Generating Business Referrals for SMEs: The Contingent Value of CEOs' Social Capital

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We examine how small and medium-sized enterprise (SME) chief executive officers' (CEOs) social capital (as measured by strength of ties and structural holes) can help them bring business to their firms through the spread of positive referrals. Based on a sample of 408 French SME CEOs, we find a direct effect of social capital. Such effect is contingent on the CEO's personality, with social capital being most beneficial to CEOs with low levels of conscientiousness. CEOs' social ties facilitate the distortion of information, thereby leading personal contacts to give referrals to and endorse a focal CEO, even in the presence of negative signals, such as low conscientiousness.

Introduction

Firms receive a referral when a third party recommends them to a previously unknown potential customer, which may result in additional business. Although business referrals are valuable for all types of firms (Kumar, Petersen, and Leone 2010; Money, Gilly, and Graham 1998; Provan 1984), small and medium-sized enterprises (SMEs) should pay particular attention to this way of gaining customers. First, SMEs usually have only limited resources to dedicate to the search for new customers, and to marketing efforts in general. Positive word of mouth and recommendations are particularly cost-effective (Trusov, Bucklin, and Pauwels 2009; Villanueva, Yoo, and Hanssens 2008) because they can occur in the absence of any effort from the firm. Second, due to their small size and the limited scope of their activities, SMEs generally have lower profiles than large firms, which makes reputation building difficult

(Goldberg, Cohen, and Fiegenbaum 2003). As a result, sources of information about an SME are limited, making it difficult for potential customers to assess whether or not it would be profitable to do business with that firm. Opinions and information circulated by third parties increase a firm's prominence, thereby making it more attractive as a trustworthy supplier (Le and Nguyen 2009; Seevers, Skinner, and Dahlstrom 2010).

The marketing literature on referral behaviors particularly focuses on current customers that are satisfied with the product as the most important source of referrals (Kumar, Petersen, and Leone 2010). Nevertheless, several studies of small businesses suggest that another source might contribute substantially, either directly or indirectly, to the generation of business referrals: the personal relationships of the SME chief executive officer (CEO). These studies found that CEOs use their personal networks of relationships to circulate favorable information in

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order to obtain more business for their firms (Jack 2005; Johannisson 1996; Uzzi 1997; Zhou, Wu, and Luo 2007). This particular contribution of social contacts owes to the fact that the contacts hold first-hand information about the CEO's reliability and may be motivated to transfer it to other individuals as a way of helping. Although these studies have made important contributions by highlighting the importance of social ties in favoring referral behaviors, questions that are crucial for business practice remain unanswered: Why do some CEOs obtain more business referrals than others through their personal relationships? How can CEOs maximize referrals and thereby ensure business growth? The present study addressed these questions.

Our first objective was to examine which configurations of CEO social capital induce the most business referrals. To this effect, we use an individual approach to social capital, which focuses on the potential that social relationships offer for the circulation of information (Adler and Kwon 2002; Burt 1992; Inkpen and Tsang 2005). This approach can be used to capture differences between CEOs in terms of social capital and to determine how these differences may affect a CEO's potential to obtain business referrals. We argue that CEOs with strong ties and structural holes in their personal networks will benefit from more favorable word of mouth and therefore more business referrals. The underlying rationale is that maximizing business referrals through social ties basically requires two elements: an ability to circulate information far beyond the set of persons that the CEO already knows (structural holes) and the motivation to circulate this information (strong ties). By identifying the configurations of social capital that lead to more business referrals, we contribute to a better understanding of how SMEs may enhance their business performance.

The individual approach to social capital has already contributed to the study of SMEs by using similar variables to explain important outcomes, such as innovation, growth, or export performance (Ellis 2000; Julien, Andriambeloson, and Ramangalahy 2004; Ozgen and Baron 2007; Zhou, Wu, and Luo 2007). However, this approach has left the complexity of social capital underexplored. Apart from notable exceptions focusing on entrepreneurial ventures (Stam and Elfring 2008; Vissa and Chacar 2009), the CEO's social capital has been considered an unequivocally beneficial factor, regardless of boundary conditions. However, CEOs are individuals who perceive, understand, and react to their environment differently (Becherer and Maurer 1999; Ciavarella et al. 2004; Covin and Slevin 1989), which suggests that any benefits they may obtain from their social capital will also vary according to their personal characteristics.

Therefore, the second objective of our study was to investigate the characteristics of SME CEOs as contingent factors of social capital. In doing so, we respond to the call for further research into how actor-level characteristics affect the outcomes of social capital (Adler and Kwon 2002; Zhou et al. 2009). In line with recent work on the interaction between social capital and personality in organizational settings (Anderson 2008; Baer 2010; Zhou et al. 2009), we consider personality traits as a crucial factor affecting the impact of social capital in the context of SMEs. Our research refers to theories of information circulation through social ties (Burt 2005; Ferrin, Dirks, and Shah 2006; Wong and Boh 2010), and we argue that during social interactions a CEO's social contacts pick up behavioral cues indicating positive or negative personality traits. These observations form the basis for judgments and assessments that will affect their willingness to recommend the CEO's company to other people and that will ultimately impact the quality of information circulating along social ties. As a result, the effect of social capital should be contingent on a CEO's personality.

In order to pursue these objectives, the paper is structured as follows. We first examine the mechanism of business referrals and their importance for SMEs. We then analyze CEOs' social capital in the light of the individual approach to social capital. This leads to hypotheses about the impact of the key dimensions of strength of ties and structural holes on business referrals, and on its contingency to personality traits. After presenting the methodology and data collection process, together with our sample of 408 CEOs of small and medium-sized manufacturing companies, we describe the results of the survey. They offer new insights about how one particular trait of the CEO, conscientiousness, moderates the effect of social capital in the circulation of favorable information: Rather than intensifying the

positive outcomes of high conscientiousness, social capital attenuates the negative outcomes of lower conscientiousness. We conclude the paper by discussing the implications and limitations of these findings.

Theoretical Framework
Business Referrals in the Context of SMEs

Because they can significantly help the process of customer acquisition, business referrals have received considerable attention in the marketing literature. Although they are less controllable and manageable than marketing actions (e.g., direct mail, broadcast media), referrals have some serious advantages (Chen, Wang, and Jinhong 2011; Kumar, Petersen, and Leone 2010; Trusov, Bucklin, and Pauwels 2009). First, their influence on attitudes and beliefs about a firm is much stronger (Villanueva, Yoo, and Hanssens 2008). Information about a product, a service or a firm is indeed considered more credible by potential customers when it is transferred through referrals than when it comes from the firm itself (Anderson, Hakansson, and Johanson 1994; Seevers, Skinner, and Dahlstrom 2010). Second, referrals contribute to customer acquisition at a much lower cost than marketing actions (Trusov, Bucklin, and Pauwels 2009). Indeed, they often take place as a result of spontaneous information circulation from one person to the other rather than because of a firm's deliberate efforts. This argument is particularly crucial for SMEs as they tend to have limited resources to dedicate to gaining the attention of potential customers (Goldberg, Cohen, and Fiegenbaum 2003).

Despite the great advantages of referrals, though, their impact on customer acquisition might vary with the type of purchasing decision. The fact that someone recommends a company to a potential customer does not necessarily lead the latter to become an actual customer. Business referrals seem to be especially valuable when very first-hand information is needed before making purchasing decisions (Anderson, Hakansson, and Johanson 1994; Seevers, Skinner, and Dahlstrom 2010). This is particularly the case in situations of business-to-business relationships with high uncertainty due to product complexity or the need for substantial mid- and long-term commitments (Bensaou and Anderson 1999; Mooi

and Ghosh 2010). In these situations, establishing a new business relationship on the sole basis of publicly available information about the partner is risky (Podolny 1994). Screening and selecting a new business partner through third parties seems much safer, as these third parties can provide important knowledge about the trustworthiness and capabilities of the other firm (Li and Rowley 2002). Moreover, trust accumulated over a long period between the focal firm and some third party can simply be transferred to the newly formed dyad (Uzzi 1997). Similarly, a firm can expect the potential partner to be more cooperative if there is a third party, as any opportunistic behavior in their new relationship would create a serious threat of sanctions in the relationship it has already established with the third party (Podolny 1994).

