendency for advice seeking by the acquired firm, but over time this tendency diminishes.

Our hypotheses on transitivity were not supported. This is surprising since other studies reported the positive effect of transitive closure on advice seeking practices (e.g., Agneessens & Wittek, 2012). The lack of support for our transitivity hypotheses could be for several reasons. The fact that transitivity does not structure the advice seeking network in the first period after the acquisition may be directly related to the uncertainty of who knows what. Since individuals are not aware of many of the knowledge holders, especially those within the other legacy firm, they can accordingly not recommend a valuable knowledge source to their related colleagues (Borgatti & Cross, 2003). And by the same token, the context of uncertainty might also limit an individual recommending one of their new colleagues as being a valuable knowledge source before being more certain about his or her actual value as a source of advice. Overall, the lack of transitivity suggests that in this particular case other network micro-processes are dominant, notably reciprocity and preferential attachment.

We also contribute more generally to M&A research by identifying the network micro-processes of advice seeking that influence knowledge exchange and transfer after an

acquisition event. Previous research underlined the importance of effective knowledge transfer for M&A success, but fell short of providing a more in-depth picture of the factors that drive this process, especially on the level of individuals (e.g., Empson, 2001; Greenberg & Guinan, 2004; Junni & Sarala, 2013). We add to this research in particular by highlighting the network mechanisms underlying the first crucial steps of the knowledge transfer process (Cummings & Teng, 2003), i.e., the identification and access of individual knowledge sources, studied here through advice seeking behavior. We also contribute to research investigating motivational dimensions of cooperation and knowledge exchange in M&A (Teerikangas, 2012; Empson, 2001) as well as to work investigating the role of social embeddedness of knowledge transfer processes in M&A (Ranft & Lord, 2002; Tsang, 2008). In line with Teerikangas (2012), we notably observe that, at least initially, the acquired firm employees take the acquisition as an opportunity to develop their networks and resources. Further, our network micro-processes approach gives us a different perspective on the social embeddedness of knowledge transfer processes, allowing us to highlight in a much more tangible way the influence of relationships and individual embeddedness in social groups and structures.

Third, we also add to the literature on the knowledge-based view of the firm (Grant, 1996). Prior research suggests that knowledge is more easily transferred within a firm than between firms (Kogut and Zander, 1992; Conner & Prahalad, 1996). One explanation for why a merger or an acquisition occurs is to increase the opportunity for transferring knowledge within a firm with the external firm boundary now encapsulating both legacy firms. Our findings indicate that while the acquired firm did reach out across firm boundaries this was much more limited for the acquiring firm. This suggests that boundaries are not fully malleable and that simply changing a firm's external boundary to encapsulate another firm is not sufficient to facilitate advice seeking in the long term. Research on advice seeking has

shown that people have a preference to develop ties within the boundaries that they identify with (Lomi et al., 2014). We show that while exogenous shocks to the organization, such as an acquisition event, can jolt people out of their existing work routines, the tendency for inertia remained for individuals in the acquiring firm.

Managerial implications

Our research has shown that in conditions of high uncertainty as to who knows what, decisions regarding advice seeking depend on perceived willingness to share as opposed to seeking out the most knowledgeable person about an issue. Immediately after an acquisition it would be helpful to create greater awareness of expertise throughout the network. This will encourage people to reach out to the most relevant source of advice rather than the one that is the most willing to give advice. Expertise directories that include both work and non-work expertise can help promote knowledge of what others know as well as encouraging engagement between employees (Cross, Parker, Prusak, & Borgatti, 2001). In addition, senior managers can promote a culture of knowledge sharing and trust within an organization. This can be done, for example, by promoting a norm that every person has the right to ask advice from any other person or by explicitly building in a knowledge sharing component into annual evaluations (Cross & Parker, 2004).

Furthermore, we have shown that networks have a tendency to return to their original state once the enthusiasm after a change has ebbed away. Managers should continue to promote cross-firm advice seeking for a long period of time after an acquisition event has taken place. Cross-firm advice seeking can be encouraged by bringing together people from each legacy firm in task groups based aimed at improving internal processes or improving delivery of services to clients (Cross & Thomas, 2009).

