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HORIZONTAL REFERRALS IN B2B MARKETS

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Abstract

Horizontal referrals –when suppliers recommend other suppliers– are a common phenomenon in complex B2B markets. For the referring supplier, giving the *best-possible horizontal referral* may strengthen the relationship with its customer, yet it may also threaten the referring supplier's future revenues and cross-selling opportunities. Instead, the supplier could make an *obligatory referral*, one that fulfills the obligations of recommending another supplier while keeping referring supplier's own interests paramount. We rely on role theory and its antecedents (mutual trust and referring supplier's dependence) to determine when a referring supplier adopts the role of a friend (vs. a businessperson) and gives the best-possible referral (vs. an obligatory referral). Study 1, an experiment, supports our theoretical model. Study 2, a conjoint study, links the observable antecedents of the referring supplier-customer relationship to their choice of horizontal referrals. Study 3, another experiment, looks at the consequences of the horizontal referral on the referring supplier-customer relationship and shows that providing an obligatory referral can hurt the customer's intent to continue their relationship with their supplier. This effect is mediated by the customer's perceived alignment of interest with their supplier. For B2B marketing research and practice, we report that the supplier's dependence is critical to predicting the quality of horizontal referrals, even though an exploratory survey showed that customers overlook that dimension and focus on mutual trust when seeking referrals.

Keywords – B2B Markets, Referrals, Customer-Supplier Relationship, Conjoint Experiment

INTRODUCTION

"Following the conclusion of a marketing analytics consulting engagement, [the client organization] asked us whether we could further develop an advanced predictive model. That kind of modeling effort required specific resources our company did not have access to. Even if it had, developing this particular capability was not deemed strategic to our firm. Consequently, we replied that no, unfortunately, our company did not offer such services. The customer then asked: "if you cannot do it, then, do you know someone who can?" We did. Unfortunately, the best recommendation for the job was also one of our firm's biggest competitors." (Interview, CEO of an analytics consulting firm, 2019, for this paper).

The marketing technology industry has seen the number of suppliers increase seventyfold in less than a decade, from 150 in 2011 to more than 9,930 in 2022 (Brinker 2022). In such complex business-to-business (B2B) industries, suppliers frequently know more about other suppliers than their customers do. Customers often attempt to tap into that knowledge and reduce their search costs by asking their suppliers to recommend another supplier (as the example above demonstrates). Hada, Grewal, and Lilien (2010) define such a recommendation –where a supplier recommends another supplier to their customer– as a *horizontal referral*. However, giving a horizontal referral can lead to a conundrum for the *referring supplier* (the supplier giving the recommendation).

On the one hand, an ideal recommendation for the customer, irrespective of the future competitive threat it provides for the referring supplier, could position the referring supplier as an advisor who always acts in its customer's best interests. The business press recognizes the value of building a strong relationship with one's customers by recommending other suppliers, even competitors (Forbes 2011):

> *"What? Why would you ever recommend a competitor? [...] If there is any sure sign that a salesperson is a trusted advisor, it is this: the salesperson's willingness to turn down a sales opportunity –even better, to recommend a competitor– if that were in the client's best interests."*

Likewise (EQuip Blog, 2013):

> *"Given how tough it has become to win new work, you might question the logic of ever recommending a competitor for work that your firm could perform (or any kind of work). My boss certainly did. […] [But] Recommending a competitor is an effective way to demonstrate that you can be trusted to act on the client's behalf."*

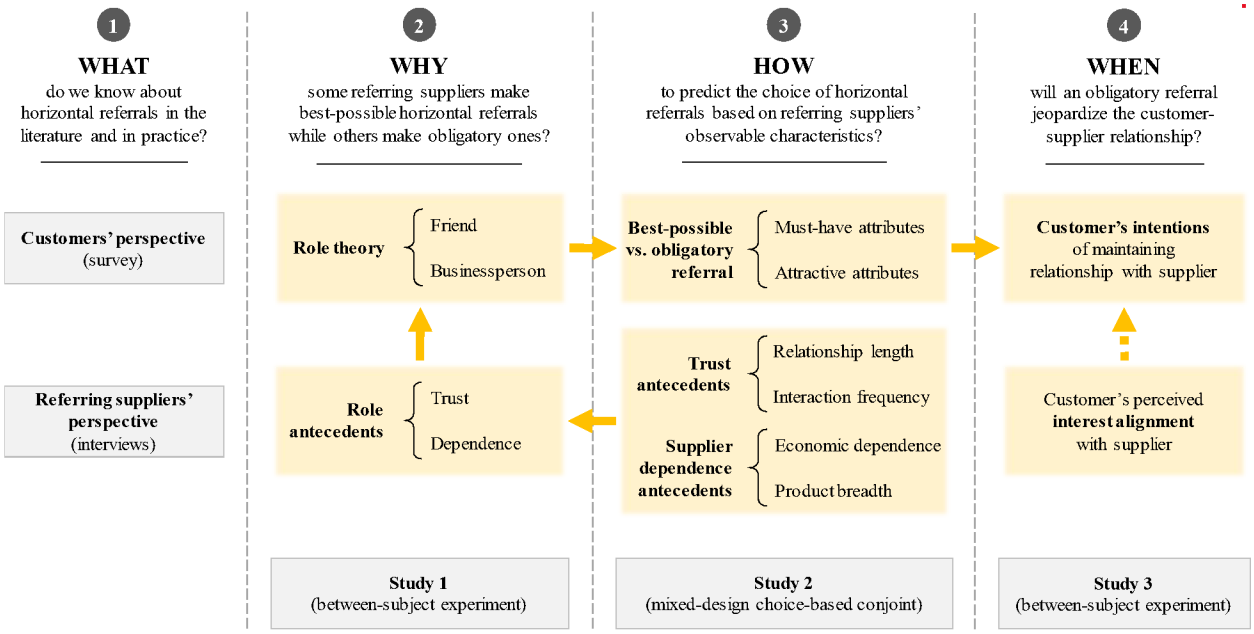
On the other hand, if the best supplier for the customer is one that could take away future

revenue (as our interview quote highlights), the referring supplier must choose between a referral in the customer's best interest (a *best-possible referral*) or another that would not pose a future threat to the supplier, but still satisfy their obligations to the customer (an *obligatory referral)*.

Surveys and interviews we conducted underscore this problem. In a survey we conducted with 132 B2B customers, 72% reported actively seeking horizontal referrals at least once from their existing suppliers. In an interview, a supplier confirmed receiving such customer requests *"at least once a week […], if not more."* For instance, a firm supplies its healthcare customer with CRM analytics services. The customer seeks to acquire a CRM *software* solution. Seeking to benefit from the supplier's market knowledge, the customer asks the supplier to recommend a CRM software supplier (i.e., to make a horizontal referral). The dilemma the referring supplier faces is that such a horizontal referral might also provide CRM analytics services (competing directly with the referring supplier's current offering), may overlap with the referring supplier on adjacent markets such as cloud services (impeding the referring supplier on potential cross-selling opportunities with its customer), or both.

Thus, while the referring supplier might wish to act as a "trusted advisor" (as the Forbes 2011 article indicates) and give the best possible recommendation to their customer, such a recommendation could threaten its current revenue or future growth opportunities. In this paper, we ask: How do referring suppliers behave in a situation of possibly misaligned interests, and what is the effect of their behavior on the referring supplier-customer relationship? To answer these questions and better understand the phenomenon of horizontal referrals in B2B markets, we take a multi-pronged approach (Figure 1).

Figure 1 –Research Questions and Studies



First, we conduct an exploratory survey with customers and interviews with referring suppliers and describe how the phenomenon of horizontal referrals works in practice. Our survey shows that customers extensively rely on horizontal referrals when they need to find new suppliers (81% of our sample). Customers report relying on suppliers they trust and expect the referring supplier to act in the customer's best interests. However, our interviews with suppliers show that they are conflicted about which supplier to recommend (as the opening quote demonstrates). A literature review on horizontal referrals and inter-firm relationships in economics and marketing fails to provide a definitive answer about how referring suppliers will behave in such situations.

Second, we develop a theoretical model to address how referring suppliers act by integrating role theory with social exchange theory in interfirm relationships (Kumar, Heide, and Wathne 2011, Koch and Schultze 2011). We show that referring suppliers tend to act either as friends or as businesspersons (e.g., Wathne and Heide 2006) and determine that the roles referring suppliers are most likely to adopt depend on supplier-customer mutual trust and referring suppliers' dependence on the customer. In turn, the roles referring suppliers adopt influence the horizontal referrals they

make (i.e., best-possible or obligatory). We validate our theoretical framework with an experiment in Study 1 (see Figure 1).

Third, we acknowledge that firms in business relationships can be incorrect about their perceptions regarding these relationships and seek to understand when that incorrectness occurs (Vosgerau, Anderson, and Ross 2008). We identify objective and measurable antecedents of mutual trust (relationship length and interaction frequency) and referring supplier's dependence on the customer (economic dependence and product breadth) and hypothesize how each of these four antecedents will impact the likelihood of a referring supplier making a best-possible referral (acting in the customers' interests) versus an obligatory one (acting only to fulfill the referring supplier's obligations toward the customer). These predictions provide guidelines to managers seeking to obtain horizontal referrals. We test these predictions with a choice-based conjoint experiment in Study 2.

Fourth, building on Studies 1 and 2, we assess the effect of the referring supplier's choice of horizontal referral (best-possible vs. obligatory) on the customers' intentions of continuing with their relationship if they detect that the referring supplier did not make the best-possible referral. We test our hypotheses with a between-subject experiment in Study 3.

We make three contributions. First, we contribute to the literature on horizontal referrals in economics and marketing. The economics literature assumes that suppliers' interests are misaligned with those of the customers when giving horizontal referrals (e.g., Arbatskaya and Konishi 2012, Garicano and Santos 2004). This literature concludes that referring suppliers will act in their own interests and choose to service the customers themselves and not refer other suppliers. In contrast, we rely on the social exchange perspective in inter-firm relationships to argue that the referring suppliers' behaviors depend on the referring supplier-customer relationships and the referring suppliers' characteristics. Our perspective, counter to the economics literature, predicts that referring

suppliers will often act in their customers' interests.

Second, we rely on role theory to uncover *why* some referring suppliers act only out of obligation while others go above and beyond to act in the customers' interest. These findings contribute to the literature on suppliers' behavior wherein suppliers stay within obligations in their relationships or go beyond them (e.g., Wuyts 2009). We also contribute to this literature by studying a situation in which referring suppliers' and customers' interests can be misaligned and highlight the role dependence in the relationship plays on how each entity behaves.

Third, we provide managerial implications for both customers and suppliers. Our exploratory survey indicates that when customers seek horizontal referrals, they tend to rely on trusted suppliers. We show that, in fact, they should also seek the advice of non-economically dependent suppliers.

LITERATURE REVIEW: HORIZONTAL REFERRALS AND SUPPLIERS' BEHAVIOR

Literature on horizontal referrals

Research in horizontal referrals has primarily been conducted in the economics domain, assuming that horizontal referrals almost always lead to misaligned interests between referring suppliers and customers (see Table WA1 in Web Appendix A). For example, Grassi and Ma (2016) note that when the supplier knows of another supplier that would be better for the customer (as opposed to itself), the referring supplier faces a trade-off between "honestly advising clients to build a good reputation [and giving a horizontal referral] and reaping a quick profit at the client's expense [by serving the client itself]" (p. 938).

Consequently, the economics literature, primarily via analytical models, finds that suppliers will act in their own interests and attempt to service customers themselves, as opposed to giving a horizontal referral (e.g., Garicano and Santos 2004; Bolton, Freixas, and Shapiro 2007). Interestingly, in a rare model of a repeated long-term B2B relationship, Park (2005) finds that the supplier will give

a horizontal referral *only* when there is fear of the customer punishing the referring supplier for the deception of not recommending. Thus, the economics literature argues that suppliers will deceive customers to keep business for themselves, except when customers could discover the deception.

The marketing literature on horizontal referrals is sparse (Table WA1). Similar to the economics literature, Mayzlin and Yoganarasimhan (2012) build an analytical model and show that there are trade-offs in blogs referring other blogs (referrals promote readership, but referrals for better blogs can lead to loss of readers). In an empirical paper, Blanchard, Hada, and Carlson (2018) show that a salesperson giving a horizontal referral for a nonfocal product (e.g., bed frame) can increase sales of the focal product (e.g., mattress). As Table WA1 shows, horizontal referrals have not been studied extensively for existing relationships in B2B markets; hence we consider the literature that addresses suppliers' behavior in B2B marketing relationships.

Literature on suppliers' behavior

Horizontal referrals –when the customer relies on the supplier to reduce its search costs– occur because the customer-supplier relationship is built on socio-economic exchanges. In such situations, the supplier's behaviors toward its customers have been shown to be driven by pro-social considerations as well as economic ones. These dual and often contradictory considerations lead the supplier to act either within the expected obligations of the relationship (in-role behaviors) or go beyond them (extra-role behaviors; e.g., Wuyts 2007).

Extra-role behaviors are efforts voluntarily expended beyond the call of duty (Kim and Mauborgne 1996). A distinguishing feature of extra-role behaviors is that they are voluntary (Kim, Hibbard, and Swain 2011) and are oriented toward helping the customer (Wuyts 2007). For example, a supplier might go beyond its obligations and absorb demand and pricing shocks for its customer. In such a case, the supplier has gone "above and beyond" the stated guidelines of the relationship. Not surprisingly, positive relationships characterized by a cooperative atmosphere (Wuyts 2007),

benevolence (Ling-Yee 2010), and extant gratitude (Mangus et al. 2017) lead to a firm exhibiting extra-role behaviors. At the same time, suppliers also exhibit extra-role behaviors when they face the risk of losing their business, such as when the customer has a multi-sourcing strategy (Wuyts 2007). Regardless of the motivations of the supplier, research has found that going beyond obligations in a relationship leads to positive relational consequences such as relational performance (Ling-Yee 2010) and profitability (Wuyts 2009; Table WA2 in Web Appendix A).

However, this stream of research has also shown that extra-role behaviors are likely to have greater positive effects on early-stage relationships than on more mature ones, Mangus et al.(2017). argue that this relative difference is due to the rising expectations of customers about suppliers' extra-role behavior in positive relationships. Similarly, Kim, Hibbard, and Swain (2011) argue that in-role behaviors are considered insufficient for maintaining the relationship when firms can switch between suppliers. If so, suppliers' extra-role behaviors in positive relationships might not lead to the expected rewards.

Although this stream of literature considers behaviors that are both within and beyond obligations in a relationship, it has not looked at situations with misaligned interests between the customer and the supplier. Which relational factors govern the supplier's likelihood of putting the customers' interests ahead of their own? And what are the customers' expectations in this regard? As a starting point, we rely on customer and supplier surveys and interviews to gain insights.

EXPLORATORY STUDIES: HORIZONTAL REFERRALS IN PRACTICE

To better understand horizontal referrals in B2B markets and to provide a foundation for our conceptual model, we conducted two exploratory studies: a survey of customers' perspectives on asking for –and relying on– horizontal referrals, followed by in-depth interviews addressing referring suppliers' perspective on giving horizontal referrals.

Perspectives from B2B customers (survey)

Sample. We hired Dynata Inc., a market research company with specialized B2B panels, and surveyed 126 managers in supplier-facing roles. Our sample averaged 22 years of work experience, and 45% was related to purchasing roles (see Web Appendix B).

Findings. 81% of the surveyed customers reported horizontal referrals: 72% had asked their current suppliers to recommend other suppliers, 74% had received unsolicited horizontal referrals from their current suppliers, and 65% had experienced both. We asked these respondents to recall one specific horizontal referral and answer questions based on that instance (Table 1).

Respondents reported using horizontal referrals because suppliers know their industry better than customers (e.g., "*he had more experience than I did in that particular market*" and "*They are the ones in the industry, and I feel they would have the best information*"; Table 1). Customers usually asked for a recommendation for a different product/solution in the supplier's industry than the one the referring supplier provides (e.g., asking the supplier for Office IT supplies to recommend a supplier for audio-visual IT support; Table 1 line 5); but there were instances when customers asked for a horizontal referral to reduce their reliance on a single source for parts (e.g., "*reduce backlog*" and *"reduce supply risk by developing a secondary supplier relationship*").

Respondents often mentioned the positive relationship they have with the referring supplier as a reason for asking for a horizontal referral (e.g., "*good relationship,*" "*long-term relationship,*" and "*worked with for several years*") and that they trusted the referring supplier to act in the customer's interests (over 27% of the open-ended responses mentioned trust, Table 1 provides examples). While three of the respondents indicated caution in relying on the referring supplier's recommendation ("*only when their volume is larger than mine*" and "*I'm not always confident they'll be unbiased in their responses*"), such responses were rare.