In the context of SMEs, research has shown that referrals are based on the circulation of information about a firm's CEO at least as much (if not more) as about the firm in general. Studies of the specific case of entrepreneurial ventures are particularly enlightening in this respect. As newcomers to business, entrepreneurs tend to leverage the personal ties developed in earlier educational or professional situations (Hallen 2008). These individuals know the entrepreneur well and they can therefore compensate the lack of a track record by serving as referrals to other companies who would otherwise never consider the newborn company (Harrison, Dibben, and Mason 1997; Larson 1992; Shane and Cable 2002; Stuart, Hoang, and Hybels 1999). As a result, Jack found that the mobilization of an entrepreneur's personal social ties is a key factor in obtaining orders through recommendations (Jack 2005). Similar mechanisms have also been observed among established SMEs, such as in Uzzi's (1997) study of the New York apparel industry, which showed that the maintenance of close personal relationships by CEOs leads to business referrals. He found that it is possible for two companies whose CEOs do not know each other to quickly establish new commercial relationships if the two CEOs are engaged in a personal relationship with a third person who can recommend them doing business together (Uzzi 1997).

All these findings suggest that the unique combination of social ties around a CEO can make a serious difference by circulating favorable information leading to business referrals.

Yet they do not really tackle the issue of why some CEOs have personal networks that lead to more referrals than others. By relying on the well-established concept of social capital, our goal is to conceptualize the key differences across CEOs in terms of their personal networks so as to identify which configuration of personal relationships favors the best outcomes in terms of referrals.

The Benefits of Individual Social Capital

In the field of SMEs, the importance of personal relationships for business success has been examined from a number of perspectives. Some authors have referred to embeddedness (Granovetter 1985) to designate situations where business decisions appear to be governed by social framing and the structure of the network of social ties (Uzzi 1997; Yli-Renko and Autio 1998), whereas others have evoked social networks (BarNir and Smith 2002; Molina-Morales and Martinez-Fernandez 2010; Zhou, Wu, and Luo 2007) or social capital (Pirolo and Presutti 2010). In Asia, *guanxi*, a similar notion, has been shown to be an important aspect of business life, with implications for firm strategy (Carlisle and Flynn 2005; Chen and Chen 2004).

Adler and Kwon (2002) made a crucial contribution by showing how these approaches relate to the broader concept of social capital and contribute to two very different streams. One stream emphasizes the collective dimension of social relationships, seeing social capital as "an attribute of a social unit, rather than an individual" (Inkpen and Tsang 2005, p. 150), a public good that is shared, available to, and bringing benefits to all members of a group (Inkpen and Tsang 2005). Our paper builds on the second stream, which considers social capital from an individual point of view, as a concept that "helps explain the differential success of individuals and firms in their competitive rivalry" (Adler and Kwon 2002, p. 19). This stream sees social capital more as "a private good" (Inkpen and Tsang 2005, p. 150), based on the notion that a configuration of social ties surrounding an actor is highly idiosyncratic and can therefore bring unique advantages to one actor over the others.

This stream of research clearly established that the ideal configuration of social capital has to be analyzed in terms of the quality and structure of the ties surrounding an actor rather than their number (Adler and Kwon 2002). Both these qualitative and structural dimensions have been discussed, raising two theoretical debates, one over the benefits of weak versus strong ties (Granovetter 1973; Hansen 1999) and the other over the benefits of dense networks of interconnected contacts versus sparse networks of unrelated others (Burt 1992).

The question of what level of tie strength and what type of structure bring the most positive outcomes has also been discussed in the field of SMEs. Differences among CEOs on these dimensions have been reported to explain variance in terms of firm growth (Stam and Elfring 2008; Vissa and Chacar 2009), innovation (Julien, Andriambeloson, and Ramangalahy 2004), and export performance (Ellis 2000; Zhou, Wu, and Luo 2007). These studies argue that such results account for the ability of social capital to give CEOs access to an important resource, namely information. For example, strong personal contacts in the same business help provide CEOs with an accurate picture of their competitive environment, making it easier for them to set prices (Ingram and Roberts 2000). Similarly, certain ties can facilitate the recognition of new business opportunities by providing a CEO with timely information about market changes (Ellis 2000; Ozgen and Baron 2007), and some ties make it easier for SMEs to source external knowledge (McEvily and Zaheer 1999). All these studies share the argument that personal contacts have knowledge of the environment which they can transfer to the CEO, and that some structures and levels of strength of a CEO's ties are more effective than others in this respect.

However, social capital can also help information travel in the opposite direction. A CEO's personal contacts have information about the CEO that they can transfer to other individuals who are potential customers or who can themselves circulate such information to potential customers. Although some studies investigating the types of structure and the levels of tie strength that give the best returns in terms of communicating favorable information have been carried out in organizational settings (Burt 2005; Ferrin, Dirks, and Shah 2006; Wong and Boh 2010), there has been no such investigation with respect to SMEs. This void is all the more surprising given that such a study would help understand which configurations of social capital generate the most referrals for firms and

therefore contribute to a better understanding of SME performance.

Hypotheses

Social Capital and Business Referrals

The structure and strength of ties are important dimensions of social capital (Adler and Kwon 2002). Intuitively, having the highest number of direct contacts would be expected to result in the best access to resources and to more referrals. However, Burt (1992) contradicted this intuitive view, arguing that the number of nonredundant contacts is more important than the total number of contacts. This led him to introduce the concept of "structural holes," which he defined as gaps between nonredundant contacts. In Figure 1, Ego's network contains several structural holes. For example, Jack and Jane are nonredundant contacts: Because there are no ties between them, they connect Ego to different others. On the other hand, Bob and Sue are redundant contacts: Because they know each other and belong to the same social "clique," they indirectly connect Ego to the same contacts.

An SME CEO whose network contains a lot of structural holes will be connected to many different zones of the social structure, thereby guaranteeing that information about his/her firm is disseminated to a maximum number of people. By contrast, a CEO with a very dense network (in the extreme case, everyone knows everyone else) will find it more difficult to spread information about his/her company beyond his/her network of direct contacts.

Numerous empirical studies have been carried out to test this theory, some of which specifically link structural holes in the CEO's network to SME performance. McEvily and Zaheer (1999) found that structural holes had a positive effect on a firm's acquisition of strategic capabilities, in particular because low redundancy in the network offers access to broader sources of knowledge. Similarly, in a study of Indian entrepreneurial ventures, Vissa and Chacar (2009) found that firm growth was higher among entrepreneurial teams with structural holes in their advice networks. Following an analysis of ventures in the open source software industry, Stam and Elfring (2008) reported that centrality, a measure that also captures network structure, impacts firm growth.

Overall, these studies recognized that structural holes have a positive impact on firm performance, but they were unable to determine whether this impact was due to the ability of structural holes to provide a firm with access to information and resources or to the fact that structural holes promote broader dissemination of favorable information and recommendations. As a result, it remains unclear whether the impact on firm performance is due to an information acquisition effect or an information diffusion effect. However, studies in the field of reputation building at work have produced convincing findings that structural holes favor the diffusion of favorable information. Following a similar argument to that of structural holes theory, Mehra et al. (2006) showed that a manager's leadership reputation is positively influenced by his/her central position in friendship networks within his/her organization. Similarly, Wong and Boh (2010) found that non-overlapping contacts lead to broader

Figure 1
Illustration of the Concept of Structural Holes
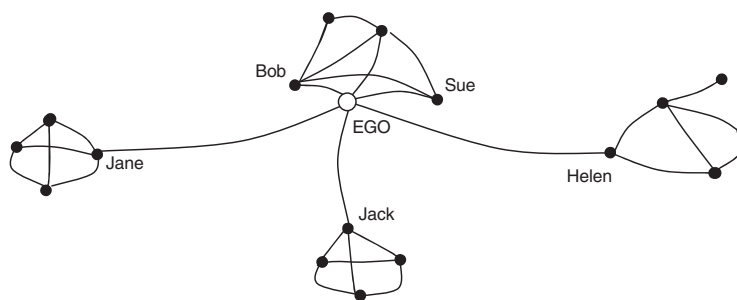
diffusion of information about a focal manager, resulting in enhanced reputation.