Limitations and future research

In our research we were able to gather four waves of data which allowed us to

develop valuable insights into the micro-processes of change in the advice seeking network after an acquisition event. However, we only examine one acquisition and replication of our findings would increase the robustness of our results. In addition, to avoid survey fatigue we were not able to gather data on individual traits. One avenue for future research would be to examine if advice seeking micro-processes differed based upon personality traits such as the Big Five personality factors or self-monitoring behavior (Fang, Landis, Zhang, Anderson, Shaw, & Kilduff, 2015). Our focus has been on advice seeking as we believe this was the most pertinent network to examine in the context of a recruitment consulting firm. In other organizational change events it could be of value to examine a different type of network such as who individuals are energized by or the dynamics of trust under changing conditions of uncertainty. An additional avenue for future research would be to link individual network tendencies to an outcome measure such as performance. It would then be possible to ascertain if there was a change in performance for individuals that switched from a prospect theory approach to decision making with regard to advice seeking ties to an expectancy theory approach.

Conclusion

Extensive research has shown that knowledge transfer within organizations can lead to competitive advantage. Most work in this areas has focused on the overall benefits of sharing knowledge at a point in time. We develop a dynamic model of advice seeking that examines decision making with regard to knowledge seeking under changing conditions of uncertainty. We show, that after an acquisition event where there is high uncertainty as to who knows what, there is an initial tendency for reciprocity, preferential attachment and acquired firm advice seeking ties. However, these initial tendencies wane over time as uncertainty of who knows what decreases. Our findings generate new insights into the role of the micro-processes of network change under conditions of uncertainty after an acquisition

event. We hope others will build from this work and examine network micro-processes under other dynamic conditions.

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Table 1. Employee Population by Acquired and Acquiring Firms

Observation period	Pre-acquisition	T1 6 months post-acquisition	T2 12 months post-acquisition	T3 18 months post-acquisition	T4 24 months post-acquisition
Number of employees					
Acquiring firm	18	18	21*	25*	32
Acquired firm	12	7	11	9	6
Total	30	25	32	34	38
Number of employees hired in period	0	0	9	4	4
Number of employees who left in period	5	0	1	3	0

* One person was absent in T2 in the course of a maternity leave and came back in T3. She is thus not included in T2 but again in T3.

Table 2. Descriptive Network Statistics for Each Time Period

	T1	T2	T3	T4
Density	0.057	0.076	0.096	0.115
Number of ties	98	131	165	198
Ties within acquirer firm	78	86	119	175
Ties within acquired firm	14	11	13	6
Ties between legacy firms	6	34	33	17
Average degree	2.333	3.119	3.929	4.714
Degree standard deviation (out)	3.530	3.941	5.509	6.595
Degree standard deviation (in)	2.981	4.101	4.120	4.188
Reciprocity	0.361	0.272	0.310	0.215
Transitivity	0.429	0.359	0.368	0.449
Average geodesic distance	2.1	2.2	2.1	2.1
Number of nodes	25	32	34	38
Number of dyads	600	992	1122	1406

Table 3. Tie Change Statistics Between Each Time Period

	No tie	Add tie	Drop tie	Keep tie	Jaccard index
Period 1-2	90.8%	4.2%	2.4%	2.5%	0.337
Period 2-3	87.6%	5.3%	2.3%	4.7%	0.401
Period 3-4	82.1%	6.5%	3.3%	8.1%	0.400

