

SALESPERSON NETWORKING BEHAVIORS AND SALES PROSPECTING  
OUTCOMES: ESSAYS ON THE ROLES OF MOTIVATION AND  
COMMUNICATIONS-MIX SYNERGIES

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By  
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The undersigned, appointed by the dean of the Graduate School, have examined the dissertation entitled

SALESPERSON NETWORKING BEHAVIORS AND SALES PROSPECTING  
OUTCOMES: ESSAYS ON THE ROLES OF MOTIVATION AND  
COMMUNICATIONS-MIX SYNERGIES

presented by Andrew Crecelius,

a candidate for the degree of Doctor of Philosophy,

and hereby certify that, in their opinion, it is worthy of acceptance.

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Thank you to my amazing wife, Elysia. I would never be where I am today without you. This document, and the completion of the degree that it signifies, is a testament to how much you have made me a better man.

Thank you to my beautiful children. You are gifts from God and bring boundless meaning to my life.

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**ABSTRACT**

Scholars and practitioners alike recognize the importance of the front end of the sales funnel – identifying and qualifying leads for new business – in setting the stage for acquiring and retaining customers. Salespeople have an important role to play in lead generation and qualification by prospecting for new customers, but academic research on prospecting is limited and mostly out-of-date. Some scholars have suggested that sales networking has an important role to play in prospecting. I conceptualize *frontline networking behaviors* as social actions taken by salespeople across the organizational boundary. Through two independent essays,<sup>1</sup> this dissertation investigates the role of frontline networking behaviors in driving sales prospecting outcomes.

**Essay 1**

My first essay emphasizes that the effect of frontline networking behaviors on prospecting outcomes is contingent on the salesperson's reason for engaging in these behaviors. I consider a new construct, the *motivation to network*, as an important

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<sup>1</sup> Because the two essays were written to be read independently, there is some degree of unavoidable redundancy between certain small sections of the two.

moderator of the relationship between networking behaviors and prospecting outcomes. Drawing on literature from the domains of social capital and self-determination theory, I test several hypotheses regarding prospecting performance in terms of both the volume and desirability of prospects using an empirical study combining survey, archival, and secondary data from a large Midwestern auto insurance sales force. I employ insurance quoting data to represent prospecting outcomes. This is the first study to take a behavioral approach to network-driven sales performance, and the first to explicitly consider the motivation to network. Results highlight the role of frontline networking behaviors in driving sales prospecting output, especially in terms of the desirability of prospects generated. Hypothesis tests within a generalized linear and latent mixed modeling (GLAMM) framework generally support the importance of the breadth of networking behaviors over depth, and imply that salespeople internally driven to network are better served by leveraging strong-tie relationships, while salespeople externally driven to network are better served by leveraging weak-tie relationships. These findings can be leveraged by sales managers to train and coach salespeople to properly align their networking behaviors with their motivations to network.

## **Essay 2**

In my second essay, I conceptualize frontline networking behaviors as a marketing communications tool by exploring interactions with other communications mix elements. The managerial focus of this essay hinges on the question of whether frontline networking behaviors are substitutes for, or complements to, other elements of the communications mix (e.g., advertising). With a focus on advertising executed at the level of individual salespeople, I draw on literature from integration marketing

communications, relationship marketing, and the psychology of communications to postulate that a variety of beneficial and detrimental effects may occur. I identify more nuanced effects by distinguishing between standardized advertising (impersonal, one-way communications such as television) and rich advertising (personal communications involving two-way contact such as local sponsorships), as well as between traditional (i.e., face-to-face or telephone) networking behaviors and social media-based networking behaviors. I consider the generation of both relational (i.e., likely to stay with one firm) and transactional (i.e., focused on a single transaction) prospects as outcomes of interest. I conduct an empirical analysis using a combination of survey and archival data from a large Midwestern auto insurance sales force. Generally speaking, rich advertising interacts positively with social media instrumental frontline networking and negatively with traditional instrumental frontline networking, while standardized advertising interacts positively with traditional instrumental frontline networking and negatively with social media instrumental frontline networking. Results are consistent with theories from the communications literature. These findings encourage marketing managers to carefully consider salesperson networking behaviors when making advertising allocation decisions; for example, all else being equal, salespeople favoring traditional networking ought to be supported with a greater degree of standardized advertising.

## **ESSAY 1 – HOW FRONTLINE NETWORKING BEHAVIORS INFLUENCE CUSTOMER ACQUISITION: THE ROLE OF AUTONOMOUS AND CONTROLLED NETWORKING MOTIVATIONS**

For decades, sales practitioners have grappled with the dual challenges of acquiring new customers and retaining those customers. A great deal of scholarly attention has been devoted to identifying the characteristics of salespeople who can conquer these challenges and to delineating managerial tactics to enhance the performance of existing sales personnel. However, closing and retaining a customer occur at the back end of the traditional sales funnel (Moncrief and Marshall 2005; Weitz, Castleberry, and Tanner 2008). Success in acquisition and retention depends heavily on success in the *front end* of the sales funnel, consisting of identifying leads for new business opportunities and qualifying those leads into prospects. Recent research (Carter et al. 2014; Sabnis et al. 2013) has suggested that the extent and type of efforts invested in generating and qualifying leads have important consequences for down-funnel sales outcomes.

The notion that the front end of the sales funnel is of paramount importance is consistent with practitioner wisdom. Firms place a high level of importance on lead generation; in a survey of 1,745 marketers (MarketingSherpa 2011), respondents most frequently (60% of respondents) listed this as a priority, ahead of converting qualified leads into paying customers. Practitioners pour vast sums of money into lead generation. In a survey of 505 marketers, nearly one-third of respondents reported spending at least 50% of the marketing budget on this activity, with nearly two-thirds spending at least 25% of the budget on lead generation (Bizo 2014). Further, practitioners struggle to

effectively manage this activity. In a survey of over 700 sales and marketing executives, the majority reported that their firms had no formal process to identify and qualify new business opportunities; not surprisingly, the majority also reported converting only 10% of new customer leads into sales (Mahoney 2011).

In the context of sales management, the classical way to generate leads is *prospecting* by sales personnel. Prospecting may be defined as efforts on the part of a salesperson to generate prospects by identifying opportunities (i.e., leads) for new business and qualifying those opportunities (Jolson and Wotruba 1992a).<sup>2</sup> This staple of sales practice had been the subject of relatively little scholarly investigation, until the rising trend of *hunter* and *farmer* roles in the sales force (Batra and Kaza 2012; Hancock, Hatami, and Rayan 2014) began to draw scholarly interest to prospecting in terms of effectiveness in the hunter role. Naturally, success in hunting (i.e., customer acquisition) depends on a steady flow of qualified leads. Although preliminary work in this area is promising in identifying salesperson traits conducive to the hunting role (DeCarlo and Lam 2015), it is far from clear what *activities* contribute to effective prospecting. To my knowledge, no extant empirical work has considered behavioral antecedents of effective prospecting using objective indicators of *sales prospecting performance*. Instead of a solid empirical foundation, our knowledge of prospecting is grounded largely in practitioner wisdom and decades-old research focusing on traditional methods of generating a list of names and “cold-calling” (e.g., Jolson 1986). Given the rapid pace of technological change, the way customers search for information, interact with sellers, and

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<sup>2</sup> Although qualification may be conceived of as a separate step in the sales funnel, both the production and qualification of self-generated leads are commonly viewed as part of the prospecting process because they often happen simultaneously and as a result of the same behaviors; for example, the same cold-call may identify an opportunity and qualify that opportunity as a viable prospect (Jolson and Wotruba 1992b).

make purchasing decisions have all fundamentally changed and will continue to change (Palmatier 2008a; Stevens and Kinni 2007; Urban 2004, 2005). It is therefore clear that today's recipe for efficacious prospecting looks vastly different from that of earlier times. What type of prospecting, then, is effective in this new environment?

Some scholars have suggested that salespeople can utilize networks of individuals outside of the firm to identify and qualify leads. The nascent literature on sales and social networks takes a social capital perspective, finding that the resources embedded in salespeople's social networks (i.e., social capital; Bordieu 1985) – for example, information access and cooperation – may be leveraged by the salesperson to improve overall sales performance (Gonzalez, Claro, and Palmatier 2014; Hutt and Walker 2006; Üstüner and Iacobucci 2012). The recent focus of sales practitioners on leveraging networks through social media, as evidenced by an explosion in popular press publications (e.g., Belew 2014; Golden 2014) highlights the interest of sales managers in leveraging social networks towards increased performance. However, extant empirical work has focused on social networks *within* the firm, and has not considered prospecting performance.

Üstüner & Godes (2006) theorize that the salesperson's network *outside* of the firm is especially important for prospecting. Thus, one promising, but untested, candidate for a type of prospecting that is effective in the modern sales environment is *network-driven prospecting*: acquiring and utilizing network resources outside of the firm in support of prospecting activities. Indeed, salespeople already receive some instruction in network-driven prospecting; sales managers are instructed to support sales personnel in

their efforts to “build and maintain the right webs of contacts” outside of the firm to identify new business (Üstüner and Godes 2006).

The idea of network-driven prospecting is particularly important in personal selling contexts with an entrepreneurial focus, in which the salesperson operates with a high degree of independence and minimal contact with a firm’s hierarchy in order to maintain and grow a portfolio of customers. Salespeople in these settings often operate on straight commission and are expected to aggressively seek new customers. Such contexts represent a large portion of both the economy and the workforce in the United States. Large industries commonly utilizing this selling approach include private passenger automobile and homeowner’s insurance (\$308.8 billion revenue employing approximately 306,568 individuals in the U.S.; IBISWorld 2016), residential real estate sales (\$79.0 billion revenue employing approximately 645,497 individuals in the U.S.; IBISWorld 2016), individual life insurance (\$191.3 billion revenue employing approximately 76,841 individuals in the U.S.; IBISWorld 2016), and direct sales (\$40.5 billion revenue employing 791,771 individuals in the U.S.; IBISWorld 2016). In these contexts, salespeople must continuously undertake actions, such as cold-calling and building a reputation, to seek new business. Given this need for constant prospecting and awareness-building, I focus on these entrepreneurial selling contexts in this paper because the role of networking as an engine to drive prospecting outcomes is crucial in such contexts. Further, we regularly observe salespeople in these industries spending their time aggressively networking, and it is an open question how effective these behaviors are. Consider, for example, the efforts of realtors, accountants, and insurance agents to

become connected with their communities by forming networking groups and joining organizations such as the Chamber of Commerce.

The implication that the effectiveness of the sales force in generating and qualifying leads can be enhanced by leveraging the networks of salespeople is powerful. It is a performance driver that costs only the salesperson's time; if salespeople are judicious in their selection of networking behaviors, the upside of this time is potentially high. Further, some of a salesperson's networking activities may occur outside of regular working hours (e.g., social events in the evening). By socializing at such times, some salespeople spend more total time networking than others. This means that an increased investment in networking behaviors does not necessarily imply reduced attention to core selling tasks.

Although some scholars have linked intra-firm network characteristics to overall sales performance (e.g., Gonzalez, Claro, and Palmatier 2014), no extant empirical work has examined how a salesperson's networking behaviors (or network) outside of the firm influence prospecting performance. Due to this lack of knowledge regarding effective network-driven prospecting, fundamental managerial questions remain unanswered. What can salespeople and sales managers do to influence network-driven prospecting performance? Are salespeople better served by forging a few close relationships, or by having a large number of casual connections, or by investing in many strong relationships? How should they balance building network connections with utilizing those connections? Further, the managerial actions that effectively encourage these behaviors are unclear. Can a salesperson be coached to network effectively? Can

effective networkers be easily identified via appropriate recruitment and selection procedures?

To begin to answer these questions, I define *frontline networking behaviors* (FNBs) as social behaviors executed by a frontline representative of a firm – such as a salesperson – across the organizational boundary. In other words, these are external networking behaviors of a frontline representative of a firm. The targets of these behaviors need not be prospects themselves; they may also be individuals who can help the salesperson identify new opportunities. To the extent that these actions build awareness of the firm and the frontline representative's role in the firm, and ultimately affect purchase behavior, these behaviors – whether it is the salesperson's intent or not – effectively serve as a type of marketing communication executed by salespeople across the organizational boundary. This conceptualization makes the managerial stakes readily apparent; FNBs are a potential competitive asset about which almost nothing is known.

I specify three dimensions of networking behavior. *Breadth* is the extent to which a salesperson engages in a wide variety of social contexts, while *depth* reflects the degree to which the salesperson becomes heavily involved in each of these social contexts. Finally, *instrumentality* of networking is the degree to which the salesperson leverages connections in these various social contexts. These three dimensions of breadth, depth, and instrumentality are grounded, respectively, in three classic facets of social capital theory: information access (Granovetter 1973), cooperative support (Coleman 1988), and instrumental (or activating) actions (Lin 1999). Although any of these behaviors may be conducted using traditional means (e.g., face-to-face, telephone) or new, social media channels, I focus on traditional networking in this research.

Scholars have viewed networking behaviors as a personality-driven behavioral “syndrome,” whereby an individual who engages in one type of networking (e.g., within the firm) is more likely to spend time engaging in another type of networking (e.g., outside of the firm), and more time networking overall (Wolff and Moser 2009). Consistent with this past research, I expect breadth, depth, and instrumentality of networking behavior to be positively correlated with one another, but with differential effects on outcomes. By specifying several dimensions of networking, I identify *patterns* of behavior that – holding the actual *time* spent networking constant – are more or less likely to be associated with increased prospecting performance. Consistent with extant research emphasizing the consideration of multiple dimensions of performance (e.g., Singh 2000), I focus on prospecting outcomes of *volume*, meaning quantity of prospects, and *quality*, meaning desirability of prospects in terms of expected retention.

As noted above, networking is a behavior syndrome, whereby some salespeople spend more time networking than others, often doing so outside of regular working hours. This implies that salespeople differ in their *motivation* to devote attention to this activity. My definition of FNBs differs from past conceptualizations of networking behaviors (e.g., Wolff and Moser 2006) as well as popular definitions (e.g., Lowstuter and Robertson 1995) in that I do *not* assume that this motivation to network is driven by a desire to benefit from relationships. Past research has identified that various personality traits cause salespeople to be drawn to certain aspects of their jobs; for example, extraverts tend to spend more time entertaining prospects and customers, presumably because they enjoy spending time with others (Stevens and Macintosh 2002). Accordingly, salespeople may network at least in part due to their enjoyment of

networking itself. This is a crucial distinction because past research has consistently found that an individual's reason for engaging in a behavior has profound implications for their effectiveness in that behavior (Cellar et al. 2011; Deci, Koestner, and Ryan 1999). Specifically, the degree to which the salesperson's drive to network comes from enjoyment, or from other considerations, influences how the salesperson's networking actions are perceived by others, in turn impacting the effectiveness of these actions (Lemay and Clark 2008). I draw on self-determination theory (Ryan and Deci 2002) to introduce the *motivation to network* construct and consider how it moderates the relationship between frontline networking behaviors and prospecting performance. In other words, I posit that the effects of a salesperson's particular pattern of networking behaviors on prospecting outcomes are contingent on her reason (i.e., motivation) for engaging in these behaviors.

I investigate two primary research questions using a combination of survey, archival, and secondary data pertaining to 614 insurance sales agents. First, how do the dimensions of frontline networking behavior – including breadth, depth, and instrumentality of networking – contribute to the volume and quality of a salesperson's prospecting output? The answer to this question will be important to sales managers considering how to train and coach personnel to network effectively. For example, a salesperson who networks broadly – that is, in many different social contexts – may generate a higher volume of prospects due to his wide range of information access, while one who networks deeply – that is, forges close relationships within a given social context – generates a higher quality of prospects due to more intense cooperation with his

contacts. However, salespeople who do not leverage relationships through instrumental networking might miss opportunities to reap the full benefits of their networks.

Second, how does the relationship between frontline networking behaviors and prospecting performance vary across salespeople based on their motivation to network? Results pertaining to this question will have important implications concerning recruitment, selection, training, and incentivizing of salespeople. If networking behavior is only effective when it is intrinsically motivated, then the pressure falls on hiring managers to select salespeople who are innately driven to network. However, if extrinsically-motivated networking behavior can be effective, then sales managers have more managerial levers at their disposal to maximize the effectiveness of salesperson networking behaviors.

This study will make several important contributions:

1. I advance practitioner knowledge with a specific set of recommendations for effective sales networking. Results generally support breadth over depth of networking, and imply that networking is primarily associated with the *quality* of prospecting output.
2. I relax prior literature's assumption of extrinsically-motivated networking and introduce the construct of *motivation to network*, with actionable results supporting the importance of this construct in network-driven prospecting performance: an externally-driven motivation to network is well-suited to leveraging relationships with casual acquaintances, while an internally-driven motivation to network is associated with more effective leveraging of close relationships.

3. My novel measure of frontline networking behaviors will enable future researchers to use standard psychometric techniques to more effectively examine broad, open-ended networks – such as customer networks – that are not easily captured using a sociometric (i.e., network structure-based) approach.
4. By focusing on *networking*, I introduce a behavioral perspective on networks (cf. structural perspective; e.g., Gonzalez, Claro, and Palmatier 2014) to the sales literature, building a foundation for future research exploring the boundaries between sales networking, salesperson social capital, and sales performance.

I proceed by laying a theoretical foundation and developing a conceptual model, defining the empirical context and research methodology, reviewing and discussing results of two studies, and conclude with a summary of my expected contribution and possible future directions.

## **THEORETICAL FRAMEWORK**

Social capital is the foundation for my conceptualization of the effects of networking behaviors on prospecting outcomes. Recent research has begun to consider the effects of a salesperson's social capital on sales performance. Social capital at the individual level is defined as "... the aggregate of the actual or potential resources which are linked to possession of a durable network of... relationships of mutual acquaintance

or recognition” (Bourdieu 1985). An individual’s social capital resides in the structure and composition of his or her network of relations (Coleman 1988). This construct has numerous facets, but it is useful to divide them into two categories: those aspects of the network that enhance the individual’s access to and control of information, and those that promote cooperative support between the individual and his or her relations (Gonzalez, Claro, and Palmatier 2014).

### *Types of Social Capital*

Several network theories and concepts aim to explain the first category of social capital, advantageous information access. The strength of weak ties (Granovetter 1973) and structural holes (Burt 1992) arguments both hinge on obtaining non-redundant information through an individual’s sparse (i.e., not interconnected) network of social ties that implicitly form bridges to far-flung network clusters. The notions of network range (Burt 1983; Haines and Hurlbert 1992) and heterogeneity (Reagans and Zuckerman 2001) similarly evoke the idea of capturing non-redundant information, but by a slightly different means – namely, by explicit connections to different networks or different types of individuals.

Other theorists have emphasized the second category of social capital, cooperative support obtained through networks. Cohesion (Coleman 1988) refers to norms of trust and benevolence within densely interconnected network clusters, whereby the implicit threat of within-cluster sanctions deters opportunistic actions against network cluster members. The strength of strong ties perspective (Centola and Macy 2007; Frenzen and Nakamoto 1993), on the other hand, takes a dyadic view, noting that the exchange of

valuable information and other resources often requires strong ties between individuals. For expositional parsimony, I will henceforth refer to the information access dimension of social capital as the *breadth* of social capital, and the cooperative support dimension as the *depth* of social capital.

### ***Challenges in Understanding Social Capital-Driven Sales Performance***

Although empirical research has begun to connect both of the aforementioned types of social capital to sales performance (Gonzalez, Claro, and Palmatier 2014; Üstüner and Iacobucci 2012), there are two stumbling blocks to the advancement of this domain. First, it remains unclear how organizations can use such results. It has been suggested that sales managers may manipulate the intra-firm networks of their subordinates (Flaherty et al. 2012). However, this notion is not obviously applicable to networks outside of the firm, which are particularly important (Üstüner and Godes 2006). Other scholars have suggested that network-building skills should be emphasized in the training of new sales reps (Gonzalez, Claro, and Palmatier 2014). However, it is unclear whether such training could be effective in encouraging the development of the specific kinds of network structures which will be advantageous vis-à-vis information access and/or cooperative support. For example, if a firm wishes for its salespeople to gain the benefits of a dense network of contacts outside of the firm, there is no guarantee that the introduction of networking training would plant the seeds for this specific kind of network. The implementation of empirically-grounded networking training is further problematic given that previous studies have not examined how networking impacts specific *dimensions* of sales performance – such as prospecting – using objective data. If

the specific patterns of *behavior* responsible for effectiveness in each stage of the sales funnel were identified, training modules and coaching approaches could be tailored to emphasize these behaviors.

Secondly, the advancement of scholarly work on the social capital of salespeople is hindered by methodological problems. Measuring the network structure and composition of salespeople and other frontline representatives of the firm typically requires a sociometric survey, a methodology dating to the 1930s (Moreno 1934). A sociometric survey requires respondents to complete one or more ‘name generators,’ in which they must name all contacts (*alters*) meeting the researcher’s networking-defining criteria (e.g., those with whom the respondent discusses “important matters”; Burt 1984). Then, respondents complete a ‘name interpreter,’ in which they must answer additional questions regarding each alter – e.g., closeness of the relationship, frequency of contact, demographic information (Marsden 1990, 2005). Respondent burden is exacerbated when whole-network data is not available and respondents’ networks are expected to be large – for example, when a salesperson’s network of customers is of interest. Respondents may complete name interpreter items for only a subset of alters (Fischer 1982a; Jones and Fischer 1978; Marsden 1993), but this necessarily induces additional measurement error into a methodology already suffering from this malady due to such response anomalies as forgetting (Brewer 2000), personal biases (Marin 2004), and varying interpretations of name generators (Fischer 1982b).

This methodological problem has been noted as particularly detrimental to the study of large, open-ended networks, such as those of customers (Van den Bulte 2010). It is, then, unfortunate but unsurprising that published survey-based network research in

marketing and management has largely been confined to intra-organizational research (e.g., Bozionelos 2003; Brass 1984; Gonzalez, Claro, and Palmatier 2014; Tsai and Ghoshal 1998; Tsai 2001; Üstüner and Iacobucci 2012). Such studies are vital, but they are unable to address phenomena arising from large, open-ended, informal networks where sociometric techniques are limited and where archival data (e.g., phone records) are unavailable. Prospecting is one such phenomenon, as it is believed to be driven by salespeople's wide-ranging networks beyond the boundaries of the organization (Üstüner and Godes 2006).