H1: The higher the number of structural holes in an SME CEO's network, the more business referrals he/she will obtain.

Another important dimension of SME CEOs' social capital is strength of ties, which is a function of interaction frequency, duration, emotional intensity, and reciprocity (Granovetter 1973; Zhou et al. 2009). Granovetter's argument is that if a CEO has strong ties with two persons who do not know each other, it is highly probable that they will develop a relationship over time (Granovetter 1973). Applying this principle to all of a CEO's relationships leads to the conclusion that individuals with strong ties tend to belong to rather dense networks in which resources circulate "in a closed circuit." Hence, it would be advantageous for an individual to create weak ties and to establish relationships with people he/she does not know and who belong to other social groups.

This argument suggests that structural holes, in Burt's sense, are more likely to exist between weak ties than between strong ties. However, other authors point out other reasons for the impact of strength of ties and provide arguments for a positive effect of strong ties (Ingram and Roberts 2000; Uzzi and Lancaster 2003). According to these arguments, it is more probable that a member of a CEO's network will recommend the CEO's firm if the tie is strong than if the tie is weak. First, a person with a weak tie to a CEO is less likely to be motivated to pass on information about the CEO's firm, whereas a person with a strong tie will generally be more motivated to support the CEO (Krackhardt 1992). Second, people with strong ties to a CEO often know what kind of resources and competences the CEO possesses (Borgatti and Cross 2003), increasing the probability that they will spread information about the CEO. In contrast, a weak tie implies less mutual knowledge and, probably, a smaller amount of substantial information to spread. Third, a person with whom a CEO has a strong tie is more likely to introduce a "positive bias" when spreading information about the CEO or his/her firm, relaying only more favorable aspects. This phenomenon is explained by people's tendency to overestimate the qualities of others with whom they have strong ties

because of the emotional components associated with such ties (Gershoff and Johar 2006).

These arguments may explain certain results reported in the literature. For example, in a qualitative study of 14 entrepreneurs, Jack (2005) reported that those who were able to build their firm's reputation mostly relied on strong ties based on family and friends. Similarly, in a study of medium-sized firms that were selecting partners for international joint ventures, Wong and Ellis (2002) found that strong ties were more powerful than weak ties in conveying information about potential contacts.

H2: The stronger the ties in an SME CEO's network, the more business referrals he/she will obtain.

Positive Personality and Business Referrals

By viewing networks as effective channels for spreading information, the individual perspective of social capital provides a framework for explaining how SMEs obtain business referrals. The better a CEO's network, the better the diffusion of information. However, the impact of information that travels through the network will differ according to whether it is favorable or unfavorable (Burt 2005). Because the opinion of a person within a CEO's network will depend on the CEO's characteristics and behavior, his/her personality traits should be taken into account alongside his/her personal networks (Baron and Markman 2000; Burt 2005). Whether or not favorable information is likely to circulate within the social structure will depend on these individual traits.

We consider personality traits to be fundamental characteristics of CEOs and believe that differences in personality traits between SME CEOs lead to differences in behavior. Several studies support this claim. For example, a CEO's personality has been shown to influence his/her company's chances of survival (Ciavarella et al. 2004), and a CEO's entrepreneurial orientation to determine firm performance (Becherer and Maurer 1999; Covin and Slevin 1989). Consistently, the present study follows the idea that a CEO's personality influences behaviors that affect both his/her SME and people's opinions in the network—which will ultimately impact business referrals.

Of the many models that characterize personality traits, we selected four traits from the

"big five" model (Costa and McCrae 1992; Digman 1990; Zhao and Seibert 2006): agreeableness, conscientiousness, extraversion, and openness to experience. These traits, which have been extensively tested by psychologists, have the advantage of providing a clear distinction between the personality aspects that are likely to be interpreted either very negatively or very positively by the people in contact with a CEO.[1] Moreover, they have already been successfully applied to the context of entrepreneurship (Zhao and Seibert 2006).

Based on Zhao and Seibert (2006), these four traits can be defined as follows. *Agreeableness* indicates whether a person is considered trustworthy, altruistic, and likely to take care of others, or, on the contrary, manipulative, self-centered, wary, and lacking compassion. *Conscientiousness* indicates a person's degree of organization, his/her perseverance and motivation to work. People with low *conscientiousness* scores are disorganized and quickly discouraged. *Extraversion* describes the tendency to turn to the outside world. Extraverted people are dominant, energetic, active, talkative, and enthusiastic; they enjoy group life and seek stimulation through contact with others. Introverted people prefer to spend more time alone and are rather reserved and independent. *Openness to experience* measures curiosity and willingness to search for new experiences and to explore original ideas. People with high scores on this dimension are creative, innovative, imaginative, thoughtful, and nonconventional.

Several studies have addressed the impact of these personality dimensions on behavior (Lee, Ashton, and Shin 2005; Paunonen 2003), on social status (Anderson et al. 2001), and on performance at work (Hurtz and Donovan 2000; Judge and Ilies 2002; Ones et al. 2007). Meta-analyses have shown that conscientiousness is a particularly important explanatory factor (Judge and Ilies 2002; Ones et al. 2007). When the other four dimensions operate, it is generally in a similar direction: They correlate positively with individual performance. However, most studies have noted performance in terms of evaluations made by supervisors (see the review by Ones et al. 2007). Thus, a person's personality is likely to affect his/her performance but may also influence how he/she is judged by other people. The notion that performance does not exist "in itself" but only through subjective evaluations is particularly relevant to our specific context of study: Because they lack objective information, potential customers of a focal SME have to build an opinion based on their subjective perception of potential performance.

This consideration is consistent with another stream of research that shows that personality traits are subject to perception and strongly contribute to the types of judgment others make. For example, in a study of the formation of impressions at work, Flynn, Chatman, and Spataro (2001) found that people who are demographically different from their coworkers engendered more negative impressions. However, those who had high extraversion and self-monitoring scores engendered more positive impressions than those with low scores for these traits. Similarly, Scott and Judge (2009) found that high core self-evaluations (a higher-order trait combining traits such as self-efficacy and self-esteem) were a factor of popularity in the workplace. On the contrary, individuals with low core self-evaluations were appraised negatively by others, resulting in lower popularity.

Taken together, these arguments suggest two complementary ideas: (1) personality traits are subject to perceptions by others and these perceptions partly drive their judgments; and (2) some traits are typically "positive personality traits" that lead to more favorable judgments, resulting in the circulation of positive information through personal relationships. In the case of SME CEOs, this should ultimately result in more business referrals. Thus:

H3a: The more an SME CEO is agreeable, the more business referrals he/she will obtain.

H3b: The more an SME CEO is conscientious, the more business referrals he/she will obtain.

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[1]We did not select emotional stability, the fifth dimension of the big five, as previous research on how others make judgments based on personality traits has shown that emotional stability is the least observable trait. This is because emotional stability does not produce clear behavioral manifestations that can be observed in social interactions (Funder and Sneed 1993; Vazire 2010). Consequently, there is no theoretical foundation for assuming that this trait will be translated into favorable information diffusion.

H3c: The more an SME CEO is extraverted, the more business referrals he/she will obtain.

H3d: The more an SME CEO is open to experience, the more business referrals he/she will obtain.