Table 1 – Examples of Horizontal Referrals from Exploratory Customer Survey

Customer's industry	Customer's new requirement	Referring supplier's product	Open-ended response on relying on vendor for recommending another supplier
Industrial packaging distributor	Poly bladder for bag in box	Custom poly packaging material	We have a long-term relationship with the current vendor, and I feel I can trust him to be honest with me. I knew that what I was looking for wasn't a strong area for him to be able to produce but that he had more experience than I did in that particular market.
Retail	Restroom	Supply Management	Only when it is their area of expertise, or their volume is larger than ours.
Healthcare	CRM software	CRM professional services	I'm fine with a vendor recommending another vendor. If the recommended vendor wasn't a current supplier, I would do the same due diligence to investigate the recommended vendor as I would do in a typical situation.
Healthcare	Substitute for a stent	Surgical supply	Have a good relationship with the vendor and trust his judgment.
Consulting	Audio-visual IT support	Office IT supplies	Very common in the consulting industry to suggest other firms in the sector to provide specialized services/staff in larger scale projects
Aircraft leasing	Aluminum aircraft parts	Aircraft parts	I trust my current supplier to be honest and with his experience, I believe he understands the level of quality offered by his competitors. There is an understanding that customers must reduce their supply risk by developing a secondary supplier relationship to ensure consistent and timely sources of supply
Gas Stations	Signage parts	Store signage	Current vendor was changing focus and not providing sparts and spares in a timely manner. We were looking for them to recommend suppliers of parts; to reduce backlog and sole-source dependency.
Computer Components	Computer accessories	Backpacks	I really won't ask them to recommend another vendor for backpacks.
Manufacturing	Machining	Machining	They are the ones in the industry, and I feel they would have the best information.
Manufacturing	Logistics	Moving filled containers	I believe in playing well with others, both with customers and vendors. I have good vendors who have my business' best interests in mind. They know that by sharing solutions with me, their customer, that I will in turn reward with business loyalty to them.
Aerospace and Defense	Stock ruggedized computers	Custom ruggedized computers	The suppliers are well aware of one another. While I am confident in their ability to know whether their competitor's products would work in ours, depending upon with whom I'm dealing I'm not always confident they'll be unbiased in their responses.
Retail	Logistics for small vendors	Novelty items	I completely trust my current vendor's recommendation.
Motorcycling	Merchandise	Sunglasses	I've worked with my current vendor for several years. I trust him and believe he has my company's best interests in mind.

We also asked respondents to rate the relationship they had at the time with the referring supplier (on a 1-7 scale). They reported a relationship high on trust (mean=6.17, s.d.=0.89), low on conflict (mean=2.41, s.d.=1.69), with frequent interactions (mean=5.59, s.d.=1.54), and relationship lengths that varied from 6 months to 30 years. They also reported that, on average, referring suppliers were economically dependent on them, although with great variability in the sample (mean=4.72, s.d.=1.71). Reflecting on their experience, respondents stated that they felt referring suppliers generally referred them to appropriate new vendors (mean=5.40, s.d.=1.40).

Overall, the survey revealed that customers rely extensively on horizontal referrals to reduce their search costs for a new supplier (as the economics literature has emphasized) and that they largely trust the referring supplier to act in their (the customer's) interests.

Perspectives from B2B referring suppliers (interviews)

To understand how referring suppliers perceive horizontal referrals, we conducted ten in-depth interviews with customer-facing managers in B2B supplier firms. These firms ranged from large companies selling industrial products to small firms offering technological and analytical services (see Web Appendix B). These managers also reported that horizontal referrals are common practice. For example, when asked how often he receives such a request, a vice-president of a marketing analytics firm answered: "*At least once a week. If not more.*" A director at an education solutions firm concurred*: "I can't even count the number of times this has happened in my career."*

The interviews indicated that suppliers are keen to maintain a good relationship with their customers but are aware of the potential threats from certain suppliers they could recommend, suppliers that could be strong competitors for a customer's business. A vice president of sales at a consulting firm explained his thoughts when customers request horizontal referrals:

> *We have to show good faith by giving a good referral. But we really don't want to bring in a possible competitor; our model is to expand our share of wallet with the customer—everyone who is in this solution industry focuses on "land and expand." We don't want competitors to take that [future*

revenue].

The marketing manager at a global industrial power transmissions firm concurred:

Our approach is to enter into a relationship with a customer and then get a good chunk of their business. Whenever I have to refer another firm, typically because we lack capability in that country, I am very-very wary of who will walk in. It is not difficult to take away business with a cheaper person-per-hour quote."

The director of a digital publishing firm presented a similar perspective:

"We are often capacity constrained in add-on services, so we have recommended other firms –but smaller firms. For our key long-term customers, we try and outsource to these smaller firms ourselves and keep the client with us. It's a bit tricky, I want to do my best for these long-term customers, but these add-on services have higher margins and we do not want to lose that either!"

Nevertheless, suppliers are also aware that providing a horizontal referral that is contrary to their own interests can strengthen their relationship with their customers. A product manager at a leading medical device firm suggested that giving a horizontal referral for another supplier's product is a superior strategy:

"The customer did buy [the horizontal referral's] device, but long-term, I think I came out on top."

A CEO of a chip manufacturing startup expressed:

"We fill a niche; all my customers are annual repeat customers and we trust each other. I am quite confident that I am not going to lose a big chunk of future work. So, I [recommend] the best I can.

A marketing analytics' consultant expressed:

"I'm a one-person firm. My clients are with me because they trust me and my judgment. I will do the best I can. But I also need every single one of my clients. It's a trade-off.

The interviews indicate that referring suppliers are conflicted when giving horizontal referrals: they are aware of the long-term view that requires them to put their relationship first, but at the same time, are concerned about losing revenue by recommending suppliers who offer lower prices or products that could compete with their offerings.

STUDY 1: ROLE THEORY AND HORIZONTAL REFERRALS

Our exploratory studies have indicated that customers are likely to rely on referring suppliers in complex markets (81% of our survey sample) and that those referring suppliers are unlikely to recommend bad-performing suppliers. However, even assuming a positive relationship between the supplier and the customer, it is unclear what a referring supplier will do when interests are misaligned. When presented with a situation requiring a horizontal referral, a referring supplier can follow four courses of action:

1. NO REFERRAL. The referring supplier denies/dodges the request.
2. SUB-STANDARD REFERRAL. The referring supplier gives a blatantly sub-standard horizontal referral (e.g., low performing, overly expensive, incapable of meeting the customer's needs).
3. BEST-POSSIBLE REFERRAL. The referring supplier makes the best referral possible and does so with the customer's interests at heart.
4. OBLIGATORY REFERRAL. The referring supplier considers the suppliers it knows and chooses one that satisfies the customer's request (thus fulfilling the obligations toward their customer) but is purposely not the best for the customer, hence limiting the competitive threat to themselves.

Our exploratory surveys, and literature review in horizontal referrals, indicate that referring suppliers are unlikely to give NO REFERRAL (they realize the importance of the ask) or a SUB-STANDARD referral (they want to maintain their positive relationship with the customer). Therefore, an important but unexplored research question is: *under which circumstances* will a referring supplier give a BEST-POSSIBLE referral vs. an OBLIGATORY referral?

Park (2005) finds that in a repeated long-term relationship, the supplier will give a horizontal referral *only* when there is the fear of the customer punishing the referring supplier for the deception of not recommending. However, in complex B2B markets, a customer may not easily discern

whether the referring supplier suggests an OBLIGATORY or a BEST-POSSIBLE supplier (at least not ex-ante). The referring supplier's choice is rather a reflection of how it sees itself behaving in specific situations (as obliged or beyond), irrespective of the likelihood of detection. Role theory focuses on how entities behave *because* they perceive themselves as following certain roles, depending on the situations they find themselves, *even* devoid of the chance of detection (March 1994). Therefore, role theory is well suited to the context of horizontal referrals.

Theoretical development: role theory

Heide and Wathne (2006) define an organizational role as "an organizational 'identity' or 'collective mind' which provides the foundation for shared perceptions and decision-making" (p.91). According to role theory, a decision-maker in a firm asks the following questions: (1) What kind of situation is this? (2) What kind of organization is this? And (3) What does an organization such as this do in a situation such as this? Thus, the decision maker first considers the situation and then acts based on what the firm considers appropriate in such situations (Koch and Schultze 2011).

Montgomery (1998) identified two role archetypes that firms adopt: (1) a FRIEND, whose decisions are guided by the norms and expectations in the relationship, and (2) a BUSINESSPERSON, whose decisions are guided by utility maximization considerations and not bound by expectations of behavior. Role theory has seen applications in marketing, especially in how frontline employees can feel role conflict when there is ambiguity (Ruyter de Jong and Wetzels 2009) or how sales reps adopt a FRIEND or a BUSINESSPERSON role depending on the situation (Grayson 2007).

Applying role theory to interfirm relationships, Heide and Wathne (2006) illustrate the differences in the FRIEND and BUSINESSPERSON roles, taking a cooperative interfirm relationship as an example: A supplier and a customer may develop the norm of cooperation and act in each other's interests. A supplier who adopts the role of a FRIEND will cooperate with the customer because that is how the supplier believes they are expected to act, even if it is not in the supplier's interest. A

supplier who adopts the role of a BUSINESSPERSON will cooperate or not with the customer based on the decision that maximizes the supplier's interest in that situation. Heide and Wathne (2006) argue that these roles can coexist, and firms do not always make decisions according to only one role. Depending on the situation, a firm can act as a FRIEND or a BUSINESSPERSON.

Thus, we consider how the referring suppliers' adoption of the role of FRIEND or BUSINESSPERSON is likely to affect their choice of making a BEST-POSSIBLE or OBLIGATORY REFERRAL. The role the referring supplier adopts when making a horizontal referral depends on the situation, which, in turn, is defined by the customer-supplier relationship (Koch and Schultze, 2011).

Hypotheses

As discussed earlier, interfirm relationships are economic exchanges embedded in a social structure, and a horizontal referral takes place in such a social environment. Thus, to consider antecedents to referring supplier's behavior when giving a horizontal referral, we rely on the social exchange theory, which leads to two perspectives in marketing: *trust-commitment* and *dependence* (Palmatier, Dant and Grewal 2007).

The trust-commitment perspective argues that "commitment and trust, not power or dependence, are the keys to inter-organizational relational performance [...] help to foster mutual goals and mitigate each channel member from acting entirely in their own self-interest" (Watson et al. 2015, p.550). TRUST in a relationship is defined as the belief that an exchange partner is benevolent and honest and will act with integrity toward the firm (Grayson, Johnson, and Chen 2008), whereas *mutual* TRUST is defined as the degree to which a partner believes that both entities trust each other and will act accordingly toward each other (e.g., Anderson, Lodish and Weitz 1987). For suppliers and customers to rely on each other when considering other suppliers, we assume that bilateral reciprocation of trust is needed. Therefore, we study mutual TRUST (for brevity, we use TRUST hereafter) between the referrer and the supplier as the key antecedent to the role the referring

supplier might adopt. TRUST involves the willingness to rely upon a partner, which has as its basis an expectation that the motives, intentions, and behavior of the partner are trustworthy. With high mutual TRUST between the supplier and its customer, the supplier is likely to act based on altruistic/communal motivations and would be willing to go beyond obligations for their customer (e.g., Wuyts 2007). A supplier that is willing to go beyond obligations and genuinely wants to help their customer is likely to adopt the role of a FRIEND. Therefore:

H_1: The higher the TRUST between a referring supplier and their customer, the more likely the referring supplier will adopt the role of FRIEND (vs. BUSINESSPERSON) toward their customer.

Conversely*, the dependence perspective* builds on the premise that DEPENDENCE of one firm on another affects that firm's influence on the other, affecting the inter-firm relationship (e.g., Antia, Zheng, and Frazier 2013). A referring supplier's DEPENDENCE on their customer refers to the need to maintain the relationship with the customer to achieve their current and future goals (Ganesan 1994). The higher the referring supplier's DEPENDENCE on their customer, the more threatened they are by losing current revenues. In such a situation, a supplier is likely to be driven by instrumental motivations rather than altruistic ones (e.g., Bolino 1999). Thus, the supplier desires to "generate a positive impression for competitive reasons (to have an edge over competing suppliers) or for cost reasons (to avoid the costs associated with relationship termination)" (Wuyts 2007, p.303).

A decision-maker adopts the role of a BUSINESSPERSON when acting according to the consequences of the decision and not according to the expectations established in the relationship (Montgomery 1998; Heide and Wathne 2006). Since DEPENDENCE is likely to lead the supplier to act under instrumental motivations (Wuyts 2007), we hypothesize that:

H_2: The higher the referring supplier's DEPENDENCE on their customer, the less likely the referring supplier will adopt the role of FRIEND (vs. BUSINESSPERSON) toward their customer.

Grayson (2007) finds a similar effect in the context of sales reps in a network-selling scheme.

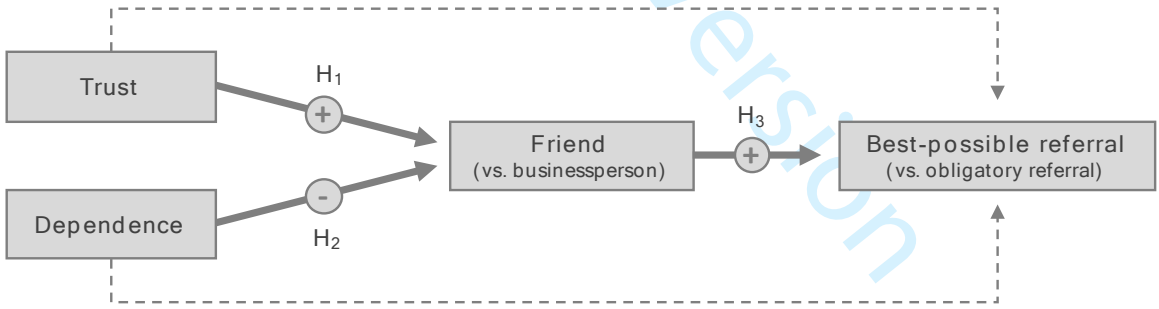
When relationships are financially valuable, the rep is less likely to act as a FRIEND and more likely to act as a BUSINESSPERSON. A firm that acts as a FRIEND makes decisions based on what is appropriate and expected in a friend-based relationship. A referring supplier that acts as a FRIEND would likely give a referral that is in the customer's best interests, even if it poses a risk to its future business with the customer.

A referring supplier will want to appear as if acting with the customer's best interests at heart to generate a positive impression. Yet, doing so may jeopardize its current and future profit by giving a horizontal referral that could take away future revenue. A firm that adopts the role of a BUSINESSPERSON makes decisions based on the consequences of its choices, choosing what maximizes its own utility. Therefore:

H_3: The more the referring supplier adopts the role of a FRIEND (vs. BUSINESSPERSON) toward its customer, the more likely it will make a BEST-POSSIBLE REFERRAL (vs. OBLIGATORY REFERRAL).

Figure 2 summarizes our hypotheses.

Figure 2 – Conceptual Model for Study 1



Note: The dependent variable is BEST-POSSIBLE referral, a horizontal referral made in the best interests of the customer, as compared to an OBLIGATORY referral, a suboptimal recommendation but good enough to appear as if it is in the interests of the customer.

Research design

We summarize the conceptual model and hypotheses in Figure 2. We test H_1–H_3 with a 2x2 between-subjects experiment. We manipulate TRUST (high vs. low) and referring supplier's DEPENDENCE on the customer (high vs. low) and measure the propensity of the referring supplier to

act as a FRIEND (vs. a BUSINESSPERSON) and make a BEST-POSSIBLE (vs. OBLIGATORY) horizontal referral. For our empirical context, we require a situation where the referring supplier and customer have an existing relationship, and the customer requires a solution in the referring supplier's industry. This difference in industries between the referring supplier and customer forms the basis of horizontal referrals –as the referring supplier knows more about their industry than the customer does. Our respondents play the role of a referring supplier in the analytics and technology industry. Their client is a healthcare insurance company building a data center and asking for a recommendation for a new technology supplier[1] (Web Appendix C provides details).

Manipulations and Measures. To manipulate high (low) TRUST, we adapt Srivastava and Charkrvarti (2009):

> *Referring supplier and customer have worked well together for more than three years. In past dealings, both firms have* always *(*mostly*) kept their word and looked out for each other in business transactions. There have been* no (several) *instances in which the firms have had to resort to legal action to enforce business agreements.*

For referring suppliers' high (low) DEPENDENCE on customers, we adapted measurement items from Ganesan (1994, p. 16) as follows:

> *Referring supplier* is (not) *highly dependent on the customer. If this relationship were to end, referring supplier, and you as the key account manager,* would *(*not*) see a significant financial and professional loss.*

There is little research on the roles of FRIEND and BUSINESSPERSON in interfirm relationships. We adapted items from Dong et al. (2010) to assess referring suppliers' role adoption, modifying the items to correspond to firm actions. Our theoretical arguments rely on the referring supplier perceiving horizontal referral as a situation of misaligned interests with the customer.