### ***Networking Behaviors***

The two previously elaborated issues – namely, the difficulties in producing managerially actionable results and in overcoming the limitations of sociometric techniques – can be addressed simultaneously by appealing to the *networking* construct. The notion that individuals can reap benefits from actively building and shaping a network is widespread. In addition to being drilled into business school students across the country, it has been the subject of numerous popular press books (e.g., Azrin and Besalel-Azrin 1982; Baker 1994; Barton 2001; Lowstuter and Robertson 1995).<sup>3</sup> It has even been implicit in a great deal of social networks research (Burt 1992; Kaplan 1984; Üstüner and Iacobucci 2012). Surprisingly, it has received little attention in marketing and sales, instead being studied primarily within the fields of psychology and organizational behavior. Michael and Yukl (1993) offer a succinct yet inclusive definition of networking: “A wide array of behaviors designed to build informal interpersonal

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<sup>3</sup> Although these popular sources assume that networking is motivated by a desire for personal gain, my conceptualization is broader – as will become apparent later in this section.

relationships with people inside and outside the organization. In general, networking involves the exchange of affect (liking, friendship), information, benefits, and influence.” Individual networking has been characterized as a behavior syndrome, or “a set of interrelated behaviors that are consistently shown by individuals,” and evidence suggests that it is relatively stable over time (Wolff and Moser 2009; cf. Frese et al. 1997). Wolff, Moser, and Grau (2008) provide concise conceptual arguments for the discriminant validity of networking relative to several other constructs, such as mentoring. It should especially be noted that individual-level networking behavior is distinct from organizational networking (Thornton, Henneberg, and Naudé 2013), which describes firm-level interactions.

Prior research has strongly implied that networking behavior is closely related to social capital, suggesting that changes in networking behaviors will have an influence on performance because of this link to social capital. Extant studies linking networking behaviors to work- or career-related outcomes have either explicitly (Gould and Penley 1984; Thompson 2005) or implicitly (Wolff and Moser 2009) argued that social capital mediates the networking-performance relationship. The argument is straightforward enough: those who tend to network heavily will form more advantageous networks; therefore, those who tend to network heavily will reap greater advantages. However, it must be acknowledged that a high degree of simultaneity will always exist in the relationship between networking and social capital; in particular, as a network grows large, one intuitively expects that the overall extent of behaviors required to maintain the network will increase (Wolff, Moser, and Grau 2008). It must further be acknowledged that social capital has other important antecedents, such as those grounded in an

individual's ethnic and socioeconomic background (Marsden and Hurlbert 1988). While interesting and worthy of study, such antecedents may not be directly influenced except during the hiring process – and even then only in a limited way due to ethical and legal constraints – while the behaviors of salespeople can be affected by firm actions and policies after hiring. Thus, it is worthwhile to consider in greater detail the effects of networking behaviors on sales performance.

### ***Frontline Networking Behaviors***

I define frontline networking behaviors (FNBs) as social actions taken by a frontline representative of a firm across the organizational boundary. Before detailing a framework for the relationship of FNBs to performance, it is necessary to consider the types of behaviors that comprise networking – that is, the dimensionality of the construct. Prior research on networking behaviors has attempted to tackle the issue of dimensionality. Michael and Yukl (1993) divide networking into intra-firm and extra-firm dimensions. Frontline networking behaviors, as defined above, exclusively fall within the extra-firm category.<sup>4</sup> Forret and Dougherty (2001, 2004) focus on behaviors aimed at building and maintaining networks. Wanberg, Kanfer, and Banas (2000) emphasize only those actions aimed at utilizing the resources of current contacts. Wolff and Moser (2006, 2009) consider the series of steps that might occur within a given social interaction, defining “building, maintaining, and using” dimensions. These categorizations are of limited use from the standpoint of theoretically understanding network-driven prospecting performance because they lack unambiguous conceptual

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<sup>4</sup> Although intra-firm networking is not the focus of this research, it is considered as a control variable in the empirical portion of this research.

links to the information access and cooperative support dimensions of social capital. For example, network-‘building’ actions may involve meeting people in an entirely new social circle, increasing information access, or creating relationships within an existing social circle, fostering interconnectedness and therefore cooperative support. In order to avoid this problem, I define three dimensions to characterize FNBs: breadth of networking behaviors, depth of networking behaviors, and instrumentality of networking behaviors.<sup>5</sup>

The *breadth* of frontline networking behaviors is the extent to which an individual takes actions to build and maintain relationships in a *wide variety of social contexts* outside of the firm. A social context is a distinct theatre for social interactions. These contexts may include professional association meetings, conferences, social gatherings with former colleagues, networking groups (e.g., BNI), involvement in various humanitarian, athletic, fraternal, or religious groups, or even extended family gatherings. Generally, broader networking is conceptually associated with meeting and interacting with a wider variety of people. This dimension is related to the information access facet (i.e., ‘breadth’) of social capital. Naturally, increasing the breadth of networking behaviors will tend to occupy more of the salesperson’s time.

The *depth* of networking behaviors signifies the extent to which an individual takes actions to build and maintain *strong relationships* within *each* social context. For example, a salesperson may more frequently attend meetings of a professional association or take a leadership role in a fraternal organization. Generally, deeper networking corresponds to forging closer bonds with the people that an individual meets in the course

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<sup>5</sup> I use these terms interchangeably with *broad networking*, *deep networking*, and *instrumental networking* for expositional convenience.

of social activities. This dimension is connected with cooperative support-based social capital (i.e., ‘depth’ of social capital). Networking more deeply, like networking more broadly, will tend to result in more time spent networking. However, as previously mentioned, because many networking activities are informal events occurring outside of working hours, a salesperson’s time spent networking deeply and broadly is not strictly limited; some individuals will spend more total time networking than others. Further, individuals who spend more time doing one type of networking tend to spend more time performing other types of networking; networking is a behavior *syndrome*. (Wolff and Moser 2009). Therefore, a positive relationship between breadth and depth of frontline networking behavior is likely.

The third dimension, *instrumentality* of networking behaviors, captures the extent to which an individual leverages relationships with individuals outside the organization towards tangible gains. Such behaviors are equivalent to instrumental actions – the activation of latent network resources (Lin 1999) – in the networks literature; while the breadth and depth of networking behaviors are indicative of latent resources in the form of broad and deep social capital, respectively, instrumental networking behaviors – e.g., asking for advice – make these resources manifest. These instrumental actions may be targeted towards *weak-tie* connections as well as towards *strong-tie* connections; the effects of the two types may diverge due to network resources being more difficult to access via weak ties. Frenzen and Nakamoto (1993) find that individuals are willing to share certain valuable pieces of information with close contacts that they are unwilling to share with casual acquaintances. Accordingly, I consider both *strong-tie instrumental networking*, defined as the frequency with which the salesperson leverages strong-tie

connections, and *weak-tie instrumental networking*, defined as the frequency with which the salesperson leverages weak-tie connections. Given the recent attention to social media activities of salespeople (Rodriguez, Peterson, and Krishnan 2012), it is also worth considering the communications medium of networking. Although the dimensions described above pertain to traditional (e.g., face-to-face or telephone) networking, I will also consider social media networking as a control variable in the empirical portion of this paper (see the methodology section).

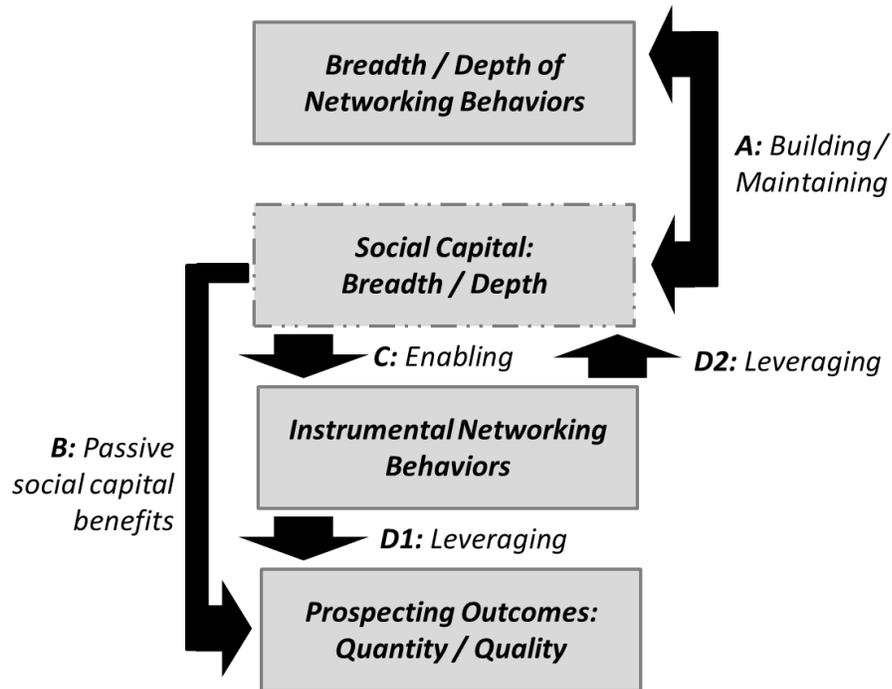
Figure 1.1 outlines the process flow by which I expect FNBs to affect sales performance. Path A illustrates that engaging in frontline networking – socializing across the organizational boundary with some mixture of breadth and depth – *builds and maintains* social capital, which in turn offers resources of information access (i.e., breadth) and cooperative support (i.e., depth). The double-sided arrow acknowledges the simultaneity of networking behaviors and social capital; just as a broad or deep pattern of networking behaviors may lead to the accumulation of social capital, certain types of networks would be expected to encourage or even necessitate a pattern of networking behaviors. The box for social capital is dotted because I will not be explicitly measuring this construct in this paper.

Path B encompasses existing research on network-driven sales performance: the relationship between social capital and sales outcomes (e.g., Gonzalez, Claro, and Palmatier 2014), for example through reputation effects, cooperation, or referrals. Given some network resources, extant research asserts, the salesperson will obtain some benefits. In the case of this research, those benefits take the form of prospecting outcomes. However, some network resources are latent, and must be tapped with an

instrumental action (i.e., leveraged) in order to be utilized (Lin 1999). Path B makes clear that past research, by only examining this direct path, has ignored the effect of network leveraging on sales performance. This path represents social capital benefits of frontline networking independent of any instrumental actions; these benefits may be thought of as passive in the sense that they do not require any actions directly aimed at creating social capital. Consider, for example, the case of the salesperson building a relationship with an influential businessperson (path A) who passes on referrals without the salesperson necessarily asking for them (path B).

Paths C and D articulate the role of instrumental networking behaviors, or network *leveraging*, in network-driven prospecting performance. Path C illustrates that the salesperson's social capital – and the network in which it resides – is an antecedent to the instrumentality of networking. That is, leveraging social ties requires a network containing those ties. The pattern of broad and deep social capital held by the salesperson *enables* him to leverage strong- and weak-tie relationships to varying degrees. Paths D1 and D2 show that instrumental networking can tap network resources either to yield an immediate benefit (path D1), such as asking an acquaintance for sales leads, or to modify the social capital at the individual's disposal (path D2), as in the case of a sales rep asking for an introduction to an influential business leader or other source of referrals. In the case of path D2, this social capital may yield a passive benefit through path B – the influential business leader does favors for the rep without being asked – or by creating the opportunity for more instrumental actions.

**Figure 1.1: A Framework for Network-Driven Sales Performance**



It is noteworthy that, based on Figure 1.1, frontline networking behaviors explain a wider array of managerially interesting aspects of network-driven prospecting performance than those that would be explained by passive social capital benefits (i.e., path B) alone. Path B is the focus of past research on sales networks. Setting aside the backward path D2, the network-driven prospecting performance that a salesperson can realize through his frontline networking behaviors may be thought of as the effect of  $A \times B$ , plus the effect of  $C \times D1$ . The contribution of the instrumentality of frontline networking behaviors to this total is (once again, setting aside the backward path)  $C \times D1$ .

Thinking of network-driven prospecting performance in this manner, rather than focusing on social capital, has two key advantages. First, the effect of paths C and D – the

impact of instrumental networking – is taken into account, acknowledging the importance of activating network resources. Second, the focus is on controllable *behaviors* of the salesperson. Focusing on  $A \times B$ , rather than merely B, effectively ignores the portion of sales performance driven by sources of social capital such as socioeconomic status that cannot be readily manipulated by the firm. A social capital-focused approach, on the other hand, grants greater explanatory weight to factors outside the control of the firm or even the salesperson, while ignoring effects of instrumental networking behaviors. Given these considerations, it is not only methodologically expedient but also substantively more useful to devote attention to the study of networking behaviors in driving prospecting performance, regardless of whether social capital can be reliably measured.

### ***Frontline Networking Behaviors and Performance***

The need to consider both quality and quantity dimensions of performance is well-documented (Singh 2000). The volume (i.e., quantity) and quality dimensions of prospecting performance in Figure 1.1 may be defined in various ways, and indeed could be thought of in a broader sense as the volume and quality of output produced by any frontline representative of a firm, so long as that output pertains to the front end of the sales funnel. In the absence of empirical work considering dimensions of prospecting performance, I define the *volume* dimension of prospecting output as the quantity of prospects – that is, qualified<sup>6</sup> leads – acquired by a salesperson over a given period, while the *quality* dimension of prospecting output is defined as the desirability of these

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<sup>6</sup> ‘Qualified’ here is used in the sense common to many sales contexts: the prospect has an identified need and the ability to buy (Johnston and Marshall 2013).

potential customers, specifically in terms of expected future retention.<sup>7</sup> The hypotheses that I develop pertaining to volume and quality of prospects are illustrated in Figure 1.2 below.

I expect the breadth of frontline networking behaviors to be positively associated with the volume of prospecting performance, both directly and mediated by weak-tie instrumental networking behavior. A salesperson who tends to establish relationships in a wide variety of contexts will access more opportunities for non-redundant information. Consider, for example, a life insurance agent. Joining and attending the meetings of every organization in his community – the Chamber of Commerce, networking groups, youth sports leagues, etc. – would be a manifestation of breadth of networking behaviors for the agent. It would also constitute access to diverse and loosely connected network clusters – a necessary condition for achieving breadth of social capital, or information access. By the Strength of Weak Ties argument, connections to many different network clusters tend to be associated with the creation of many weak-tie relationships (Granovetter 1973). According to Üstüner and Godes (2006), access to information from extra-firm networks via these weak ties will aid in the identification and qualification of new opportunities, an idea that has received initial empirical support (Gonzalez, Claro, and Palmatier 2014). I expect that the breadth of frontline networking behavior will be associated with the development of weak-tie relationships, and that network resources from these relationships – i.e., access to information – will provide direct and passive benefits to the

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<sup>7</sup> It is also possible to define the quality of a prospect as the likelihood that the prospect will convert into a customer. Although interesting, conversion likelihood can generally only be observed ex post, while the desirability of a prospect can often be inferred ex ante. Therefore, using this definition would make prospecting outcomes contingent on a salesperson's activities further down the funnel, such as conversion efforts. Several intervening variables, such as the salesperson's closing skill, could influence the conversion rate. The effect of networking on conversion represents a fruitful avenue for future research.

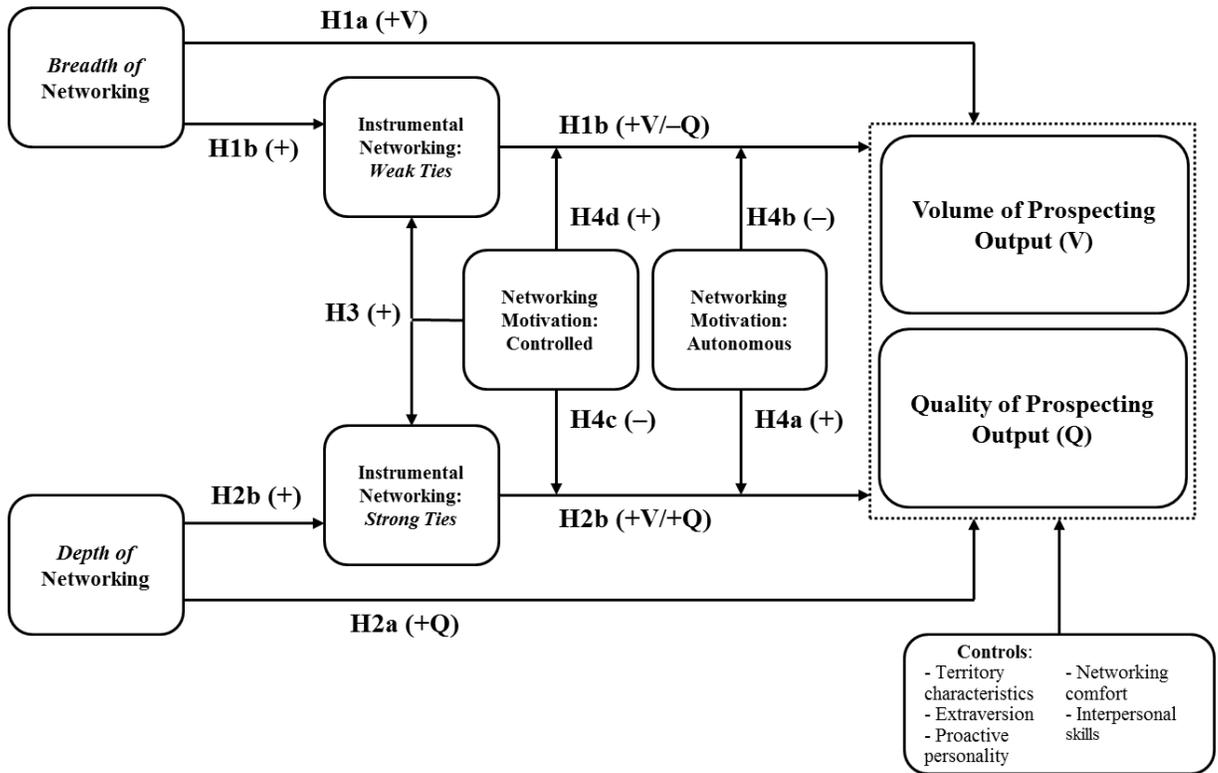
salesperson in terms of increased prospecting volume, as in Path B of Figure 1.1. This can take the form of expanding the footprint of the salesperson's reputation or obtaining referrals without asking.

The breadth of a salesperson's frontline networking behaviors also creates *latent* network resources representing opportunities for weak-tie instrumental behaviors, resulting in an indirect path. However, because individuals are less willing to share high-quality information over weak ties (Frenzen and Nakamoto 1993), I expect that weak-tie instrumental actions will prompt network contacts to share *less* valuable information, and the *quality* of prospecting output along this indirect path will be lower as a result. More formally:

**H1:** Breadth of networking behaviors will be:

- a) Positively and directly associated with volume of prospecting output.
- b) Positively associated with weak-tie instrumental networking, which in turn is positively associated with volume and negatively associated with quality of prospecting output; weak-tie instrumental networking partially mediates the effect.

**Figure 1.2: Conceptual Model – Essay 1**



A parallel argument may be made for the depth of frontline networking behaviors. Such behaviors entail increased involvement and time spent within a given social context, intuitively maintaining and strengthening current relationships – i.e., positively affecting tie strength. By the argument of Granovetter (1973), this time spent with a group of individuals necessarily results in meeting many of the same people as the individuals in that group meet, increasing interconnectedness (i.e., density) within a portion of the network. Consider once again the life insurance agent. If he tends to spend a great deal of time around the same individuals (e.g., socializing with a group of other local professionals after work), this will constitute depth of networking behaviors. In spending time with this group of professionals, the agent will encounter many of the same new individuals as his cohort encounters; so even as he grows his network, it becomes

increasingly dense. By spending more time developing each relationship, the agent also develops more strong ties. Dense interconnections (Coleman 1988) and strong ties (Frenzen and Nakamoto 1993) are two paths to the same benefit: cooperative support from alters.

Based on the previously elaborated conceptualization of depth of social capital, increased depth will primarily drive the quality of information (e.g., referrals and advice) received; poor-quality information exchange is deterred by the threat of local sanctions from network contacts (e.g., future withholding or limiting of assistance). Given the established evidence for higher retention among referred customers (Schmitt, Skiera, and Van den Bulte 2011), it is reasonable to expect that higher-quality referrals will have higher retention rates – that is, they will be more desirable customers in the long run. Thus, depth of networking will have a direct and positive effect on the quality of prospecting performance.

A parallel version of the argumentation that applied to the mediated path from breadth of networking to instrumental networking to prospecting performance also holds for depth. That is, by creating strong ties, the depth of frontline networking behaviors creates opportunities for strong-tie instrumental networking, which in turn increase performance. Strong-tie instrumental networking behaviors made possible by deep networking will increase not only the volume, but also the quality of a salesperson's prospecting output, as individuals are more willing to share valuable information over strong-tie relationships (Frenzen and Nakamoto 1993). In summary:

**H2:** Depth of networking behaviors will be:

- a) Positively and directly associated with quality of prospecting output.

- b) Positively associated with strong-tie instrumental networking, which in turn is positively associated with volume and quality of prospecting output; strong-tie instrumental networking partially mediates the effect.

### ***Motivation to Network: Self-Determination Theory***

Past conceptualizations of networking have conflated the motivation to network with the behavior itself. Consider, for example, the definition of networking provided by Forret and Dougherty (2004): “Individuals’ attempts to develop and maintain relationships with others who have the potential to assist them in their work or career.” This implicit orientation of the behavior towards personal gain is evident in several common definitions of networking (for a review, see: Wolff, Moser, and Grau 2008). It does not take a great leap to connect this orientation to extrinsic motivation, defined as: “... [T]he performance of an activity in order to attain some separable outcome” (Ryan and Deci 2000). This may be contrasted with intrinsic motivation, or “doing an activity for the inherent satisfaction of the activity itself” (Ryan and Deci 2000). These constructs are defined within the overarching framework of self-determination theory, which is wide-ranging and divided into several sub-theories (Vansteenkiste, Niemiec, and Soenens 2010).

The sub-theory that explores the distinctions between extrinsic and intrinsic forms of motivation most thoroughly is organismic integration theory (OIT; Ryan, Connell, and Deci 1985; Ryan and Deci 2002). According to this theory, an individual’s motivation to engage in an activity exists along a continuum from more extrinsic to more intrinsic forms based on the individual’s *perceived locus of causality*<sup>8</sup> for the behavior. If

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<sup>8</sup> Not to be confused with perceived locus of control, which refers to an individual’s perceived control over events in his life, rather than the cause he attributes to his own actions.

the individual perceives an external (i.e., other-driven or environment-driven) cause for his actions, he can be said to exhibit more *controlled* motivation; if an internal (i.e., self-driven) cause is perceived, then he can be said to exhibit more *autonomous* motivation (Ryan and Connell 1989). Within OIT, the end-points of the continuum are referred to as *external perceived locus of causality* and *intrinsic perceived locus of causality*. Between these lie the intermediate states of introjected and identified perceived locus of causality.<sup>9</sup> An individual also may lack intensity of motivation of any kind, in which case that individual is *amotivated* (Ryan and Deci 2002).

These motivational states may be defined at three hierarchical levels within an individual (Vallerand 2000). In order from most to least malleable, these are situational (e.g., an individual's motivation to engage in networking within the current social setting), contextual (e.g., the character of an individual's motivation within the networking domain) and global (e.g., an individual's predisposition towards a particular type of motivation in any domain; cf. Deci and Ryan 1985). Contextual motivation has been investigated in such diverse domains as education (Vallerand et al. 1993), sport (Pelletier et al. 1995), adoption of innovations within an organization (Cadwallader et al. 2010), and social media usage (Brandtzæg and Heim 2009; DiMicco et al. 2008; Lin and Lu 2011; Toubia and Stephen 2013), but not in the domain of networking behavior.