Table 4. SIENA Model of Advice Seeking Micro-Processes

Effect	Parameter	Std. Error
Rate function		
Rate 1	2.440	0.416
Rate 2	4.090	0.561
Rate 3	10.335	1.550
Intercept		
Outdegree	-6.361***	0.835
Time dummy T2-T3 Outdegree	4.636*	2.045
Time dummy T3-T4 Outdegree	3.786	2.009
Control variables: Network		
Three-cycles	0.117	0.106
Outdegree popularity (sqrt)	-0.444*	0.223
Outdegree activity (sqrt)	0.617***	0.082
Control variables: Actor		
Age alter	-0.007	0.014
Age ego	0.066**	0.020
Age similarity	-0.106	0.672
Tenure alter	0.065**	0.024
Tenure ego	-0.046	0.025
Tenure similarity	2.135***	0.620
Hierarchy alter	0.076	0.100
Hierarchy ego	-0.178	0.113
Hierarchy similarity	-0.098	0.287
Gender alter	-0.305	0.164
Gender ego	-0.103	0.182
Same gender	0.114	0.146
Same specialization	0.819***	0.189
Main variables		
Reciprocity	1.796***	0.458
Indegree popularity (sqrt)	1.044***	0.235
Transitive ties	0.072	0.291
Same firm	0.467*	0.221
Firm alter	0.188	0.238
Firm ego	1.067*	0.423
Time dummy T2-T3: reciprocity	-1.390	0.913
Time dummy T3-T4: reciprocity	-1.830*	0.886
Time dummy T2-T3: indegree popularity (sqrt)	-0.113	0.575
Time dummy T3-T4: indegree popularity (sqrt)	-0.115*	0.564
Time dummy T2-T3: transitive ties	-0.031	0.715
Time dummy T3-T4: transitive ties	0.599	0.758
Time dummy T2-T3: firm ego	-3.089*	1.266
Time dummy T3-T4: firm ego	-2.848*	1.246