Positive Personality as a Contingent Factor of Social Capital

A growing body of literature suggests that the effect of social capital is linked to the characteristics of individuals. Burt (1992) and Ibarra (1992) found that women get less advantage than men from similar network positions. In the field of entrepreneurship, Stam and Elfring (2008) reported that centrality and the bridging ties connecting a founding team to other industries have a significant effect on business performance, but the strength of this effect depends on the founding team's level of entrepreneurial orientation. Similarly, Anderson (2008) reported that the average tie strength and the number of structural holes in a manager's network have a positive impact on the amount and diversity of information the manager can obtain, but this impact is stronger among managers with a high need for cognition. Similarly, Baer (2010) and Zhou et al. (2009) found that the impact of weak ties was moderated by personality traits (openness to experience and conformity, respectively). Extrapolating these findings to business referrals suggests that the amount of business referrals an SME CEO obtains from his/her network will depend on his/her personality traits.[2]

As already stated, some personality traits are perceived more positively than others (Scott and Judge 2009), and traits that are considered positive are more likely to lead to favorable information about a CEO being communicated along social ties. Thus, a social network that ensures good diffusion of information (structural holes and strong ties) may provide even greater benefits if the CEO at the hub of this network has personality traits that are perceived as positive. However, networks are not neutral vehicles for diffusing information, as the information they transmit tends to be attenuated or distorted during the diffusion process.

This attenuation and distortion are influenced by both structural holes and strong ties. Negative aspects of ego's personality circulate more easily and are more likely to become known by all the people linked to ego when ego is at the center of a dense network. In addition, the "echo" phenomenon (Burt 2005) leads to negative opinions being amplified and exaggerated during the circulation process. In Figure 1, the tie between Bob and Sue makes it possible for negative information to circulate from one to the other and to become amplified during conservations. On the contrary, the absence of a tie between Jane and Jack may be beneficial to ego. For example, a CEO with very positive personality traits will benefit from the lack of a tie between Jane and Jack because they will spread information through different parts of the social structure. However, a CEO with very negative personality traits will benefit even more from this situation because the lack of a tie between Jane and Jack will attenuate the negative signal given by negative personality, as it cannot become a topic of conversation in the CEO's network. There can be no contagion from Jane to Jack, and no possibility for amplification through "echo" effects, as they do not know each other. Hence, it may be more beneficial for CEOs with negative personality traits to have numerous structural holes in their networks.

H4a: The positive relationship between structural holes and business referrals is stronger when an SME CEO is low on agreeableness.

H4b: The positive relationship between structural holes and business referrals is stronger when an SME CEO is low on conscientiousness.

H4c: The positive relationship between structural holes and business referrals is

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[2]Some authors focus on personality as an antecedent of social capital rather than as a moderator (Kalish and Robbins 2006; Kim and Kim 2007; Klein et al. 2004; Mehra, Kilduff, and Brass 2001; Oh and Kilduff 2008; Sasovova et al. 2010). Positioning personality as a moderator or an antecedent seems to depend on the exact trait being considered. Self-monitoring ("the extent to which individuals are willing and able to monitor and control their self-expressions in social situations," Mehra, Kilduff, and Brass 2001, p. 124) was found to be an antecedent in five of the six previously cited studies, but other traits have received very limited attention as antecedents.

stronger when an SME CEO is low on extraversion.

H4d: The positive relationship between structural holes and business referrals is stronger when an SME CEO is low on openness to experience.

As already stated, a strong tie creates a deliberate or unconscious tendency for a contact to overestimate the qualities of a focal actor and to distort information (Gershoff and Johar 2006). Similarly, a strong tie may enhance the motivation for a contact to provide support and help to ego, regardless of what it may cost (energy, time, or legitimacy). In such a situation, a CEO with very positive personality traits might benefit from strong ties, as they will enhance the diffusion of positive information and thereby reinforce an already positive signal. However, CEOs with very negative personality traits might benefit even more because contacts with strong ties will tend to ignore negative signals and filter and distort information through a positively biased schema before passing it on to other contacts. As a result, they will attenuate the negativity of the signal. On the contrary, negative information that travels along weak ties is more likely to be transferred "as is," leading to poor outcomes in terms of business referrals. Consequently, strength of ties is likely to have the biggest effect on referrals for CEOs with low scores on positive personality traits.

H5a: The positive relationship between strength of ties and business referrals is stronger when an SME CEO is low on agreeableness.

H5b: The positive relationship between strength of ties and business referrals is stronger when an SME CEO is low on conscientiousness.

H5c: The positive relationship between strength of ties and business referrals is stronger when an SME CEO is low on extraversion.

H5d: The positive relationship between strength of ties and business referrals is stronger when an SME CEO is low on openness to experience.

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[3]We used the European Union's definition of an SME as a firm with fewer than 250 employees.

Methodology
Data

We tested our hypotheses on a sample of CEOs of manufacturing SMEs[3] in Haute-Savoie, France. Restricting a study's scope to one geographical area is common practice in the field (e.g., Camisón and Villar-López 2010; Madrid-Guijarro, Garcia, and Van Auken 2009; Niskanen and Niskanen 2010; Van Auken, Kaufmann, and Herrmann 2009) because it facilitates the data collection process. More importantly, it ensures relatively homogeneous environmental conditions, thereby minimizing the role of extraneous variables. This aspect is particularly important in studies of social capital (Aarstad, Haugland, and Greve 2010; McEvily and Zaheer 1999; Molina-Morales and Martinez-Fernandez 2010), as "the patterns of social capital are strongly conditioned by the social context where business partners are embedded" (Pirolo and Presutti 2010, p. 205).

The area we selected has one predominant cluster, the Arve Valley, which has a high density of small subcontracting firms and the largest concentration of precision engineering companies in Europe. These firms operate in a business-to-business environment, manufacturing mostly nonstandard products and responding to the specific needs of corporate customers, such as original equipment manufacturers in the automotive or aerospace industries. In this type of environment, purchasing decisions are often quite complex (Shao et al. 2008) and businesses need more refined and reliable information than what is publicly available. These decisions are also often risky due to high uncertainty, which generates a need for particularly trustworthy sources of information (Uzzi 1997). As a result, business referrals in this context should be of particular importance for customer acquisition. Another feature of this area is that it has been described as a "Marshallian district," with a long tradition of interpersonal relationships acting as cement for interfirm collaboration (Courlet, Pecqueur, and Soulage 1993). It has also received regular financial support from national, regional, and local authorities in order to promote cooperation. These characteristics should clearly facilitate information circulation and encourage relying on informal sources to assess the reliability of other firms.

Table 1
Sample Characteristics

	Number	Percentage
Industry		
Metal products	103	25.25
Industrial machinery	55	13.48
Electronic and electrical equipment	98	24.02
Chemicals, rubber & plastic products	75	18.38
Other manufacturing industries	77	18.87
Firm size (employees)		
Fewer than 10	180	44.12
10 to 50	160	39.22
50 to 250	68	16.67
CEO education		
Graduate degree	195	47.79
Undergraduate degree	117	28.68
No undergraduate degree	96	23.53
CEO gender		
Women	82	20.10
Men	326	79.90
CEO tenure (number of years with the company)		
Less than 2	19	4.66
2 to 5	63	15.44
5 to 10	93	22.79
More than 10	233	57.11
Mean	12.618	
Standard deviation	9.2741	

CEO, chief executive officer.

In December 2007, we sent an invitation to participate in the study to the CEOs of the 1,581 manufacturing SMEs listed in the databases of the Haute-Savoie Chamber of Commerce and Thésame, an Arve Valley organization that provides support to local firms in the metal products, mechanical engineering, and electronics industries. The invitation e-mail included a cover letter explaining that the study was supported by the Chamber of Commerce and Thésame. After two follow-up e-mails, we received 535 completed questionnaires, 427 of which were completed by respondents who identified themselves as the CEOs of their firm. We removed a further 19 questionnaires from the sample due to missing data, which left us with a database of 408 CEOs. This gave a final response rate of 25.81%, which is quite satisfactory compared with standards in the field for this type of study (Bartholomew and Smith 2006; Baruch and Hotlom 2008).