To employ the terminology laid out above, I define networking motivation as a contextual motivational state representing the degree to which an individual attributes his or her networking behaviors to internal or external causes.<sup>10</sup> Four dimensions exist:

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<sup>9</sup> Another type, known as integrated, has been conceptualized but generally not observed in practice.

<sup>10</sup> It is worth noting that this construct is related to but distinct from the communion striving, status striving, and achievement striving motivations defined by Barrick, Stewart, and Piotrowski (2002); those constructs

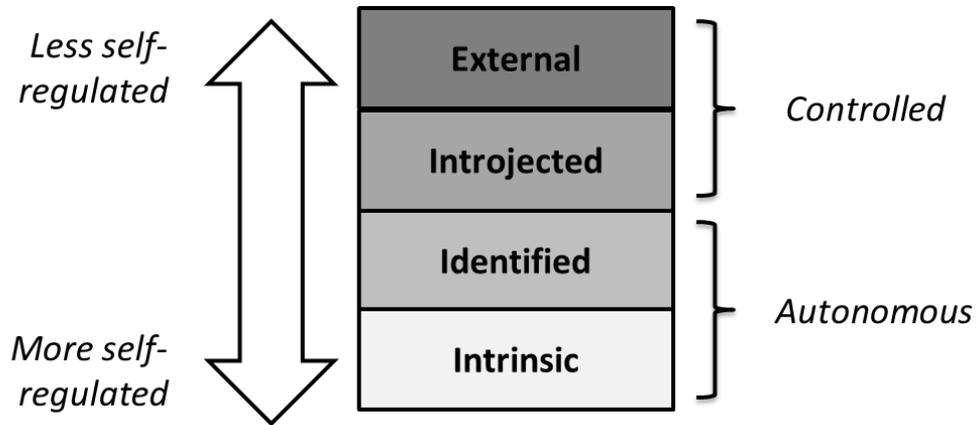
extrinsic, introjected, identified, and intrinsic. Consistent with prior contextual motivation constructs (e.g., Vallerand et al. 1993), the former two and latter two dimensions may be taken together in order to signify the overall level of controlled and autonomous motivation, respectively. That is, extrinsic and introjected motivation together comprise controlled motivation, reflecting behavior driven predominantly by causes external to the salesperson, while identified and intrinsic motivation together comprise autonomous motivation, reflecting behavior driven predominantly by internal causes. For expositional simplicity, I will focus on these two combined dimensions. Figure 1.3 depicts how these motivation constructs relate to each other. It is worth noting that, even though these constructs may be depicted along a continuum, the same individual may experience different levels of each type of motivation simultaneously.

I posit networking motivation both as an important moderator to the relationship between frontline networking behaviors and prospecting performance, as well as an antecedent of instrumental networking. This construct is particularly relevant from a practical standpoint because it may be manipulated by sales managers. Managers may produce controlled motivation through systems of incentives (i.e., rewards and punishments). They may foster autonomous motivation by appealing to salespeople's needs for autonomy, competence, or relatedness (Ryan and Deci 2000). They may do this, for example, by taking a 'hands-off' approach or providing opportunities for salespeople to learn and grow, by providing recognition for exceeding expectations, or by distributing incentive payments based on output, rather than input.

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are global rather than contextual motivations, and do not consider the degree of internalization of behaviors.

**Figure 1.3: Categories of Autonomous and Controlled Motivation for Networking**  
*Based on Ryan and Connell (1989)*



### ***Motivation and Network-Driven Prospecting Performance***

I expect that controlled networking motivation will be associated with higher levels of both weak-tie and strong-tie instrumental networking. Instrumental behaviors are aimed at leveraging latent network resources for personal gain. I expect that these behaviors will be more salient in a salesperson's mind to the extent that she perceives that her networking actions are driven by external causes such as rewards (e.g., increased performance leading to higher compensation) or punishments (e.g., disapproval of the manager). Consider once again the example of the life insurance agent. If she is networking primarily due to her awareness of the potential performance advantages (i.e., rewards) of networking, or due to her awareness that her regional manager may give her a negative review (i.e., punishment) if her networking efforts do not yield performance results, this constitutes controlled networking motivation. In this case, she will exert more effort within her social interactions directly towards realizing benefits of her social capital in order to attain the awards or avoid the punishment. In other words, she will ask

her network contacts for referrals and other benefits more frequently, resulting in more instrumental actions. Therefore, I hypothesize the following:

**H3:** Controlled networking motivation will be:

- a) Positively associated with weak-tie instrumental networking.
- b) Positively associated with strong-tie instrumental networking

More importantly, I predict that autonomous and controlled networking motivations will moderate the relationship between instrumental networking and prospecting performance; in other words, the effectiveness of instrumental actions hinges on the motivation of the individual performing the actions. The key notion here is that of authenticity, defined by Kernis and Goldman (2005) as “the extent to which one’s thoughts, feelings, and behaviors reflect one’s true or core self.” In other words, it is a sense of consistency (or inconsistency) between one’s actions and one’s self-evaluations. Autonomy and lack of autonomy (i.e., control) have been closely linked to an individual’s experienced authenticity (Gardner et al. 2005). They have also been implicitly connected to the *perception* of an individual’s authenticity by others, and this perception manifests in the behaviors of others towards the individual (Lemay and Clark 2008).

In the case of frontline networking, the key distinction is that an individual with a high level of controlled networking motivation *sees his behaviors as networking*. That is, he views his actions under the popular definitions of networking discussed previously: using relationships for personal gain. An individual who is primarily autonomously motivated to network would not necessarily view her behaviors as networking at all; she

involves herself in various groups and social circles due to her enjoyment of these activities. We may expect that an individual autonomously motivated to network will experience the greatest sense of authenticity leveraging strong-tie relationships due to the reciprocal give-and-take inherent in the close relationships she has formed. On the other hand, an individual with a controlled motivation to network will encounter feelings of inauthenticity in strong-tie instrumental networking attempts due to his discomfort with ‘using’ close friends for personal gain. Conversely, an individual with a controlled motivation to network will feel authentic leveraging weak-tie relationships, as he is perfectly aware that asking casual acquaintances for favors is part of networking. However, a salesperson autonomously motivated to network will experience diminished authenticity leveraging weak ties because she will be concerned that asking for favors prior to further developing a bond runs counter to the natural flow of a relationship.

In each of these cases, the degree to which the salesperson experiences a sense of authenticity or inauthenticity will affect his behaviors in subtle ways that will be noted by others (Lemay and Clark 2008). In the case of the salesperson’s efforts to engage in instrumental behaviors, the perception of the salesperson’s inauthenticity will undermine his efforts to obtain valuable network resources; conversely, an authentic self-perception – and correspondingly authentic perceptions of the salesperson by others – will enhance the positive effects of instrumental networking on prospecting output and ameliorate its negative effects. That is, if a salesperson is perceived as authentic, his efforts to obtain referrals and other benefits from network contacts will be received more warmly than if he is perceived as inauthentic. Based on this notion, and the relationships between

networking motivation, weak-tie/strong-tie instrumental networking, and authenticity described above, I hypothesize:

**H4:** Autonomous networking motivation will:

- a) Amplify the positive relationships between strong-tie instrumental networking and both volume and quality of prospecting output.
- b) Attenuate (amplify) the positive (negative) relationship between weak-tie instrumental networking and volume (quality) of prospecting output.

Controlled networking motivation will:

- c) Attenuate the positive relationships between strong-tie instrumental networking and volume and quality of prospecting output.
- d) Amplify (attenuate) the positive (negative) relationship weak-tie instrumental networking and volume (quality) of prospecting output.

The hypotheses in Figure 1.2 will be tested according to the methodology described below.

## **RESEARCH METHODOLOGY**

### ***Research Context***

In order to examine my research questions, I secured the cooperation of a midsized automobile insurance firm to collect data pertaining to the operations of sales agents operating in over two hundred counties in eleven different U.S. states. I employed a multiple-source data collection approach, using a combination of company archival data, county-level data on sales territories, and a questionnaire. Specifically, I conducted a survey of salespeople to obtain information on frontline networking behaviors,

motivation to network, and other constructs, as well as archival data on the volume and quality of prospecting output, and secondary county-level control variables.

My research context provides several distinct advantages. First, by collaborating with a firm, I was able to collect separate-source data on independent variables and performance outcomes, alleviating concerns of common method bias and reducing any potential simultaneity bias. Second, by accessing additional control variables from company data (e.g., agency staff) and secondary data (e.g., county labor force size), I mitigated the risk of omitted variable bias and I am able to rule out several alternative explanations for my findings. Third, this company's agents operate as independent contractors and have very little personal interaction with the firm, outside of their district managers and a handful of individuals in the underwriting and advertising departments. Based on these facts and discussions with several agents and managers, I am able to safely exclude agents' *intrafirm* networking (cf. Gonzalez, Claro, and Palmatier 2014) as a potential omitted variable driving sales performance.<sup>11</sup> In addition, insofar as agents are contractors running their own businesses (i.e., agencies), I can produce results that generalize across a wide variety of agencies. Finally, detecting effects of a salesperson's FNBs on prospecting output requires that non-price considerations such as interpersonal relationships – for example, between a new customer and a referrer – affect purchasing decisions. By choosing a context in which the product is generally accepted as moving towards a price-focused, commodity status – automobile insurance – I set up conservative tests of my hypotheses; given my results in this context, it is reasonable to speculate that

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<sup>11</sup> Nonetheless, I included a single-item measure for *intrafirm* networking as a control.

many of these effects would also present themselves in more strongly relational selling contexts.

### *Sample and Data Collection*

Approximately two weeks before the launch of the main survey, a short pilot survey was launched to a convenience sample of 201 agents with less than two years of experience. Surveys were distributed via email using a popular online questionnaire platform, with a reminder email five days after the initial distribution. A total of 125 responses (62% rate) were obtained. The initial analysis of pilot results served to discover potential signs of problems with the reliability, convergent validity, or discriminant validity of scales, and to identify items to eliminate or revise in the main survey.

For the main survey, my sampling frame consisted of all of the company's agents with at least two years of experience at the time of the survey launch. The 201 newer agents from the pilot (see above) were excluded from the study because they start out as salaried employees of the firm rather than commission-based contractors, and are therefore subject to different and more complex motivational pressures. This left a remaining sampling frame of 1,253 agents. The survey was first launched in March of 2015.

Before the launch, agents received an email from a senior sales executive in the firm encouraging participation in the study. I distributed the survey via email links using a popular online questionnaire platform. Agents were assured of the confidentiality of their responses (see Appendix A.1 for IRB approval). Agents received a reminder one week after the launch, and a second reminder two weeks after the launch. In total, I

obtained 614 usable responses, or a 49% overall response rate, comparing very favorably with recent survey work involving salespeople in major marketing journals (e.g., Sabnis et al. 2013). Nonresponse bias was assessed by treating survey completion as a binary variable and estimating a logistic regression model with all available archival variables (territory characteristics and performance outcomes) as covariates in order to determine whether these variables were associated with response likelihood. None of these covariates had significant effects at the .05 level, providing no evidence that nonresponse bias was a serious problem in the sample. Further analysis was performed using the 614 agents represented by these survey responses.

***Measurement and Analysis***

As previously mentioned, variables were measured using three data sources: the survey, company archival data, and publicly-available data. Some data items (e.g., dependent variables) also referred to a different time period than other data items. Table 1.1 summarizes the source and time period for all variables. I outline measurement approaches for each variable below.

**Table 1.1: Summary of Variables, Time Periods, and Sources**

<b>Variable</b>	<b>Time Period</b>	<b>Source</b>
<b><u>Dependent Variables</u></b>		
<b><i>Prospecting Performance</i></b>		
<i>Volume of prospecting</i>	Apr.-Dec. 2015	Company archives
<i>Quality of prospecting</i>	Apr.-Dec. 2015	Company archives
<b><u>Independent Variables and Controls</u></b>		
<b><i>IVs and Moderators</i></b>		

<i>Frontline networking behavior</i>	Time of survey	Survey
<i>Networking motivation</i>	Time of survey	Survey
<b><i>Strategic Outreach Controls</i></b>		
<i>Weekly time spent socializing outside of work</i>	Time of survey	Survey
<i>Weekly time spent socializing within company</i>	Time of survey	Survey
<i>Weekly time spent using social media</i>	Time of survey	Survey
<i>Advertising support</i>	Aggregated over 12 months pre-survey	Company archives
<b><i>Agent and Environmental Controls</i></b>		
<i>Extraversion</i>	Time of survey	Survey (adapted from Donnellan et al. 2006)
<i>Proactive personality</i>	Time of survey	Survey (adapted from Seibert, Crant, and Kraimer 1999)
<i>Networking comfort</i>	Time of survey	Survey (adapted from Wanberg, Kanfer, and Banas 2000)
<i>Motivation to work</i>	Time of survey	Survey (adapted from Gagne et al. 2010)
<i>Interpersonal skills</i>	Time of survey	Survey (adapted from Rentz et al. 2002)
<i>Licensed agency staff</i>	Year-end prior to survey	Company archives
<i>Territory potential (County labor force)</i>	Month prior to survey	U.S. Bureau of Labor Statistics LAUS database
<i>Territory insurance agency concentration (County insurance agencies location quotient)</i>	Quarter prior to survey	U.S. Bureau of Labor Statistics QCEW database

### *Prospecting Outcomes*

In the U.S. auto insurance industry, agents must gather certain information from leads (new potential customers) and send that information to the firm's underwriting department in order to prepare an informative quote. If the lead meets the firm's

underwriting requirements (e.g., ChoicePoint and FICO insurance scores), the lead becomes a qualified prospect and a quote is issued; if the lead does not meet underwriting requirements, the lead is not qualified and a quote is not issued. Concurrently, each qualified prospect is also assigned one of seven ordered ‘tier’ ratings based on an industry proprietary formula that most strongly considers a prospect’s credit history and driving record. These seven rating tiers were aggregated into two classes along a roughly 30/70 (by quoting volume) split: *high-tier* and *low-tier*. Internal company data shows a strong association between the higher tier class and retention; therefore, the tier rating is a reasonable measure of the desirability (i.e., quality) of a customer. After the quote is made, agents then make efforts to convert the quote – that is, close the sale and acquire a new customer.

The firm provided data on quoting to new potential customers, quality tier, and conversion and for all agents in the sampling frame.<sup>12</sup> For each agent, this data consisted of all quotes made in the final nine months of the year 2015, including the date and tier of the quote. *Volume* of prospects was operationalized as the quantity of quotes to new customers (i.e., number of qualified prospects identified who have never previously done business with the firm) by an agent from April 2015 to December 2015. I operationalized *quality* of prospects as the proportion of these new prospects identified by an agent falling in the high-tier class over the same time period, forming an index from zero to one of the overall desirability (in terms of expected future retention) of an agent’s prospects.

#### *Frontline Networking Behaviors and Networking Motivation*

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<sup>12</sup> For reasons outlined in footnote #6, conversion is considered outside the scope of the present work.

I developed a new scale for frontline networking behaviors based on the dimensional structure outlined in the context of my conceptual framework. I followed standard scale generation procedures by first generating an initial pool of items, narrowing down and refining this pool based on consultations with other scholars, and further refining the set of items using a pilot study. Content validity of the initial pool of items was assured by conducting interviews with professionals in insurance and real estate sales, by consulting several widely-read popular press publications on networking (e.g., Baker 1994; Barton 2001; Lowstuter and Robertson 1995), and reviewing prior scale development work on networking in the career advancement literature (e.g., Forret and Dougherty 2001; Wolff and Moser 2006). The result was a set of eight items for breadth of networking behaviors, eight items for depth of networking behaviors, and six items each for strong-tie and weak-tie instrumental networking behaviors

I employed a similar approach to develop scales for the salesperson's motivation to network. These scales were modeled on the vignette structure of prior contextual motivation scales (e.g., Gagne et al. 2010; Pelletier et al. 1995; Vallerand et al. 1992, 1993). These scales pose a series of behaviors to the respondent (e.g., in this case, "I usually meet new people outside of work because...") and ask the respondent to then rate the degree to which several possible reasons – representing external, introjected, identified, and intrinsic motivations – explain why the respondent engages in that behavior. To further refine these items, I performed a pretest in which four Ph.D. student coders categorized each item according to four provided definitions of networking motivation types. The final scale utilized three vignettes, with six items representing the

controlled motivation types (introjected and external) and six items representing the autonomous motivation types (intrinsic and identified).

### *Control variables*

In order to develop a complete picture of prospecting performance, and clearly establish the importance of my newly-developed constructs above and beyond existing constructs, I considered three categories of control variables: *who* the agent is (agent traits and attitudes), *what* the agent does (agent strategic outreach actions), and *where* the agent is (territory factors). I included in the survey four agent traits and attitudes: proactive personality (Bateman and Crant 1993; Seibert, Crant, and Kraimer 1999), extraversion (Donnellan et al. 2006; McCrae and John 1992), interpersonal skills (Rentz et al. 2002), and networking comfort (Wanberg, Kanfer, and Banas 2000). These were chosen from among constructs in the extant literature because of their clear conceptual linkages with my constructs; they were likely to be correlated with frontline networking behaviors or networking motivation, as well as prospecting performance. Thus, their inclusion reduces the threat of omitted variables bias. All of these constructs were measured using scales adapted from the above-referenced work.

I considered four strategic outreach actions by agents: advertising spending, time spent socializing outside of work, time spent socializing at work, and time spent using social media. Strategic outreach actions are likely to be key drivers of prospecting outcomes and may also be correlated with an agent's frontline networking behaviors. Advertising in particular is expected to have a strong relationship with leads (and, in turn, prospects) generated. Time spent socializing at work and using social media were included to control for alternative forms of networking, while the inclusion of time spent

socializing outside of work ensures that my results pertain to the *pattern* of frontline networking behaviors, rather than the mere *time spent* on frontline networking behaviors. I collected advertising spending for each agent for the 12 months prior to the survey from company archival data. The three time-spent constructs were captured via an hours-spent-per-week item similar to those used in prior research (e.g., Oliver and Anderson 1994): “In a typical week, how many hours do you spend on the following activities?”<sup>13</sup> I also included several environmental control variables likely to influence prospecting in order to preclude potential confounds and alleviate omitted variables bias. Environmental controls consisted of county labor force size (a measure of territory potential from the Bureau of Labor Statistics LAUS database) and county insurance agencies location quotient (a measure of local insurance agency concentration from the Bureau of Labor Statistics QCEW database).

### *Analysis*

Analysis posed a challenge because the two focal response variables – volume of prospects and quality of prospects – are a count and a proportion, respectively. Therefore, traditional covariance-based structural equation modeling (Joreskog 1978) was not appropriate due to major violations of the assumption of multivariate normality. Matters were further complicated by the necessity of testing interactions. Therefore, I followed a two-step approach. First, a measurement model for latent constructs was fit via confirmatory factor analysis. Factor scores from this model – along with multiplicative interactions between factor scores – were saved and used in a path model, including paths

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<sup>13</sup> Options included: Searching for prospects, Calling on prospects, Serving current customers, Managing paperwork and reports, Planning, Socializing with people outside my company, Socializing with people inside my company, and Using social media.

between constructs as well as observed dependent and control variables. In order to relax the multivariate normality assumption, estimation was performed via maximum likelihood within a generalized linear latent and mixed models (GLAMMM; Rabe-Hesketh, Skrondal, & Pickles, 2004) framework, with volume of prospects and quality of prospects modeled according to the negative binomial (count) distribution and binomial (proportion) distribution, respectively, while weak-tie and strong-tie instrumental networking behaviors were treated as normal. Hypotheses were tested using the path estimates. Reported mediation results below are based on the standard nonparametric bootstrapping procedure (Zhao, Lynch Jr., and Chen 2010). Moderation analysis of networking motivation were performed using multiplicative interaction terms (e.g., Bagozzi, Baumgartner, and Yi 1992).

## RESULTS

Regarding motivation to network, it is important to note that, consistent with prior work (Cadwallader et al. 2010; Guay, Mageau, and Vallerand 2003; Ryan and Connell 1989), composite indexes were constructed to evaluate controlled and autonomous networking motivation. Specifically, for each vignette consisting of four items (one intrinsic, one identified, one introjected, and one external), an index was constructed where:

$$\textit{Autonomous motivation} = 2 \times \textit{Intrinsic} + 1 \times \textit{Identified}$$

$$\textit{Controlled motivation} = 2 \times \textit{External} + 1 \times \textit{Introjected}$$

The indexes for autonomous and controlled networking motivation generated from each of the three vignettes are then treated as reflective indicators of the two constructs (i.e., three indicators for controlled and three indicators for autonomous). Extant research suggests that this weighting scheme of '2' for intrinsic and external, and '1' for identified and introjected, is appropriate when the four underlying dimensions follow a quasi-simplex pattern, such that each dimension is more closely correlated to dimensions that lie conceptually closer on the continuum in Figure 1.3 (Cadwallader et al. 2010; Guay, Mageau, and Vallerand 2003; Ryan and Connell 1989). Table 1.2 demonstrates that this pattern generally fits for the observed correlation structure between the four dimensions:

**Table 1.2: Correlation Structure of Networking Motivation**

	Intrinsic	Identified	Introjected	External
Intrinsic	-			
Identified	.71	-		
Introjected	.13	.19	-	
External	.09	.15	.73	-

After generating these composite indicators for networking motivation, I performed CFA to assess the measurement model (i.e., the effects of the latent factors for breadth of networking, depth of networking, strong-tie and weak-tie instrumentality of networking, autonomous networking motivation, and controlled networking motivation on their indicators) and to generate factor scores for use in my main analysis. The CFA results reflected positively on the adequacy of the measurement model. Overall model fit was acceptable ( $\chi^2 = 1527$  with 613 df, CFI = .934, 90% CI RMSEA = (.046, .052), SRMR = .052).

Reliability for all measures was assessed using Cronbach's alpha, convergent validity was measured using average variance extracted (AVE), and discriminant validity was assessed by comparing average variance extracted to both average shared variance (ASV) and maximum shared variance (MSV). The thresholds used for acceptable reliability and convergent validity were Cronbach's alpha greater than .70 and AVE greater than .50, respectively, while discriminant validity required that AVE be greater than ASV and MSV (Fornell and Larcker 1981; Hair et al. 2010). All measures met or exceeded these thresholds, although some items were dropped due to factor loadings of

less than .60. However, factor loadings were all positive and significant, providing additional evidence of convergent validity. Scale items are available upon request from the author.

Table 1.3 and Table 1.4 offer summary statistics and pairwise correlations for key variables. Pairwise correlations involving control variables are omitted in order to streamline the presentation of the table. Several highlights of these tables are worth mentioning. First, there is a large degree of variance in both dependent variables, emphasizing the wide range of prospecting outcomes. Volume ranged from 12 to 1,685 prospective new customers per year, while quality ranged from 5% high-tier to 47% high-tier. Second, the control variables for weekly hours spent on external, internal, and social media networking vary substantially, suggesting that agents have vastly different approaches to networking. Hours spent on external, internal, and social media-based socializing ranged from 0 to 60, 44, and 30, respectively. Third, there is a negative correlation (-.11) between the volume and quality dimensions of prospecting performance. This suggests a trade-off; that which increases the volume of prospects will not always increase the quality of prospects in terms of expected retention.