[1] We first assessed the stimuli from the customer's context with 132 purchasing managers (from Dynata's B2B online panel), and 78% of respondents indicated they would ask for a horizontal referral in the described context. These customer-specific stimuli asked the respondent to take the role of the health insurance company (the customer). Details provided in Web Appendix A. For Study 1, we flipped the customer-specific empirical context to gauge the referring suppliers' responses when asked for a horizontal referral by the customer.

Therefore, we measure respondents' perceived *misalignment of interests* and control for it. All measurement items presented in Web Appendix C.

For referral choice, respondents must choose between the following two options:

> *A supplier that would be best for the customer from the available suppliers you know and would take away referring suppliers' future revenue from customer. [BEST-POSSIBLE referral]*
>
> *A supplier that would give the impression of being the best for the customer even if there are better available suppliers you know and would not take away referring suppliers' future revenue from customer. [OBLIGATORY referral]*

Model

We estimate a system of two equations. The first equation linearly estimates whether the supplier will adopt the role of a FRIEND (vs. BUSINESSPERSON) measured on a continuous scale (1-7) as a function of customer-supplier mutual TRUST (manipulated, high/low), supplier's DEPENDENCE (manipulated, high/low), and their two-way interaction (see Table 2). The second equation uses a logit specification to estimate whether the supplier will make a BEST-POSSIBLE referral (=1) or an OBLIGATORY one (=0) as a function of the role they will adopt (i.e., FRIEND vs. BUSINESSPERSON). It also controls for the direct effect of TRUST, supplier DEPENDENCE, and their two-way interaction (see Table 2). We estimate the two equations simultaneously and use bootstrapping to estimate the indirect and total effects of TRUST and DEPENDENCE on referring suppliers' choice of horizontal referral (for estimation approach, see Hayes 2015).

Results

Our sample consists of 387 respondents with at least two years of work experience recruited on Prolific Academic™ (details in Web Appendix C). We find an equal split (~50%) between respondents who stated that they would make a BEST-POSSIBLE referral and an OBLIGATORY referral, indicating that referring suppliers often –but not always– act in their customer's best interests.

Hypotheses testing. All hypotheses are supported. We find that a referring supplier is *more* likely

to act as a FRIEND in the context of a high-TRUST relationship (0.23, $p<0.05$) but *less* likely to act as a FRIEND in a high-DEPENDENCE context (-0.15, $p<0.05$), confirming both H_1 and H_2. The more a supplier acts as a FRIEND, the more likely they are to make a BEST-POSSIBLE referral (0.95, $p<0.01$) in strong support of H_3. We report the results in Table 2.

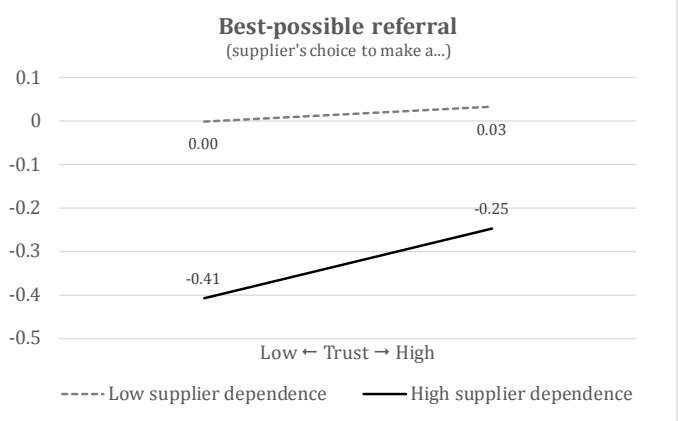
Mediation analysis. We use bootstrapping (Hayes 2015) to also estimate the indirect and total effects of TRUST and DEPENDENCE on the likelihood of making a BEST-POSSIBLE referral. TRUST does not have a direct effect on BEST-POSSIBLE referral; however, as hypothesized, the total effect of TRUST through its mediator is significant and positive (0.22, 95% C.I. is [0.40,0.05]). The total effect of DEPENDENCE is negative but marginally significant (-0.15, 90% C.I. is [0.01,-0.13]). Furthermore, we find that DEPENDENCE has a significant, negative, direct effect on the likelihood of making a BEST-POSSIBLE referral (-0.41, [-0.08,-0.70]).

Table 2 – Parameter Estimates (Study 1)

Equation 1: friend	**Estimate**	**s.d.**
Intercept	-5.12 **	0.22
Trust	0.23 **	0.10
Supplier dependence	-0.15 *	0.10
Trust × S-dependence	-0.10	0.14
Control: alignment of interests	0.32 **	0.03

Equation 2: best-possible referral	**Estimate**	**s.d.**
Intercept	-3.19 ***	0.51
Friend	0.95 ***	0.09
Trust	-0.19	0.18
Supplier dependence	-0.26	0.17
Trust × S-dependence	0.13	0.23

Mediation: best-possible referral	**Estimate**	**s.d.**
Trust — total effect	0.03	0.20
Trust — indirect effect	0.22 ***	0.10
Supplier dependence — total effect	-0.41 ***	0.18
Supplier dependence — indirect effect	-0.15 *	0.10



Notes: Parameter estimates (N = 387) * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$ (one-tailed tests). TRUST and supplier DEPENDENCE are significant antecedents of the roles the referring suppliers will adopt, and referring supplier is more (less) likely to make a BEST-POSSIBLE horizontal referral if it adopts the role of a FRIEND (BUSINESSPERSON). The chart plots the total effects of TRUST and DEPENDENCE on selecting a BEST-POSSIBLE referral. When DEPENDENCE is low, referring suppliers are the most likely to select a BEST-POSSIBLE referral, and TRUST is not changing that likelihood significantly. When DEPENDENCE is high, likelihood to make a BEST-POSSIBLE referral is lower, while high TRUST *partly* mitigates the effect.

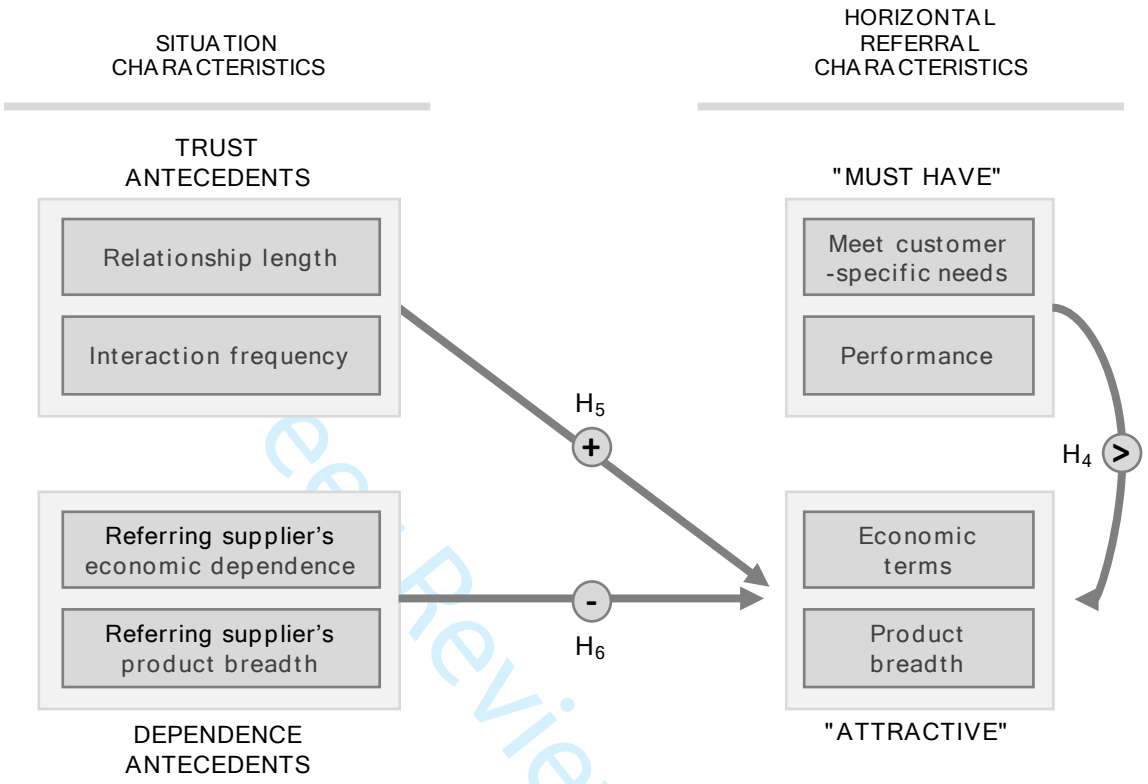
Interactions. The right panel of Table 2 displays the marginal total effect of TRUST and DEPENDENCE on the likelihood of selecting a BEST-POSSIBLE referral. An interesting pattern emerges. As DEPENDENCE increases, the likelihood of a BEST-POSSIBLE referral decreases across the board. The effect of TRUST is more subtle. As TRUST increases, the likelihood of a BEST-POSSIBLE referral does, in fact, increases, but that effect is only significant in the low-DEPENDENCE condition. In all cases, this effect is far from sufficient to compensate for the negative effect of a high-DEPENDENCE relationship. Thus TRUST matters, but DEPENDENCE matters far more.

STUDY 2: OBSERVABLE ANTECEDENTS AND CHOICES OF HORIZONTAL REFERRALS

While Study 1 deciphered the underlying mechanisms and theoretical underpinnings of the phenomenon of interest, it relied on perceptual measures. Methodologically, perceptual measures limit external validity, and results could be affected by respondents' social desirability. Theoretically, firms can incorrectly read the perceptual aspects of their relationship (Vosgerau, Anderson, and Ross 2008). It is also unclear how an OBLIGATORY referral –a referral that balances the referring supplier's obligations to the customer and future competitive threat from another supplier– would manifest itself. Study 2 addresses these two limitations by studying (a) the observable *antecedents* of TRUST and referring supplier's DEPENDENCE and (b) referring suppliers' observable choice of either a BEST-POSSIBLE or OBLIGATORY referral. We summarize Study 2 in Figure 3.

We first explore the observable antecedents of TRUST and DEPENDENCE. We then identify the characteristics of BEST-POSSIBLE versus OBLIGATORY referrals.

Figure 3 – Conceptual Model for Study 2



Note: While Study 1 focuses on the underlying mechanisms at play (TRUST/DEPENDENCE → FRIEND role → BEST-POSSIBLE referral), Study 2 focuses on the observable antecedents of TRUST and DEPENDENCE and the observable characteristics of a BEST-POSSIBLE or OBLIGATORY horizontal referral.

Theoretical development: antecedents of trust and dependence

Antecedents of trust. In Study 1, we considered mutual TRUST between the referring supplier and the customer. The literature has identified several antecedents to TRUST: relationship length (Jap, 1999), communication frequency (Wuyts and Geyskens, 2005), communication valence (positive/negative), and conflict (see Palmatier et al. 2006 for a meta-analysis). Our exploratory studies revealed that horizontal referrals are far more likely to occur when *some* trust is present. While negative communications and conflicts are key determinants of trust in many B2B relationships, they do not apply in our context, where such negative elements would preclude a request for a horizontal referral. Therefore, we consider a good relationship a prerequisite for asking for a horizontal referral and focus on RELATIONSHIP LENGTH and INTERACTION FREQUENCY as

antecedents of TRUST in that relationship (e.g., Doney and Cannon, 1997). Indeed:

> *"Both [relationship duration and interaction frequency] provide trading partners with more behavioral information in varied contexts, which allows for better predictions that should increase each party's confidence in its partner's behavior."* Palmatier et al. (2006, p. 140)

Confidence in a partner's behavior is central to TRUST. The literature also shows that dyadic factors such as RELATIONSHIP LENGTH and INTERACTION FREQUENCY induce parties to act in each other's interests (e.g., Samaha et al. 2014), that is, to act as a FRIEND, consistent with our framework.

Antecedents of dependence. The second factor we considered in Study 1 was the referring supplier's DEPENDENCE on the customer. One of the managers we interviewed stated that a common (and effective) B2B sale strategy was to "land and expand."[2] The referring supplier's revenues depend on both.

The first component of a referring supplier's DEPENDENCE is the consequences of losing ongoing revenue (i.e., losing current "land"). Some customers are essential to the financial health of suppliers, while others are not. We label the level of this financial dependence as referring suppliers' ECONOMIC DEPENDENCE on the customer, an objective, observable factor. The second component of referring supplier's DEPENDENCE is the risk of forfeiting future sales (i.e., losing an opportunity to "expand"). DEPENDENCE is particularly pertinent for referring suppliers who offer a wide variety of products and solutions and hope to expand sales through cross-selling opportunities. Thus, the referring supplier's PRODUCT BREADTH (how broad or narrow the supplier's offerings are) is also an observable, objective antecedent to referring supplier's DEPENDENCE on the customer (Figure 3).

[2] 'Land and Expand' is a critical sales strategy in B2B solution-based industries: "First, land a small deal with a new client. Then, service the heck out of it – by doing so, you'll build trust and deepen the relationship. Second, expand to conquer all available opportunity within that same organization." (Forbes 2-14; https://www.forbes.com/sites/joshlinkner/2014/11/20/sell-more-with-a-land-and-expand-strategy)

Theoretical development: characteristics of best-possible vs. obligatory horizontal referrals

Brandt (1988) provides a useful distinction between service attributes, noting that "some […] address the minimal requirements and expectations of customers, while others go a step further to add value to the service experience" (p.35). The literature has offered various terms to characterize these distinctions: must-have vs. attractive (Kano et al., 1984), dissatisfier vs. satisfier (Cadotte and Turgeon, 1988), or minimum requirement vs. value-enhancing (Brandt, 1988). All make the same distinction. Some characteristics are must-have: a solution might be deemed unacceptable when it does not reach a minimum threshold but does not increase satisfaction as long as it is present. Others are attractive but unexpected: the customer is positively surprised by their presence, but their absence has limited consequences.

This distinction has consequences for horizontal referrals: a referring supplier could consider that giving a horizontal referral that meets minimum (must-have) requirements but does not do well on less-essential (attractive) dimensions fulfills its obligations to the customer. In other words, both OBLIGATORY and BEST-POSSIBLE referrals should meet must-have requirements, but only the latter may exhibit attractive characteristics.

Must-have characteristics. In a B2B context, a referring supplier is expected to give a horizontal referral that achieves satisfactory PERFORMANCE (e.g., Weber et al. 1991, Wilson et al. 1990). Failing to do so would hurt the referring supplier-customer relationship. Thus, we consider (good) PERFORMANCE as a referral's must-have characteristic. Furthermore, customers rely on existing suppliers for horizontal referrals because those suppliers have deep knowledge of customer's specific needs. Therefore, we list the ability to MEET CUSTOMER-SPECIFIC NEEDS as another must-have characteristic (Figure 3).

Attractive characteristics. In complex B2B markets, customers rely on horizontal referrals to identify firms that offer a suitable solution to their specific needs. If a recommended provider offers

favorable ECONOMIC TERMS, the customer will consider that attribute as attractive, if unexpected. The ability to satisfy the customer's future potential needs is another attractive supplier characteristic. Wathne et al. (2001) show that a supplier's PRODUCT BREADTH influences the supplier's suitability for the customer, too. Selecting a supplier with high PRODUCT BREADTH implies lower search costs in the future for the customer, superior performances due to product bundling, and more efficient buying processes (Kamakura et al. 2003; Tuli et al. 2007). Thus, the recommended supplier's ability to meet the customer's future needs is an attractive characteristic that might extensively benefit the customer but will not hurt the customer if absent.

We list the constructs and their operationalization in Table 3. In solution-based selling, it is difficult to discern performance and economics in absolute terms; such indicators must be evaluated relative to customer experience. Therefore, we describe the horizontal referral's PERFORMANCE and ECONOMIC TERMS as better or worse than those of the referring supplier.

Hypotheses

We expect a referring supplier to make a recommendation that meets its customer's minimum standards (i.e., must-have characteristics). Failing to do so would hurt its relationship with their customer and jeopardize its current and future revenues, regardless of mitigating factors such as TRUST or DEPENDENCE. Therefore, we hypothesize that:

H_4: In its referrals, a referring supplier will prioritize must-have characteristics (MEET CUSTOMER-SPECIFIC NEEDS, PERFORMANCE) over attractive characteristics (ECONOMIC TERMS, PRODUCT BREADTH).