As shown in Table 1, most of the respondents had a graduate degree (47.79%), were male (79.90 percent), and had had long tenure with their company (more than 10 years for 57.11% of them). There were 44.12 percent of the firms in the sample that had fewer than 10 employees, 39.22 percent had between 10 and 49 employees, and 16.67 percent had between 50 and 249 employees. Most of the firms operated in the metal products (25.25 percent) or electronics industries (24.02 percent), followed by the chemical (18.38 percent) and industrial machinery (13.48 percent) industries. A comparison between the composition of the final sample and the parent population did not show any statistically significant differences in terms of firm size and industry.

Measures
Business Referrals. We applied a newly developed scale that uses respondents' reports to

capture the degree to which customer acquisition relies on referrals. We pretested an initial list of items with eight researchers in management and with a group of 10 SME CEOs taken from the parent population. Purification of the initial set resulted in a three-item scale (translated from French): "People recommend my company to customers," "People strongly advise other firms to do business with my company," "My company obtains contracts thanks to favorable word of mouth." Respondents rated how much they agreed with each item on a six-point Likert scale ranging from "strongly disagree" to "strongly agree." For the data collected, the scale had a satisfactory Cronbach's alpha of 0.779.[4] To the best of our knowledge, the only previous study to have measured self-assessed levels of business referrals is Seevers, Skinner, and Dahlstrom (2010), which was published after we had collected our data. Excepting the specific wording for their target population (retail buyers in the golf industry), Seevers et al.'s items are very similar to ours.

Name Generators. We used name generators to build the variables relating to the respondents' networks. This method requires respondents to identify the people with whom they have contact on various levels (e.g., friendship or advice). In line with previous studies (Burt 1992; Rodan and Galunic 2004), we used five name generators. Respondents were asked to give the names or initials of people they have contact with for (1) obtaining advice before making important decisions, (2) exchanging information on business trends and competition, (3) recruiting employees, and (4) finding solutions to technical problems. The fifth generator was a more open heading: "anybody you consider important for the management of your business and who did not fall into the previous categories." Each respondent could enter up to 18 names, and for each name the respondent was expected to answer a number of questions.

Structural Holes. Structural holes can be measured in several ways; however, the most widely used measurement is aggregate constraint. It indicates the extent to which the relationships in a focal actor's network lead, directly or indirectly, to the same people (Burt 1992, pp. 54–55). In other words, it expresses the extent to which a focal actor is surrounded by individuals who have connections with other people in the network. In this respect, it is strongly correlated with network density.

Burt (1992) defined the constraint exerted by an alter j on a focal actor i as:

$$c_{ij} = \left(p_{ij} + \sum_q p_{iq} p_{qj} \right)^2, q \neq i, j$$

where p_{ij} is the proportion of all relations that contact j represents in i's network. $\sum_q p_{iq} p_{qj}$ is the portion of i's relations with other contacts who are in turn connected to j. It gives a measure of the importance of j in i's network. If this sum is very high, it means that the presence of j in i's network considerably reduces the number of structural holes. The aggregate constraint is obtained by summing all the constraints exerted by each individual alter in ego's network:

$$c_i = \sum_j c_{ij}, i \neq j$$

In order to compute c_{ij}, we asked each respondent to indicate whether a pair of his/her contacts was connected, and to do this for every pair of contacts. These data were then converted into constraint values using UCINET VI software (Borgatti, Everett, and Freeman 2002). If structural holes positively impact business referrals (as postulated in H1), then constraint should negatively impact this variable. Because constraint can range between 0 and 1, and in order to facilitate interpretation, we used 1—constraint to directly measure structural holes. This is in line with previous research (McEvily and Zaheer 1999; Rodan and Galunic 2004).

Tie Strength. Of the many measures that have been devised to assess tie strength (Marsden and Campbell 1984), the most commonly used are frequency of interactions and emotional closeness. However, Marsden and Campbell (1984) showed that emotional closeness gives higher validity than frequency of interactions because this latter variable is often a correlate

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[4]See Appendices for the principal components analysis of business referrals.

of elements that are not connected with tie strength (e.g., geographical proximity). Therefore, we used emotional closeness in the present study. Our data collection tool asked respondents to position each of their listed contacts on a Likert scale ranging from "distant" to "especially close" (Burt 1992). A respondent's "strength of ties" score was the average of the scores obtained for all the contacts he/she listed.

Personality Traits. The "big five" scales have been frequently tested and validated. The International Personality Item Pool website contains translations of the most frequently used items in 10 languages (Goldberg 1999). We selected six items for each dimension, so as to avoid cluttering the questionnaire and to maximize the response rate. Our pretests made it possible to ensure that all the items were well understood. Thus, we retained four personality variables: agreeableness ($\alpha = 0.812$), conscientiousness ($\alpha = 0.774$), extraversion ($\alpha = 0.760$), and openness to experience ($\alpha = 0.757$).

Controls. We controlled for several variables capturing key differences across SMEs. Firm size was measured in terms of number of employees, with the SMEs being divided into three categories: fewer than 10 employees, from 10 to 50 employees, and more than 50 employees. Two dichotomous variables were created: "fewer than 10 employees" and "from 10 to 50 employees." We also controlled for industry, using NES[5] codes. We created a dichotomous variable for each category of industries mentioned in Table 1 (except "other manufacturing industries"). Other items on the questionnaire were used to measure characteristics of the CEOs, such as gender, tenure (number of years with the company), and education, for which we distinguished three categories (graduate degree, undergraduate degree, no degree). We used "graduate degree" and "undergraduate degree" as two dichotomous control variables.

Results

The summary statistics and correlation matrix for all the variables are presented in Table 2. The hypotheses were tested using hierarchical regressions.[6]

The Direct Effects of Social Capital and Personality

With the stepwise introduction of the variables according to a hierarchical logic of regression, adding network variables (Model 2, Table 3) and then personality variables (Model 3) significantly enhanced the explanatory power of the model.

Our results support H1 and H2 (Model 2) with both stronger ties and larger numbers of structural holes in a CEO's network leading to more business referrals. This second result is in line with Burt (1992). H3 is also supported, as Agreeableness (H3a), Conscientiousness (H3b), Extraversion (H3c), and Openness to Experience (H3d) have a significant impact on business referrals. Overall, business referrals depend on the extent to which information about a CEO spreads through his/her personal network and on the nature of this information.

Personality Moderating the Effect of Social Capital

Model 4 (Table 3) includes all the variables that were introduced in the previous models, together with the interactions between the personality and network variables.[7] One personality trait—conscientiousness—significantly moderates the effect on business referrals of both structural holes and strength of ties. This particularity of conscientiousness is consistent with previous research. Of the "big five" traits, conscientiousness has been found to be the most important factor in individual performance (Judge and Ilies 2002; Ones et al. 2007). This trait signals reliability, motivation to fulfill commitments, and willingness to pay attention to detail, and these aspects may be more important in the context of business relations than the other traits (agreeableness, extraversion, and openness to experience).

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[5]NES codes are a standard classification used by the French National Institute of Statistics and Economic Studies (INSEE 2010).

[6]In line with Jaccard and Turrisi (2003), we mean centered network and personality variables before processing the data, in order to avoid multicollinearity problems.

[7]Correlations between network variables and personality traits are extremely weak (−11.2 percent for the strongest correlation). These results provide additional evidence that personality traits should not be considered as antecedents. This is line with recent works (Anderson 2008; Baer 2010; Zhou et al. 2009).