Finally, there is a very high correlation (.79) between breadth and depth of networking. This is consistent with past research (Wolff and Moser 2009) describing networking as a behavior “syndrome,” such that some individuals consistently spend *more* effort networking over time (with greater depth and breadth), while others consistently spend *less* effort networking over time (with lesser breadth and depth). This intuition is apparent empirically as well; based on the ‘time spent socializing outside the firm’ survey measure, agents in the upper quartiles of both breadth and depth of

networking spent, on average, 59.1% more hours networking in a typical week than agents in the lower quartiles of both breadth and depth of networking. This trend is driven primarily by those spending either very little or a lot of time networking; salespeople in the 1<sup>st</sup> decile of time spent socializing outside the firm had a correlation between breadth and depth of .84, while those in the 10<sup>th</sup> decile of time spent had a breadth-depth correlation of .83. Those in the intermediate deciles tended to have more differentiation between breadth and depth of networking, with correlations in the 5<sup>th</sup>, 6<sup>th</sup>, and 7<sup>th</sup> deciles falling to .72, .65, and .62, respectively. Although I have already established discriminant validity for these two constructs above, these generally high correlations make the differential findings for breadth versus depth of networking in the remainder of this section more intriguing.

**Table 1.3: Summary Statistics**

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	<b>Mean</b>	<b>S.D.</b>
<b>Substantive Variables</b>		
Volume of prospects (9 months)	299.13	223.00
Quality of prospects (9 months)	.21	.08
Depth of networking	0	1
Breadth of networking	0	1
Instrumental networking: Strong ties	0	1
Instrumental networking: Weak ties	0	1
Networking motivation: Autonomous	0	1
Networking motivation: Controlled	0	1
<b>Controls</b>		
Proactive personality	0	1
Networking comfort	0	1
Interpersonal skills	0	1
Extraversion	0	1
Time socializing: external (hours/wk)	8.15	6.87
Time socializing: internal (hours/wk)	2.49	4.60
Time socializing: social media (hours/wk)	2.83	5.13
Licensed agency staff	0.21	0.55
Advertising support	4,790.95	5,813.17
Territory potential	100,214	183,707
Territory insurance agency concentration	3.90	16.36

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**Table 1.4: Pairwise Correlations of Substantive Variables**

<b>Variable</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>
<b>1.</b> Volume of prospects	1							
<b>2.</b> Quality of prospects	-.11	1						
<b>3.</b> Depth of networking	.09	.08	1					
<b>4.</b> Breadth of networking	.11	.07	.79	1				
<b>5.</b> Instrumental networking: Strong ties	.09	-.05	.23	.36	1			
<b>6.</b> Instrumental networking: Weak ties	.13	-.03	.23	.37	.76	1		
<b>7.</b> Networking motivation: Autonomous	.09	.04	.61	.74	.45	.44	1	
<b>8.</b> Networking motivation: Controlled	.06	.04	.26	.37	.48	.40	.51	1

N = 614

I present GLAMM estimation results below. Multicollinearity was not a serious concern, with the highest variance inflation factor (VIF) being 5.4 (autonomous networking motivation), and no others above 5. Although the entire model was estimated simultaneously, results are divided into two tables for expositional convenience: Table 1.5 displays results for the left-hand side of the model depicted in Figure 1.2 (i.e., where strong-tie and weak-tie instrumental networking are the dependent variables), while Table 1.6 displays results for the right-hand side of the model (i.e., where prospecting outcomes are the dependent variables). Results support the majority of hypotheses.

**Table 1.5: GLAMM Results for Left-Hand Side of Model**

	Instrumental networking: Strong ties	Instrumental networking: Weak ties	
Intercept	-.108 (.0892)	-.258** (.0899)	
<b>Networking &amp; Networking Motivation</b>			
Networking motivation: Autonomous	-.188** (.0698)	-.264** (.0704)	
Networking motivation: Controlled	.415** (.0380)	.318** (.0383)	H3 supported
Depth of networking	-.0270 (.0536)	-.0362 (.0540)	H2b not supported
Breadth of networking	.209** (.0632)	.279** (.0637)	H1b supported
<b>Controls</b>			
Proactive personality	.187** (.0417)	.255** (.0421)	
Networking comfort	.510** (.0440)	.552** (.0443)	
Interpersonal skills	.0433 (.0498)	.0982* (.0502)	
Extraversion	-.131 (.0799)	-.174* (.0805)	
Time spent socializing: external	.00325 (.00435)	.00619 (.00438)	
Time spent socializing: internal	.0159* (.00644)	.00619 (.00649)	
Time spent socializing: social media	.0271 (.0256)	.0525* (.0258)	
Advertising support	-2.20e-05 (6.16e-06)	-3.15e-06 (6.21e-06)	
Territory potential	1.42e-07 (1.57e-07)	4.40e-07** (1.59e-07)	
Territory insurance agency concentration	-.000856 (.00176)	.00195 (.00178)	

N = 614; Standard errors in parentheses; \*\*  $p < 0.01$ , \*  $p < 0.05$

Beginning with the results in Table 1.5, controlled networking motivation is positively related to both strong-tie ( $b = .415, p < .01$ ) and weak-tie ( $b = .318, p < .01$ )

instrumental networking, in support of Hypotheses 3. This suggests that agents who were networking in order to achieve some separate outcome tended to explicitly ask network contacts for referrals more often than other agents. I also find a non-hypothesized negative effect of autonomous networking motivation on both strong-tie ( $b = -.188, p < .01$ ) and weak-tie ( $b = -.264, p < .01$ ) instrumental networking. Although there was not sufficient theory to hypothesize such an effect, this result can be understood intuitively. If an agent networks because he greatly enjoys doing so, the notion of *leveraging* his connections for personal or professional gain may be less salient in his mind. He may even find the idea of using friendships for personal gain to be distasteful.

Results are mixed for the left side of the mediated paths predicted in H1b and H2b, regarding the relationship between breadth of networking and weak-tie instrumental networking, and the relationship between depth of networking and strong-tie instrumental networking. In support of H1b, breadth of networking is positively associated with weak-tie instrumental networking ( $b = .279, p < .01$ ). Surprisingly, breadth of networking was also positively associated with strong-tie instrumental networking ( $b = .209, p < .01$ ), although the coefficient was smaller. These results suggest that networking in many different social contexts generated opportunities for both more weak ties *and* more strong ties. Depth of networking did not have a significant relationship with strong-tie instrumental networking, failing to support H2b. This was a surprising finding, and may speak to agents' general distaste – regardless of their motivation to network – for leveraging close relationships, causing strong ties to be left untapped.

**Table 1.6: GLAMM Results for Right-Hand Side of Model**

	Volume of Prospects	Quality of Prospects	
Intercept	5.388** (.0836)	-1.554** (.0200)	
<b>Networking &amp; Networking Motivation</b>			
Depth of networking	-.00926 (.0491)	.0963** (.0117)	H2a supported
Breadth of networking	.0543* (.0261)	.000441 (.0138)	H1a supported
Instrumental networking: Strong ties	-.00189 (.0450)	-.00387 (.0102)	H2b not supported
Instrumental networking: Weak ties	.0665* (.0313)	-.0560** (.0101)	H1b supported; mediation supported
Autonomous networking motivation	.0521 (.0643)	-.107** (.0147)	
<i>Autonomous</i> networking motivation *	-.0202 (.0526)	.00454 (.0117)	H4a not supported
<i>Strong-tie</i> instrumental networking			
<i>Autonomous</i> networking motivation *	-.00716 (.0539)	-.0429** (.0121)	H4b supported
<i>Weak-tie</i> instrumental networking			
Controlled networking motivation	-.0256 (.0395)	.0673** (.00906)	
<i>Controlled</i> networking motivation *	-.0885 (.0704)	-.0354** (.0106)	H4c supported
<i>Strong-tie</i> instrumental networking			
<i>Controlled</i> networking motivation * <i>Weak-</i> <i>tie</i> instrumental networking	-.0536 (.0508)	.0486** (.0108)	H4d supported
<b>Controls</b>			
Proactive personality	.0334 (.0389)	.0669** (.00931)	
Networking comfort	.0425 (.0462)	-.0495** (.0103)	
Interpersonal skills	-.0218 (.0479)	.00128 (.0112)	
Extraversion	-.0961 (.0763)	.0952** (.0180)	
Time spent socializing: external	.000618 (.00399)	-.00261** (.000891)	
Time spent socializing: internal	.0145* (.00643)	-.00338** (.00122)	
Time spent socializing: social media	.0252 (.0244)	.0448** (.00572)	
Advertising support	5.88e-05**	2.55e-05**	

	(6.12e-06)	(1.13e-06)
Territory potential	1.97e-07	6.16e-08**
	(1.33e-07)	(2.76e-08)
Territory insurance agency concentration	-.000865	.000248
	(.00160)	(.000431)
Ln(Dispersion)	-.923**	
	(.0544)	

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N = 614; Standard errors in parentheses; \*\*  $p < 0.01$ , \*  $p < 0.05$

The results in Table 1.6 offer mostly supportive evidence for hypothesized relationships. Depth of networking is positively associated with quality of prospects ( $b = .0963, p < .01$ ), supporting H2b. This finding suggests passive benefits of the cooperative support dimension of social capital; agents who developed close relationships with network contacts tended to garner unasked-for referrals (i.e., referrals without instrumental actions) that were of higher quality than those who did not develop close relationships. Breadth of networking is positively related with volume of prospects ( $b = .0543, p < .05$ ), in support of H1a. This suggests that agents engaging in a wide variety of social contexts obtained a greater volume of these unasked-for referrals.

The results for instrumental networking behavior are nuanced. Strong-tie instrumental networking behavior did not have a significant effect on volume or quality of prospects, failing to support H2b. However, weak-tie instrumental networking behavior had a positive relationship with volume of prospects ( $b = .0665, p < .05$ ) and a negative relationship with quality of prospects ( $b = -.0560, p < .01$ ) in support of H1b.<sup>14</sup> These findings imply that social capital benefits from deep networking come mainly

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<sup>14</sup> Some of the ‘main effects’ in Table 1.8 are not, strictly speaking, main effects due to the presence of interaction terms involving these variables. However, a separate model without interactions was estimated to test main effects; the sign and significance of main effects was consistent with results in Table 1.6.

through the passive route (i.e., path B in Figure 1.1). This supports the notion of strong relationships being reciprocal in nature, such that the agent need not ask for referrals. On the other hand, leveraging weak-tie connections by explicitly asking for referrals has real benefits in terms of prospect volume. However, these weak-tie connections apparently tend to share lower quality information, consistent with prior research (Frenzen and Nakamoto 1993).

The interaction effects between strong-tie and weak-tie instrumental networking and controlled and autonomous networking motivations mostly follow the pattern predicted in H4 for quality, but not volume, of prospects. Controlled networking motivation positively moderated the relationship between weak-tie instrumental networking and quality of prospects ( $b = .0486, p < .01$ ) in support of H4d, and negatively moderated the relationship between strong-tie instrumental networking and quality of prospects ( $b = -.0354, p < .01$ ) in support of H4c. To decompose these interactions, I used floodlight analysis (Spiller et al. 2013) to determine the simple effects of strong-tie and weak-tie instrumental networking at each possible value of controlled networking motivation. There was a significant negative effect on quality of weak-tie instrumental networking for values of controlled networking motivation less than  $-2.12$  ( $b = -.049, p = .05$ ), and a significant positive effect on quality of weak-tie instrumental networking for values of controlled networking motivation greater than  $.67$  ( $b = .024, p = .05$ ). Conversely, there was a significant positive effect on quality of strong-tie instrumental networking for values of controlled networking motivation less than  $-.48$  ( $b = .021, p = .05$ ), and a significant negative effect on quality of strong-tie instrumental

networking for values of controlled networking motivation greater than .99 ( $b = -.31, p = .05$ ).

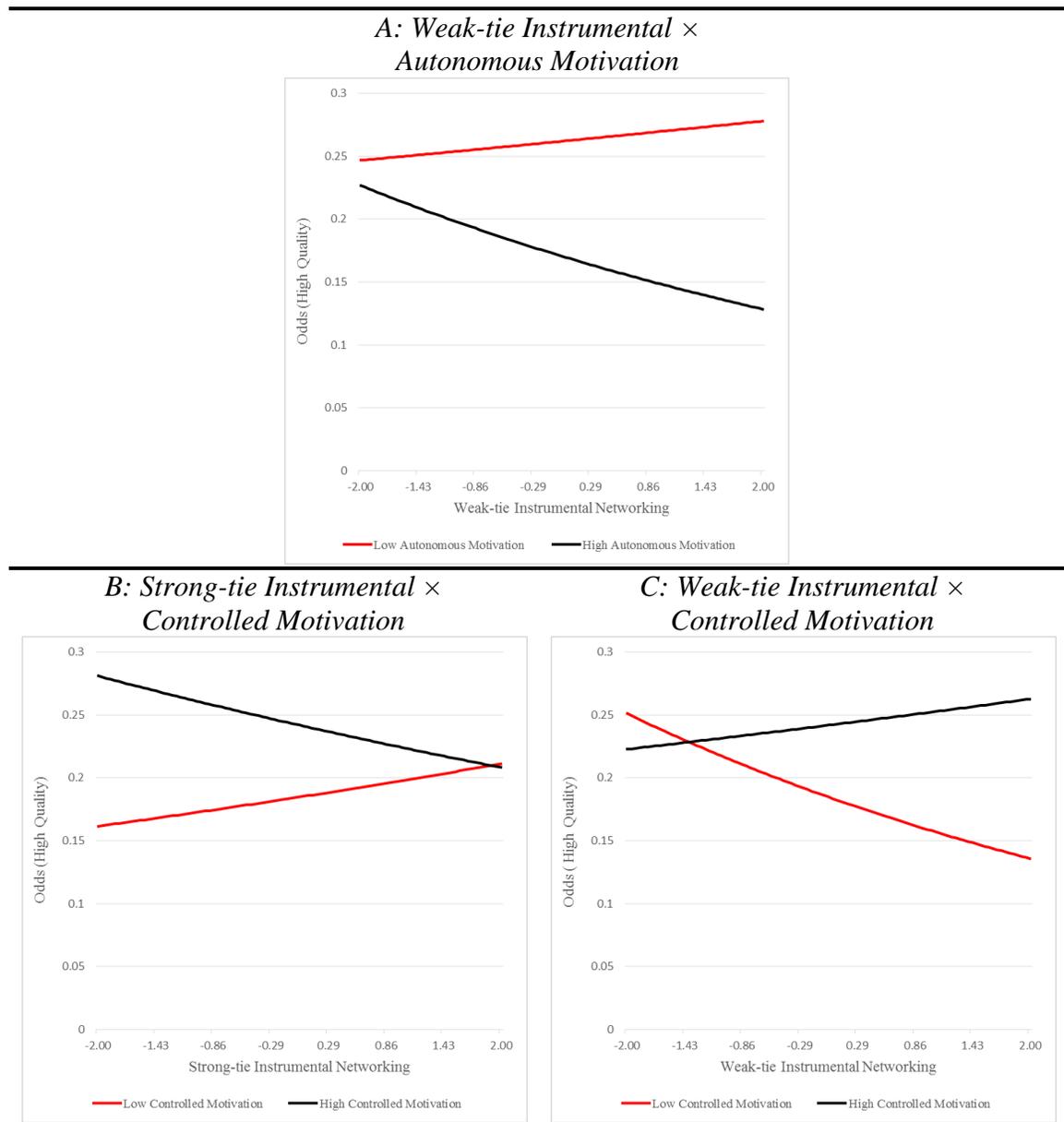
Autonomous networking motivation negatively moderated the relationship between weak-tie instrumental networking and quality of prospects ( $b = -.0429, p < .01$ ) in support of H4b. Based on floodlight analysis, weak-tie instrumental networking had a positive and significant effect on quality for values of autonomous networking motivation less than .73 ( $b = .025, p = .05$ ), and a negative and significant effect on quality for values of autonomous networking motivation greater than 2.89 ( $b = -.069, p = .05$ ). The interaction between autonomous networking motivation and strong-tie instrumental networking on both volume and quality of prospects was nonsignificant. The simple effects of strong-tie instrumental networking on volume and quality were nonsignificant for all levels of autonomous networking motivation within three standard deviations of the mean, providing no evidence in favor of H4a. However, the overall pattern of interaction results is generally supportive of the salesperson's experienced authenticity as a mechanism driving the interaction between networking behaviors and networking motivation, as outlined in the theoretical framework; the correct 'matching' of behavior and motivation affects the salesperson's sense of authenticity, in turn determining the effectiveness of instrumental actions.

Graphical analysis sheds further light on these interactions. Interaction plots for the three significant interactions, all affecting quality of prospects, are depicted in Figure 1.4 below. For each plot, high or low networking motivation refers to values two standard deviations above or two standard deviations below the mean. Instrumental networking is also plotted over this four standard deviation range. The vertical axis in each plot

represents the exponentiated predictions from the model. Because a logit (i.e., log-odds) transformation was employed for the proportion of high quality prospects, the result of this exponentiation is Odds(High Quality), equal to  $P(\text{High Quality}) / P(\text{Low Quality})$ .

Panels A and C show that under low autonomous or high controlled motivation, weak-tie instrumental networking has a small positive effect, while high autonomous or low controlled motivation produces a large negative effect of weak-tie instrumental networking, decreasing Odds(High Quality) by as much as .10. The latter condition is consistent with the negative main effect of weak-tie leveraging on quality of prospects. Thus, the plot illustrates that the correct matching of motivation to behavior mitigates this severe negative effect. Panel B illustrates that the large positive effect of controlled motivation – as much as 0.10 when strong-tie instrumental networking is low – effectively disappears when strong-tie leveraging is high. This once again illustrates the steep cost of violating the matching described in H4.

**Figure 1.4: Significant Interactions Affecting Quality of Prospects**



## DISCUSSION

The positive relationship between controlled networking motivation and instrumental networking emphasizes the notion that networking actions geared towards

obtaining benefits from relationships (i.e., instrumental networking) will be substantially more prevalent when a salesperson's motivation to network comes from external sources. This implies that sales managers – through social pressure or incentives – have a role to play in frontline networking, at least with regard to instrumental behaviors. Further, autonomous networking motivation was actually associated with *decreased* instrumental networking, suggesting that salespeople who are intrinsically driven to socialize may falter when it comes to leveraging relationships to benefit their firm. These salespeople ought to receive additional coaching and encouragement to leverage network relationships.

Greater depth of networking was also associated with increased instrumental networking. The implication is that, simply by networking broadly, a salesperson is likely to develop over time both strong and weak ties in greater numbers than if she networked narrowly. Thus, broad networking creates more opportunities for instrumental actions with both strong-tie and weak-tie contacts. While deep networking may create the *potential* for leveraging strong ties by forging such bonds, the nature of strong-tie relationships creates strong norms of reciprocity (Plickert, Côté, and Wellman 2007) that obviate the need to explicitly ask for benefits in the relationship. This may explain the lack of an observed relationship between deep and instrumental networking. Taken together, these results generally support the notion that managers ought to advise salespeople to network broadly in order to create more opportunities to leverage network resources.

Breadth and depth of networking also had direct, positive relationships with the volume and quality dimensions of prospecting performance, respectively. These results

support a social capital interpretation of networking. Breadth of networking is associated with the information access facet of social capital, fostering sparse networks that enable a salesperson to generate a high volume of prospects. Depth of networking is tied to the cooperative support facet of social capital, building interconnections within the salesperson's friends and acquaintances that increase the quality of prospects gleaned from the network.

Weak-tie instrumental networking was positively associated with the volume dimension but negatively associated with the quality dimension of prospecting performance. This finding suggests that network-based referrals, at least in the context of insurance sales, have value, and that the best referrals will not necessarily be shared in response to a request from a casual acquaintance. Interestingly, I find no evidence of a relationship between strong-tie instrumental networking and volume or quality of prospects. The lack of findings for quality is particularly surprising. It may be that close relationships occasionally require the salesperson to take on prospects of dubious quality as a favor for a friend due to norms of reciprocity. This would have the effect of potentially nullifying any positive effect of strong-tie instrumental networking on quality.

Most notable among the findings are the significant interactions between instrumental networking and the motivation to network. That is to say, the effectiveness of instrumental actions depends heavily on the salesperson correctly 'matching' his or her networking motivation with the instrumental actions most conducive to prospecting performance. Notably, the main effect of autonomous motivation to network was negative, suggesting that the average salesperson did this matching poorly. This suggests that sales managers have a substantial role to play in influencing network-driven

prospecting performance by aiding in this matching. Importantly, the pattern of interactions largely matches those predicted by the principle of authenticity, lending theoretical credence to the findings.

There are two key caveats to the interaction findings pertaining to Hypothesis 4. First, the interactions only hold for quality, and not volume, of prospecting performance. This suggests that the response of network contacts, both strong-tie and weak-tie, to instrumental actions in the face of perceived authenticity or inauthenticity of the salesperson is enacted in terms of the quality of referral given, rather than a potential withholding of referrals altogether. Second, the positive interaction effect between strong-tie instrumental networking and autonomous networking motivation on quality was nonsignificant. Given that the coefficient is positive, this may simply be an issue of statistical power.

### ***Implications for Theory***

This research makes substantial contributions to theory. First, I develop the frontline networking behaviors construct along the dimensions of breadth, depth, and instrumentality. In so doing, I redefine networking such that networking research can more readily be viewed through the theoretical lens of social capital. This represents an advancement over prior research (e.g., Wolff and Moser 2009) that has viewed networking behaviors as a separate, parallel paradigm to social capital, limiting the theoretical advancement and application of the networking domain. Second, the frontline networking behaviors construct extends the theory of networking into the frontline and personal selling domain. Prior research has considered the network structure of salespeople, (e.g., Gonzalez, Claro, and Palmatier 2014) a phenomenon often driven by

factors outside of an individual's control, (Lin 2000) rather than intentional social behaviors in the form of networking. Given the universally-acknowledged importance of networking to sales professionals, this opens the door to a wide range of investigations into managerially pressing topics, such as considering how networking behaviors influence effectiveness throughout the sales funnel. Third, I connect *motivation to network*, an entirely new construct, to networking theory. Prior conceptualizations of networking had implicitly treated networking as driven by external pressures, such as advancing one's career. I do away with this limitation by tying self-determination theory to networking. In treating networking as a set of behaviors that can be subject to both autonomous and controlled motivations, I build a theoretical foundation for further research into the interplay of networking behaviors and the motivation to network. Such research need not be limited to the sales domain; even the career advancement literature, from which the networking concept is drawn, could benefit from this perspective.