Thus, *on average,* a referring supplier will choose a horizontal referral that delivers on the must-have characteristics. The difference between whether the horizontal referral is BEST-POSSIBLE or OBLIGATORY comes from the referring supplier's choice of the horizontal referral's attractive characteristics.

Table 3 – Definitions of Constructs and Manipulations (Study 2)

Referring supplier characteristics: antecedents of trust and dependence			
RELATIONSHIP LENGTH	Relationship duration between the referring supplier and the customer.	**Low:** *Referring supplier* has worked with *customer* for a very short time: 6 months. **High:** *Referring supplier* has worked with *customer* for a long time: 4 years.	Jap (1999)
INTERACTION FREQUENCY	Number of interactions per unit of time between the referring supplier and the customer.	**Low:** You interact with *customer*'s VP, Greg, and his team, about once a year. An employee of *referring supplier* typically spends 2–3 days a year at *customer*. **High:** You interact with *customer*'s VP, Greg, and his team about once a week. An employee of *referring supplier* typically spends 2–3 days per week at *customer*.	Wuyts and Geyskens (2005)
ECONOMIC DEPENDENCE	Economic need to maintain customer relationship.	**Low:** *Referring supplier* is heavily dependent on *customer*; if this relationship were to end, *referring supplier*, and you as the key account manager, would see a significant financial and professional loss. **High:** *Referring supplier* is not heavily dependent on *customer*; if this relationship were to end, *referring supplier*, and you as the key account manager, would not see any significant financial and professional loss.	Ganesan (1999)
PRODUCT BREADTH	Range of products/solutions the referring supplier can offer to the customer.	**Low:** *Referring supplier* has only one product offering, which *customer* is currently using. **High:** *Referring supplier* offers a wide range of products covering *customer's* both current and possible future needs.	Wathne et al. (2001)
Horizontal referral characteristics: consequences of best-possible vs. obligatory referral			
MEET CUSTOMER NEEDS	Meet customers' specific needs, such as experience in a specific industry.	**Low:** Has no experience in the health insurance industry. **High:** Has extensive experience in the health insurance industry.	Tuli and Kohli (2007)
PERFORMANCE*	Product performance, or quality of the offering.	**Low:** Performance of solution(s) is a little worse than *referring supplier's*. **High:** Performance of solution(s) is much better than *referring supplier's*.	Ulaga and Eggert (2006)
ECONOMIC TERMS*	Price, or economic terms, at which suppliers provide solutions to the customer.	**Low:** 15% more expensive than *referring supplier*. **High:** 15% less costly than *referring supplier*.	Ulaga and Eggert (2006), Wathne et al. (2001)
PRODUCT BREADTH	Range of products/solutions the supplier can offer to customer.	**Low:** Offers only one product: GUI for analytics solutions. **High:** Offers a wide range of solutions covering both current and possible future needs.	Wathne et al. (2001)

* Relative to referring supplier's performance and economic terms.

We now hypothesize how the antecedents of TRUST (RELATIONSHIP LENGTH and INTERACTION FREQUENCY) and DEPENDENCE (ECONOMIC DEPENDENCE and PRODUCT BREADTH) influence a referring supplier's selection of attractive characteristics. We have identified several factors that favor TRUST, such as RELATIONSHIP LENGTH and INTERACTION FREQUENCY, which, in turn, increases the likelihood that the referring supplier will act as a FRIEND and in the customer's best interests (i.e., make a BEST-POSSIBLE horizontal referral). Since the customer's best interest is to obtain the best recommendation possible, we hypothesize:

H_5: TRUST antecedents (RELATIONSHIP LENGTH, INTERACTION FREQUENCY) will *positively* affect the likelihood that a referring supplier will make a horizontal referral with attractive characteristics (ECONOMIC TERMS, PRODUCT BREADTH).

Factors that contribute to a referring supplier's DEPENDENCE (ECONOMIC DEPENDENCE, PRODUCT BREADTH) will increase the likelihood that the referring supplier will take its own interests into account and not only the customers' interests (as would a FRIEND). Because it is in the referring supplier's interest to maintain a good relationship with its customer, the supplier is unlikely to make a SUB-STANDARD recommendation. Instead, the supplier must engage in impression management (e.g., Wuyts 2009) and make a referral that is at least minimally acceptable (as captured in H_4).

However, we expect a supplier that acts as a BUSINESSPERSON to forgo the attractive characteristics: a horizontal referral that offers better ECONOMIC TERMS can pose a threat to the supplier's future revenue, as Cannon and Homburg (2001, p.34) emphasize: "a supplier that enhances customer value by lowering customer costs will increase its 'share of the customer' at the expense of suppliers that do not provide such benefit." Similarly, referrals that offer a broad range of solutions are more likely to reduce the likelihood of the referring supplier's cross-selling opportunities. As Palmatier (2008) notes: "Sellers invest in building relationships with customers because of their expectation that these efforts will increase customers' contributions to the seller's sales and profits" (p.77). Wathne et al. (2001) show that customers are more likely to switch to

suppliers that offer high PRODUCT BREADTH. It is not in the interest of the referring supplier to give a horizontal referral that offers favorable ECONOMIC TERMS and extensive PRODUCT BREADTH. Since, unlike with must-have characteristics, skimping on attractive characteristics should not affect their relationship with their customer, we hypothesize:

H_6: DEPENDENCE antecedents (ECONOMIC DEPENDENCE, PRODUCT BREADTH) will *negatively* affect the likelihood that a referring supplier will make a horizontal referral with attractive characteristics (ECONOMIC TERMS, PRODUCT BREADTH).

Figure 3 summarizes our hypotheses.

Research design

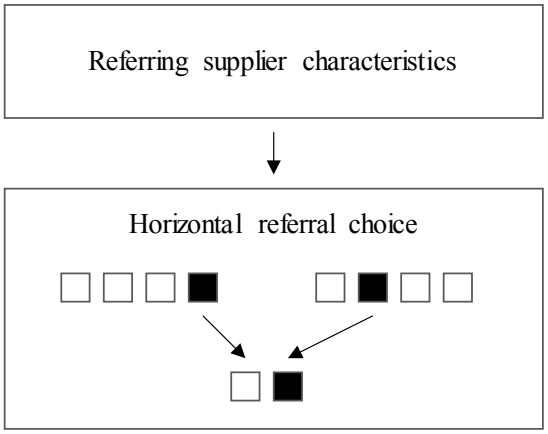
We sought a research methodology that could directly infer a referring supplier's preferences for horizontal referrals while providing a realistic context for respondents. Conjoint designs are well suited for such assessments (e.g., Wathne et al. 2001). We used the same empirical context as in Study 1: respondents are invited to imagine themselves as a key account manager at a marketing analytic supplier. One of their customers, in the healthcare industry, asks for a horizontal referral in a related domain (data visualization) (See Web Appendix D for details.)

For each respondent, we manipulate key aspects of the relationship between the referring supplier and its customer (between-subject manipulation) and, given the specific context described, measure which providers the referring supplier will recommend to its customer (within-subject measurement). We manipulate four referring supplier characteristics: (1) supplier-customer RELATIONSHIP LENGTH, (2) supplier-customer INTERACTION FREQUENCY, (3) referring supplier's ECONOMIC DEPENDENCE on the customer, and (4) referring supplier's PRODUCT BREADTH. Each dimension can be either high or low (see Table 3) for a total of 2^4 possible combinations. We run a fractional factorial, 100% efficient design and obtain eight different customer relationship scenarios.

For the horizontal referral characteristics, we again have four factors: horizontal referral's (1) ability to MEET CUSTOMER-SPECIFIC NEEDS, (2) PERFORMANCE, (3) ECONOMIC TERMS, and

(4) PRODUCT BREADTH. As each dimension is manipulated as either high or low (see Table 3), we have 2^4 possible profiles, and we run a fractional factorial design to generate eight different supplier descriptions. Each respondent is assigned to one of the eight customer-relationship scenarios (between-subject manipulation) and is asked to choose one referral from eight possible suppliers (Figure 4 describes the research design and stimuli order. Web Appendix D provides further details). As choosing one referral from eight could be onerous for respondents, we split the eight profiles into two blocks of four profiles each[3] from which respondents choose among horizontal referral profiles 1–4 and profiles 5–8. Finally, we asked respondents to choose between their two previous top selections, for a total of three choice tasks per respondent. This stepwise procedure helped minimize response burden and reduced choice-task complexity. The dependent variable is the referring suppliers' choice of horizontal referral (Stimuli in Web Appendix D).

Figure 4 – Research Design (Study 2)



We describe the referring supplier characteristics, and manipulate its (1) supplier-customer RELATIONSHIP LENGTH, (2) supplier-customer INTERACTION FREQUENCY, (3) referring supplier's ECONOMIC DEPENDENCE on customer, and (4) referring supplier's PRODUCT BREADTH.

Playing the role of a manager at the referring supplier, we ask respondents to choose the competitor they will refer out of eight profiles described along four characteristics: (1) ability to MEET CUSTOMER-SPECIFIC NEEDS, (2) PERFORMANCE, (3) ECONOMIC TERMS, (4) PRODUCT BREADTH.

Considering the complexity of the conjoint task (highly detailed, scenario-based) and the

[3] The between-subjects design of eight profiles was 100% efficient. For within-subjects, the design of eight, split into two blocks, was also 100% efficient. There was no significant correlation between the block factor and manipulated characteristics.

time availability of professional respondents, we designed each questionnaire to include only three choice tasks (Figure 4). Therefore, we needed a large number of respondents, which we recruited from two sources: Dynata Inc.'s B2B manager panels (113 respondents) and Prolific Academic™ (250 respondents), for a sample size of 363 respondents.

Model

We estimated the probability of respondent *i* recommending supplier *j* by:

$$p_{ij} = \frac{e^{\beta_i X_{ij}}}{\sum_{m=1}^{J} e^{\beta_i X_{im}}} \quad \text{(Eq. 1)}$$

where i refers to respondents; j refers to potential horizontal referrals (i.e., choice set); β_i is the vector of preference partworths of the ith individual for the four attributes (e.g., horizontal referral's PERFORMANCE), and X_{ij} is the vector of attribute levels.

To estimate β_i, we sought a conjoint estimation method that met the following criteria: (1) minimize data collection efforts and the burden imposed on respondents and (2) focus on the relationship between referring supplier's characteristics and choice of horizontal referral, rather than on individual-preference heterogeneity. *Componential segmentation* (Green and DeSarbo 1979) meets these two criteria. It explicitly incorporates respondents' characteristics in the utility function by re-expressing individual respondents' preference partworths (β_i) as linear combinations of descriptor variables. Whereas classic conjoint models compute all vectors β_i individually, we re-express:

$$\beta_i = (\Psi \cdot D_i) : \forall i, \quad \text{(Eq. 2)}$$

where we approximate individual respondents' preferences for horizontal referrals' characteristics as a linear function of referring suppliers' characteristics (D_i) and a matrix of parameters (Ψ). The matrix Ψ elicits and quantifies the statistical relationships between the referring supplier's characteristics (e.g., referring supplier's PRODUCT BREADTH) and its preferences; it is estimated at the population level. Thus, we estimate individual respondents' preferences for horizontal referrals'

characteristics as a linear function of referring suppliers' characteristics, and directly estimate the influence of referring suppliers' characteristics on the choice of horizontal referrals.

We calibrated the model on the full sample of 363 respondents. Each respondent viewed eight profiles (horizontal referrals) for a total of 2,904 profiles. Respondents selected their top choices from profiles 1 to 4, profiles 5 to 8, and then between their two previous top choices. The data set, therefore, includes the results of 363 × 3 = 1,089 choice tasks. We estimated the preference score of each of the 2,904 profiles (Equation 2) to predict the likelihood of the 1,089 observed choices (Equation 1) and found a matrix Ψ that maximized the log-likelihood, using a quasi-Newton search.

Results

We report the parameter estimates in Table 4. As the intercepts (partworths) show, referring suppliers are more likely to recommend competitors that MEET CUSTOMER-SPECIFIC NEEDS (2.19, $p<0.01$), provide adequate PERFORMANCE (1.47, $p<0.01$), better ECONOMIC TERMS (0.34, $p<0.01$), and high PRODUCT BREADTH (0.31, $p<0.01$). On average, it appears that customers are justified to seek horizontal referrals from their suppliers since the preference partworth's intercepts are positive on all dimensions (i.e., all four desirable characteristics are more likely to be selected than not). If the referring supplier has to trade-off between "must-have" characteristics (MEET CUSTOMER-SPECIFIC NEEDS and PERFORMANCE) and "attractive" characteristics (ECONOMIC TERMS and PRODUCT BREADTH) and offers a less-than-perfect horizontal referral, it favors the must-haves. All two-by-two comparisons among the intercepts (e.g., 2.19>0.34) are statistically significant at $p<0.01$, providing support for H_4.

Regarding the influence of TRUST antecedents (RELATIONSHIP LENGTH and INTERACTION FREQUENCY) on attractive characteristics (ECONOMIC TERMS and PRODUCT BREADTH), all four parameters have the expected (positive) sign, and three achieve significance (0.38, 0.17, 0.09, all

p<0.01). As predicted in H_5, trusted suppliers try to provide the BEST-POSSIBLE horizontal referral, even on attractive characteristics.

Table 4 – Parameter Estimates (Study 2)

			Referring supplier's characteristics			
			Mutual trust factors		*Dependence factors*	
Horizontal referral characteristics		Intercept	Relationship length	Interaction frequency	Economic dependence	Product breadth
Must-have characteristics	Meet customer-specific needs	**2.19*****	-0.05	**0.11*****	**-0.13****	-0.08
	Performance	**1.47*****	**0.05****	0.02	**-0.43*****	**0.13*****
Attractice characteristics	Economic terms	**0.34*****	**0.38*****	0.03	**-0.33*****	**-0.10*****
	Product breadth	**0.31*****	**0.17*****	**0.09*****	**-0.17*****	-0.04

H_4 H_5 H_6

Notes: Parameter estimates (N=1,089). * p<0.01, ** p<0.05, *** p<0.01 (two-tailed tests). The columns refer to characteristics of the referring supplier, and its relationship with its customer. The rows refer to characteristics of the providers the referring supplier could recommend to its customer. Each cell represents the contribution to the referring supplier's preference partworth in our conjoint study. For instance, the value +0.383 (2nd column, 3rd row) indicates that, when the referring supplier has a long-lasting relationship with its customer, it is more likely to recommend a horizontal referral that provides favorable economic terms.

This finding contrasts with the influence of DEPENDENCE antecedents (referring supplier's ECONOMIC DEPENDENCE and PRODUCT BREADTH) on attractive characteristics (horizontal referral's ECONOMIC TERMS and PRODUCT BREADTH). All four parameters have the expected (negative) sign, and three achieve significance (-0.33, -0.17, -0.10, all p<0.01). If, given an option, dependent suppliers will only offer OBLIGATORY referrals, selecting providers that are more likely to be expensive and offer a limited portfolio of solutions, and limiting future competitive threats. Thus, H_6 is supported.

We also estimated the effects of the antecedents of TRUST and DEPENDENCE on must-have characteristics (MEET CUSTOMER-SPECIFIC NEEDS and PERFORMANCE). Although we did not

propose any specific hypotheses, the results tell an interesting story.

Consider the influence of TRUST antecedents (RELATIONSHIP LENGTH and INTERACTION FREQUENCY) on must-have characteristics (MEET CUSTOMER-SPECIFIC NEEDS and PERFORMANCE): the results are underwhelming. Three of the four parameters have a positive sign, and only two achieve significance (0.05, $p<0.05$; 0.11, $p<0.01$). Thus, while referring suppliers *systematically* offer horizontal referrals that meet must-have criteria (see H_4), *highly trusted* referring suppliers barely diverge from the mean for must-have characteristics.

The upper-right cells of Table 4 report the impact of DEPENDENCE antecedents (referring supplier's ECONOMIC DEPENDENCE on customer and PRODUCT BREADTH) on must-have attributes (MEET CUSTOMER-SPECIFIC NEEDS and PERFORMANCE). Referring supplier's ECONOMIC DEPENDENCE has a strong, negative impact even on must-have attributes (-0.13, -0.43, all $p<0.01$). A BEST-POSSIBLE horizontal referral poses a threat to a referring supplier, especially if the latter is economically dependent. Consequently, it appears that the referring supplier is willing to risk jeopardizing its relationship with its customer to mitigate such a threat. If the referring supplier offers an extensive PRODUCT BREADTH, on the other hand, the threat concerns future cross-selling opportunities that may or may not materialize. Thus, the referring supplier's PRODUCT BREADTH does not have a clear-cut influence on must-have attributes.