Table 2
Means, Standard Deviations, and Correlations

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1 Business referrals	1																
2 Gender (1 = woman)	-0.022	1															
3 Tenure (ln)	-0.045	-0.060	1														
4 Graduate degree	-0.013	-0.048	-0.190***	1													
5 Undergraduate degree	-0.006	0.091*	0.047	-0.620***	1												
6 Metal products	0.009	0.000	0.164***	-0.065	0.021	1											
7 Industrial machinery	0.036	-0.063	-0.045	-0.015	0.028	-0.105**	1										
8 Electronic and electrical equipment	0.015	-0.122**	0.005	0.068	-0.089*	-0.140***	-0.097**	1									
9 Chemicals, rubber and plastic products	-0.140***	-0.017	0.024	0.047	-0.15	-0.125**	-0.087*	-0.115**	1								
10 Fewer than 10 employees	-0.016	0.176***	-0.192***	-0.023	-0.026	-0.256***	-0.040	0.041	-0.034	1							
11 10 to 50 employees	-0.028	-0.103**	0.127***	-0.053	0.034	0.179***	0.008	0.006	0.049	-0.743***	1						
12 Structural holes	0.056	-0.042	-0.095*	0.070	-0.030	0.089*	-0.053	-0.091*	-0.003	-0.067	0.070	1					
13 Strength of ties	0.127***	0.031	0.048	0.034	-0.066	-0.006	-0.058	0.031	0.000	0.100**	-0.076	-0.343***	1				
14 Agreeableness	0.230***	0.061	-0.110**	-0.027	-0.030	0.047	0.000	-0.047	-0.086*	0.028	-0.069	-0.051	0.099**	1			
15 Conscientiousness	0.152***	0.094*	-0.083*	-0.064	0.032	-0.065	0.036	-0.007	-0.089*	0.074	-0.088*	0.007	-0.019	-0.189***	1		
16 Extraversion	0.264***	0.014	-0.113**	0.011	-0.042	0.036	0.052	-0.032	-0.040	-0.003	-0.049	0.037	0.112**	0.206***	0.093*	1	
17 Openness to experience	0.344***	-0.018	-0.081*	0.130***	-0.094*	0.027	0.045	-0.020	-0.043	0.092*	-0.049	-0.029	0.085*	0.224***	0.084	0.166***	1
N	408	408	408	408	408	408	408	408	408	408	408	408	408	408	408	408	408
Mean	0.000	0.201	0.960	0.478	0.287	0.252	0.135	0.240	0.184	0.441	0.392	0.000	0.000	0.000	0.000	0.000	0.000
Standard deviation	1.000	0.398	0.380	0.500	0.457	0.338	0.252	0.319	0.291	0.498	0.490	0.196	0.530	0.978	0.981	1.003	0.987

Table 3
Hierarchical Regression Analysis

	Model 1		Model 2		Model 3		Model 4	
	Business referrals (standardized coefficients, with Student statistics in brackets)[a]
Gender (1 = woman)	−0.015	(−0.286)	−0.012	(−0.239)	−0.011	(−0.245)	−0.002	(−0.033)
Tenure	−0.055	(−1.042)	−0.055	(−1.048)	−0.009	(−0.184)	−0.019	(−0.392)
Graduate degree	−0.039	(−0.584)	−0.049	(−0.746)	−0.054	(−0.893)	−0.068	(−1.110)
Undergraduate degree	−0.041	(−0.638)	−0.039	(−0.613)	−0.001	(−0.015)	−0.024	(−0.411)
Metal products	0.000	(0.008)	−0.010	(−0.194)	−0.037	(−0.767)	−0.060	(−1.247)
Industrial machinery	0.021	(0.408)	0.032	(0.633)	0.015	(0.323)	0.022	(0.490)
Electronic and electrical equipment	0.007	(0.129)	0.013	(0.257)	0.030	(0.636)	0.018	(0.375)
Chemicals, rubber and plastic products	−0.132**	(−2.575)	−0.128**	(−2.525)	−0.099**	(−2.129)	−0.098**	(−2.062)
Fewer than 10 employees	−0.082	(−1.041)	−0.101	(−1.295)	−0.114	(−1.575)	−0.111	(−1.567)
10 to 50 employees	−0.080	(−1.068)	−0.088	(−1.180)	−0.070	(−1.022)	−0.069	(−1.010)
Structural holes			0.113**	(2.099)	0.095*	(1.926)	0.087*	(1.745)
Strength of ties			0.174***	(3.254)	0.110**	(2.233)	0.120**	(2.451)
Agreeableness					0.109**	(2.273)	0.089*	(1.825)
Conscientiousness					0.102**	(2.194)	0.077*	(1.678)
Extraversion					0.163***	(3.481)	0.149***	(3.151)
Openness to experience					0.287***	(6.062)	0.325***	(6.838)
Strength of ties × agreeableness							−0.077	(−1.458)
Strength of ties × conscientiousness							−0.120**	(−2.330)
Strength of ties × extraversion							−0.030	(−0.583)
Strength of ties × openness to experience							0.067	(1.284)
Structural holes × agreeableness							−0.029	(−0.555)
Structural holes × conscientiousness							−0.219***	(−4.158)
Structural holes × extraversion							0.001	(0.011)
Structural holes × openness to experience							−0.006	(−0.112)
R^2	0.026		0.054		0.219		0.263	
Adjusted R^2	0.001		0.025		0.187		0.217	
R^2 variation	0.026		0.028		0.166		0.043	
Standard error estimate	0.995		0.984		0.898		0.882	
F	1.056		1.861**		6.852***		5.677***	
N	408		408		408		408	

[a]Student's t significance: ***$p < .01$; **$p < .05$; *$.05 < p < .10$.

Figure 2
Interaction Effect between Structural Holes and Conscientiousness
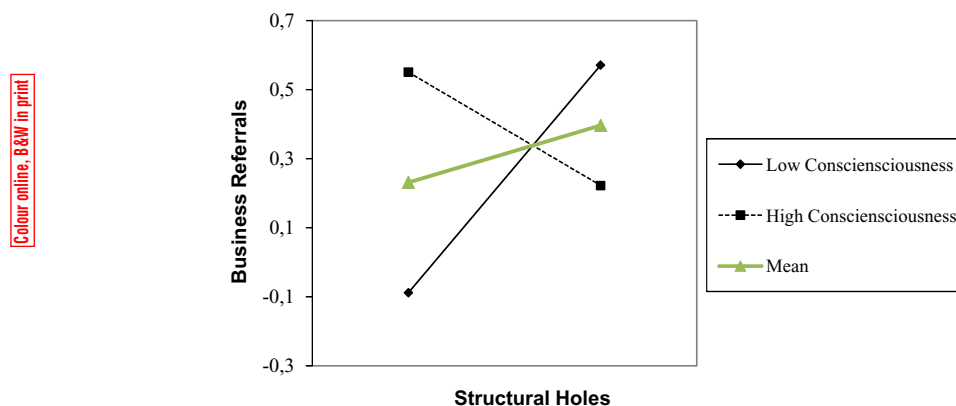
Figure 2 depicts the interaction effects graphically (based on Aiken and West 1991). These graphs use the nonstandardized coefficients to establish the regression slope, considering three cases: a high value for the moderating variable (one standard deviation [S.D.] above the mean), a low value for the moderating variable (one S.D. below the mean), and a value equal to the mean for the moderating variable.

The overall positive effect on business referrals of both structural holes and strength of ties was stronger among CEOs with lower conscientiousness. Hence, conscientiousness mitigates the positive effect of social capital, which indicates that networks are a source of information distortion and attenuation, as well as a source of information diffusion. CEOs with low conscientiousness (a signal that is negative for business) will get more business referrals if they have a network that is rich in structural holes because structural holes dampen the diffusion of negative signals. As the individuals in a CEO's network do not know each other, the negative signal cannot become a topic of conversation and will therefore lose its intensity.