### ***Implications for Practice***

From my empirical findings, I can infer several actionable implications for sales management practice. These fall into two categories: implications for training and coaching, and implications for the recruitment and selection of salespeople. Results support the need to train salespeople in networking broadly (e.g., joining many different groups and associations) in order to create opportunities for leveraging relationships and to increase the volume of prospects generated. In addition, I find some evidence for the need to train salespeople to network deeply, in order to forge close relationships that will increase the quality of prospects generated from the network. Generally, these results

reinforce the importance of networking training as a component of sales training programs, and the need to address both broad and deep networking in this training.

Further, based on my results for the interaction between instrumental networking behaviors and the motivation to network, there is also a need for individually-tailored coaching on networking behaviors. The effect of instrumental networking behaviors on the quality of prospects depends greatly on the salesperson's motivation to network; a salesperson with a controlled networking motivation who focuses on leveraging strong ties will do far worse than if he spend his time leveraging weak ties. Sales managers may identify the motivational type of a salesperson – autonomous or controlled – and instruct the salesperson regarding which types of relationships (close or casual) to focus on leveraging. Alternatively, the manager may identify the behaviors of the salesperson, and attempt to change his motivation via appropriate coaching techniques. The manager can increase controlled motivation by exerting pressure and providing tangible incentives, or attempt to foster autonomous motivation by enhancing the salesperson's sense of self-determination and competence.

Regarding the recruitment and selection of salespeople, my findings imply that there are conditions under which *either* autonomous or controlled networking motivation may be effective in promoting prospecting outcomes. This is arguably the most managerially significant finding of this study: both types of networking motivation *can* contribute positively to prospecting outcomes, if the right set of networking behaviors is encouraged. Salespeople with a controlled motivation to network can be effective in prospecting, *if* they engage in weak-tie leveraging. Given the relative difficulty of influencing intrinsic motivation, this is an important implication; results supporting only

the importance of autonomously-motivated networking would have favored exclusively attempting to hire highly outgoing salespeople who are innately driven to network. Instead, my results suggest that it is not necessary to apply this constraint to selection criteria for new salespeople, allowing the consideration of a broader pool of potential new hires.

## **CONCLUSION**

This research has several important implications for marketing. From a practitioner standpoint, the results point to a means by which firms can enhance the portion of a salesperson's prospecting performance determined by social capital – namely, by affecting the salesperson's pattern of frontline networking behaviors through training and coaching. The causal pathways investigated are important beyond my research context, as they magnify the managerial implications of existing work on network-driven sales performance by exploring how firms can utilize the findings of such work. Specifically, the results have implications for the training of salespeople in effective networking. In addition, understanding the roles of autonomous and controlled networking motivation points to a means by which sales managers may enhance the relationship between frontline networking behaviors and prospecting performance. I also make an important theoretical contribution by introducing the construct of frontline networking behaviors to marketing research and integrating this construct with the existing understanding of social capital and sales performance. In terms of methodology,

I answer the call of scholars (e.g., Gonzalez, Claro, and Palmatier 2014) to develop a less cumbersome measurement approach for investigating network-driven performance.

Despite these important contributions, this research is subject to several limitations. First, one of the strengths of my empirical context is deep collaboration with a single firm, enabling access to multiple data sources pertaining to the same set of agents. However, it is still a single firm, and the generalizability of my findings to wildly different selling contexts is subject to speculation. Second, I employed a survey research design to measure latent constructs. Although this approach has many advantages, foremost among which is the relative difficulty of assessing these constructs by other means, it comes with several caveats. Most notably, because I rely on existing variation in networking behaviors and networking motivation among salespeople, and I am unable to manipulate these constructs through an experiment, I cannot claim that I have conclusively established causality. Further, given the large number of new constructs with new measurement scales, these scales are undoubtedly subject to some degree of measurement error and should be solidified through future research.

This research lays a strong foundation for future work. A comprehensive examination of antecedents of frontline networking behaviors, for example, would be especially valuable in understanding how recruitment and selection procedures can contribute to network-driven prospecting performance. While I view prospecting output as the most natural outcome of frontline networking behaviors, future research could consider additional outcomes of interest. Does frontline networking aid a salesperson at other stages of the sales process, such as closing the sale or servicing and retaining current customers? In addition, it would be interesting to investigate how the motivation

to network drives networking effectiveness for other types of networks, such as managerial advice-seeking networks (e.g., McEvily and Zaheer 1999). Finally, future research could examine the dynamics of frontline networking behaviors over time and explore how these behaviors change in response to interventions by sales managers, in order to explicitly test the ability of the firm to manipulate network-driven prospecting performance.

## **ESSAY 2 – EXPLORING THE INTERACTION BETWEEN NETWORKING BEHAVIORS AND MARKETING COMMUNICATIONS: AN EMPIRICAL INVESTIGATION**

Some of the most difficult challenges that marketing managers face involve decisions on the marketing communications mix. Marketing communications – be they television advertising, direct mail, or personal selling – represent a substantial financial investment. Implicitly, firms make these investments with the hope of obtaining a payoff in terms of new customers that will drive increased sales, in either the short-run or long-run. Some of these investments are likely to be more worthwhile than others, contingent on the content of the communication, the medium of the communication, as well as contextual factors (Bass et al. 2007; Heerde et al. 2013; Sethuraman, Tellis, and Briesch 2011; Vakratsas and Ambler 1999). To further complicate matters, both beneficial and detrimental interactions exist between these communications media; that is, investments in one category can render investments in another category more effective, or less effective (e.g., Kim, Yoon, and Lee 2010; Naik and Raman 2003; Smith, Gopalakrishna, and Smith 2004). Communications with complementary effects may approach the consumer from different angles, with affective and cognitive contents that reinforce one another in driving the consumer from awareness, to interest, to desire, to action. Communications that reduce the effectiveness of other communications, on the other hand, may be seen as redundant; if a consumer has already been exposed to one type of communication, being exposed to the other has far less impact than it otherwise would. Taking advantage of this complexity is the fundamental premise of integrated marketing

communications (IMC): there exist “benefits of harnessing synergy across multiple media to build brand equity of products and services” (Naik and Raman 2003).

One particularly important area of integrated marketing communications is the interaction between sales and marketing (Gopalakrishna and Chatterjee 1992). Properly allocating resources between communicating the firm’s messages through these two resources is a contentious issue among marketing and sales managers. In a survey of 1,745 B2B marketers, 32% listed the lack of alignment between sales and marketing as the single greatest barrier to marketing effectiveness (“B2B Marketing Benchmark Report” 2011). Past research has considered the interaction of personal selling with other communications mix elements in terms of the expense, effort, overall skill, or intensity of personal selling (Narayanan, Manchanda, and Chintagunta 2005; Smith, Gopalakrishna, and Smith 2004) as well as the interaction of other characteristics of the frontline environment with communications mix elements (Lund and Marinova 2014).

However, the impact on advertising effectiveness of specific *behaviors* of salespeople is unclear (cf. Swinyard and Ray 1977). This is a key distinction: given a fixed level of dollar spending on sales efforts, or a fixed level of overall sales effort, individual salespeople may behave in ways that enhance or reduce the effectiveness of the firm’s advertising. For example, if a salesperson communicates a low-price message to potential customers, directly contradicting a high-quality message from the firm’s advertising, then sales efforts will likely reduce the effectiveness of advertising. Managers relying on data indicating a positive interaction between overall sales effort and a particular advertising medium may be missing an important piece of the story; depending on the particular behaviors comprising this effort, the interaction may be

enhanced, attenuated, or even reversed. Viewing the sales-advertising interaction in terms of salesperson behaviors, rather than dollars or overall effort, allows this important nuance to be considered.

This problem is especially salient in personal selling contexts with an entrepreneurial focus, in which the salesperson operates with a high degree of independence and minimal contact with a firm's hierarchy in order to maintain and grow a portfolio of customers. Salespeople in these settings often operate on straight commission and are expected to aggressively seek new customers. Such contexts represent a large portion of both the economy and the workforce in the United States. Large industries commonly utilizing this selling approach include private passenger automobile and homeowner's insurance (\$308.8 billion revenue employing approximately 306,568 individuals in the U.S.; IBISWorld 2016), residential real estate sales (\$79.0 billion revenue employing approximately 645,497 individuals in the U.S.; IBISWorld 2016), individual life insurance (\$191.3 billion revenue employing approximately 76,841 individuals in the U.S.; IBISWorld 2016), and direct sales (\$40.5 billion revenue employing 791,771 individuals in the U.S.; IBISWorld 2016). In these contexts, salespeople have traditionally been a conduit for advertising; that is, advertising focuses on the salesperson herself (Schultz 2011). Consider, for example, newspaper advertisements featuring the name and face of a prominent realtor. In this paper, I focus on this type of selling context because the challenge of the sales-advertising interaction crystallizes: advertising seeks to gain new business for the salesperson, while the salesperson is simultaneously performing actions (e.g., cold-calling, building a reputation) to acquire new business. Whether these actions enhance or reduce the

effectiveness of the advertising is not obvious without empirical investigation.

Fortunately, when advertising is executed at the level of the salesperson (as it does in these contexts), interactions between advertising and salesperson behaviors can be readily assessed empirically. The question, then, is which salesperson behaviors are most pertinent to consider in such an assessment.

One area of salesperson behavior that has received increasing levels of attention in recent years is networking. Scholars have noted the role of sales networks, both digital and traditional, in influencing a variety of sales outcomes (Gonzalez, Claro, and Palmatier 2014; Rodriguez, Peterson, and Krishnan 2012; Üstüner and Iacobucci 2012). Üstüner and Godes (2006) argue that salespeople's efforts to build networks *outside* of the firm are particularly important for *prospecting*, or identifying potential new customers. These efforts create ties that can build the salesperson's reputation and serve as conduits for referral business, feeding the salesperson leads for potential new customers. Thus, networking outside of the firm and advertising both work to feed the sales funnel by generating leads and prospects. The central focus of this research is how salesperson networking *interacts* with advertising to contribute to this common goal, in the vein of integrated marketing communications.

I posit *frontline networking behaviors* – defined as social actions executed by frontline representatives of a firm across the organizational boundary – as an important determinant of advertising effectiveness. These behaviors are particularly important because they themselves may be thought of as a frontline communications tool. A salesperson may spread awareness of both herself and the firm through actions executed against her network. These actions result in the salesperson building his reputation,

generating referrals, and creating other forms of word-of-mouth communications that are received by individual consumers. Because the salesperson may not always use frontline networking behaviors strategically – as is the intent with marketing communications – I focus on *instrumental frontline networking behaviors*, which involve the salesperson strategically leveraging network connections to obtain referrals and build awareness. Salespeople may engage in this behavior using *traditional* means (e.g., face-to-face or over the phone), as well as using *social media*. Together with advertising, these communications affect the consumer’s decision to approach, and eventually transact with, the firm. For example, an agent who networks heavily via social media may appear in the news feed of a potential customer due to one or more mutual connections, creating awareness that could make this individual more susceptible to television advertising.

Given the preceding discussion of the advertising-personal selling interaction, the natural question is whether this type of instrumental frontline networking is a *substitute* for or a *complement* to other communications media such as advertising. Much as two substitutable goods reduce the utility of having both goods while two complementary goods increase the utility of having both goods, instrumental frontline networking as a substitute for advertising would make advertising less effective, while instrumental frontline networking as a complement to advertising would make it more effective. In other words, I ask: do instrumental frontline networking behaviors *enhance* or *reduce* the effectiveness of other marketing communications?

Furthermore, I acknowledge that not all communications are created equal. Word-of-mouth resulting from traditional versus social media instrumental frontline networking, as well as different types of advertising, may transmit different types of

affective and cognitive content to prospective customers, who may in turn place greater or less emphasis on this content. I combine the notion of communications richness (Mohr and Nevin 1990) with information integration theory (Anderson 1971) and relationship marketing theory (Morgan and Hunt 1994) to develop a theoretical lens through which to examine the nuanced interactions of advertising and instrumental frontline networking behaviors. Importantly, I contrast *rich* marketing communications, which tend to be two-way and personalized, with *standardized* marketing communications.

In order to avoid the confounding influence of other factors (e.g., selling skills, pricing) on outcomes at the bottom of the sales funnel (e.g., sales dollars, retention), I focus on the outcome most proximal to advertising and instrumental frontline networking: the identification (or generation) of prospects, meaning qualified leads. Further, given that transactional and relational customers respond differently to various communications media (Shepard 2001), I divide this outcome into *relational* and *transactional* prospects. I conduct an empirical investigation in the U.S. auto insurance industry to address the specific research questions below:

- 1) Do a salesperson's instrumental frontline networking behaviors and advertising serve as *complements* to or *substitutes* for one another in generating prospects?
- 2) How is the answer to (1) contingent on the degree of the salesperson's instrumental frontline networking behavior in two *modes*: traditional or social media?
- 3) How does the answer to (1) vary across *advertising media*, in particular between advertising channels of varying richness?

- 4) How does the answer to (1) vary depending on what types of prospects are considered, in particular *transactional* or *relational*?

By addressing these research questions using a multiple-source data set pertaining to the agents of a large Midwestern auto insurance company, I make three primary contributions. First, to my knowledge no prior work has simultaneously examined the effect of salesperson traditional and social media instrumental frontline networking on objective performance indicators. Given the importance of networking to the sales role, this is a pressing managerial issue. Second, I contribute to theory by suggesting a framework to view sales networking through the lens of marketing communications, opening avenues for future research. For example, consumer researchers could investigate the specific mechanisms by which individuals integrate information from salesperson instrumental frontline networking-driven word-of-mouth with messages from the firm. Third, and most importantly, I investigate the interaction of instrumental frontline networking with marketing communications, identifying multiple intriguing relationships: social media instrumental frontline networking enhances the effectiveness of rich advertising (i.e., communications involving personal contact, such as event sponsorships) but reduces the effectiveness of standardized advertising (i.e., impersonal, mass media advertising such as television advertisements), while traditional instrumental frontline networking interacts positively with standardized advertising but negatively with rich advertising. The nature of these interactions has important implications for practice in terms of more effectively integrating the sales and advertising functions.

My investigation proceeds by first drawing on the literature to build a theoretical framework. Then, I describe a research methodology and a model to test the relationships

implied by the framework. After estimating the model, I present results and discussion. Finally, I summarize the contributions and future directions arising from my work.

## **THEORETICAL FRAMEWORK**

A promising stream of sales research has begun to investigate the role of social networks in driving sales performance (Gonzalez, Claro, and Palmatier 2014; Rodriguez, Peterson, and Krishnan 2012; Üstüner and Iacobucci 2012). However, this research has been unable to evaluate interactions between networking and marketing communications for two reasons. First, these studies have focused on salespeople's networks *within* the firm, which are less likely to create links to potential customers. Second, extant work on sales networks follows the *structural* tradition of networks (e.g., Burt 1987; Granovetter 1973), rather than the *behavioral* tradition (e.g., Forret and Dougherty 2004; Wanberg, Kanfer, and Banas 2000). This is an important distinction because an individual's network structure is determined by a variety of factors outside the individual's control, such as socioeconomic background (Lin 2000), while instrumental frontline networking behaviors may be chosen by a salesperson – and coached by managers – to achieve strategic aims.

Networking behavior is defined as “the exchange of affect (liking, friendship), information, benefits, and influence” (Michael and Yukl 1993). Specific networking actions may be executed towards either an internal (i.e., within-firm) or external (i.e., outside of the firm) network relationship, and may involve building, maintaining, or

leveraging that relationship (Forret and Dougherty 2001). Because I examine prospecting outcomes, and efforts to acquire new customers depend on the salesperson's network outside of the firm (Üstüner and Godes 2006), I consider only external (or equivalently, frontline) networking behaviors. Further, I focus on *instrumental* frontline networking behaviors. In network theory, instrumental actions involve activating a social tie to obtain latent network resources (Lin 1999). In the sales context, these are actions taken by the salesperson to leverage existing relationships to obtain referrals, advice, or other assistance. Consistent with my treatment of frontline networking as a strategic asset comparable to advertising, I focus on instrumental networking because these are behaviors actively deployed by the salesperson. This is in contrast to behaviors aimed at simply maintaining network connections (Wolff and Moser 2009). Such behaviors may be reactive, that is, a response to the existing characteristics of the salesperson's network; for example, a salesperson may spend more time maintaining relationships simply because she comes from a prominent family, and therefore occupies a central position in her community's network structure. In contrast, due to their intentional nature, instrumental frontline networking behaviors may be managed by a salesperson in response to recommendations from managers based on academic research findings.

Further, I draw a distinction between *traditional* instrumental frontline networking, occurring over channels such as face-to-face communications and phone conversations, and *social media* instrumental frontline networking, conducted over digital platforms such as Facebook and LinkedIn. There is very little research on social media usage by salespeople (cf. Rodriguez, Peterson, and Krishnan 2012), and no extant research to my knowledge considers both traditional and social media-based networking

behaviors. In addition, continuing with the metaphor of instrumental frontline networking behavior as a form of marketing communications executed by the salesperson at the organizational frontlines, social media and traditional instrumental frontline networking offer the easy analogy of two ‘media’ for communications. Just as various pairs of advertising media interact differently (Naik and Raman 2003), social media and traditional instrumental frontline networking create word-of-mouth and reputation effects that will not be perceived equally by all consumers, and in turn will not necessarily have the same interactions with marketing communications. These networking modes can be viewed through the lens of existing theoretical typologies of communications media (e.g., rich vs. standardized communications; see below).

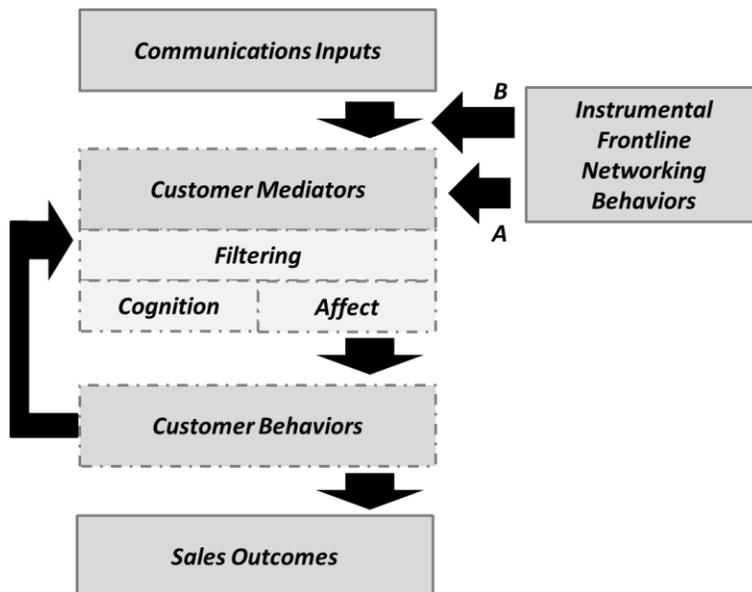
### ***Marketing Communications and Sales Outcomes***

Vakratsas and Ambler (1999) offer a parsimonious explanation for the mechanisms by which marketing communications affect customers’ decisions to buy. I present an adapted version of the Vakratsas and Ambler framework in Figure 2.1. The basic premise is that firms’ communications impact customer behaviors – and ultimately firm sales outcomes – through multiple simultaneous psychological processes within the customer. These internal processes of filtering, cognition, affect, and experience move the customer’s thoughts from awareness, to interest, to decision, eventually resulting in behaviors – that is, purchase. These behaviors impact aggregate sales outcomes from the firm’s (or salesperson’s) perspective. Instrumental frontline networking behaviors of salespeople may be conceived of as another form of communication relevant to customers’ decision-making, and therefore may directly affect customers’ psychological

processes (path A in Figure 2.1). However, given my research questions, path B – that is, the interaction between instrumental frontline networking behaviors and other communications – is of primary interest.

**Figure 2.1: A Process Model of Advertising-Instrumental Frontline Networking Interactions**

Adapted from Vakratsas and Ambler (1999)



In many research settings, the mediators in Figure 2.1 cannot be observed, so instead the direct relationship of communications and other inputs with sales outcomes becomes the focus of investigation. Given that my empirical context (described in the methodology section) will not allow direct observation of customer-level mediators or behaviors, I can only indirectly draw inferences about paths A and B by examining the direct and interactive effects of marketing communications and instrumental frontline networking on sales outcomes – or more specifically, prospecting outcomes. However,

knowledge of the types of mediators that may be at work will aid in constructing my theoretical framework and in interpreting my results.

### ***Prospect Types and Communications Richness***

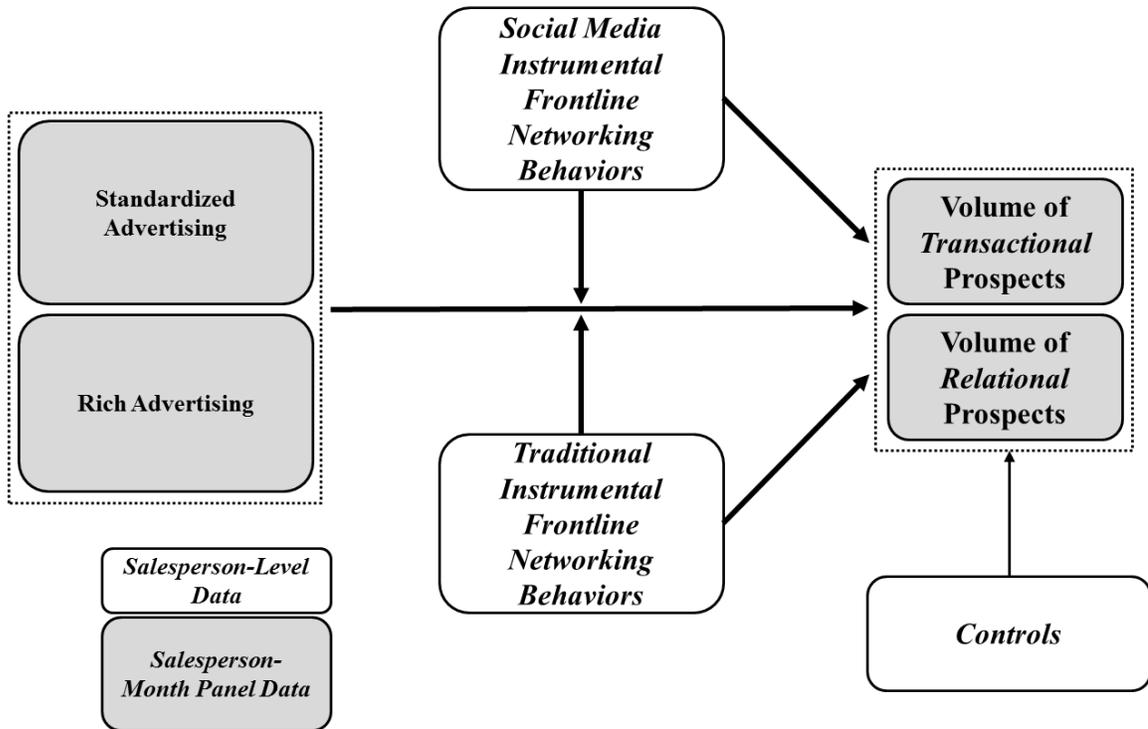
Advertising generates awareness and interest in the product and brand, ultimately driving the generation of leads that will be qualified by the sales force. Given that generating qualified leads, or prospects, is a key aim of advertising – and also an outcome for which an individual salesperson can easily be held accountable – I treat this as the primary outcome of interest. Extant research broadly divides customers (and accordingly, prospects) into *relational* and *transactional* types. Relational prospects desire a personalized relationship based on commitment and trust with the seller or salesperson, while transactional prospects see such relationships as a source of inefficiency, and are exclusively interested in attributes such as price, quality, and reliability (Ganesan 1994; Morgan and Hunt 1994; Palmatier 2008b; Palmatier et al. 2008). Different firms may emphasize the acquisition of one of these customer types over the other to varying degrees in devoting resources to the generation of qualified leads. That is, generating relational prospects and generating transactional prospects represent two distinct strategic aims. Accordingly, I divide the outcome of interest in the theoretical framework in Figure 2.2 into the volume of *transactional* prospects identified by a salesperson, and the volume of *relational* prospects identified by a salesperson.