Simulations

We use the results above and run a simple simulation where only a handful of suppliers are considered by the referring supplier, either because there are a limited number of suppliers in the market or because the referring supplier does not know them all (for a different setting, see Web Appendix E). We describe the profile of these three hypothetical referrals in Table 5.

Table 5 –Suppliers in Referring Supplier's Hypothetical Choice Set (Simulations)

	Supplier A	Supplier B	Supplier C
Meet customer-specific needs	Low	Low	**High**
Performance	Low	Low	**High**
Economic terms	Low	**High**	**High**
Product breadth	Low	**High**	**High**

Supplier C is the stereotypical BEST-POSSIBLE referral. Its likelihood of being recommended will range between 50.4% and 78.1% across various scenarios. Supplier A would be a terrible referral and has a very small chance of being recommended. Finally, the referring supplier has between 21.5% and 47.6% to refer Supplier B, a stereotypical OBLIGATORY referral. In particular, and in the context of this illustrative choice set, a referring supplier low on TRUST antecedents (RELATIONSHIP LENGTH, FREQUENCY INTERACTIONS) but high on DEPENDENCE antecedents (PRODUCT BREADTH, ECONOMIC DEPENDENCE) would be *twice as likely* to make a suboptimal, OBLIGATORY referral than a referring supplier high on TRUST and low on DEPENDENCE antecedents.

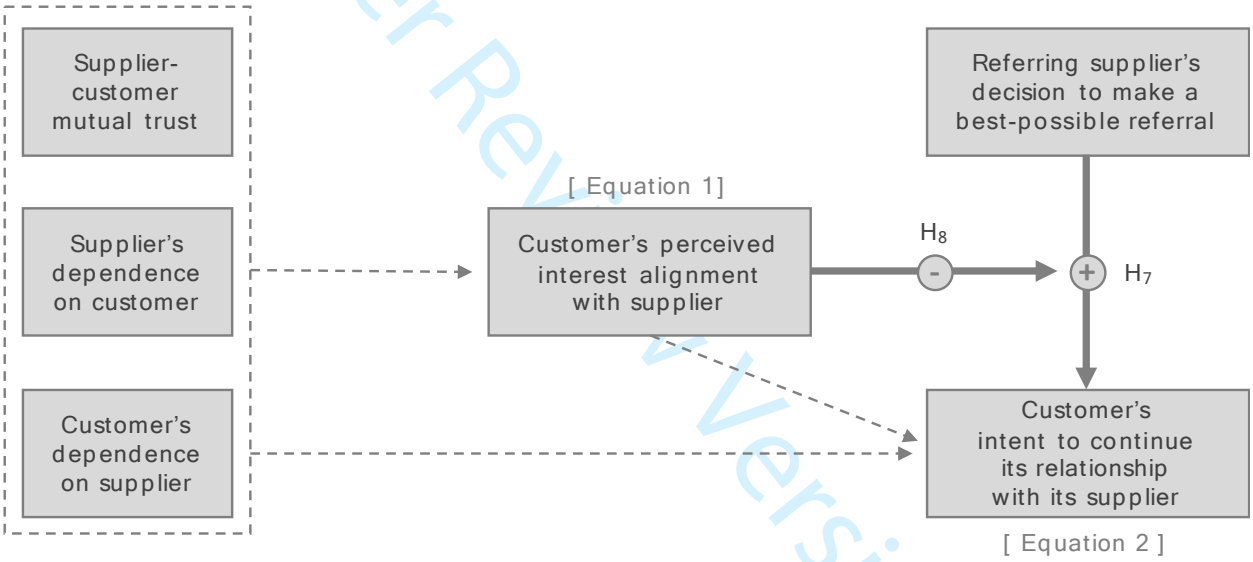
STUDY 3: EFFECT OF HORIZONTAL REFERRALS ON REFERRING SUPPLIER-CUSTOMER RELATIONSHIP

Studies 1 and 2 took the perspective of the referring supplier to ascertain how and why the referring supplier will act when giving a horizontal referral. In our survey, we found that customers largely expect their referring suppliers to "look out for them [the customer]" when giving a horizontal referral. Given that our empirical studies indicate that referring suppliers do not always do so, a key question is what happens to the customer-supplier relationship when a referring supplier makes a less-than-optimal OBLIGATORY referral, and that behavior is detected by the customer. We address this question in Study 3.

Theoretical development

Research on supplier's extra-role behavior indicates that depending on the state of the customer-supplier relationship (such as the positive intensity of the relationship), customers have different expectations regarding whether the supplier will go beyond their obligations in the relationship or not (e.g., Mangus et al. 2017). These expectations will likely affect how the customer responds to the *knowledge* that the supplier acted to fulfill an obligation or went beyond the obligations in the relationship.

Figure 5 – Conceptual Model for Study 3



Notes: While Studies 1 and 2 focus on the referring supplier's decision to make a BEST-POSSIBLE or OBLIGATORY horizontal referral, Study 3 focuses on the consequence of such referral on the customer's INTENT TO CONTINUE its relationship with its supplier. We expect that the customer's perceived INTEREST ALIGNMENT with the referring supplier will moderate the impact of the referral.

Therefore, in Study 3, we study the effect of the supplier-customer relationship (described in terms of mutual TRUST and supplier's DEPENDENCE on its customer, as in Study 1) on customers' perceptions of the INTEREST ALIGNMENT in the customer-referring supplier relationship (we refer to this construct as customers' perceived INTEREST ALIGNMENT with supplier). Since Study 3 focuses on the customer's point of view, we also include the customer's DEPENDENCE on their supplier as a

relevant factor. We then study how receiving a BEST-POSSIBLE referral affects the customer's INTENT TO CONTINUE its relationship with its supplier and the moderating role played by perceived INTEREST ALIGNMENT. We describe the theoretical model in Figure 5.

Hypotheses

Consequences of best-possible referral. Research suggests that a firm's extra-role behavior prompts gratitude in its partner, leading to positive downstream outcomes, such as the customers' increased future commitment toward the partner (Mangus et al. 2017). In the context of salesperson-customer interactions, research has also found that salespersons' extra-role behavior leads to increased customer loyalty (Bock, Folse, and Black 2016). Thus, we expect that a referring supplier who gives a BEST-POSSIBLE referral (exhibiting extra-role behavior) will increase its customer's INTENT TO CONTINUE its relationship with the supplier.

H_7: A BEST-POSSIBLE referral (vs. an OBLIGATORY one) will have a positive (vs. negative) effect on a customer's INTENT TO CONTINUE its relationship with its referring supplier.

Consequences of perceived interest alignment. If a customer perceives that the referring supplier's interest is aligned with its own, then the customer expects that the referring supplier's behavior can be reliably predicted, generating confidence in the referring supplier (e.g., Scheer 2012). With increased confidence in the supplier, the customer's intent to keep working with the referring supplier should increase as well.

An interesting facet of perceived INTEREST ALIGNMENT in the context of horizontal referrals, however, is the potentially moderating role it plays on how a supplier's BEST-POSSIBLE referral will impact the customer's INTENT TO CONTINUE their relationship with the supplier.

Kim, Hibbard, and Swain (2011) show that customers expect suppliers to act beyond obligations (that is, display extra-role behaviors). The higher the perceived INTEREST ALIGNMENT between the customer and the supplier, the more likely the customer will expect the referring

supplier to work towards maintaining the relationship and go beyond obligations and make a BEST-POSSIBLE referral. Hence, we expect INTEREST ALIGNMENT to *negatively* moderate the impact of a BEST-POSSIBLE referral.

While counter-intuitive, this prediction becomes more straightforward when framed in the context of interest *misalignment*. If a supplier makes a BEST-POSSIBLE referral, it should positively impact the customer's desire to keep the collaboration alive (H_7). If the customer perceives that the supplier's interests are misaligned with its own, however, the fact that the supplier decides to act beyond its obligations anyway should come as a positive surprise, hence should increase the customer's INTENT TO CONTINUE their relationship. Therefore, we hypothesize:

H_8: The positive effect of receiving a BEST-POSSIBLE REFERRAL on a customer's INTENT TO CONTINUE their relationship with its supplier decreases as a customer's perceived INTEREST ALIGNMENT with its supplier increases

Research design

We test hypotheses (H_7–H_8) with a between-subjects experiment. We manipulate mutual TRUST (high vs. low), referring supplier's DEPENDENCE on the customer (high vs. low), the customer's DEPENDENCE on the supplier (high vs. low), and the horizontal referral given by the referring supplier (BEST-POSSIBLE vs. OBLIGATORY). We manipulate the first three factors experimentally, which provides the state of the referring supplier-customer relationship to the respondent. Next, we measure the customer's perceptions of the referring supplier's INTEREST ALIGNMENT. The respondent next sees the referral made by the supplier (BEST-POSSIBLE vs. OBLIGATORY), following which we measure the customer's INTENT TO CONTINUE its relationship with their supplier. We use the same empirical context as Studies 1 and 2 and adapt it to the customers' perspective.

We manipulate mutual TRUST (high/low) and the referring supplier's DEPENDENCE on the customer (high/low) as we did in Study 1. We manipulate the customer's DEPENDENCE (high/low)

on its supplier as follows:

> *<Customer> is (NOT) dependent on its supplier, <referring supplier name>. If this relationship were to end, <customer> would (not) experience significant problems in replacing <referring supplier> as the supplier for its back-end solutions.*

We measure customers' perceived INTEREST ALIGNMENT (in the context of receiving a horizontal referral) with three items: (1) "It is in the interest of the supplier, [referring supplier name], to recommend the best possible supplier to [customer name]," (2) "It would be in [referring supplier name]'s economic interests to recommend a supplier that would NOT be a competitor to its revenue in the future" (reversed), and (3) "With regards to selecting a supplier for [described need], both [referring supplier name] and [customer name] have the same goals." All items are on a scale of 1 (highly disagree) to 7 (highly agree). For the horizontal referral received, we manipulated knowledge of the horizontal referral given as follows:

> BEST-POSSIBLE referral: *<Referring supplier> recommended <horizontal referral firm name>, a firm that provides GUI solutions. During the evaluation process you find that out of the possible firms, <referring supplier> recommended a firm that was best for you, <customer>, not just an acceptable option. Even though <horizontal referral> also provides back—end analytics solutions and could BE a future competitive threat for <referring supplier> for your share of wallet.*

> OBLIGATORY referral: *<Referring supplier> recommended <horizontal referral firm name>, a firm that provides GUI solutions. During the evaluation process you find that out of the possible firms, <referring supplier> recommended a firm that was an acceptable option for you, <customer>, but not the best. <Horizontal referral> does not provide back—end analytics solutions, and therefore, could NOT be a future competitive threat for <referring supplier> for your share of wallet.*

Finally, we measure the customers' INTENT TO CONTINUE the relationship with their supplier with the following two items (Jap 1999) on a 1–7 scale: (1) "We expect to continue working with them on a long-term basis," and (2) "Our relationship with them will last long into the future."

Our sample comprises 818 respondents with at least two years of work experience in B2B industries on Prolific Academic™ (details in Web Appendix F).

Model

We estimate a system of two equations (see Figure 5). The dependent variable of the first

equation is customer's perceived INTEREST ALIGNMENT with its supplier. The independent variables are TRUST, supplier's DEPENDENCE on customer, customer's DEPENDENCE on supplier, and all their respective two- and three-way interactions (see Table 6).

The dependent variable of the second equation is the customer's INTENT TO CONTINUE with their referring supplier. The predictors are the referral given (BEST-POSSIBLE=1, OBLIGATORY=0), customers' perceived INTEREST ALIGNMENT (from above), and their two-way interaction. We also account for the direct influence of TRUST, supplier's DEPENDENCE on customer, customer's DEPENDENCE on supplier, and all their respective two- and three-way interactions (see Table 6). As a robustness test, we also accounted for the interactions of the three relational variables with the referral given, and our results hold.

We estimate the two equations simultaneously. We use bootstrapping to estimate the indirect and total effects of TRUST, supplier's DEPENDENCE, and customer's DEPENDENCE on customer's INTENT TO CONTINUE with referring supplier, mediated by the customer's perceived INTEREST ALIGNMENT (for estimation approach, see Hayes 2015).

Results

We report the direct effects (top two panels) and the indirect and total effects (bottom panel) in Table 6. We find that receiving a BEST-POSSIBLE referral (vs. an OBLIGATORY one) increases the customer's INTENT TO CONTINUE its relationship with the referring supplier (1.73, $p<0.01$), confirming H_7, and so does customers' perceived INTEREST ALIGNMENT (0.34, $p<0.01$), as expected.

As hypothesized, INTEREST ALIGNMENT moderates the impact of a BEST-POSSIBLE referral on customer's INTENT TO CONTINUE its relationship in the expected, negative direction (-0.23, p=0.01), supporting H_8. In the upper-right corner of Table 5, we plot the total effect of the referral received (BEST-POSSIBLE in dark, OBLIGATORY in dashed gray) on INTENT TO CONTINUE the relationship with the supplier as a function of INTEREST ALIGNMENT. When INTEREST ALIGNMENT

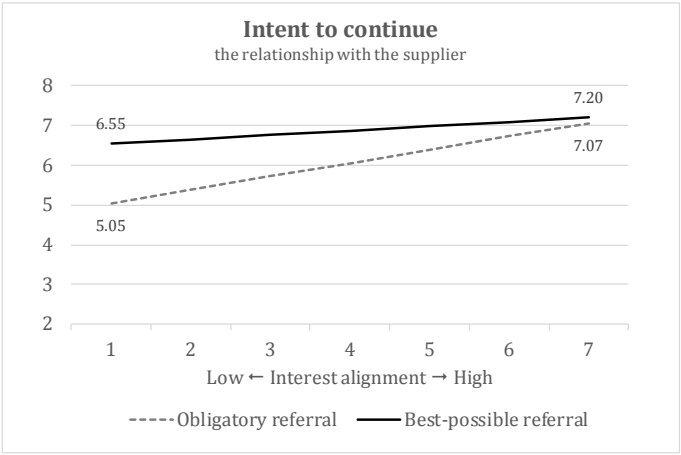
is low, making a BEST-POSSIBLE referral has a positive effect on the customer's INTENT TO CONTINUE the relationship. When INTEREST ALIGNMENT is high, the customer expects to receive a BEST-POSSIBLE referral, hence its positive effect is attenuated and only impacts the customer's INTENT TO CONTINUE the relationship minimally.

Table 6 – Parameter Estimates (Study 3)

Equation 1: interest alignment	**Estimate**	**s.d.**
Intercept	3.66 ***	0.10
Trust	0.72 ***	0.12
Supplier dependence	0.23 *	0.14
Customer dependence	-0.50 ***	0.14
Trust × S-dependence	-0.51 ***	0.18
Trust × C-dependence	-0.02	0.18
C-dependence × S-dependence	0.93 ***	0.19
Trust × C-dependence × S-dependence	0.21	0.26

Equation 2: intent to continue	**Estimate**	**s.d.**
Intercept	4.71 ***	0.33
Referral	1.73 ***	0.37
Trust	0.81 ***	0.18
Supplier dependence	0.20	0.21
Customer dependence	0.27	0.21
Interest alignment	0.34 ***	0.08
Interest alignment × Referral	-0.23 ***	0.09
Trust × S-dependence	-0.15	0.27
Trust × C-dependence	-0.17	0.24
C-dependence × S-dependence	-0.04	0.28
Trust × C-dependence × S-dependence	0.02	0.37

Mediation analysis: intent to continue	**Estimate**	**s.d.**
Trust — total effect	1.06 ***	0.18
Trust — indirect effect	0.24 ***	0.07
Supplier dependence — total effect	0.27	0.21
Supplier dependence — indirect effect	0.08	0.05
Customer dependence — total effect	0.10	0.20
Customer dependence — indirect effect	-0.17 ***	0.06



Notes: Parameter estimates (N = 818) *$p < 0.1$, **$p < 0.05$, ***$p < 0.01$ (one-tailed tests). When a referring supplier makes a best-possible referral (vs. an obligatory one), it significantly increases the customer's intent to continue their relationship with their supplier, but that effect is (negatively) moderated by the customer's perceived interest alignment with their supplier. The customer's perceived interest alignment with their supplier is higher when they and their supplier both depend on one another, but lower when their dependence on the supplier is not reciprocal.