On the contrary, a low level of structural holes (high density and redundancy in the network) leads to intense circulation of the negative signal. The fact that information circulates very rapidly in a dense network will result in negative aspects being widely known by people connected to the CEO. Moreover, as well as spreading negative opinions, talk amplifies and exaggerates them (Burt 2005). In contrast, a very conscientious CEO will benefit from the amplification and exaggeration of opinions through a dense network (see the slightly negative slope for very conscientious individuals) because positive personality signals will be transmitted and amplified via conversations between individuals who know the CEO as well as each other.

We also found support for an interaction between strength of ties and conscientiousness. The impact of strength of ties was very high among CEOs with low conscientiousness and absent among CEOs with high conscientiousness. CEOs with low conscientiousness obtained more business referrals when they had strong ties (on the right in Figure 3) and fewer business referrals when they had mainly weak ties. On the contrary, very conscientious CEOs obtained similar levels of business referrals no matter how strong (or weak) the ties in their networks. This is consistent with the notion that low conscientiousness is a negative signal that limits the diffusion of favorable information. When such negative information is transmitted along weak ties, it is likely to be transferred "as is." On the other hand, when it travels along strong ties, it is likely to be filtered and positively biased.

Table 4 summarizes the empirical support found for our hypotheses.

Discussion

This study examined how a CEO's social capital and personality favor business referrals.

Figure 3
Interaction Effect between Strength of Ties and Conscientiousness
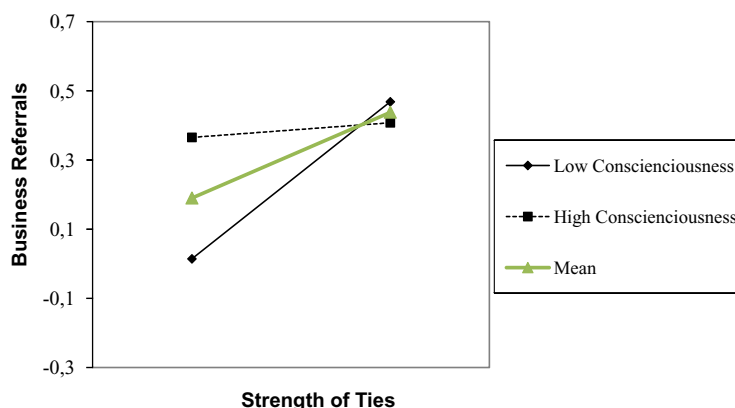
Colour online, B&W in print

In line with the individual approach to social capital (Adler and Kwon 2002; Burt 1992), we view social ties as important vehicles for spreading first-hand information about the CEO to potential customers (Uzzi 1997). Our findings offer several contributions. From a theoretical point of view, they highlight the relationship between information diffusion and networks that are rich in structural holes, whereas previous research focused on the role of this variable for SMEs in terms of information acquisition (McEvily and Zaheer 1999). Similarly, although strength of ties has been studied as an important variable affecting information acquisition (Julien, Andriambeloson, and Ramangalahy 2004; McEvily and Zaheer 1999), we provide evidence that it plays an important role in information diffusion. Thus, our study provides an original contribution to the debate over the "strength of strong ties" (Hansen 1999) versus the "strength of weak ties" (Granovetter 1973).

Our research also contributes to current efforts to move beyond a "universal" theory of social capital. In line with a very recent stream of research (Anderson 2008; Baer 2010; Zhou et al. 2009), we argue that the value of social capital is contingent on personality. Building on research into the perception of personality traits (Flynn, Chatman, and Spataro 2001; Scott and Judge 2009), we tested a model in which a CEO's personality is a signal that is interpreted and referred to by contacts in his/her personal network. We found that positive personality traits have a direct positive effect on referrals. In addition, one of these personality traits, conscientiousness, moderates the impact of social capital. Conscientiousness signals that a focal actor is a reliable and hard-working person, and therefore a good job performer (Judge and Ilies 2002; Ones et al. 2007). Thus, it is not surprising that the conscientiousness of a CEO provides potential customers with a particularly valuable indication of his/her expected reliability in business.

A much more insightful finding lies in the way conscientiousness moderates the effect of social capital. Social capital (strong ties and structural holes) appears to be very beneficial for CEOs with low conscientiousness but almost neutral for CEOs with high conscientiousness. In other words, rather than intensifying the benefits accruing from high conscientiousness, social capital compensates for the negative reputation effect that low conscientiousness could create. Strong ties seem to involve a certain "bias" in the spread of information, with contacts disseminating favorable information and endorsing a CEO even when the initial signal is negative. Similarly, structural holes between contacts can prevent negative signals being propagated contagiously from one group of contacts to another, thereby reducing the likelihood of "echo" effects. This is very beneficial for CEOs with low conscientiousness, but not particularly advantageous for CEOs with high conscientiousness. Taken together, these results indicate that social ties

Table 4
Synopsis of Results

Direct effect of social capital on business referrals

Direct effect of social capital on business referrals	
H1: The higher the number of structural holes in an SME CEO's network, the more business referrals he/she will obtain.	Supported
H2: The stronger the ties in an SME CEO's network, the more business referrals he/she will obtain.	Supported
Direct effect of positive personality on business referrals	
H3a: The more an SME CEO is agreeable, the more business referrals he/she will obtain.	Supported
H3b: The more an SME CEO is conscientious, the more business referrals he/she will obtain.	Supported
H3c: The more an SME CEO is extraverted, the more business referrals he/she will obtain.	Supported
H3d: The more an SME CEO is open to experience, the more business referrals he/she will obtain.	Supported
Positive personality moderating the effect of social capital	
Structural holes	
H4a: The positive relationship between structural holes and business referrals is stronger when an SME CEO is low on agreeableness.	Not supported
H4b: The positive relationship between structural holes and business referrals is stronger when an SME CEO is low on conscientiousness.	Supported
H4c: The positive relationship between structural holes and business referrals is stronger when an SME CEO is low on extraversion.	Not supported
H4d: The positive relationship between structural holes and business referrals is stronger when an SME CEO is low on openness to experience.	Not supported
Strength of ties	
H5a: The positive relationship between strength of ties and business referrals is stronger when an SME CEO is low on agreeableness.	Not supported
H5b: The positive relationship between strength of ties and business referrals is stronger when an SME CEO is low on conscientiousness.	Supported
H5c: The positive relationship between strength of ties and business referrals is stronger when an SME CEO is low on extraversion.	Not supported
H5d: The positive relationship between strength of ties and business referrals is stronger when an SME CEO is low on openness to experience.	Not supported

CEO, chief executive officer; SME, small and medium-sized enterprise.

must be seen as channels that alter information as it travels through them, thereby offering a more complex view of the individual approach to social capital.

These findings on personality as a contingent factor open new research avenues about the relationships between social capital and personality. Some studies have taken a different approach from ours, focusing on personality as an antecedent of social capital, rather than as a moderator. They found that traits such as self-monitoring (e.g., Kim and Kim 2007; Mehra, Kilduff, and Brass 2001; Oh and Kilduff 2008; Sasovova et al. 2010) or neuroticism (Kalish and Robbins 2006; Klein et al. 2004) lead to specific structures of personal networks. The coexistence of these studies with approaches positing other traits as moderators (Anderson 2008; Baer 2010; Zhou et al. 2009) reveals a need for theoretical

clarification. Future research should consider models including some traits as antecedents of social capital (in particular, those capturing skills for or orientation toward socialization, e.g., self-monitoring) and other traits as moderators (those that are independent from socialization and more relevant to task-related dimensions, e.g., openness to experience or conscientiousness).

Future research should also examine the processes through which a person's opinion makes him/her more or less likely to recommend a CEO. This could be done by collecting information from CEOs' social contacts, rather than from CEOs themselves. Such studies would also address one of the limitations of the present study and therefore strengthen the validity of our results. Although relying on the self-evaluation of CEOs to assess business referrals is now a well-established approach (Seevers, Skinner, and Dahlstrom 2010), it entails some risk of bias due to differences in perceptions.