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Table 5. Ego-Alter Table

		alter	
		acquirer	acquired
ego	acquirer	0.206	-0.073
	acquired	0.806	1.461

Figure 1a. Network of Advice Relations at T1

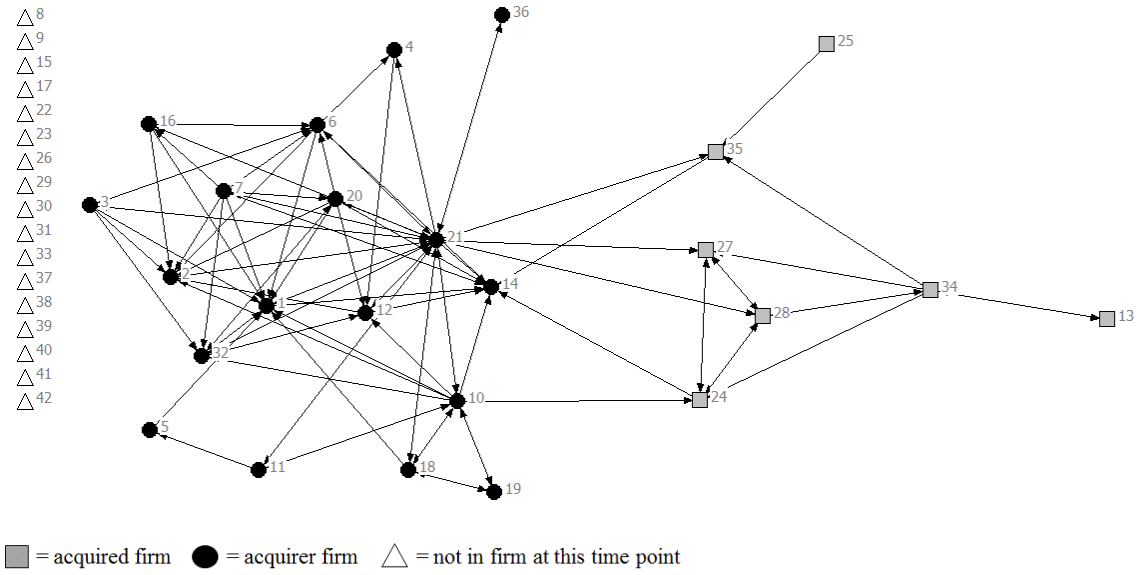


Figure 1b. Network of Advice Relations at T2

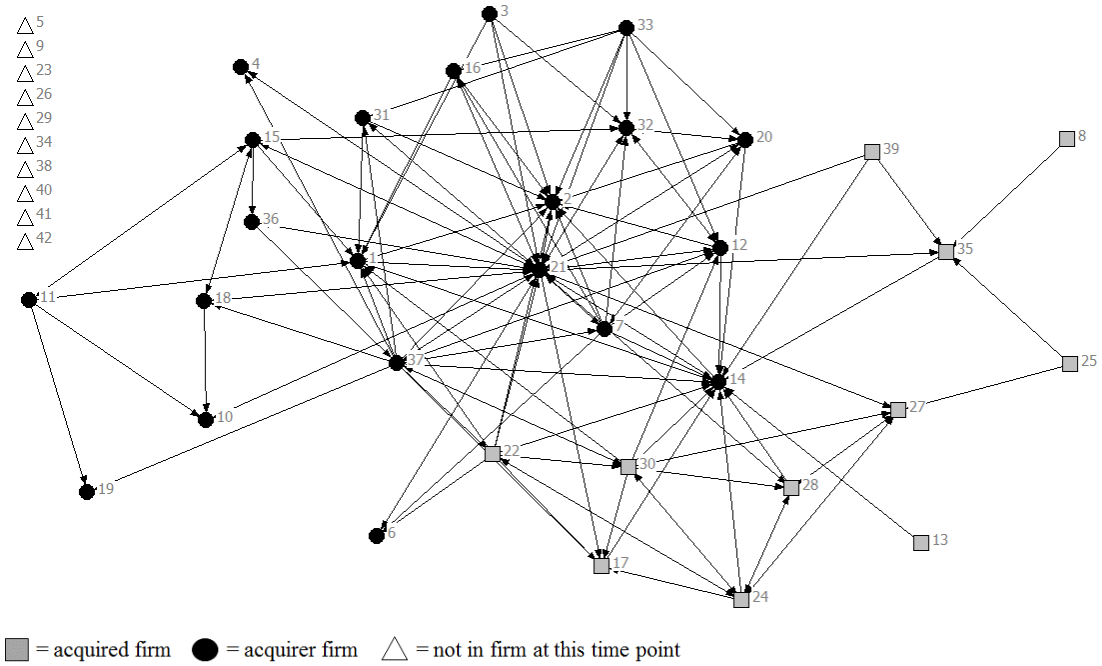


Figure 1c. Network of Advice Relations at T3

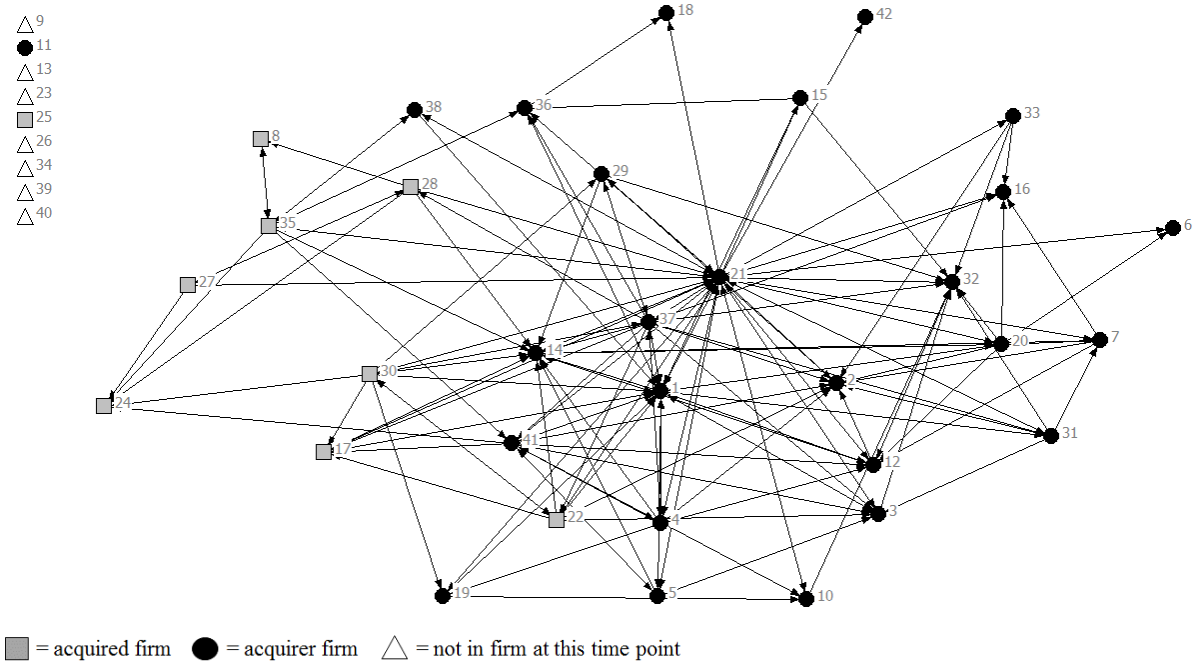