Several insights emerge regarding the aspects of the customer-supplier relationship that drive the customer's perceived INTEREST ALIGNMENT with its supplier. First, as expected, the effect of

mutual TRUST is positive and significant (0.72, $p<0.01$). Second, supplier's DEPENDENCE on its customer is positive but barely significant (0.23, $p<0.10$), whereas customer's DEPENDENCE on its supplier is negative and strongly significant (-0.50, $p<0.01$). The interaction of these two terms is positive and strongly significant as well (0.93, $p=0.01$). We plot the total effects in the lower-right corner of Table 6. If the customer's DEPENDENCE on its supplier is low (dashed gray line), the supplier's DEPENDENCE only minimally impacts customer's perceived INTEREST ALIGNMENT. If the customer's DEPENDENCE on its supplier is high (dark line), however, the total effect depends on whether that dependence is reciprocal or not. If both the customer and the supplier depend on one another, the customer perceives a higher INTEREST ALIGNMENT. If the customer is highly dependent on its supplier but *not* the other way around, the customer may rightfully fear that the supplier can take advantage of them, hence perceiving a lower INTEREST ALIGNMENT.

DISCUSSION

Theoretical implications

Research on referrals. Our work contributes to research on referrals in B2B markets (e.g., Hada, Grewal, and Lilien 2014; Kumar et al. 2013) and the important role of referrals in reducing customers' uncertainty regarding their future suppliers. In the small stream of research on B2B referrals and the much larger stream on B2C referrals, the focus has mostly been on customer-to-customer referrals. Although we have shown that horizontal referrals in B2B markets are commonplace, we have also demonstrated that the quality of those referrals is uncertain –whether referring suppliers will give an OBLIGATORY or BEST-POSSIBLE referral. Relying on role theory (e.g., Heide and Wathne 2006), we show that the uncertainty in the horizontal referral's quality can be reduced by better understanding the role a referring supplier adopts when making a horizontal referral (i.e., FRIEND vs. BUSINESSPERSON).

Research in economics. The economics literature in horizontal referrals largely considers only the

economic trade-offs facing the referring supplier, and concludes that the referring supplier will dominantly act in its own interest (e.g., Arbatskaya and Konishi 2012, Park 2005). By relying on the socioeconomic paradigm, we show that when there is high TRUST in the relationship, a referring supplier is likely to act in the customer's interest and give a BEST-POSSIBLE horizontal referral. However, we also find that the referring supplier's DEPENDENCE is more diagnostic than TRUST between the two firms in predicting referring supplier behavior. Therefore, our research informs the economics literature about the contingencies in predicting suppliers' behavior. And we show that the contingencies arise from the referring supplier's own characteristics (e.g., PRODUCT BREADTH) and the interfirm relationship (e.g., RELATIONSHIP LENGTH) which are readily observable.

Research on interfirm relationships. We contribute to research on supplier–customer relationships where interests are misaligned, which is the case for horizontal referrals (for other examples of interest misalignments, see, e.g., Scheer 2012). While extant research in pro-social theory has considered how suppliers go above and beyond, that work generally neglects specific situations and responses. We specifically look at a situation where interests between the supplier and customer could be misaligned and how these misaligned interests affect whether the supplier goes above and beyond the relationship or not.

We also contribute to the research on the dark and bright sides of close/trusting relationships. Researchers argue that partners might act opportunistically in close relationships because opportunistic behavior can go *undetected* in these relationships (e.g., Anderson and Jap 2005). We consider a substantive situation (horizontal referrals) in which the quality of the given referral is not evident, allowing us to consider how suppliers will behave *possibly devoid of the chance of detection*. The consideration of the chance of detection is the key difference between the "dark side of relationship" perspective and the role theory perspective. In research studying the dark side of relationships (e.g., Noordhoff et al. 2011), suppliers behave opportunistically or not depending on

the likelihood of detection; according to role theory, suppliers behave opportunistically or not because of how they identify with the role, and *not* because of the chance of detection. By integrating social exchange theory with role theory, we provide a theoretical framework to study situations of misaligned interests in relationships.

We find that referring suppliers' DEPENDENCE on the customer increases the chance the referring supplier will act as a BUSINESSPERSON, increasing the likelihood of an OBLIGATORY referral. This finding conflicts with research that has found positive effects of DEPENDENCE on a supplier's commitment to the customer. For example, Scheer, Miao, and Garrett (2010) show that higher ECONOMIC DEPENDENCE increases a supplier's long-term orientation toward the relationship. To maintain the benefits obtained from the relationship, dependent parties are expected to adhere to rules and procedures and refrain from opportunistic behaviors (Brown et al. 2016). Our research shows that these findings might not hold in situations of misaligned interests where the supplier's opportunistic behavior could go undetected.

Managerial implications

Relying on suppliers' market knowledge in complex B2B markets can dramatically reduce customers' search costs and uncertainty. In our survey, customers report that the horizontal referrals they received were, on average, of high quality (mean=5.40, s.d.=1.40, on a 1-7 scale).

Our first two studies confirm this finding. In Study 1, 61% of the respondents playing the role of referring suppliers stated that they would make a BEST-POSSIBLE referral. 39% of them, however, reported that they would only make an OBLIGATORY referral. Because customers do not know the target market well, and even OBLIGATORY referrals generally meet must-have requirements, OBLIGATORY referrals are difficult to spot. Reassuringly for customers, however, we show that their occurrence is predictable. As we show in Study 2, the chance of receiving an OBLIGATORY referral is largely influenced by the (observable) characteristics of the referring

supplier: trusted suppliers should be sought after for referrals, but more importantly, dependent suppliers should be avoided.

The latter conclusion may seem surprising. Interviewed customers reported that, on average, the referring suppliers they relied on were economically dependent on them (mean=4.72, s.d.=1.71). We demonstrate that this choice of referring supplier is misguided. In Study 2, not only do we show that economically-dependent referring suppliers are the most likely to make an OBLIGATORY referral, but they also have a higher chance of making a referral that does not even meet must-have requirements. Furthermore, the purpose of a horizontal referral is to rely on the referring supplier's market knowledge to reduce search costs and uncertainty. Although we did not ask specifically in our exploratory survey, customers would likely heavily rely on referring suppliers with large PRODUCT BREADTH as these suppliers' knowledge would span the industry more than niche suppliers. We find that this strategy could backfire. A referring supplier with a large PRODUCT BREADTH is more likely to offer an OBLIGATORY referral to mitigate the risks of losing cross-selling opportunities in the future.

Thus, while our research confirms that most horizontal referrals tend to be of high-quality, it also provides guidance about the characteristics of the referring suppliers that customers should rely on to increase their chances of obtaining a BEST-POSSIBLE referral.

Study 3 sheds light on the customer's point of view and demonstrates that, *if detected*, an OBLIGATORY referral can hurt the supplier-customer relationship. This effect is negatively moderated by the customer's perceived INTEREST ALIGNMENT.

But the data from Study 3 also reveals an interesting facet of customers' expectations and how the supplier's DEPENDENCE alters them. When asked which suppliers are most likely to recommend the best supplier possible, customers unequivocally identify trusted (.67, $p<0.01$) and dependent (1.69, $p<0.01$) suppliers. We have demonstrated that this belief is misguided, as

dependent suppliers are far *less* likely to make BEST-POSSIBLE referrals than non-dependent suppliers. However, when the *same* customers are asked when suppliers are likely to recommend *a competitor*, the respondents' anticipated impact of supplier's DEPENDENCE reverses (-0.92, $p<0.01$), whereas the role of TRUST remains positive and significant (0.31, $p<0.01$).

Thus customers do not seem to naturally think of how potentially damaging recommending a competitor might be for the referring supplier. Instead, customers focus on their relationship with their supplier, their perceived alignment of interests, and the expectation that their supplier will try to please them by going out of their way and recommend a BEST-POSSIBLE referral. But when we *nudge* customers into thinking about the competitive environment in which their suppliers evolve and the potential risk posed by referring a competitor (even if ideal for the customer), customers revise their expectations. When referring suppliers are highly dependent on their customers, customers understand their suppliers' necessity to protect themselves from future competitive threats and tend towards maintaining the relationship (e.g., Robinson 1996).

On the one hand, customers usually ask for referrals for products or services that current suppliers do not offer. Consequently, customers perceive as irrelevant the competitive threat posed by a BEST-POSSIBLE referral, and they may incorrectly choose the supplier they ask for a horizontal referral. On the other hand, suppliers, who focus on a "land and expand" strategy, better gauge the current and future dangers of referring a potential competitor. This difference in perspective leads to misaligned recommendations.

The good news is that this difference in perspective, when pointed out explicitly to customers, becomes obvious to them as well, suggesting that customers only need to train their intuition to select the right suppliers for horizontal referrals and avoid making costly mistakes.

Limitations and further research

As with all research, ours has limitations. There are numerous possible antecedents to

referring suppliers' role adoption and horizontal referral choice that we did not consider. We relied on academic research in interfirm relationships (e.g., Palmatier et al. 2006; Ulaga and Eggert 2006) and our interviews to build our conceptual framework and considered a mix of perceptual and observable characteristics. It would be fruitful for researchers to consider characteristics beyond those we studied here. Some factors that could change the referring supplier's recommendation are (1) the extent to which there is customer lock-in for the suppliers' current offering, (2) the extent of possible competitive overlap between the referral and the referring supplier, and (3) other such nuanced parameters that vary from one purchasing situation to another.

We based our research conclusions on both survey and laboratory-based data collection procedures in a cross-sectional format, an approach that always has questionable external validity. Tracking real horizontal referrals over time would be a useful future research avenue.

Conclusion

We began by noting a common phenomenon: More than 70% of B2B customers in our sample report ask their suppliers for referrals in new purchase situations, often placing referring suppliers in a quandary. Referring suppliers want to maintain their positive relationship with their customers by giving horizontal referrals that are best for their customers but, at the same time, want to protect their revenue by giving a horizontal referral that minimizes the threat to their business. Our findings, in contrast with what the economics literature predicts, indicate that referring suppliers do try to act in the client's interest, often to the detriment of their own, at least in the short term. However, many B2B customers are unknowingly forcing some conflicted suppliers (the ones dependent on them now or who wish to cross-sell to them in the future) to choose between satisfying their own and their customer's best interests. Our research provides a framework to study this problem (and other situations of misaligned interests) and provides guidelines for customers to follow concerning which suppliers they *should* rely on in such situations.

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HORIZONTAL REFERRALS IN B2B MARKETS
WEB APPENDIX

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WEB APPENDIX A: LITERATURE REVIEW AND CONTRIBUTION

Table WA1
Literature Review: Referring Other Suppliers

Paper	Potential Misaligned Interests	Existing Relationship	Empirical Support Provided	Substantive Context	Implications [2]
Economics Literature: Referring Other Suppliers					
Spurr (1987)			✓	Legal trials	Due to referrals, customers and lawyers are matched well.
Bolton, Freixas, and Shapiro (2007) [1]	✓			Financial services	Referral advice given by suppliers (financial advisors) to customers, who also offer own products, is likely tainted.
Park (2005) [1]	✓	✓		Professional services	If profitability is sufficiently high, suppliers will not recommend the customer to go to an expert (better supplier), opting instead to mislead the customer and provide the customer with the solution.
Garicano and Santos (2004) [1]	✓			Professional service firms	Suppliers know about customers' value, which leads them to not give a referral.
Arbatskaya and Konishi (2012) [1]	✓			Consumer markets	Even with referral fees, suppliers offer positive referrals to customer only if they cannot provide the solution themselves.
Grassi and Ma (2016) [1]	✓			Specialist services	Referrals are efficient when both the referrer, and the recommended supplier, are part of the same organization.
Marketing Literature: Referring Other Suppliers					
Reingen and Kernan (1986)				Specialist service: piano tuner	Suppliers refer other suppliers in non-competitive setting (piano tuner received referrals from music stores).
Blanchard, Hada and Carlson (2018)	✓		✓	Salesperson in retail	Suppliers that refer other suppliers for a non-focal product while selling a focal product are likely to succeed in the focal product sale.
Mayzlin and Yoganarasimhan (2012) [1]				Blogs linking to other blogs	Linking to other blogs has trade-offs for the supplier: consumers might consider blogger as a landing page for news, or might move to other bloggers who have better news breaking capabilities.
THIS PAPER	✓	✓	✓	Complex B2B markets	Although referring suppliers tend to give high-quality referrals (on average), dependent referring suppliers with extensive solution portfolios are more likely to offer deceptive referrals.

[1] Analytical model only.
[2] We use the word "supplier" to refer to any entity supplying the product/service to the customer, such as "lawyer", "agent", "salesperson", "blog owner".

Table WA2
Literature Review: Suppliers' In-Role/Extra-Role Behaviors

Paper	In-Role/Extra-Role Behavior	Antecedent: Trust	Antecedent: Dependence	Consequences	Method	Implications*
Marketing Literature: Suppliers' Extra-Role Behavior in Relationships						
Wuyts (2009)	Supplier's ERBs (not specified)	✓	[1]	Relationship profitability	Conjoint study	Communnal motivations, instrumental motivations, and role formalization influence supplier ERB. Supplier ERB increases relationship profitability.
Ling-yee (2010)	- Partner's active knowledge sharing - Partner's voluntary cooperation	✓ [2]		Channel Performance	Survey	Contract inclusiveness, percieved justice, and benevolence trust effect overseas' partners extra-role behavior, which in turn improves channel performance.
Kim et al (2011)	Customers' willigness to further invest in the relationship			Customers' willigness to further invest in the relationship (The Extra-Role behavior is the consequence)	Survey	When the supplier engages in destructive actions, calculative commitment in the relationship induces future customer ERB towards the supplier, not affective commitment.
Kashyap and Sivadas (2012)	Channel members' ERBs (not specified)	✓		-	Survey	Satisfaction, trust and commitment lead to shared values in the relationship which, in turn, increases channel members' ERB.
Lawrence et al (2019)	Customer's advocacy for supplier inside customers' firm	✓		Customers' purchases from supplier	Survey	There is an inverted U-shaped relationship between buyer advocacy (the extra-role behavior) and the customer's purchases from the advocated supplier.
Mangus et al (2017)	Salesperson's ERBs (not specified)	✓		Customer commitment	Survey	Prosocial behaviors –information sharing and extra-role behaviors– combined with customer gratitude serve as explanatory mechanisms for the positive effects of salesperson gratitude on customer commitment.
THIS PAPER	Giving a horizontal referral	✓	✓	Customers' intent to continue with the relationship with referring supplier	Interviews, surveys, and behavioral experiments	Increased trust in the relationship leads to suppliers' extra-role behavior, while suppliers' increased dependence on customers leads to decreased extra-role behaviors. Trust and referring suppliers' dependence also moderate the effect of suppliers' extra-role behavior on customers' intent to continue the relationship.

[1] Related antecedents: Customers' multi-sourcing strategy and switching costs
[2] Benevolence trust

WEB APPENDIX B: EXPLORATORY STUDIES DETAILS

Details of exploratory survey

Through a B2B panel firm, Dynata Inc., we sent the online survey to 1,107 managers in purchasing or similar roles in the manufacturing, technology, retail, and healthcare industries. We received responses from 126 managers, who answered (yes/no) questions related to the occurrence of horizontal referrals, and responses from 102 managers for details of horizontal referrals.

Managers who said yes to experiencing horizontal referrals (81% of our sample) were asked to respond to questions related to one instance of a horizontal referral. We presented open-ended questions in which we asked them to identify the new requirement that they had, the product that the referring supplier was supplying to them, relationship age with the referring supplier (varied from 6 months to 30 years), their own industry and "their feelings about relying on a current vendor to make a recommendation for another vendor". In Table 1 in the manuscript, we present some of the examples given by customers for horizontal referrals.

After the open-ended questions, respondents answered Likert scale questions related to their relationship with the referring supplier, adapted from existing B2B relationship marketing literature. Respondents indicated that they had close, low-conflict relationships and frequent interactions with referring suppliers, considered them "key vendors". As summarized in the manuscript, the exploratory survey showed that horizontal referrals are prevalent in B2B industries, and that customers rely on their existing close suppliers to recommend a supplier for a new requirement that they have. See Table WB1 for sample details of our respondents.

Table WB1
Exploratory Survey with Customers: Sample Details

	Sample Mean (SD)
Years of experience	22.11 (11.40)
Years in current job	13.49 (10.84)
Knowledgeable about purchasing products from suppliers	5.89[a] (1.64)
Experience in interacting with suppliers	6.38[b] (1.27)
	Proportion of Respondents
Functional Domains (Titles) [c]	
Purchasing/Procurement/Sourcing (director, vice president, manager, head)	45%
Inventory/Merchandising/Contracts (director, manager, general manager)	14%
Top Management (owner, CEO, CFO, CTO, COO)	8%
Administrative/Information Technology (manager, consultant, vice president)	6%
Industries [c]	
Manufacturing	20%
Retail	18%
Healthcare	15%
Aerospace, Defense and Government	9%
Technology/Computers	7%
Food related	4%

Notes: (a) 7-point scale, in which 7 indicates high knowledge; (b) 7-point scale, in which 7 indicates high experience; (c) percentages of titles and industries do not sum to 100, because of the presence of other descriptors in our sample, such as non-profit, jewelry design manager.