Marketing communications may also be separated into two broad categories. *Standardized* communications – encompassing mass-media advertising such as direct mail, print, and billboard advertising – generally come at a lower cost per customer and

are effective in transmitting information to both transactional and relational customers (Shepard 2001) as well as maintaining trust with relational customers (Morgan and Hunt 1994). These communications are one-way in nature, and do not involve personal contact with the salesperson or any other representative of the firm. Investments in *rich* communications – personalized communications including the presence of sales reps at events such as trade shows – allow the distribution of more nuanced information as well as affective content, and are seen as more important to relational customers (Mohr and Nevin 1990). These communications are two-way in nature – that is, they allow personal interaction between the consumer and a salesperson (or another firm representative). Given that relational customers view service providers as long-term partners, it is not surprising that they can be more effectively reached through communications that enable dialogue and trust-building.

It is important to note that the same promotional effort may be rich or standardized depending on its implementation. If the firm mails potential customers calendars with a salesperson's information on them, this communication is standardized. However, if these same calendars are handed out by the salesperson herself (as in the case of my empirical context), the communication is rich – two-way contact is enabled. These two categories appear on the left side of Figure 2.2. This figure includes also operationalizations of advertising and prospect volume that will be explained in the methodology section.

**Figure 2.2: A Framework for Instrumental Frontline Networking-Advertising Interactions**



It is not clear a priori whether traditional and social media instrumental frontline networking behaviors constitute rich or standardized communications. Traditional instrumental frontline networking behaviors are arguably rich forms of communication, as their face-to-face nature facilitates bidirectional communications, a key indicator of richness (Mohr and Nevin 1990). The nature of social media instrumental frontline networking behaviors is much more ambiguous. These behaviors seem to allow bidirectional communications, but it is unclear how effectively affective and cognitive content are communicated via social media-based word-of-mouth. Although firm-level social media usage as an element of the communications mix is effective at acquiring new customers (Mangold and Faulds 2009; Michaelidou, Siamagka, and Christodoulides

2011), this does not speak to the richness of social media instrumental frontline networking conducted by an individual salesperson. Thus, the main effects of instrumental frontline networking on the volume of transactional and relational prospects are best addressed as open empirical questions.

### ***Interactions between Instrumental Frontline Networking and the Communications***

#### ***Mix***

The interaction between instrumental frontline networking behaviors and marketing communications may be elaborated in terms of their interactive effects on customer-level psychological mediators (path B in Figure 2.1). I anticipate that *cognition* and *affect* will be the two pathways through which the interaction of these two elements will operate. Given the aforementioned importance of the affective content of rich communications to relational customers, the richer elements of the communications mix and of the salesperson's instrumental frontline networking behaviors may reinforce the affective content of one another in increasing generation of relational prospects. For example, a realtor who regularly attends community sporting events (i.e., engages in traditional instrumental frontline networking) may reinforce the perceptions of his trustworthiness established by investing in sponsorships of such events (which also require his presence), a form of rich communications. However, an empirical determination must be made regarding: (a) to which elements of communications and instrumental frontline networking this phenomenon will apply, and (b) whether the effect of this phenomenon will be absent, or merely reduced in magnitude, for the generation of transactional prospects.

The interaction effect on acquisition via cognition will depend on how customers combine information from the multiple communication sources. Information integration theory (Anderson 1971) offers one explanation for the way in which individuals perform this mental combination, and has been previously used in the context of IMC (Kim, Yoon, and Lee 2010). Under this theory, individuals form attitudes by ascribing confidence weights to various sources of information (e.g., advertising and network-based word-of-mouth); in the most commonly-used formulation, these pieces of information are subjected to a weighted average:

$$R = w_A \times s_A + w_N \times s_N$$

$$w_A = 1 - w_N$$

Where  $R$  represents a potential customer's attitude regarding a specific attribute of the product, service, or firm (e.g., the competence of a salesperson or the quality of a firm's products),  $w$  is a weight,  $s$  is the (positively or negatively valenced) information content from a given source regarding the attribute  $R$ , and  $A$  and  $N$  are two different sources of information (e.g., advertising and instrumental frontline networking-driven word-of-mouth). The result of this formulation is that the introduction of a piece of information held with greater confidence *decreases* the weight given to pre-existing pieces of information due to the constraint on the weights summing to one. This implies a negative interaction, whereby communications modes that customers treat with different levels of confidence reduce the effectiveness of each other in influencing customers' cognitions regarding a specific attribute. That is, one communication reduces the effectiveness of the other (and vice versa). For example, if customers treat information received through face-to-face, network-based channels with greater confidence than information received

through standardized advertising, then the introduction of the network-based information will reduce the weight given to the information from advertising from one, to some value less than one. This reduces the effectiveness of the advertisement as it pertains to that potential customer.

However, this effect is not always empirically supported in existing research on information integration. In particular, the phenomenon described above is reversed when one piece of information is treated with a very low degree of confidence – i.e., it is *non-diagnostic* information, information that is not sufficient to develop a ‘diagnosis’ about the attribute – and another piece of information is treated with a very high degree of confidence – i.e., it is *diagnostic* information, information on which a diagnosis about the attribute may be based. In this case, the strength of the diagnostic information increases the otherwise trivial weight given to the non-diagnostic information, resulting in a positive interaction effect known as *confirmation* (LaBella and Koehler 2004).<sup>15</sup> That is, the diagnostic information can confirm the non-diagnostic information. The perceived diagnostic characteristic of information may depend on the source of the information. For example, the small weight given by a transactional customer to a radio ad that speaks to a realtor’s competence may be enhanced by personal interactions with the realtor (or network contacts that are willing to vouch for the realtor) that confirm the information from the radio ad.

While information integration theory is a useful tool in interpreting the cognition-driven pattern of interactions between instrumental frontline networking behaviors and

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<sup>15</sup> Technically, this only occurs under the assumption that both pieces of information carry the same valence regarding the underlying attribute – e.g., two communications channels both report positive information regarding product quality. This assumption is generally met in the case of advertising (i.e., firms typically do not present negative information about their own products and services).

marketing communications, the interaction of instrumental frontline networking with advertising falls in a theoretically underdeveloped domain. That is, there is insufficient advancement in the relevant theory to confidently make specific a priori predictions. This is partly due, as in the case of cognition, to uncertainty regarding the relative richness of various communications methods, which is likely to be closely associated with the weights ascribed by customers to information from each source. Even more problematic is the wide array of attributes about which judgments may be made: price, competence and reliability of the salesperson, trust in the firm, likability of the brand, to name a few. These attributes are also expected to vary in importance between relational and transactional prospects, injecting further uncertainty into predictions. Further, in cases where the cognitive and affective routes have opposite effects on the sign of the interaction, the relevant theory provides no guidance on the relative magnitude of the effects. Therefore, I leave the interaction of instrumental frontline networking behaviors and marketing communications – whether driven by affective or cognitive factors – as an empirical question.

## RESEARCH METHODOLOGY

### *Research Context*

The setting for my empirical study<sup>16</sup> is the sales force of a major Midwestern U.S. automobile insurance firm. This company operates in 11 states and has over 1,000 agents. These agents operate as independent contractors in a variety of towns and cities across the Midwest. Although each agent maintains an agency in his or her own name, they exclusively sell insurance policies written by this firm, and receive substantial support from the firm in terms of training, technology resources, and branded advertising. This context offers three key advantages for addressing my research questions. First, both instrumental frontline networking behaviors and advertising vary at the agent level: each agent engages in a different pattern of instrumental frontline networking behaviors, and each agent receives a different mix of advertising support from the firm in his or her local area. Second, by conducting analysis at the level of the agent (or, equivalently, agency), I am able to control for much of the rich variation pertaining to the personal characteristics and external environment of each agent. This lends my results greater generalizability across these salespeople and environmental factors. Finally, by collaborating with a firm, I am able to obtain separate-source data, with instrumental frontline networking behaviors coming from a survey, and advertising as well as the dependent variables coming from company archival data. This greatly mitigates concerns of common methods bias.

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<sup>16</sup> This study utilized the same firm, and the same survey data collection, as the study described in Essay 1. The survey contained items for both essays' constructs.

### *Sample and Data Collection*

My data collection had three components: a survey, company archival data on agents, and secondary data on territory characteristics. Among the focal variables, instrumental frontline networking behaviors were measured using the survey, while advertising and prospecting were taken as a monthly panel from company archival data. My sampling frame consisted of all of the company's agents with at least two years of experience at the time of the survey launch. 201 newer agents were excluded from the study because they start out as salaried employees of the firm, rather than contractors, and their behavior is therefore guided by a different set of incentives. This left a remaining sampling frame of 1,253 agents. The survey was first launched in March of 2015.

Before the launch, a senior sales executive in the firm sent agents an email encouraging participation in the study. The survey was distributed via email links using a popular online questionnaire platform. Agents were assured of the confidentiality of their responses (see Appendix A.1 for IRB approval). Agents received two reminders: a first reminder one week after the launch, and a second reminder two weeks after the launch. In total, I obtained 614 completed responses, or a 49% overall response rate. This compares favorably with recent salesperson surveys in marketing journals (e.g., Sabnis et al. 2013). I assessed nonresponse bias by using survey completion as a binary variable and estimating a logistic regression model with all available archival variables (territory characteristics, annual advertising, and annual prospecting outcomes) as covariates in order to determine whether these variables were associated with the likelihood of

responding. None of these covariates had significant effects at the .05 level, providing no evidence that nonresponse bias was a serious problem in this sample.

However, the number of usable responses was reduced because the survey contained a screening question: “How often have you used social media (Facebook, LinkedIn, Twitter, etc.) in the past month?” with the choices “Not at all,” “A little (no more than once a week),” “A moderate amount (a few times a week),” and “A lot (daily).” Respondents who selected “Not at all” did not receive the block of questions on social media instrumental frontline networking in the online survey (see details in this section). Because my analysis required complete responses pertaining to social media and traditional instrumental frontline networking, 119 agents who were screened out of the social media questions had to be excluded from my analysis. Therefore, 495 usable responses remained. For each of these 495 agents, I captured both time-invariant and time-varying (i.e., prospecting outcomes and advertising) variables, resulting in a monthly panel of 5,888 observations. Note that several agents did not have a complete set of 12 months because they were terminated during the observation window. Summaries of all analysis variables described below may be found in Table 2.1.

## ***Measurement***

### *Volume of Prospects*

In order to establish proxies for my two dependent variables – the volume of transactional prospects and the volume of relational prospects – I utilize the firm’s automobile insurance quoting data. In the world of automobile insurance, agents receive leads, or inquiries, from potential customers who may or may not be a good fit for the

firm's underwriting standards and prices. An inquiry results in an initial conversation between the sales agent and the potential customer. The agent collects basic information on the potential customer and his or her automobile (make, model, etc.), and sends this information to the underwriting department. Based on this information, as well as the potential customer's insurance credit scores (e.g., ChoicePoint or FICO insurance scores), there are two possible outcomes. In one case, the underwriting department decides that the potential customer does not meet the firm's standards; no quote is issued, and the lead does not become a *qualified* prospect. In the other case, the underwriting department authorized the agent to issue a quote; at this point, the lead is said to become a *qualified* prospect. Therefore, the generation of a prospect is synonymous with the generation of a quote in this context.

At the same time that a quote is issued, the underwriting department also ranks the prospect with a *quality tier*. The focal firm in this study uses a proprietary insurance industry formula, based primarily on driving record and credit history, to assign prospects to one of seven quality tiers. These tiers are highly predictive of retention, and may be combined into two groups of tiers along a 30%/70% split among quotes between high and low quality tiers. In other words, each agent makes quotes to a certain number of individuals in higher tiers and a certain number of individuals in lower tiers; these quotes represent *high-tier prospects* and *low-tier prospects*, respectively. High-tier prospects, which may also be called high-quality prospects, are more likely to stay with the firm (and the agent) for longer periods of time, if they are acquired. Low-tier prospects, which may also be labeled low-quality prospects, are less likely to remain with the firm (and the agent) for long, often letting their policy expire not long after they are acquired.

Based on the previously elaborated characteristics of relational and transactional customers, relational prospects seek longer-term partnerships with a service provider, while transactional prospects are more likely to change providers over time in search of lower prices. Therefore, high-tier prospects, with higher expected retention, will be more likely to fall into the *relational* category, while low-tier prospects, with lower expected retention, will be more likely to fall into the *transactional* category. I use the monthly volume of high-tier prospects identified (i.e., monthly quotes issued to high-tier prospects) by each agent as a proxy for *relational prospects*, and the monthly volume of low-tier prospects identified (i.e., monthly quotes issued to low-tier prospects) by each agent as a proxy for *transactional prospects*. These data form a 12-month panel across all agents.

### *Advertising*

Advertising data came from company archives. Crucially, in this insurance context, advertising varies at the level of the individual agent. That is, advertisements are deployed separately to each agent's geographical area, with input from the agent. Even when multiple agents operate in the same space (e.g., a large city), the firm requires that each advertisement feature a specific agent's name and contact information. The firm designs all advertising material to ensure that it meets these and other qualifications. Therefore, one of the key strengths of this context is that advertising may be defined *at the sales agent level*.

In order to distinguish between rich and standardized marketing communications, I break advertising expenditures down by media type. These media types fall into two categories. Radio, billboard, television, direct mail, yellow pages, and newspaper

comprise mass-media advertising techniques. Together, these comprise 60.7% of the individual advertising placements observed in the dataset, the bulk of this sum (73.9%) devoted to newspaper ads. These types of advertising primarily convey informational content, with limited capacity for affective content and no capacity for the interactivity and personal, two-way communication that tends to characterize rich communications. Therefore, I employ this category as a proxy for *standardized advertising*.

The second category encompasses advertising approaches that require the agent's physical presence: local event sponsorships, banners and booths at community gatherings, and giveaways (e.g., t-shirts, pens, and calendars). Because these types of advertising require the agent's presence (e.g., pens are personally handed out by the agent, rather than being mailed), they enable personal, two-way communications with consumers. In this automobile insurance sales context, forming bonds in the community is believed to be central to maintaining a flow of solid prospects via reputation and referrals. Therefore, it is not surprising that these types of advertising placements account for 38.5% of the total number of placements observed in the dataset. Due to the agent's personal presence in the implementation of this advertising, there is great scope here for affective content and personal interaction, key characteristics of rich communications. Therefore, I treat this discretionary advertising as a proxy for *rich advertising*. As with the data on prospect volume described above, I aggregated advertising expenditures at the monthly level, forming a 12-month panel across all agents.

#### *Instrumental Frontline Networking Behaviors*

I considered both traditional and social media instrumental frontline networking behaviors. The measures for these constructs were developed according to standard scale

generation procedures. First, I generated an initial pool of items. I then refined this pool based on consultations with other scholars. I assured content validity of the initial pool of items by interviewing sales professionals in insurance and the closely related field of real estate, by consulting widely-read popular press publications on networking (e.g., Baker 1994; Barton 2001; Lowstuter and Robertson 1995), and reviewing prior work on networking scales in the career advancement context (e.g., Forret and Dougherty 2001; Wolff and Moser 2006). The result was a set of six items for traditional instrumental frontline networking and six items for social media instrumental frontline networking. The items used to measure these two constructs are available upon request from the author. Bartlett factor scores from a confirmatory factor analysis (see the next section for CFA results) were saved and used in the multilevel model. Importantly, these behaviors were treated as time-invariant in the model. There is little reason to expect that these behaviors will change substantially over time in the absence of external intervention (e.g., from sales managers or the firm). Existing empirical evidence on the stability of networking behaviors in other contexts supports this notion, with correlation in behavior between one year and the next estimated to be .76 (Sturges et al. 2002). This is consistent with the notion of an individual's networking behavior as a stable "behavior syndrome" (Wolff, Moser, and Grau 2008).

### *Control Variables*

I chose control variables to explain variation across agents in the volume of prospects, as well as to reduce the potential for omitted variables bias. These included standard panel data controls of time trend (i.e., month number from one to twelve) and seasonality (i.e., quarterly dummies). In addition, controls at the level of the agent/agency

included each agent’s experience with the firm (in years), each agent’s extraversion, the number of licensed agency staff employed by each agent (from company archives), county labor force size (from the Bureau of Labor statistics, a measure of territory potential), and county insurance agencies location quotient (also from the BLS, a measure of local industry concentration). These controls were included to account for the varying career stages and personalities of agents as well as environmental factors. As in the case of instrumental frontline networking behaviors, all of these controls were treated as time-invariant.<sup>17</sup>

**Table 2.1: Summary of Variables, Time Periods, and Sources**

<b>Variable</b>	<b>Time Period</b>	<b>Source</b>
<b><u>Dependent Variables</u></b>		
<b><i>Prospecting Volume</i></b>		
<i>Volume of low-tier (proxy for transactional) prospects</i>	Monthly over 12 months in 2015	Company archives
<i>Volume of high-tier (proxy for relational) prospects</i>	Monthly over 12 months in 2015	Company archives
<b><u>Independent Variables and Controls</u></b>		
<b><i>IVs and Moderators</i></b>		
<i>Social media instrumental frontline networking</i>	Time of survey	Survey
<i>Traditional instrumental frontline networking</i>	Time of survey	Survey
<i>Standardized advertising, using mass media proxy</i>	Monthly over 12 months in 2015	Company archives
<i>Rich advertising, using ‘discretionary’ proxy</i>	Monthly over 12 months in 2015	Company archives

<sup>17</sup> Although monthly data exist on certain environmental variables (e.g., county labor force size), these variables change little on a month-to-month basis in practice.

### **Controls**

<i>Experience (years)</i>	Time of survey	Company archives
<i>Extraversion</i>	Time of survey	Survey
<i>Licensed agency staff</i>	Year-end prior to survey	Company archives
<i>Territory potential (County labor force)</i>	Month prior to survey	U.S. Bureau of Labor Statistics LAUS database
<i>Territory insurance agency concentration (County insurance agencies location quotient)</i>	Quarter prior to survey	U.S. Bureau of Labor Statistics QCEW database
<i>Month (time trend)</i>		
<i>Quarter dummies (seasonality)</i>		

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### **MODEL**

I performed two important operations on the data before fitting a model to address my research framework. First, in order to simplify the interpretation of results regarding advertising effectiveness, as well as to reduce multicollinearity concerns arising from the inclusion of several lagged effect terms, I created stock variables for advertising.

Consistent with past research (Berndt et al. 1995; Lund and Marinova 2014; Schweidel and Knox 2013), I aggregated information about advertising expenditures  $A$  of media types  $Rich$  and  $Standardized$  by agent  $i$  in the current period (month)  $t$  and in multiple lagged periods  $t-1$  to  $t-n$  by creating two stock variables:

$$1a) \quad AS.Rich_{it} = A.Rich_{it} + A.Rich_{it-1}p + A.Rich_{it-2}p^2 + \dots + A.Rich_{it-n}p^n$$

$$1b) \quad AS.Standardized_{it} = A.Standardized_{it} + A.Standardized_{it-1}p + A.Standardized_{it-2}p^2 + \dots + A.Standardized_{it-n}p^n$$

where  $AS$  is the monthly advertising stock variable,  $A$  is the monthly advertising expenditure,  $i$  indexes agents, and  $t$  indexes time. The decay parameter  $p$  is constrained to be between zero and one, such that more recent expenditures are weighted more heavily. I determined the optimal number of lags as well as the optimal value of the decay parameter  $p$  empirically based on BIC values comparing models involving each number of lags using the following regression:

$$2) \quad HT_{it} = a_0 + a_1 AS.Rich_{it} + a_2 AS.Standardized_{it} + \varepsilon_{it}$$

Where  $HT$  is the volume of high-tier prospects,<sup>18</sup> and  $AS.Rich$  and  $AS.Standardized$  are shorthand for the expressions in equations 1a and 1b above. The best-fitting model occurred at three lags for both types of advertising. Consistent with past research in which stock variables are used in complex interactions, I constructed the stock variables based on the estimates of  $p$  according to 1a and 1b and carried these into further analysis (Narayanan, Manchanda, and Chintagunta 2005). Importantly, I took the natural logarithm of these stock variables ( $\log AS.Rich$  and  $\log AS.Standardized$ ) as well as the outcomes of high-tier and low-tier quotes ( $\log LT$  and  $\log HT$ ) based on preliminary regression analyses identifying an approximately log-log linear relationship between advertising stock and quoting volume.

Second, it is worth noting that because the advertising expenses deployed in an agent's territory may depend on anticipated quoting outcomes or the agent's input, the advertising stock variables may be endogenous. The advertising stock may be predicted in part by current performance, and other variables may influence both of these. To address this issue, I constructed instruments for both log advertising stock variables.

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<sup>18</sup> The estimated decay parameters were almost identical when low-tier prospects were used.

Specifically, I used lagged values of each log advertising stock as instrumental variables by first estimating:

$$3) \log AS.Rich_{it} = \phi_0 + \phi_1 \log AS.Rich_{it-1} + \phi_2 \log AS.Standardized_{it-1} + \phi_3 X_{it} + u_{1it}$$

$$4) \log AS.Standardized_{it} = \phi_4 + \phi_5 \log AS.Standardized_{it-1} + \phi_6 \log AS.Rich_{it-1} + \phi_7 X_{it} + u_{2it}$$

Where  $X$  is the vector of all exogenous control variables included in the main model below. Predictions from these two linear models ( $\log \widehat{AS}.Rich$  and  $\log \widehat{AS}.Standardized$ ) were used in the model below. This two-step approach of generating first-stage estimates from lagged instrumental variables and using these estimates in a substantive model is consistent with past research in marketing (Jacobson 1990; Lund and Marinova 2014). The use of three lags for the creation of the stock variable and one additional lag for the endogeneity correction reduced the effective number of monthly observations in the main model below. My analysis is therefore based on 3,908 agent-month observations from May to December of 2015.