Figure 1d. Network of Advice Relations at T4

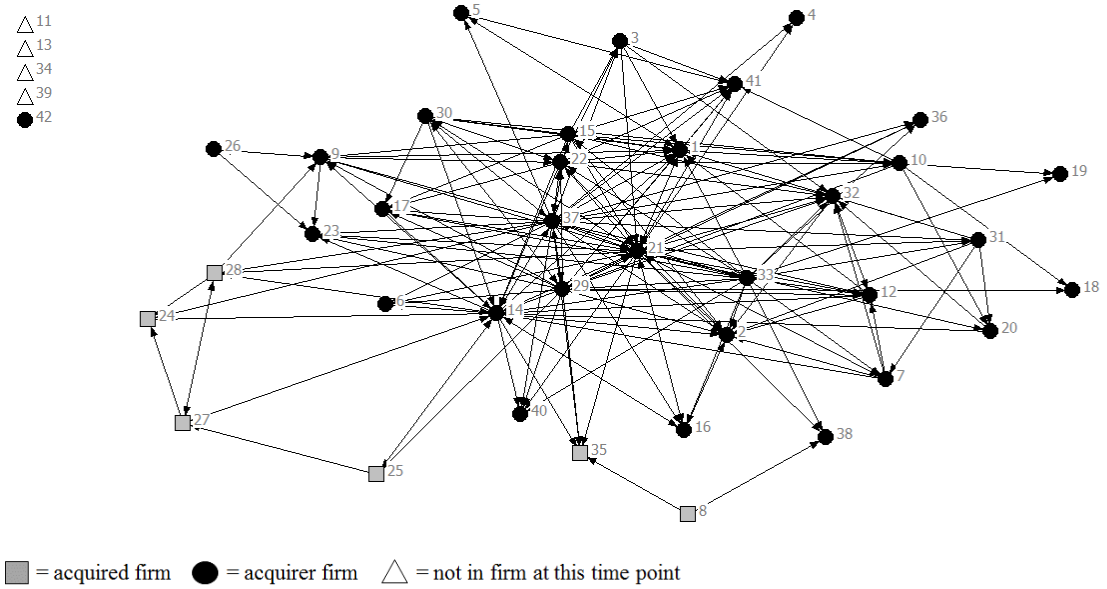
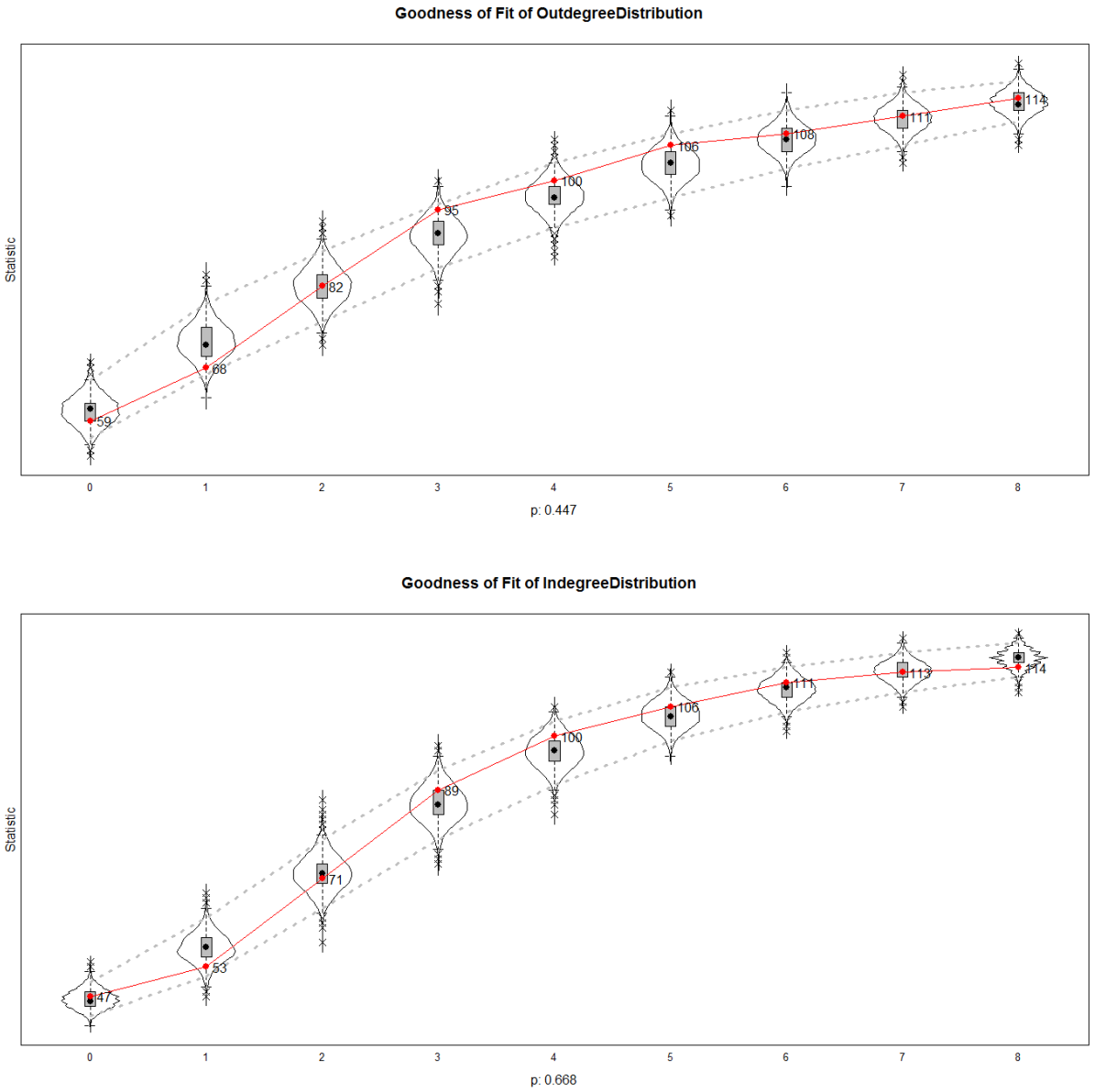
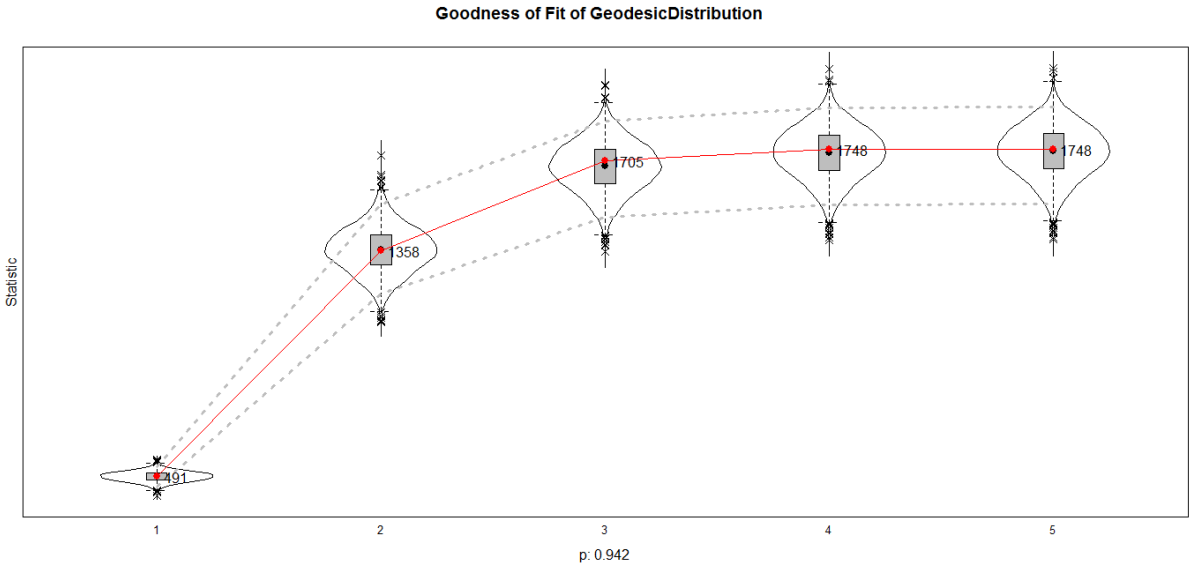
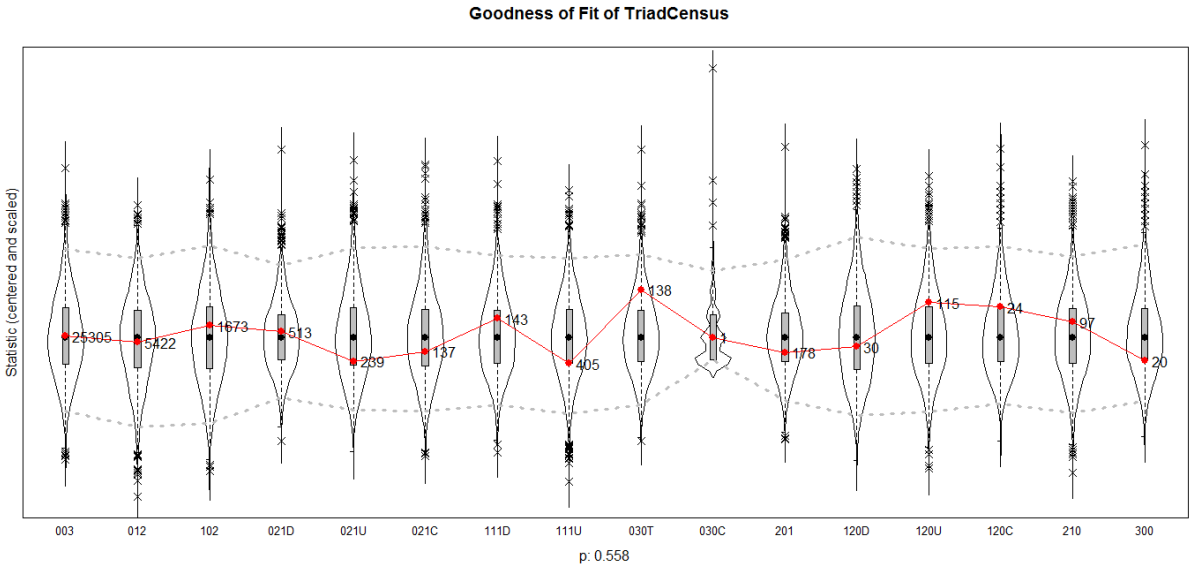