Details of interviews with managers

To interview suppliers' managers, we contacted customer-facing managers (including vice presidents and chief marketing officers) of firms that are members of the Institute for the Study of Business Markets™ (ISBM) to form our interviewee sample. We contacted 15 such firms by sending a cover letter from the research director of ISBM and a brief document highlighting the research. One week after sending the letters, we followed up with the managers by telephone and interviewed eight managers. Each manager had a significant amount of work experience (8–35 years) and was responsible for a formal program to use supplier-initiated referrals in the organization or had used supplier-initiated referrals in the sales process. We added to this sample with a convenience sample – we interviewed five industry contacts of the first author, to increase our sample size to thirteen. Each interview lasted approximately 45 minutes. We present interviewee details in Table WB2.

Table WB2
Exploratory Interviews: Interviewee Details

No.	Respondent Title	Supplier Firm and Industry Characteristics
1	Market Manager	Industrial power transmissions
2	Vice President	Metal working
3	Director of Strategic Marketing	Specialty materials
4	VP, Business Development	Filtration and purification
5	Market Insight and Strategy Manager	Chemicals
6	Senior Associate	Industry-focused consulting firm
7	Product Manager	Medical devices
8	Senior Vice President	Retail
9	Director, Business Development	SME marketing analytics firm
10	Director	Education training and consulting firm
11	CEO	Chip manufacturing service firm
12	Director	Digital Publishing firm
13	Owner	Marketing consulting firm

WEB APPENDIX C: STUDY 1 METHOD DETAILS

Criteria for empirical context

We require a situation in which the referring supplier and customer have an existing relationship, and the customer requires a solution in the referring supplier's industry. This difference in industries between the referring supplier and the customer forms the basis of horizontal referrals as the referring supplier knows more about their own industry than the customer does. We consider analytics technology as the referring supplier's industry and healthcare insurance as the customers' industry. The economics literature notes that horizontal referrals are more common in industries in which customers incur significant search costs when looking for the right suppliers (Park 2005). One such industry is analytics technology: it is fast growing (with thousands of new suppliers; Brinker 2022), and the capabilities and performance of its suppliers are difficult for customers to evaluate, especially during the prepurchase period. For the customer's industry, we chose healthcare insurance, which is clearly distinct from analytics technology, but where there have been recent heavy investments in analytics and technology. Thus, our empirical context includes suppliers that belong to the analytics and technology industry and customers that belong to the healthcare insurance industry.

Stimuli structure

The stimulus consists of four sections. The first section describes the empirical context, for which we asked respondents to imagine they were account managers of an analytics firm, and one of their main customers was a regional health insurance firm that had recently set up a data analytics center. We specified that the customer was looking for a supplier of a graphical user interface for the data center.[1] In the second section, we described the referring supplier's relationship with the

[1] Our exploratory survey indicated that the incidence of customers asking for horizontal referrals and suppliers offering horizontal referrals were almost equal. Because we sought to examine referring suppliers' selections of suppliers, the stimulus we presented was that the customer was asking for a horizontal referral.

customer, and presented the manipulations for trust and dependence. In the third section, we elicit referring suppliers' choice for the horizontal referral, and after that present the items for role of friendship and businessperson and referring suppliers' perceived alignment of interest. In the fourth section, we collect demographic information regarding the respondents' industry experience.

Measures

We measured the role of FRIEND with the following items on a 7-Likert scale (1=strongly disagree, 7=strongly agree): (1) It is important to behave in an appropriate manner in business relationships, (2) In such a situation, the firm will act as a friend towards its partner, and (3) In such a situation, the firm will abide by rules such as not deceiving its partner. We measured the role of BUSINESSPERSON with the following items on a similar 7-Likert scale: (1) It is important for the firm to keep its own economic interests in mind in business relationships, (2) In such a situation, the firm will act as a businessperson towards its partner, and (3) In such a situation, the firm will use some potentially unethical means to achieve profits. We combined these six items to construct one item that summarized respondents' role as a FRIEND on one end and BUSINESSPERSON on the other.

Pretests

We conducted three pretests. *With the first pretest* we assessed the realism of the stimuli for customers. We presented Section 1 of the stimuli to 101 purchasing managers (from Dynata's B2B online panel for $21 per respondent), asking them to imagine that they were responsible for the health insurance company's data center and required a graphical user interface supplier for the data center. We then asked them whether in the described purchasing situation they would consider asking an existing supplier to refer another supplier for the graphical user interface (M = 4.91, SD = 1.53), and whether they considered it to be realistic scenario (M = 5.87, SD = 1.33). These responses give us confidence that our stimulus captures the complex situation.

With the second pretest, we assessed the manipulations for referring supplier-customer trust and

referring suppliers' dependence on the customer with a sample of 120 respondents recruited on Prolific Academic™. Our manipulation for referring supplier-customer trust were successful; we used four items: "There is high trust between the two firms" (M_{high} = 6.22, M_{low} = 4.45, t_{119} = 7.67, $p < 0.01$); "*Customer* trusts its supplier, *referring supplier*" (M_{high} = 5.91, M_{low} = 4.69, t_{119} = 5.44, $p < 0.01$); "*Customer* can likely count on *referring supplier* to behave in a manner that *customer's* long-term interests are served" (M_{high} = 5.75, M_{low} = 4.94, t_{119} = 3.61, $p < 0.01$); and "When making important decisions, *referring supplier* is likely concerned about *customer's* welfare" (M_{high} = 5.16, M_{low} = 4.62, t_{119} = 2.11, $p < 0.05$). Also note that the means indicate a medium level of trust even in the "low" trust condition –as we had intended.

Our manipulation for referring supplier's dependence on customer was successful; we used three items: "The *referring supplier* is highly dependent on its *customer*" (M_{high} = 6.21, M_{low} = 2.16, t_{119} = 16.33, $p < 0.01$); "If *referring supplier* lost *customer* as a customer, it would impact *referring supplier's* future revenues" (M_{high} = 6.06, M_{low} = 2.61, t_{119} = 14.21, $p < 0.01$); and "Losing *customer*, would impact you (as *referring supplier's* key account manager) negarively" (M_{high} = 6.34, M_{low} = 2.43, t_{119} = 21.15, $p < 0.01$).

We also showed our stimuli to two industry experts who manage their firm's relationships with key customers. We asked them how they perceived the customers' dependence on the referring supplier in the scenario. From both the experts we got "about medium." One of them elaborated:

> "*As you state here, the supplier has created the back-end solutions. So, it's not like it is the middle of that stage and the customer would be lost without the supplier [which indicates that it is not high customer dependence on the supplier]. At the same time, there is likely knowledge here that this supplier has about the data center etc. so it would be good to have the supplier engaged while the center development continues [which indicates that it is not low customer dependence on the supplier either].*"

Their responses assured us that customers' dependence on the supplier (which we do not manipulate) is unlikely to be a confounding factor for Study 1.

Sample

Our sample consists of 387 respondents with at least two years of work experience (in a for-profit firm, non-profit organization, or a government), recruited on Prolific Academic™. Respondents' average work experience was 15.71 years, with 8 years in the same firm as they were currently. Respondents indicated that they are "in a customer-facing role at work" (Mean = 5.10), they interact with customers in their professional life (Mean = 6.25), and they could relate to the purchasing situation presented in the stimuli (Mean = 4.72). Respondents also agreed that "It is often difficult to evaluate solutions from suppliers prior to purchase" (Mean=5.09). A majority (52%) of respondents indicated that their firm could be described as both customer and supplier in purchasing situations, 25% indicated their firm could be described as a supplier, and 12% for customer (all respondents did not answer this question).

WEB APPENDIX D: STUDY 2 METHOD DETAILS

Manipulations

Referring supplier characteristics. We manipulated referring suppliers' characteristics as follows (see Table 4). First, with regard to relationship length, we sought to define the high level by identifying a duration that indicates that firms have built a history of exchange and that is also considered "long" for the marketing technology and analytics industry. Jap (1999, p. 467) finds that 3.7 years is a "significant base of past history and transaction experience," and our interviews with suppliers in the marketing technology industry indicated that 3–4 years is a "long relationship." Therefore, we define a high relationship length as 4 years and a low relationship length as 6 months (minimum length identified in our customer survey)[2]. Second, we manipulated interaction frequency at two extreme levels—weekly interactions (high) and annual interactions (low)—to represent intense cooperation and real teamwork (Wuyts and Geyskens 2005). Third, for referring suppliers' dependence on customers, we used the same manipulation as Study 1. Fourth, for referring supplier's product breadth, we identified whether the referring supplier had a broad portfolio or only one solution that the customer was currently using (Wathne et al. 2001).

We also informed respondents that the relationship was positive and conflict-free and accounted for and held constant interpersonal relationships between the representatives.

Horizontal referral characteristics. We followed Wathne et al. (2001) for our manipulations of performance (better or worse than referring supplier), economic terms (15% more expensive or less costly than referring supplier) and product breadth (competitor offers only one product –the one the customer is looking for– vs. competitor offers a wide range of solutions covering both current

[2] In an experimental pretest, we assessed whether these manipulations of relationship length and interaction frequency captured the variance in relationship trust and the likelihood of a customer selecting a specific supplier to ask for a horizontal referral. Details of pretest provided in Web Appendix D.

and future customer needs). With regard to the competitor's ability to meet customer-specific needs, we needed a manipulation that would be orthogonal to the other three characteristics and generic enough to apply equally across all competitors. We specified in the stimuli that the customer had expressed the need for a new supplier with "experience in the customer's industry," and we manipulated this according to whether or not the horizontal referral had such experience. With a pretest, we checked our manipulations for the referring supplier and competitor profiles (available in Web Appendix E).

Stimuli structure

Our stimuli feature four sections. The first describes the empirical context, for which we asked respondents to imagine they were account managers of an analytics firm and one of their main clients was a regional health insurance firm that had recently set up a data analytics center. We specified that the client was looking for a supplier of a graphical user interface (GUI) for the data center and that one of the client's main requirements was that the GUI supplier had experience in the health insurance industry.[3] The second section details referring supplier characteristics, for which we presented the between-subjects manipulation of the referring supplier's profile. The third section is the horizontal referral choice, for which we presented the eight competitor profiles, one block at a time, with four in each block. At the end of each block of four, respondents chose one competitor to refer. Next, we showed respondents the two competitors they had selected and asked them to choose one of the two to recommend to their customer. Finally, the fourth section includes a socio-demographic survey, in which the respondents answered questions related to their work experiences and current firms (see Web Appendix E for a sample stimulus).

[3] Our exploratory survey indicated that the incidence of customers asking for horizontal referrals and suppliers offering horizontal referrals were almost equal. Because we sought to examine referring suppliers' selections of horizontal referrals, the stimulus we presented was that the customer was asking for a horizontal referral.

Pretests

For the first pretest, we wanted to assess the specific values for relationship length and interaction frequency, as there is a range of possible values in marketing literature. In an experimental pretest, we assessed whether these manipulations of relationship length and interaction frequency captured the variance in relationship trust and the likelihood of a customer selecting a specific supplier to ask for a horizontal referral. We manipulated the supplier–customer relationship with relationship length (low, 0 years–high, 4 years) and interaction frequency (low–high). With 39 executive MBA students from a large U.S. university as respondents, we found that customers would have higher trust in suppliers with whom they have lengthy relationships and high frequency of interaction. We also found that respondents were most likely (by far) to ask suppliers with whom they have lengthy relationships and high frequencies of interaction for a horizontal referral (82%); none chose suppliers with whom they had zero-length relationships and low frequencies of interaction. As a result, we kept the same interaction-frequency manipulation, and changed the short relationship length from 0 to 6 months.

In the second pretest we checked our manipulations for the referring supplier and horizontal referral profiles with a panel of respondents from Prolific Academic™. We had 89 respondents, each of whom evaluated two referring supplier profiles and eight competitor profiles. Therefore, we have sample sizes of 178 for assessing referring supplier manipulations and 712 for competitor manipulations. Our pretest provided support for our manipulations (we report Satterthwaite unequal t-statistics).

Respondents rated "*customer* and *referring supplier* have a long relationship" significantly higher for the high relationship length vs. low relationship length condition ($M_{high} = 4.43$, $M_{low} = 1.67$, $t_{176} = 20.80$, $p < 0.01$). We find similar results for interaction frequency ($M_{high} = 4.14$, $M_{low} = 2.12$, $t_{176} = 13.43$, $p < 0.01$). Our manipulation for referring supplier's dependence on customer were successful;

we used three items: "The *referring supplier* is highly dependent on its *customer*" (M_{high} = 4.56, M_{low} = 1.60, t_{176} = 20.68, $p < 0.01$); "If the *customer* decided not to purchase from *referring supplier*, you (as *supplier's* key account manager) would suffer financially and professionally" (M_{high} = 4.39, M_{low} = 1.48, t_{176} = 21.15, $p < 0.01$); and "If the *customer* decided to terminate the relationship with *referring supplier*, *referring supplier* would likely see a fall in their revenue" (M_{high} = 4.50, M_{low} = 1.83, t_{176} = 18.55, $p < 0.01$). Respondents rated that "*referring supplier* has only one product for its customer" (1: disagree, 5: agree) significantly lower for the high product breadth versus low product breadth condition (M_{high} = 1.64, M_{low} = 4.65, t_{176} = 22.96, $p < 0.01$).

We found that our manipulation for horizontal referral's performance was successful: (1) *customer* will likely experience high performance from *horizontal referral's* solutions (M_{high} = 5.55, M_{low} = 3.19, t_{710} = 21.28, $p < 0.01$) and (2) *horizontal referral's* performance levels are worse than the *customer* would expect (R) (M_{high} = 2.37, M_{low} = 5.01, t_{710} = 23.83, $p < 0.01$). Our manipulation for economic terms was successful: (1) *customer* will likely experience cost savings with *horizontal referral* (M_{high} = 4.14, M_{low} = 3.48, t_{710} = 5.02, $p < 0.01$) and (2) *horizontal referral's* pricing is worse than the *customer* would expect (R) (M_{high} = 2.81, M_{low} = 5.01, t_{710} = 19.9, $p < 0.01$). For product breadth, the manipulations were similar to the referring supplier's manipulations. Our manipulation for meeting customers' specific needs was also successful: *horizontal referral* meets customers' specific needs and is likely to satisfy *customer* (M_{high} = 4.80, M_{low} = 3.43, t_{710} = 11.01, $p < 0.01$).

Data collection and sample details

Considering the complexity of the conjoint task (highly detailed, scenario-based) and the time availability of professional respondents, each questionnaire entailed only three choice tasks (Figure 4). Therefore, to obtain a reasonably sized set of completed choice tasks, we needed a relatively large number of respondents, which we recruited from two sources: Dynata Inc.'s B2B manager panels (113 responses at $21 each), and Prolific Academic™ (250 respondents). From

Dynata Inc., we chose managers in customer-facing roles, such as key account managers and sales managers, who were likely to have had exposure or experience in selecting analytics software solution providers. We prioritized solution-based industries, such as technology, financial services, and healthcare. We sent the survey to 1,125 respondents and received 113 responses, for a response rate of 10%. From the Prolific Academic™ panel, we accessed 250 respondents with prespecified screening criteria: work experience (at least 2 years), education (at least a bachelor's degree), and full-time employment. Our total sample size was 363 respondents (See Table WD1).

Table WD1
Study 2: Sample Details

	Sample Mean (SD)
Years of experience	15.4 (9.98)
Years in current job	7.60 (7.21)
Knowledgeable about suppliers' interactions with customers	5.59[a] (1.79)
Experience in interacting with customers	4.99[b] (1.86)
	Proportion of Respondents
Functional Domains (Titles)[c]	
Management (vice president, assistant manager, manager, chief executive officer)	31%
Marketing and Sales (vice president, manager, sales manager, account manager, representative, business development manager)	24%
Information Technology (data analyst, consultant, vice president)	10%
Administration (administrator, manager, secretary)	8.5%
Purchasing/Procurement (manager, supervisor, lead)	3%
Accounts/Finance (manager, head, chief financial offer, lead)	4%
Industries[c]	
Information Technology	24%
Education	15%
Retail	6%
Business/Financial Services	12%
Healthcare	6%
Government	4%

Notes: (a) 7-point scale, in which 7 indicates high knowledge; (b) 7-point scale, in which 7 indicates high experience; (c) percentages of titles and industries do not sum to 100, because of the presence of other descriptors in our sample, such as owner or non-profit.

Stimuli (partial profiles presented)

Please imagine that you are an account manager for a firm that specializes in analytics solutions, Centra.

Centra Inc. was founded in 1989 in Chicago, IL. Centra employs around 1000 people and operates in the US. Centra has a good reputation in the analytics industry.