In order to simultaneously model the effects of advertising on generation of low- and high-tier prospects while considering the moderating effects of time-invariant variables (i.e., instrumental frontline networking), I employ a hierarchical Bayesian linear model. This model has the advantage of specifying prior distributions on the first-level parameters, similar to a traditional random effects model. In addition, specifying a joint distribution for low-tier and high-tier prospects accounts for correlation between the errors for the two dependent variables, as in other simultaneous estimation techniques

(Agarwal, Hosanagar, and Smith 2011; Rossi, Allenby, and McCulloch 2005). The distribution of volume of low-tier and high-tier prospects is specified as follows:

$$5) \quad \begin{bmatrix} \log LT_{it} \\ \log HT_{it} \end{bmatrix} \sim Normal \left( \begin{bmatrix} \mu_{00it} \\ \mu_{11it} \end{bmatrix}, \Sigma \right), \Sigma = \begin{bmatrix} \sigma_{1,1} & \sigma_{1,2} \\ \sigma_{2,1} & \sigma_{2,2} \end{bmatrix}, \text{ where}$$

$$\mu_{00it} = \alpha_{0i} + \alpha_{1i} \log \widehat{AS} \cdot Rich_{it} + \alpha_{2i} \log \widehat{AS} \cdot Standardized_{it} +$$

$$\alpha_3 \log \widehat{AS} \cdot Rich_{it} * \log \widehat{AS} \cdot Standardized_{it} + \alpha_4 Month_{it} + \alpha_5 Quarter3_{it} +$$

$$\alpha_6 Quarter4_{it}, \text{ and}$$

$$\mu_{11it} = \delta_{0i} + \delta_{1i} \log \widehat{AS} \cdot Rich_{it} + \delta_{2i} \log \widehat{AS} \cdot Standardized_{it} +$$

$$\delta_3 \log \widehat{AS} \cdot Rich_{it} * \log \widehat{AS} \cdot Standardized_{it} + \delta_4 Month_{it} + \delta_5 Quarter3_{it} +$$

$$\delta_6 Quarter4_{it},$$

Where:

- $\log LT_{it}$  and  $\log HT_{it}$ , the volume of prospects generated in the low and high tiers, respectively, are taken to be jointly normally distributed (i.e., the untransformed variables follow a log-normal distribution),
- $\log \widehat{AS} \cdot Rich_{it}$  and  $\log \widehat{AS} \cdot Standardized_{it}$  are logged, endogeneity-corrected, mean-centered advertising stock variables,
- $Month_{it}$  is a mean-centered time trend variable and the *Quarter* variables are dummies created with effects coding,
- $\alpha_{0i}$  and  $\delta_{0i}$  are agent-specific mean values (due to the mean-centering of other covariates and effects coding of dummies) of low-tier and high-tier log-prospecting volume, and
- $\alpha_{1i}$ ,  $\alpha_{2i}$ , and  $\delta_{1i}$ , and  $\delta_{2i}$  capture agent-specific advertising effectiveness.

Note that, for the sake of completeness, I have also included the interaction between rich and standardized advertising, even though this interaction is not of primary substantive interest.

The second level (i.e., random effects distribution) of the model is specified in the following equations. First, I define random intercepts in (6) and (7). These equations also

contain the main effects of and interactions between time-invariant, or agent-level, covariates:

$$6) \alpha_{0i} \sim \text{Normal}(\alpha_{00i}, \eta_{\alpha 0}),$$

$$\alpha_{00i} = \beta_0 + \beta_1 \text{SocialMedia}_i + \beta_2 \text{Traditional}_i + \beta_3 \text{SocialMedia}_i * \\ \text{Traditional}_i + \beta_4 \text{Experience}_i + \beta_5 \text{Extraversion}_i + \beta_6 \text{Staff}_i + \\ \beta_7 \text{LocalPotential}_i + \beta_8 \text{LocalConcentration}_i,$$

$$7) \delta_{0i} \sim \text{Normal}(\delta_{00i}, \eta_{\delta 0}),$$

$$\delta_{00i} = \gamma_0 + \gamma_1 \text{SocialMedia}_i + \gamma_2 \text{Traditional}_i + \gamma_3 \text{SocialMedia}_i * \\ \text{Traditional}_i + \gamma_4 \text{Experience}_i + \gamma_5 \text{Extraversion}_i + \gamma_6 \text{Staff}_i + \\ \gamma_7 \text{LocalPotential}_i + \gamma_8 \text{LocalConcentration}_i,$$

Where:

- *SocialMedia<sub>i</sub>*, *Traditional<sub>i</sub>*, *Experience<sub>i</sub>*, *Extraversion<sub>i</sub>*, *Staff<sub>i</sub>*, *LocalPotential<sub>i</sub>*, and *LocalConcentration<sub>i</sub>* are agent-level, time-invariant covariates,
- $\beta_1$  through  $\beta_8$  and  $\gamma_1$  through  $\gamma_8$  capture the main effects and interactions of these time-invariant covariates,<sup>19</sup> and
- $\beta_0$  and  $\gamma_0$  are the grand means of low-tier and high-tier log-volume of prospects.

Note that, as with rich and standardized advertising above, I have included the interaction between social media instrumental frontline networking and traditional instrumental frontline networking for the sake of completeness, even though this falls outside the main thrust of my investigation.

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<sup>19</sup> Strictly speaking, these are simple effects for networking due to the presence of interactions. However, I also test a version of this model without interactions; see Table 2.5.

Next, I define random slopes for the effects of rich and standardized advertising in (8), (9), (10), and (11). These equations include the effects of the key cross-level interactions of interest:

$$8) \alpha_{1i} \sim \text{Normal}(\alpha_{10i}, \eta_{\alpha 1}),$$

$$\alpha_{10i} = \beta_7 + \beta_8 \text{SocialMedia}_i + \beta_9 \text{Traditional}_i,$$

$$9) \delta_{1i} \sim \text{Normal}(\delta_{10i}, \eta_{\delta 1}),$$

$$\delta_{10i} = \gamma_7 + \gamma_8 \text{SocialMedia}_i + \gamma_9 \text{Traditional}_i,$$

$$10) \alpha_{2i} \sim \text{Normal}(\alpha_{20i}, \eta_{\alpha 2}),$$

$$\alpha_{20i} = \beta_{10} + \beta_{11} \text{SocialMedia}_i + \beta_{12} \text{Traditional}_i,$$

$$11) \delta_{2i} \sim \text{Normal}(\delta_{20i}, \eta_{\delta 2}),$$

$$\delta_{20i} = \gamma_{10} + \gamma_{11} \text{SocialMedia}_i + \gamma_{12} \text{Traditional}_i,$$

Where:

- $\beta_7, \beta_{10}, \gamma_7,$  and  $\gamma_{10}$  capture the mean values (recall the mean-centering of covariates) of rich and standardized advertising effectiveness across all agents for low- and high-tier prospecting volume, and
- $\beta_8, \beta_9, \beta_{11},$  and  $\beta_{12}$  capture cross-level interactions between instrumental frontline networking (social media and traditional) and advertising (rich and standardized) pertaining to the volume of low-tier prospects generated;  $\gamma_8, \gamma_9, \gamma_{11},$  and  $\gamma_{12}$  capture cross-level interactions between instrumental frontline networking (social media and traditional) and advertising (rich and standardized) pertaining to the volume of high-tier prospects generated.
- The  $\eta$  terms are variance parameters for the second-level errors.

The model may be summarized as follows: Low-tier and high-tier customer acquisition are bivariate-normally distributed, with expected values and covariance matrix specified by equation 5. The intercepts and the regression coefficients for rich and standardized advertising in the first-level (month-level) model in equation 5 are random

effects, while the remaining first-level regression coefficients are not random effects. The random effects are defined via separate normal prior distributions, with expected values and variances specified by equations 6, 7, 8, 9, 10, and 11. These are second-level (agent-level, or time-invariant) equations, where the first-level coefficient depends on the agent-level variables. For example,  $\alpha_{1i}$  in equation 5 is the effect of rich advertising on the logarithm of low-tier prospects. The subscript ‘ $i$ ’ on the coefficient indicates that this coefficient varies across agents – that is, it is a random slope. Equation 8 specifies the distribution of this coefficient across agents; it is normally distributed, with expected value  $\alpha_{10i}$  being determined by agent-level, time-invariant variables. Thus, the interpretation of  $\beta_8$  and  $\beta_9$  as cross-level interaction coefficients becomes clear: these parameters indicate how the effect of rich advertising (at the month level) is contingent on social media and traditional instrumental frontline networking (at the agent level).

Additional, I specify an inverse-Wishart prior on the first-level error covariance matrix  $\Sigma$ , normal hyperpriors (i.e., priors on the prior parameters) on the  $\beta$  and  $\gamma$  parameters, and inverse-gamma hyperpriors on the  $\eta$  (variance) parameters. These are all conjugate priors, meaning that the prior and the likelihood (or the hyperprior and the prior) come from the same family of distributions. This makes Bayesian estimation more efficient and guarantees that a proper<sup>20</sup> posterior distribution does, in fact, exist (Gelman et al. 2014). The parameters of these priors and hyperpriors were set to highly uninformative values (e.g., normal(0,100000) hyperpriors on the second-level regression

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<sup>20</sup> This is defined as a probability distribution with area under the density curve equal to one. Guaranteeing this property is one of the key advantages to conjugate priors. One of the main alternatives, flat priors (e.g., the uniform distribution) can result in estimates based on improper posterior distributions. These estimates are not meaningful, and it is not straightforward to empirically detect whether the posterior is proper in such cases.

coefficients). Uninformative priors are important in ensuring that inference on the posterior does not depend heavily on the values chosen. Estimation was performed via Gibbs sampling-based Markov Chain Monte Carlo (MCMC), with 20,000 draws discarded as burn-in and 100,000 draws (thinned by a factor of 10) used for posterior inference. I conducted the MCMC analysis using the open-source OpenBUGS software package.

## **RESULTS**

I will first report the results of a confirmatory factor analysis used to generate factor scores for traditional and social media instrumental frontline networking. Then, I will explore relationships in the data via a model-free analysis. Finally, I will report the model estimation results.

### ***Confirmatory Factor Analysis***

I performed a CFA in order to assess the measurement model (i.e., the effects of the latent constructs of social media instrumental frontline networking, traditional instrumental frontline networking, and extraversion on their indicator items) and to generate factor scores for use in further analyses. I estimated a CFA model for three constructs: social media and traditional instrumental frontline networking, and extraversion. One indicator (i.e., one item) was dropped for each construct due to

relatively low loadings, resulting in five indicators for each instrumental frontline networking construct and three indicators for extraversion. The fit of this CFA model was acceptable ( $\chi^2 = 186$  with 57 df, CFI = .98, RMSEA = .068, SRMR = .049). Diagnostics for each scale were also excellent, with levels of coefficient alpha, average variance extracted, and maximum squared shared variance meeting or exceeding commonly accepted thresholds for reliability, convergent validity, and discriminant validity, respectively (Fornell and Larcker 1981; Hair et al. 2010). As previously mentioned, factor scores for these constructs were carried over to the main analysis.

### ***Model-Free Analysis***

Summary statistics for each variable are listed in Table 2.2. Agents quoted slightly more often to low-tier prospects each month than to high-tier prospects. In addition, they spent on average four times as much per month on standardized (i.e., mass media) advertising as they spent on rich advertising. To the extent that my results will point to the importance of rich advertising, acting on these results would represent a paradigm shift for the average agent of this firm.

**Table 2.2: Summary Statistics (Untransformed Variables)**

	<b>Mean</b>	<b>S.D.</b>
<b>Substantive Variables</b>		
Volume of low-tier prospects (monthly)	7.658	7.808
Volume of high-tier prospects (monthly)	7.062	8.418
Rich advertising \$	83.988	236.473
Standardized advertising \$	339.408	1,288.611
Rich advertising stock \$	322.323	494.331
Standardized advertising stock \$	1,343.009	2,577.470
Social media instrumental frontline networking (factor score)	0	1
Traditional instrumental frontline networking (factor score)	0	1
<b>Controls</b>		
<i>Agent's:</i>		
Experience (years)	12.194	7.506
Extraversion (factor score)	0	1
Licensed agency staff	0.213	0.564
Territory potential	111,306.6	197,504.8
Territory insurance agency concentration	4.289	17.783

Pairwise correlations between study variables in Table 2.3 reveal a substantial positive correlation (.32) between the two dependent variables. This is perhaps unsurprising given that agents who devote a great deal of time to prospecting, or those with a great deal of advertising in their territories, will tend to see increased volume of both high-tier and low-tier prospects. Interesting, the correlation table reveals only

modest positive associations between prospect volume and advertising, and between prospect volume and instrumental frontline networking. The cross-tabulation of prospecting output in Table 2.4 will shed further light on the probable impact of these variables. There is also an intriguing (albeit small and mostly nonsignificant) pattern of negative correlations between advertising and instrumental frontline networking. This provides some evidence that perhaps agents implicitly view these two activities as substitutes – or at least that they do not necessarily view them as complementary. This lends greater practical importance to any relationships that I find in which instrumental frontline networking enhances advertising effectiveness. Finally, it is worth noting that the number of agency staff has substantial positive correlations with both prospect volume and advertising, highlighting the importance of including this control variable.

Also deserving of special attention are the experience and extraversion control variables, which have relatively strong negative and positive correlations, respectively, with both types of instrumental frontline networking. This is consistent with intuition. Extraverted agents are more likely to be comfortable spending substantial time networking. Regarding experience, agents new to the firm face a greater need to actively build their reputation and pursue referrals through their network, while more experienced agents believe they can safely reduce the intensity of their networking, having already established strong reputations in their communities.

**Table 2.3: Pairwise Correlations (Untransformed Values for DVs and Advertising)**

<b>Variable</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<b>1.</b> Volume of low-tier prospects	1									
<b>2.</b> Volume of high-tier prospects	.32	1								
<b>3.</b> Rich advertising \$	.07	.09	1							
<b>4.</b> Standardized advertising \$	.05	.09	.06	1						
<b>5.</b> Social media instrumental frontline networking (factor score)	.04	.06	-.04	-.02	1					
<b>6.</b> Traditional instrumental frontline networking (factor score)	.03	.05	-.02	-.02	.50	1				
<b>7.</b> Experience (years)	-.09	-.13	-.00	.01	-.28	-.22	1			
<b>8.</b> Extraversion (factor score)	.01	.06	.01	.03	.31	.33	-.12	1		
<b>9.</b> Licensed agency staff	.13	.17	.11	.05	.00	.00	.10	-.00	1	
<b>10.</b> Territory potential	.02	.03	-.05	-.04	-.01	.09	.00	-.04	-.02	1
<b>11.</b> Territory insurance agency concentration	-.02	-.04	-.03	-.04	-.06	-.03	.03	-.02	-.06	.19

N = 3,908; All correlations with absolute value  $\geq .03$  are significant at the .05 level

Using annualized data, I also cross-tabulated the annual volume of low-tier prospects and high-tier prospects according to each interaction of annual advertising and instrumental frontline networking, which were (in clockwise order for the top pane; the bottom pane is parallel): Rich advertising  $\times$  Social media instrumental frontline networking, Rich advertising  $\times$  Traditional instrumental frontline networking, Standardized advertising  $\times$  Traditional instrumental frontline networking, and

Standardized advertising  $\times$  Social media instrumental frontline networking. For each interaction in each of the two panes (low-tier and high-tier), levels of prospecting volume are listed for each of the four high-low combinations of a particular type of advertising and instrumental frontline networking. For each variable, 'high' refers to the upper (third) quartile of that variable, while 'low' (first) refers to the lower quartile of that variable. For example, the upper-left numeric cell in the table is the average annual volume of low-tier prospects generated by agents in simultaneously the upper quartile of rich advertising and the upper quartile of social media instrumental frontline networking.

Several observations stand out in Table 2.4, with evidence for both complementary relationships and substitutable relationships. First, in almost all quadrants of both panes, the highest level of prospecting output occurs when both advertising and instrumental frontline networking are high. This fact is consistent with, though not necessarily demonstrative of, instrumental frontline networking enhancing advertising effectiveness. Further, there is substantial evidence of instrumental frontline networking increasing advertising effectiveness throughout the table. In seven out of eight quadrants, an increase in advertising appears to correspond to a greater increase in prospect volume when instrumental frontline networking is high than when instrumental frontline networking is low. At the same time, in the Rich advertising  $\times$  Social media instrumental frontline networking quadrant for high-tier prospects, the highest level of prospects does *not* occur when both prospecting and instrumental frontline networking are high. This suggests that instrumental frontline networking *may* be reducing advertising effectiveness. Stronger evidence for instrumental frontline networking dampening advertising effectiveness exists throughout the top pane of Table 2.4. In three of the four

quadrants, instrumental frontline networking appears to *increase* the volume of low-tier prospects when advertising is high, but *decrease* the volume of low-tier prospects when advertising is low.

More generally, the table suggests rather dramatic effects for both instrumental frontline networking and advertising. In the most extreme example, moving from the first quartile of rich advertising to the third quartile of rich advertising when traditional instrumental frontline networking is high is associated with 118% higher volume of high-tier prospects. Likewise, moving from the first quartile of traditional instrumental frontline networking to the third quartile of traditional instrumental frontline networking when rich advertising is high is associated with 55% higher volume of low-tier prospects. However, these and all other observations above are subject to the usual caveats of model-free analysis. Most importantly, the *ceteris paribus* principle does not apply here. The model estimation results reveal how these effects play out while holding other variables constant.

**Table 2.4: Exploratory Investigation of Instrumental Frontline Networking-Advertising Interactions Using Observed Annual Prospecting Outcomes**

OUTCOME: Volume of <i>Low</i> -Tier Prospects						
		Social Media		Traditional		
		Instrumental		Instrumental		
		Frontline		Frontline		
		Networking		Networking		
		<i>High</i>	<i>Low</i>	<i>High</i>	<i>Low</i>	
Rich	<i>High</i>	124	102	150	97	
Advertising	<i>Low</i>	64	77	72	60	
Standardized	<i>High</i>	107	98	129	115	
Advertising	<i>Low</i>	58	82	68	90	
OUTCOME: Volume of <i>High</i> -Tier Prospects						
		Social Media		Traditional		
		Instrumental		Instrumental		
		Frontline		Frontline		
		Networking		Networking		
		<i>High</i>	<i>Low</i>	<i>High</i>	<i>Low</i>	
Rich	<i>High</i>	106	112	142	98	
Advertising	<i>Low</i>	75	62	65	53	
Standardized	<i>High</i>	111	108	138	111	
Advertising	<i>Low</i>	59	58	54	58	

***Estimation Results***

I estimated two versions of the multilevel model described in the preceding section: One containing the interactions listed in Equation 5 through 11, and one containing only main effects. The purpose of estimating two separate models was to accurately assess main effects, given that ‘main’ effects for variables in the presence of interaction terms involving those variables are not truly main effects, but simple effects. For both models, autocorrelation plots and other diagnostics suggested that the MCMC

chain achieved convergence, implying that the ‘draws’ from the chain represented accurate approximations of draws from the posterior distributions of the parameters. The validity of the model estimates are further supported by the prediction plots in Appendix A.2, demonstrating that although the model has a tendency to under-predict, its predictions generally follow the pattern of observed outcomes. Given the large number of interaction terms in the interaction model, I also computed variance inflation factors (VIFs) for the interaction model. The VIFs revealed no evidence of serious multicollinearity, with the highest value being 1.94 (for social media instrumental frontline networking).

I report substantive parameter estimates for both models below. In reporting these findings,  $b_{LT}$  refers generally to a regression coefficient affecting volume of low-tier prospects, while  $b_{HT}$  refers generally to a regression coefficient affecting volume of high-tier prospects. Reported p-values follow the Bayesian paradigm, representing the probability that the true parameter is not zero, and are derived by comparing the mean to the standard deviation of the posterior distribution for each parameter of interest.

The main effects model results in Table 2.5 are mostly consistent with accepted wisdom. Rich advertising ( $b_{LT} = .0572, p < .01$ ;  $b_{HT} = .0339, p < .01$ ) appears to be more effective on average for generating high-tier prospects, but less effective for generating low-tier prospects, than standardized advertising ( $b_{LT} = .00733, p < .01$ ;  $b_{HT} = .0344, p < .01$ ). This is consistent with the preceding discussion, in which rich advertising was most effective for carrying the combination of affective and cognitive content appealing to relational prospects. Surprisingly, these results also support the notion that social media instrumental frontline networking ( $b_{LT} = .0458, p < .01$ ;  $b_{HT} = .0387, p < .01$ ) has a

substantially greater influence on volume of prospects than traditional instrumental frontline networking ( $b_{LT}$  n.s.;  $b_{HT} = .0130, p < .10$ ). This finding defied conventional wisdom within the focal firm, but can be understood in terms of the viral nature of social media communications, allowing word-of-mouth to spread more quickly. However, it is worth noting that these main effects simply represent *average* effects. The central focus of this research is the interaction between instrumental frontline networking and advertising; in other words, I am investigating how the effect of one depends on the level of the other. Results for the full model below address this issue.

**Table 2.5: Substantive Estimation Results for Main Effects Model**

	Log(Volume of Low-Tier Prospects)	Log(Volume of High-Tier Prospects)
Constant	1.993** (.0241)	2.073** (.0250)
Log(Rich advert. stock)	.0572** (.00324)	.0339** (.00335)
Log(Standardized advert. stock)	.00733** (.00226)	.0344** (.00238)
Social media instrumental frontline networking	.0458** (.00705)	.0387** (.00729)
Traditional instrumental frontline networking	-.00406 (.00725)	.0130 (.00758)
<b>Controls</b>		
Experience	-.0135** (.000860)	-.0216** (.000922)
Extraversion	-.0304** (.00699)	.0500** (.00745)
Licensed agency staff	.161** (.00833)	.216** (.00823)
Territory potential	3.68e-07** (2.70e-08)	4.43e-07** (2.83e-08)
Territory insurance agency Concentration	.000206 (.000351)	-.00183** (.000436)
Time period (trend)	.0143 (.00763)	-.0524** (.00801)
3 <sup>rd</sup> quarter (seasonal dummy)	.0561** (.0122)	.127** (.0126)
4 <sup>th</sup> quarter (seasonal dummy)	-.0286 (.0223)	.113** (.0233)

N = 3,908; Standard errors in parentheses; \*\*  $p < .01$ , \*  $p < .05$

The estimation results for the full model with interactions, reported in Table 2.6, provide empirical support for both positive and negative interactions between advertising and instrumental frontline networking. The four ‘Focal Interactions’ in the table represent

the crux of my investigation in this research, specifically: Rich advertising  $\times$  Social media instrumental frontline networking, Rich advertising  $\times$  Traditional instrumental frontline networking, Standardized advertising  $\times$  Social media instrumental frontline networking, and Standardized advertising  $\times$  Traditional instrumental frontline networking. For each interaction between advertising and instrumental frontline networking, I also employ spotlight analysis (Spiller et al. 2013) to test the simple effect of advertising for standardized instrumental frontline networking values of -3, -2, -1, 0, 1, 2, and 3. I accomplish this by re-centering the appropriate instrumental frontline networking variable at each of these values, and re-running the model to check the simple effect.<sup>21</sup>

For the first interaction, Rich advertising  $\times$  Social media instrumental frontline networking, there is evidence of a positive effect for both types of prospect volume, although the effect is slightly greater for low-tier prospects ( $b_{LT} = .0193, p < .01$ ;  $b_{HT} = .0131, p < .01$ ). The simple effect of rich advertising was significant and positive ( $p < .05$ ) on low-tier prospects for all tested values of social media instrumental frontline networking greater than -3, and on high-tier prospects for all tested values of social media instrumental frontline networking. Under the assumption that rich advertising is viewed as highly credible and diagnostic by consumers, this result suggests that social media instrumental frontline networking-based word-of-mouth is non-diagnostic, resulting in a confirmation effect. Similarly, the Standardized advertising  $\times$  Traditional instrumental frontline networking interaction is positive with respect to both outcomes, although it is

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<sup>21</sup> Although a floodlight analysis testing advertising simple effects across the entire range of values for networking would be superior, the computational intensity of Bayesian analysis makes this impractical. The approach I use entails re-running the MCMC chain 12 additional times.

substantially more powerful for high-tier prospects ( $b_{LT} = .00782, p < .01$ ;  $b_{HT} = .0149, p < .01$ ). The simple effect of standardized advertising was significant ( $p < .05$ ) on low-tier prospects for values of traditional instrumental frontline networking less than -2 (negative effect) and greater than -1 (positive effect), and on high-tier prospects for values of traditional instrumental frontline networking greater than -2 (positive effect). Assuming that standardized advertising is viewed as non-diagnostic by consumers, this result suggests a confirmation effect whereby the credible, diagnostic information based on traditional instrumental frontline networking-based word-of-mouth confirms the information received via standardized advertising.