Figure 2. Violin Plots for Goodness of Fit




Goodness of Fit of GeodesicDistribution
Statistic
191
358
1705
1748
1748
1
2
3
4
5
p: 0.942


Goodness of Fit of TriadCensus
Statistic (centered and scaled)
25305
5422
1673
513
239
137
143
405
138
1
178
30
115
24
97
20
003
012
102
021D
021U
021C
111D
111U
030T
030C
201
120D
120U
120C
210
300
p: 0.558

Appendix A

The data we collected allow for different levels of dichotomization. Overall, we believe that for theoretical reasons our chosen level of dichotomization—'periodic' and 'regular' advice seeking—is appropriate for our research question. The lower level of dichotomization (greater or equal to one) includes the category of 'sporadic one-time advice seeking'. This results in an approximately 50% increase in the number of ties compared to the dichotomization level used in the results section of the paper. Including 'sporadic one-time advice seeking' changes the overall structure of the model and results in a different set of micro-processes. We detail the results in Table A1. At this level of dichotomization: *reciprocity*, *outdegree activity*, and *same specialization* are prominent drivers of change in the network. The T2-T3 time dummy for *firm ego* is also significant indicating that the tendency of individuals from the acquired legacy firm to seek advice decreases over time.

The higher level of dichotomization only includes 'regular advice seeking' and the number of ties drops by approximately 50% at each time period compared to dichotomization that includes 'periodic' and 'regular' advice seeking . This results in considerable change to the structure of the network and a resulting change to the micro-processes. We detail the results in Table A2. At this level of dichotomization: *reciprocity*, *indegree popularity*, *outdegree activity*, and *same firm* are prominent. In addition, the T2-T3 time dummy for *firm ego* is also significant indicating that the tendency of individuals from the acquired legacy firm to seek advice decreases over time at all levels of dichotomization. For 'regular advice seeking' people go to a small number of close colleagues. It is only when the dichotomization is relaxed to include periodic advice seeking that people go beyond their close network of colleagues and we start to see more choices being made about who to go to for advice and that these choices change as the level of uncertainty changes over time.