As account manager, you are responsible for sales and relationships with particular customers. Your responsibility is to maintain Centra's existing relationships with clients, so that they will continue using the company for business.

One of the customers you are responsible for is GHI - Group Health Insurance Inc.

GHI Inc. is a regional health maintenance organization and health insurance company which is headquartered in New York City.

GHI has been expanding its IT capabilities to build a Data Analytics Center. Its hardware setup has been completed and they are focused on the software analytics solutions to collect and analyze data and use that to improve customer engagement.

As the account manager, you are responsible for the relationship between Centra and GHI, and the revenue stream from GHI.

Next, we will describe GHI's specific purchasing situation, and Centra's relationship with GHI.

GHI is currently involved in vetting suppliers for the multiple software analytics solutions that they need. Greg Holmes, the VP of the Data Center at GHI, is looking for a supplier for the Graphical User Interface for the data analytics center (the GUI supplier).

The GUI is what GHI's customers will see online, and it is an important decision for GHI. Greg wants a supplier that is technically proficient in graphical user interface design as well as one who has experience in the health insurance industry (as the healthcare insurance industry is idiosyncratic in terminology and consumer needs).

Greg will officially recommend **a short-list of GUI suppliers** to GHI's purchasing department. The purchasing department will then contact the GUI suppliers for pricing and product details. Therefore, the short-list that Greg creates is important.

Given that the analytics supplier industry is new and evolving rapidly, **Greg has asked YOU to suggest a supplier for the new GUI supplier that GHI needs.**

The relationship between Centra and GHI can be summarized as follows:

Centra provides GHI with the back-end analytics solutions used to manage patient data.

Centra **offers a wide range of products** covering GHI's both current and possible future needs.

Centra has worked with GHI for a long time - **four years**.

Centra is **heavily dependent** on the customer, GHI. If this relationship were to end, Centra, and you as the key account manager, would see a **significant financial and professional loss**.

You interact with GHI's VP, Greg and his team about **once a year**. An employee of Centra typically spends **2-3 days a year** at GHI.

GHI's VP, Greg, and you go out for drinks about once a year, and have a cordial relationship. The relationship between Centra and GHI is positive and conflict-free.

Next, we will show you descriptions of some GUI suppliers YOU could recommend to Greg.

Now, out of the below four suppliers please choose the ONE supplier that you would recommend to your customer, GHI.

StackBits

- StackBits offers a wide range of solutions covering both current and possible future needs.
- StackBits offers 15% better economic terms than Centra's economic terms - that is, StackBits is 15% less costly than Centra
- StackBits provides a higher quality solution than Centra, and always delivers on time.
- StackBits has no experience in the health insurance industry

Shield Deck

- Shield Deck offers a wide range of solutions covering both current and possible future needs.
- Shield Deck offers 15% worse economic terms than Centra's economic terms - that is, Shield Deck is 15% more expensive than Centra
- Shield Deck provides a lower quality solution than Centra, and often does not deliver on time.
- Shield Deck has no experience in the health insurance industry

Sovosa

- Sovosa offers a wide range of solutions covering both current and possible future needs
- Sovosa offers 15% worse economic terms than Centra's economic terms - that is, Sovosa is 15% more expensive than Centra
- Sovosa provides a higher quality solution than Centra, and always delivers on time.
- Sovosa has extensive experience in the health insurance industry

Trackena

- Trackena offers only one product - the graphical user interface for analytics solutions
- Trackena offers 15% worse economic terms than Centra's economic terms - that is, Trackena is 15% more expensive than Centra
- Trackena provides a lower quality solution than Centra, and often does not deliver on time.
- Trackena has extensive experience in the health insurance industry

Note: The stimuli continued as described in the manuscript. The respondent next saw four different horizontal profiles, (in the same format as shown above), and selected one. And then chose the final horizontal referral from the previously selected two choices. The horizontal referral names were generated using a random generator of firm names.

WEB APPENDIX E: SIMULATIONS

While the parameter estimates reported in Study 2 give an indication of the effect of referring supplier characteristics on horizontal referral characteristics, they do not clearly indicate the likelihood of a *specific referring supplier* (e.g., one with a long relationship, but also highly economically dependent) selecting a BEST-POSSIBLE or OBLIGATORY horizontal referral. To provide that likelihood, we simulated choice tasks as follows.

First, we create 16 (2^4) scenarios, where each scenario represents a combination of referring supplier characteristics (e.g., frequent interactions, dependent on customer).

Second, for each of these scenarios, we simulate a choice task where the referring supplier knows 16 (2^4) potential suppliers, each representing a unique combination of referral characteristics (e.g., large product breadth, favorable economic terms).

Third, we use the parameter estimates from Study 2, and estimate the likelihood of each referring supplier (i.e., scenario) referring one the available suppliers. Table WE1 details the results of the simulations.

Note that the most likely horizontal referral a referring supplier would choose is a best-possible one, and it is one that is ranked high on all horizontal referral factors: meets customer-specific needs, better in performance and economic terms, and has high product-breadth. In Figure WE2, we show how the likelihood of a customer getting this best-possible referral (Y-axis) varies with the kind of referring supplier that is making the choice (the 16 (24) referring suppliers). A referring supplier who is high on trust antecedents (relationship length and interaction frequency) and low on dependence antecedents (economic dependence and product breadth) has the highest likelihood of recommending this best horizontal referral (32%). That figure drops to 17% if the referring supplier is high on dependence antecedents, even with high relationship length.

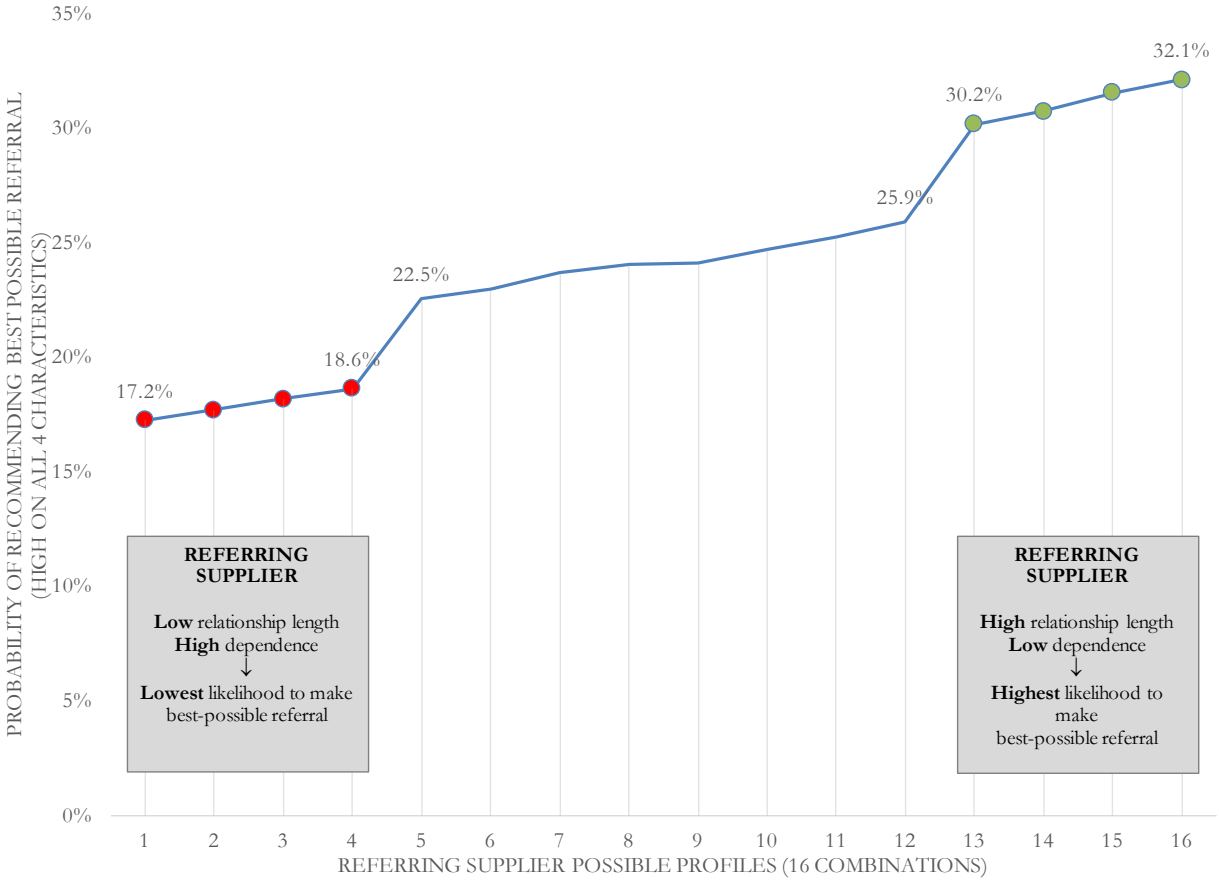
Table WE1
Simulation Results

Referred Competitor's Characteristics	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*	*16*
Performance	low	low	high	high	low	low	high	high	low	low	high	high	low	low	high	high
Economic Terms	low	low	low	low	high	high	high	high	low	low	low	low	high	high	high	high
Product Breadth	low	low	low	low	low	low	low	low	high	high	high	high	high	high	high	high
Meet Customer-Specific Needs	low	high	low	high	low	high	low	high	low	high	low	high	low	high	low	high
Referring Supplier's Characteristics																
Relationship Length	Interaction Frequency	Dependency on Customer	Product Breadth														
high	high	low	low	.002	.019	.009	.088	.004	.039	.018	.182	.003	.034	.016	.156	.007	.070	.032	**.321**
high	high	low	high	.002	.018	.010	.095	.004	.034	.020	.179	.003	.032	.018	.168	.007	.060	.034	**.315**
high	low	low	low	.002	.020	.010	.092	.005	.041	.021	.191	.004	.032	.017	.149	.007	.067	.034	**.307**
high	low	low	high	.002	.019	.012	.100	.004	.036	.023	.187	.004	.031	.020	.161	.007	.057	.037	**.302**
low	high	low	low	.003	.028	.012	.123	.004	.040	.017	.173	.004	.042	.018	.184	.006	.059	.026	**.259**
low	high	low	high	.003	.027	.014	.132	.004	.034	.018	.169	.004	.040	.022	.197	.006	.051	.028	**.252**
low	low	low	low	.003	.030	.014	.129	.005	.041	.020	.181	.004	.040	.020	.176	.006	.057	.028	**.247**
high	high	high	low	.004	.036	.012	.109	.006	.054	.018	.161	.006	.054	.019	.163	.009	.080	.027	**.241**
low	low	low	high	.003	.028	.017	.138	.004	.035	.021	.176	.005	.038	.023	.188	.006	.048	.029	**.240**
high	high	high	high	.004	.034	.015	.118	.006	.046	.020	.159	.006	.051	.022	.176	.009	.069	.029	**.237**
high	low	high	low	.005	.038	.014	.114	.007	.056	.021	.168	.007	.051	.020	.155	.010	.076	.029	**.230**
high	low	high	high	.005	.036	.017	.123	.007	.048	.023	.165	.007	.049	.023	.168	.009	.066	.031	**.225**
low	high	high	low	.006	.051	.017	.146	.006	.052	.017	.147	.007	.065	.021	.185	.007	.065	.021	**.186**
low	high	high	high	.006	.048	.019	.157	.005	.044	.018	.144	.008	.061	.025	.198	.007	.056	.023	**.182**
low	low	high	low	.007	.053	.019	.152	.007	.054	.019	.153	.008	.061	.022	.175	.008	.062	.022	**.177**
low	low	high	high	.007	.050	.022	.163	.006	.046	.021	.149	.008	.058	.026	.188	.007	.053	.024	**.172**

Notes: The top block represents the 16 possible combinations of horizontal referral characteristics that the referring supplier could recommend, 1 per column; the 16th column represents the best referral from the customer's point of view. The bottom block represents the probabilities that a referring supplier will recommend any of the 16 horizontal referral profiles. For example, a referring supplier with low product breadth, high customer relationship length, low dependence on the customer, and high interaction frequency (1st row) has a 35% probability of recommending the best horizontal referral (16th column). The bottom rows are ordered by decreasing probability of making the best recommendation (last column, in bold).

We illustrate an insight from the simulations in Figure WE2. Interestingly, the next most likely referral to be chosen (an OBLIGATORY referral) is one in which the chosen referral is *worse* in ECONOMIC TERMS than the referring supplier. This finding emphasizes the caution one of our interviewees highlighted in recommending a supplier with a "*cheaper per-person-hour quote.*" In the interest of space, we report in the manuscript a simplified version of this simulation, where referring suppliers have to make a choice among three (rather than 16) potential providers: a stereotypical BEST-POSSIBLE referral (high on all characteristics, column 16 in Table WE1); a stereotypical BAD referral (low on all characteristics; column 1 in Table WE1); and a stereotypical OBLIGATORY referral (high on must-have attributes, but low on desirable attributes; column 4 in Table WE1).

Figure WE2
Simulation Results (Study 2)



WEB APPENDIX F: STUDY 3 METHOD DETAILS

Design

We manipulate mutual TRUST (high vs. low), referring supplier's DEPENDENCE on the customer (high vs. low), customer's DEPENDENCE on the supplier (high vs. low), and the horizontal referral given by the referring supplier (BEST-POSSIBLE vs. OBLIGATORY).

For the three factors governing the referring-supplier customer relationship, we run a Type-II fractional factorial, 100% efficient design and obtain four different "profiles", where one profile describes a specific referring supplier-customer relationship. The horizontal referral manipulation was completely crossed with the fractional factorial design, allowing us to estimate interactions of the horizontal referral with the referring supplier-customer relationship characteristics, and assess support for our hypotheses.

Stimuli structure

The stimuli consist of four sections. The first section describes the empirical context, for which we asked respondents to imagine they were they were responsible for the health insurance company's data center and required a graphical user interface supplier for the data center. We specified that the respondent decided to ask one of their current suppliers, Centra Inc., for a recommendation for the new supplier, and that the current supplier supplies the back-end analytics solutions used to manage patient data for the customers' Data Analytics Center.

In the second section, we describe the referring supplier's relationship with the customer, and present the manipulations for trust, referring suppliers' dependence on the customer and customers' dependence on the referring supplier. After this information, we ask respondents about their expectations from the referring supplier regarding the horizontal referral.

In the third section, we present the information regarding the horizontal referral the referring supplier gave to the customer. After this information, we ask respondents about their

intentions to continue with their relationship with the referring supplier, followed by manipulation checks.

In the fourth section, we collect demographic information regarding the respondents' industry experience.

Sample

For our sample, we recruited respondents on Prolific Academic™. We used the panel's pre-screening criteria to recruit respondents with at least two years of work experience in the following B2B industries: Computer and electronics manufacturing, construction, government and public Administration, graphic design, Information services and data processing, manufacturing, market research, medical/healthcare, oil and gas, other information industry, other manufacturing, product development, research laboratories, scientific or technical Services, software and telecommunications. We received 824 responses, out of which 818 were complete and formed our sample. The respondents' average years of experience was 15 years, and 11 years in their current firm. Respondents also indicated that could relate to the purchasing situation presented in the stimuli (Mean =5.10), and they agreed that "It is often difficult to evaluate solutions from suppliers prior to purchase" (Mean=7.34). A majority (56%) of respondents indicated that their firm could be described as both customer and supplier in purchasing situations, 25% indicated their firm could be described as a customer, and 12% denoted as a supplier (~7% did not answer this question).

Manipulation checks

Our manipulation for referring supplier-customer trust was successful; we used three items: "there is high trust between the two firms" (M_{high} = 5.68, M_{low} = 3.82, t_{816} = 12.47, $p < 0.01$); "<customer> can likely count on <referring supplier> to behave in a manner that Alego's long-term interests are served" (M_{high} = 5.11, M_{low} = 4.35, t_{816} = 4.28, $p < 0.01$); "When making important decisions, <referring supplier>is likely concerned about <customer> welfare" (M_{high} = 4.87, M_{low} =

4.15, $t_{816} = 4.56$, $p < 0.01$).

Our manipulation for referring supplier's dependence on customer were successful; we used two items: "The referring supplier is highly dependent on its customer" ($M_{high} = 6.49$, $M_{low} = 2.05$, $t_{816} = 3.43$, $p < 0.01$); "If Centra lost Alego as a customer, it would impact Centra's future revenues" ($M_{high} = 6.51$, $M_{low} = 2.05$, $t_{816} = 2.23$, $p < 0.01$). Respondents rated that "Alego, the customer, is dependent on the supplier, Centra, to achieve its goals" (1: strongly disagree, 7: strongly agree) significantly lower for the high product breadth versus low product breadth condition ($M_{high} = 6.11$, $M_{low} = 2.46$, $t_{816} = 24.93$, $p < 0.01$).

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