Finally, further research is needed before our results can be generalized. As in any survey, a limited response rate entails a risk of poor fit between the sample and the parent population. Although our response rate was satisfactory compared with standards in the field (Bartholomew and Smith 2006; Baruch and Hotlom 2008), we checked for possible differences between respondent and nonrespondent firms. Our analyses revealed no significant differences in terms of industry and firm size, suggesting that our sample is representative of the parent population. The generalizability of the results from this population to other contexts is less clear. We studied manufacturing SMEs operating in a business-to-business environment, where informal sources of information about a firm are particularly valuable in the process of making purchasing decisions. Similar studies in the context of much simpler purchasing decisions may lead to very different results.

In a similar vein, the benefits of individual social capital are highly dependent on the social context at a broader level (Adler and Kwon 2002) and our findings are based on a geographically restricted industrial cluster, as is the case for many other studies of social capital among SMEs (Molina-Morales and Martinez-Fernandez 2010; Pirolo and Presutti 2010). Our results should therefore be interpreted in the light of the particular social context of our study. In clusters, which are characterized by higher mutual trust and cooperation (Chetty and Agndal 2008; Cooke, Clifton, and Oleaga 2005), the observed benefits of individual social capital (our research question) may be fueled by the preexisting high level of collective social capital (our context). Moreover, local institutions usually play an important part in promoting collaboration and provide resources to make this possible (Fromhold-Eisebith 2005; Gilly and Wallet 2001). Another aspect that makes clusters favorable environments for business referrals through social ties is that physical proximity and collocation make it easier for CEOs to have frequent face-to-face interactions (Chetty and Agndal 2008). Therefore, it would be interesting to replicate our study in areas with a much lower concentration of SMEs, less specialization, and less active local institutions. In such contexts, it would be reasonable to hypothesize that individual social capital would have a lower impact on business referrals due to the absence of collective social capital. A comparison of two areas would contribute to a better understanding of how levels of social capital (individual and collective) interact, an aspect that was pinpointed by Ibarra, Kilduff, and Tsai (2005) as one of the future challenges in the field.

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Appendix

Quality of Representation for Business Referrals

Retained items	Cos²	Var	α
"People recommend my company to customers"	0.780	70%	0.779
"People strongly advise other firms to do business with my company"	0.747		
"My company obtains contracts thanks to favorable word of mouth"	0.580		

Quality of Representation for Agreeableness

Retained item label	Cos²	Var	α
"I am interested in people"	0.569	57%	0.812
"I sympathize with other people's feelings"	0.561		
"I make time for others"	0.624		
"I feel others' emotions"	0.591		
"I make people feel at ease"	0.514		

Quality of Representation for Conscientiousness

Retained item label	Cos²	Var	α
"I usually put things back in their proper place"	0.744	69%	0.774
"I pay attention to detail"	0.598		
"I like order"	0.733		

Quality of Representation for Extraversion

Item label	Cos²	Var	α
"I do not talk a lot"	0.636	58%	0.760
"I keep in the background"	0.610		
"I start conversations"	0.532		
"I talk to a lot of different people at parties"	0.554		

Quality of Representation for Openness to Experience

Item label	Cos²	Var	α
"I have a vivid imagination"	0.715	68%	0.757
"I have excellent ideas"	0.689		
"I am quick to understand things"	0.639		

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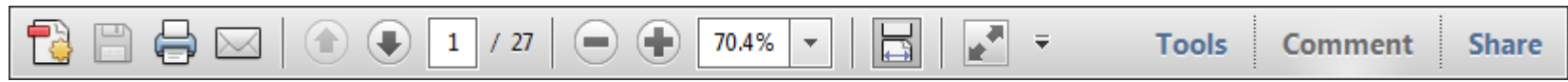
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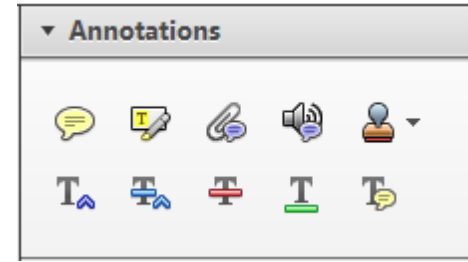
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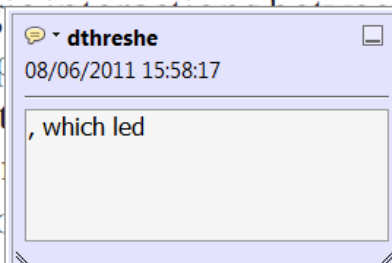
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4. Add sticky note Tool – for making notes at specific points in the text.

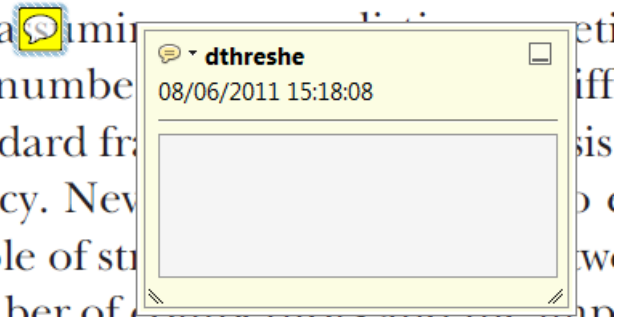Marks a point in the proof where a comment needs to be highlighted.

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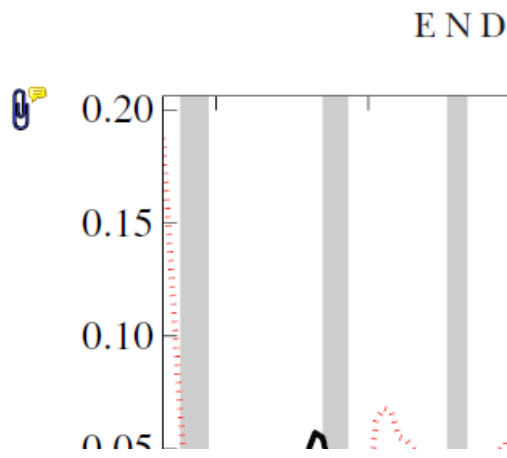
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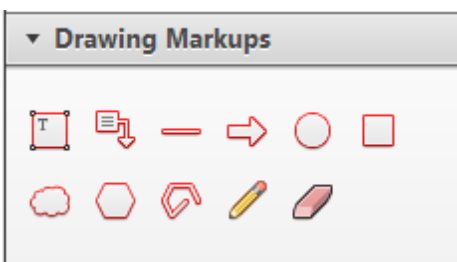

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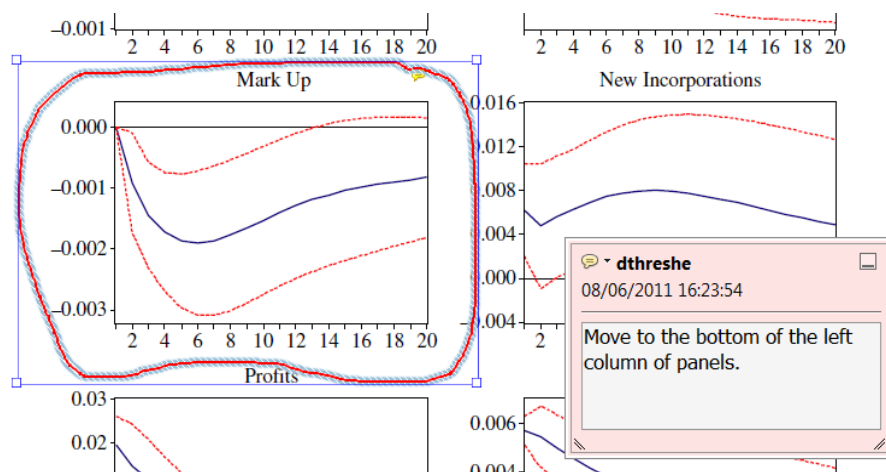
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