<Insert Table A1 and A2 about here>

Table A1. SIENA Model of Advice Seeking Micro-Processes (dichotomized at 1 and above)

Effect	Parameter	Std. Error
Rate function		
Rate 1	2.675	0.518
Rate 2	2.147	0.383
Rate 3	6.151	1.131
Intercept		
Outdegree	−7.040***	1.268
Time dummy T2-T3 Outdegree	0.435	1.709
Time dummy T3-T4 Outdegree	–1.042	1.659
Control variables: Network		
3-cycles	–0.040	0.296
Outdegree popularity (sqrt)	–0.896	0.494
Outdegree activity (sqrt)	1.026***	0.233
Control variables: Actor		
Age alter	–0.031	0.028
Age ego	0.081**	0.029
Age similarity	0.993	1.118
Tenure alter	0.117*	0.047
Tenure ego	–0.091*	0.042
Tenure similarity	3.063**	1.062
Hierarchy alter	0.478*	0.222
Hierarchy ego	–0.055	0.239
Hierarchy similarity	–0.940	0.573
Gender alter	–0.591*	0.285
Gender ego	0.398	0.368
Same gender	–0.183	0.248
Same specialization	1.581***	0.365
Main variables		
Reciprocity	3.419***	1.035
Indegree popularity (sqrt)	0.603	0.424
Transitive ties	0.422	0.371
Same firm	0.718	0.383
Firm alter	0.763	0.424
Firm ego	0.399	0.522
Time dummy T2-T3: reciprocity	0.567	1.420
Time dummy T3-T4: reciprocity	–0.441	1.312
Time dummy T2-T3: indegree popularity (sqrt)	1.112	0.883
Time dummy T3-T4: indegree popularity (sqrt)	1.224	0.866
Time dummy T2-T3: transitive ties	–1.830	0.959
Time dummy T3-T4: transitive ties	–0.037	0.882
Time dummy T2-T3: firm ego	–3.405*	1.504

Time dummy T3-T4: firm ego	–1.154	1.031

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Table A2. SIENA Model of Advice Seeking Micro-Processes (dichotomized at 3)

Effect	Parameter	Std. Error
Rate function		
Rate 1	4.456	0.709
Rate 2	7.383	0.836
Rate 3	11.983	1.473
Intercept		
Out-degree	–5.435***	1.451
Time dummy T2-T3 Outdegree	0.372	0.753
Time dummy T3-T4 Outdegree	–2.400	4.133
Control variables: Network		
3-cycles	0.027	0.067
Outdegree popularity (sqrt)	–0.250	0.232
Outdegree activity (sqrt)	0.512***	0.065
Control variables: Actor		
Age alter	–0.012	0.011
Age ego	0.029	0.016
Age similarity	0.176	0.458
Tenure alter	0.038*	0.017
Tenure ego	–0.031	0.020
Tenure similarity	1.257**	0.483
Hierarchy alter	0.184*	0.092
Hierarchy ego	0.037	0.115
Hierarchy similarity	0.024	0.245
Gender alter	–0.246	0.128
Gender ego	–0.005	0.133
Same gender	0.135	0.116
Same specialization	0.475**	0.153
Main variables		
Reciprocity	0.765**	0.277
Indegree popularity (sqrt)	0.451***	0.129
Transitive ties	1.243	1.498
Same firm	0.681***	0.195
Firm alter	0.038*	0.017
Firm ego	–0.031	0.020
Time dummy T2-T3: reciprocity	–0.371	0.404
Time dummy T3-T4: reciprocity	–0.640	0.417
Time dummy T2-T3: indegree popularity (sqrt)	–0.129	0.262
Time dummy T3-T4: indegree popularity (sqrt)	–0.123	0.267
Time dummy T2-T3: transitive ties	0.252	0.680
Time dummy T3-T4: transitive ties	2.800	4.423
Time dummy T2-T3: firm ego	–0.913*	0.402

Time dummy T3-T4: firm ego	–0.636	0.377

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.