For Rich advertising  $\times$  Traditional instrumental frontline networking, results suggest a negative interaction effect for both dependent variables that is slightly more severe for high-tier prospects ( $b_{LT} = -.0158, p < .01$ ;  $b_{HT} = -.0207, p < .01$ ). The simple effect of rich advertising was significant ( $p < .05$ ) on low-tier prospects for all tested values of traditional instrumental frontline networking less than 3 (positive effect), and on high-tier prospects for all tested values of traditional instrumental frontline networking less than 2 (positive effect) and greater than 2 (negative effect). In the case of Standardized advertising  $\times$  Social media instrumental frontline networking, I also find a negative interaction for high-tier, but not low-tier, prospect volume ( $b_{LT}$  n.s.;  $b_{HT} = -.00890, p < .01$ ). The simple effect of standardized advertising was significant ( $p < .05$ ) on high-tier prospects for all tested values of social media instrumental frontline networking less than 3. Although the interaction effect on low-tier prospects was non-significant, the simple effect of standardized advertising on low-tier prospects was significant and positive ( $p < .05$ ) when social media instrumental frontline networking

was 0. Both of these effects – Rich advertising  $\times$  Traditional instrumental frontline networking and Standardized advertising  $\times$  Social media instrumental frontline networking – are consistent with the information integration principle, whereby two messages or sources of information reduce the effectiveness of one another, effectively serving as partial substitutes. In other words, these two findings suggest that consumers perceive these two pairs of communications media as somewhat redundant. For example, once a consumer has heard of an agent via social media-based word-of-mouth, the incremental effect on that consumer of being exposed to a television advertisement for that agent is substantially less than it otherwise would be.

Interestingly, one of the two non-focal interactions, Rich advertising  $\times$  Standardized advertising, was negative for low-tier prospects and more strongly negative for high-tier prospects ( $b_{LT} = -.00342, p < .01$ ;  $b_{HT} = -.00771, p < .01$ ). This result appears to defy the confirmation effect, and will be treated in more detail in the discussion section. The interaction between Traditional instrumental frontline networking and Social media instrumental frontline networking was positive in the case of low-tier prospects ( $b_{LT} = .0249, p < .01$ ;  $b_{HT}$  n.s.), consistent with a confirmation effect as previously described. Generally, the pattern of interactions in Table 2.6 (and outlined above) is stronger for the high-tier outcome than for the low-tier outcome. Interestingly, the simple effect of traditional instrumental frontline networking on high-tier prospects becomes non-significant in the interaction model, highlighting the fact that this effect is contingent on advertising.

**Table 2.6: Substantive Estimation Results for Interaction Effects Model**

	Log(Volume of Low-Tier Prospects)	Log(Volume of High-Tier Prospects)
Constant	1.988** (.0245)	2.083** (.0254)
Log(Rich advert. stock)	.0576** (.00323)	.0363** (.00333)
Log(Standardized advert. stock)	.00815** (.00228)	.0363** (.00238)
Social media instrumental frontline networking	.0268** (.00832)	.0346** (.00868)
Traditional instrumental frontline networking	.00870 (.00783)	.00476 (.00813)
<b>Focal Interactions</b>		
Rich advertising * Social media instrumental frontline networking	.0193** (.00362)	.0131** (.00256)
Rich advertising * Traditional instrumental frontline networking	-.0158** (.00366)	-.0207** (.00376)
Standardized advertising * Social media instrumental frontline networking	-.00195 (.00456)	-.00890** (.00264)
Standardized advertising * Traditional instrumental frontline networking	.00782** (.00265)	.0149** (.00277)
<b>Other Interactions</b>		
Social media instrumental frontline networking *	.0249** (.00731)	.0110 (.00764)
Rich advertising * Standardized advertising	-.00342** (.000997)	-.00771** (.00104)
<b>Controls</b>		
Experience	-.0135** (.000869)	-.0214** (.000931)
Extraversion	-.0304** (.00703)	.0520** (.00749)
Licensed agency staff	.161** (.00844)	.221** (.00836)
Territory potential	3.76e-07** (2.84e-08)	5.18e-07** (3.01e-08)
Territory insurance agency	.000233	-.00174**

concentration	(.000354)	(.000441)
Time period (trend)	.0151*	-.0516**
	(.00763)	(.00801)
3 <sup>rd</sup> quarter (seasonal dummy)	.0552**	.124**
	(.0122)	(.0126)
4 <sup>th</sup> quarter (seasonal dummy)	-.0283	.109**
	(.0223)	(.0233)

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N = 3,908; Standard errors in parentheses; \*\*  $p < .01$ , \*  $p < .05$

Interaction plots shed further light on the seven significant focal interactions. For each plotted interaction, the horizontal axis indicates the range from 10<sup>th</sup> percentile to 90<sup>th</sup> percentile of the natural logarithm of advertising expenditures,<sup>22</sup> while the vertical axis indicates the predicted number of quotes made by an agent in a month, on a consistent range from 4 to 14 in each plot, based on exponentiating the predicted log-quotes value from the model. The two lines represent high (90<sup>th</sup> percentile) and low (10<sup>th</sup> percentile) levels of instrumental frontline networking, as indicated by the legend below each plot. Note that the exponentiation induces nonlinearity in the plots. Figure 2.3 depicts interactions affecting low-tier prospects, while Figure 2.4 depicts interactions affecting high-tier prospects.

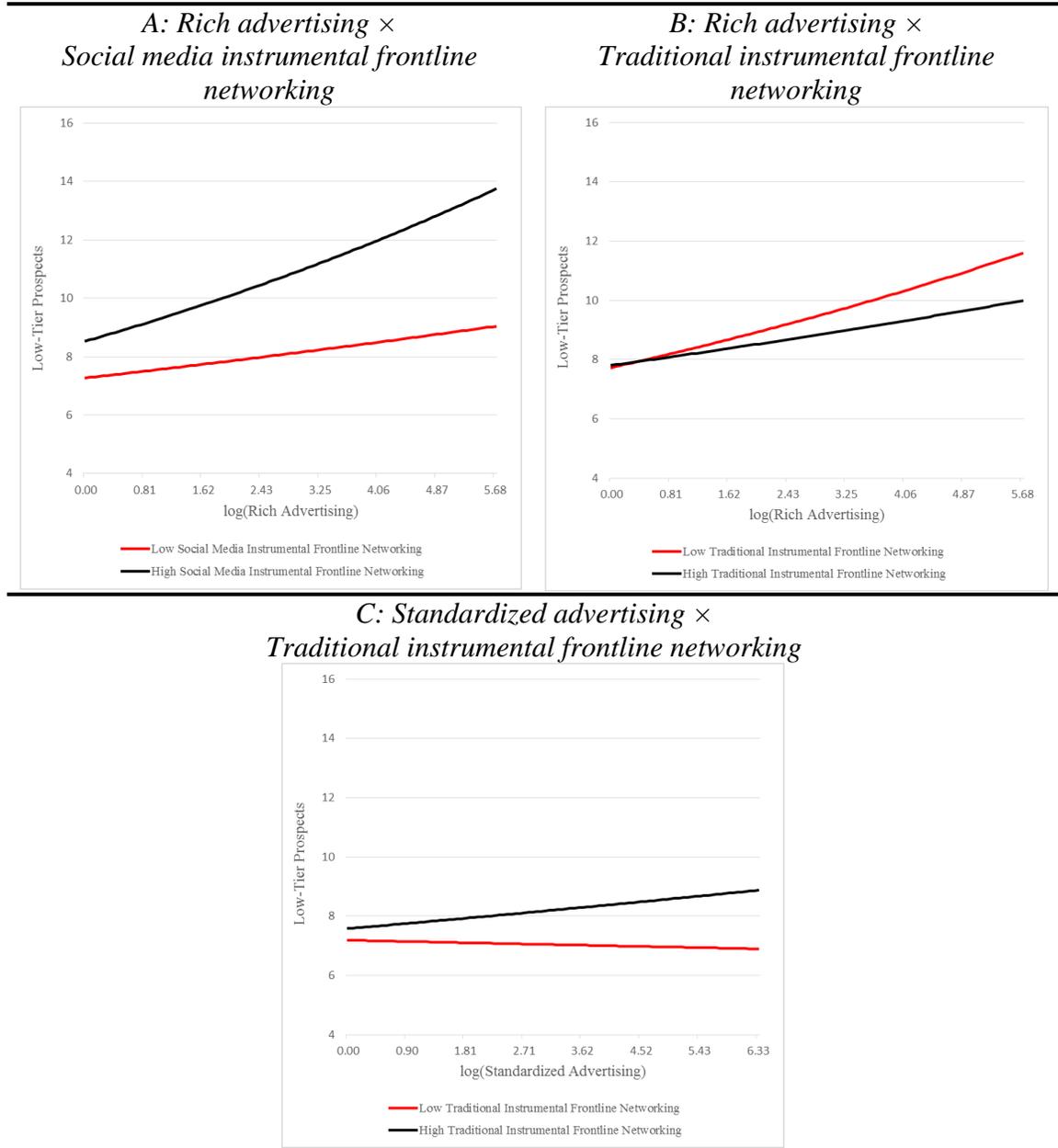
In almost all panels of Figure 2.3 and Figure 2.4, a positive interaction was associated with the amplification of a positive effect. For example, in panel A of Figure 2.3, social media instrumental frontline networking amplifies the positive effect of rich advertising on low-tier prospects. Similarly, in almost all cases, a negative interaction was associated with the attenuation of a positive effect. For example, in panel C of Figure 2.4, social media instrumental frontline networking attenuates the positive effect of standardized advertising on high-tier prospects. The major exception is panel C of Figure 2.3, in which traditional instrumental frontline networking actually *reverses* a slight negative effect of standardized advertising on low-tier prospects. The possible reasons for this reversal will be discussed in more detail below.

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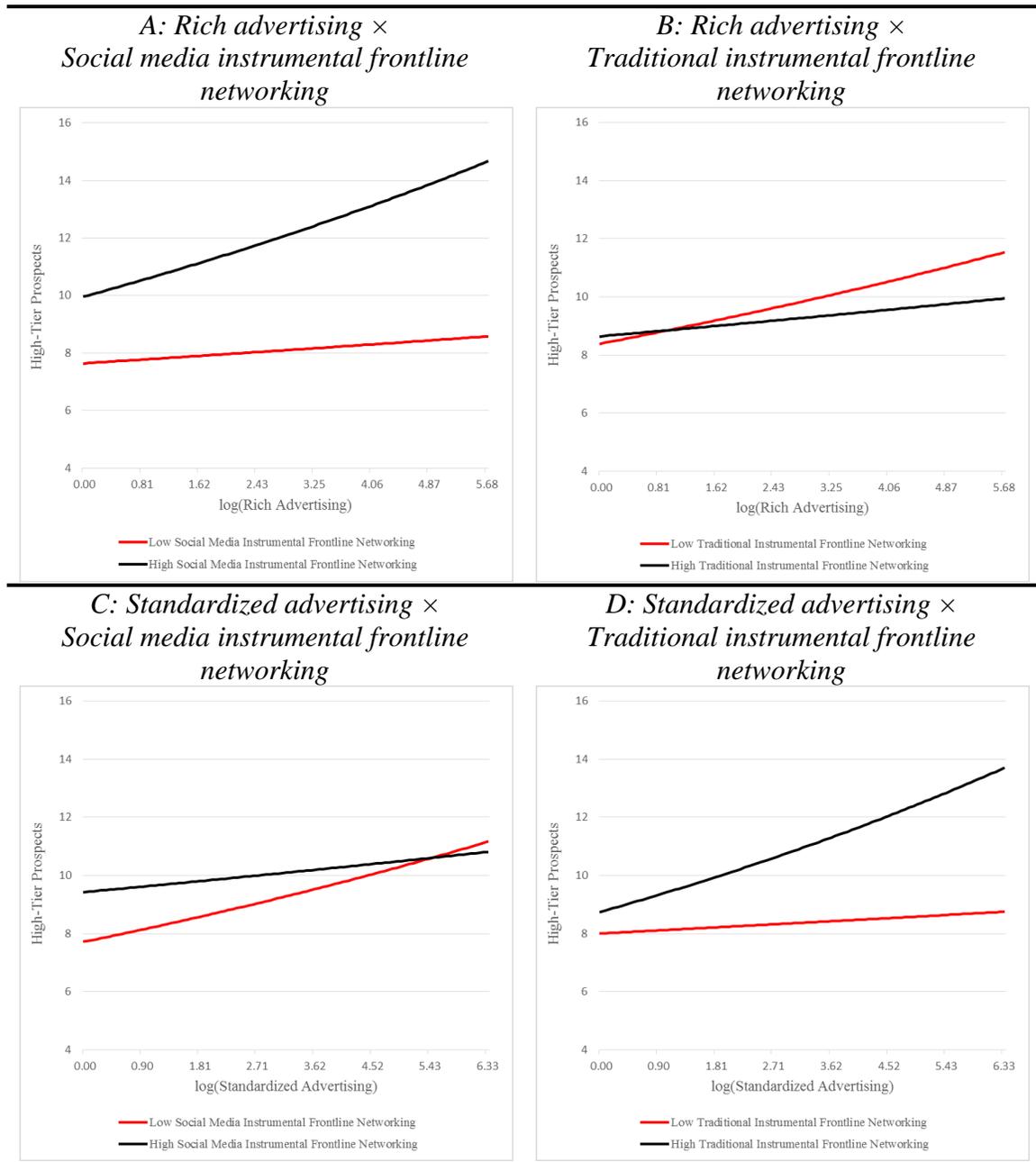
<sup>22</sup> Although advertising stock variables were used in the model and these predictions, the simpler log advertising terms are used as axis labels. Because advertising stock depends on multiple months of observations, there is no one-to-one relationship between a given month's advertising stock and that month's advertising. Rather, the horizontal axis labels provide a general idea of the levels of monthly log-advertising associated with the phenomena in these plots.

In each of these plots, it is worth noting the nontrivial effect sizes. For example, in panel A of Figure 2.3, when rich advertising is high, the difference between high and low social media instrumental frontline networking accounts for 4.7 new low-tier prospects per month, an increase of 52%, and 6.1 new high-tier prospects per month, an increase of 71%. However, when rich advertising is high, the difference between high and low social media instrumental frontline networking only accounts for 1.3 monthly low-tier prospects (a 17% increase) and 2.3 monthly high-tier prospects (a 30% increase). Clearly, a salesperson investing large amounts of time in social media instrumental frontline networking will be missing out on a large portion of his return on that time in the absence of rich advertising in his territory. This comparison also brings into focus the fact that the general pattern of results is stronger for the generation of high-tier prospects than it is for low-tier prospects, making these findings especially salient for salespeople and firms aiming to acquire relational customers.

**Figure 2.3: Significant Interactions Affecting Low-Tier Prospects**



**Figure 2.4: Significant Interactions Affecting High-Tier Prospects**



Beyond the substantial effect sizes visible in the interaction plots, there is evidence that that salesperson instrumental frontline networking is an important piece of the story when it comes to the effect of advertising on the generation of prospects. The

predictive validity of the model was tested by evaluating the correlation between predicted values and observed values for low-tier and high-tier prospects. This correlation was tested for three different models: the interaction model, the main effects model, and a main effects model estimated without the traditional instrumental frontline networking or social media instrumental frontline networking variables. Comparing the interaction model to the full main effects model indicates the importance of accounting for the advertising-instrumental frontline networking interaction. Comparing the full main effects model (or the interaction model) to the main effects model without instrumental frontline networking provides a measure for how much instrumental frontline networking contributes to the predictive accuracy of the model – and, roughly, how strongly instrumental frontline networking explains prospecting volume. For low-tier (high-tier) prospects, the correlation for the interaction model was .44 (.46). This was greater than .41 (.44) for the full main effects model, and substantially larger than .35 (.39) for the alternative main effects model excluding the two instrumental frontline networking variables. This indicates that the inclusion of social media and traditional instrumental frontline networking, as well as their interaction terms, provided a more complete picture of prospecting volume than relying on advertising and agent/territory characteristics alone, and further suggests that instrumental frontline networking contributes to prospecting volume in a meaningful way.

### ***Heterogeneity of Advertising Effectiveness***

The focus of this paper has been the cross-level interaction between advertising at the sales agent level and the sales agent's instrumental frontline networking behaviors.

That is, I have tested how advertising effectiveness is contingent on the sales agent's instrumental frontline networking behaviors. The analysis above confirms that the various permutations of this interaction are of substantively significant magnitude, and manifest in a pattern consistent with underlying theoretical mechanisms. However, as a practical matter, advertising effectiveness likely depends on a variety of factors beyond salesperson instrumental frontline networking behaviors; the integrated marketing communications literature alluded to earlier in this paper delineates many of these factors. The factors determining advertising effectiveness may be said to drive the heterogeneity of advertising effectiveness.

In the auto insurance sales context for this study, important factors contributing to heterogeneous advertising effectiveness may include observable factors such as territory characteristics and agent traits and behaviors, as well as unobserved variables. The random effects distribution of a multilevel model, such as the model described in the preceding section, is a useful tool for capturing heterogeneous effects (e.g., Ducarroz, Yang, and Greenleaf 2016; Gilbride, Inman, and Stilley 2015). The main model employed in this paper accounted for rich and standardized advertising effectiveness heterogeneity in equations (8), (9), (10), and (11). The  $\beta$  and  $\gamma$  coefficients captured observed heterogeneity in terms of traditional and social media instrumental frontline networking behaviors, while the  $\eta$  error terms represented unobserved heterogeneity in advertising effectiveness.

In order to generate a more complete picture of practically important variables impacting advertising effectiveness, I tested an alternative model featuring additional cross-level interactions in equations (8), (9), (10), and (11). Specifically, I examined

interactions of rich and standardized advertising with (i) agent experience, (ii), agent extraversion, (iii) agency staff, (iv) territory potential, and (v) territory insurance agency concentration. (i) through (v) were all control variables included in the main model and described in the Methodology section. The alternate random intercept equations are as follows:

$$8) \alpha_{1i} \sim Normal(\alpha_{10i}, \eta_{\alpha 1}),$$

$$\begin{aligned} \alpha_{10i} = & \beta_7 + \beta_8 SocialMedia_i + \beta_9 Traditional_i + \beta_{10} Experience_i + \\ & \beta_{11} Extraversion_i + \beta_{12} Staff_i + \beta_{13} LocalPotential_i + \\ & \beta_{14} LocalConcentration_i, \end{aligned}$$

$$9) \delta_{1i} \sim Normal(\delta_{10i}, \eta_{\delta 1}),$$

$$\begin{aligned} \delta_{10i} = & \gamma_7 + \gamma_8 SocialMedia_i + \gamma_9 Traditional_i + \gamma_{10} Experience_i + \\ & \gamma_{11} Extraversion_i + \gamma_{12} Staff_i + \gamma_{13} LocalPotential_i + \\ & \gamma_{14} LocalConcentration_i, \end{aligned}$$

$$10) \alpha_{2i} \sim Normal(\alpha_{20i}, \eta_{\alpha 2}),$$

$$\begin{aligned} \alpha_{20i} = & \beta_{15} + \beta_{16} SocialMedia_i + \beta_{17} Traditional_i + \beta_{18} Experience_i + \\ & \beta_{19} Extraversion_i + \beta_{20} Staff_i + \beta_{21} LocalPotential_i + \\ & \beta_{22} LocalConcentration_i, \end{aligned}$$

$$11) \delta_{2i} \sim Normal(\delta_{20i}, \eta_{\delta 2}),$$

$$\begin{aligned} \delta_{20i} = & \gamma_{15} + \gamma_{16} SocialMedia_i + \gamma_{17} Traditional_i + \gamma_{18} Experience_i + \\ & \gamma_{19} Extraversion_i + \gamma_{20} Staff_i + \gamma_{21} LocalPotential_i + \\ & \gamma_{22} LocalConcentration_i, \end{aligned}$$

The complete results of this alternative model are reported in Appendix A.3.

Importantly, the significant focal interactions from the main model maintain their signs

and significance in this model. This is unsurprising given the large effect sizes in the main model. Many of the added interactions are also significant. Rather than reporting these results individually, I highlight the practical importance of considering multiple sources of advertising effectiveness heterogeneity with a what-if analysis of three sales agents.

I selected three agents with diverse characteristics to compare. Table 2.7 summarizes these characteristics. This table also contains two columns summarizing the signs of significant advertising interactions involving these variables. Note that, because the model estimates are based on mean-centered variables, these interactions should be interpreted such that values of these variables *below* their means effectively *reverse* the sign of the advertising effectiveness interactions reported in this table. For example, Agent B has territory insurance agency concentration of 1.12, well below the mean for this variable. This means that this agent will have *reduced* effectiveness of rich advertising, and *increased* effectiveness of standardized advertising.

**Table 2.7: Agent Characteristics and Interaction Signs for What-If Analysis (All Survey Measures Standardized)**

*'n.s.'* indicates a non-significant interaction

	<b>Agent A</b>	<b>Agent B</b>	<b>Agent C</b>	<b>Interaction with Rich Adv.: Low Tier / High Tier</b>	<b>Interaction with Stand. Adv.: Low Tier / High Tier</b>
<i>Social Media</i>					
<i>Instrumental Frontline Networking</i>	1.79	-1.16	-1.11	+ / +	n.s. / -
<i>Traditional</i>					
<i>Instrumental Frontline Networking</i>	.95	1.29	.29	- / -	+ / +
<i>Experience</i>	10.3	19.7	23.6	n.s. / n.s.	+ / +
<i>Extraversion</i>	1.08	-.22	-.23	n.s. / +	+ / n.s.
<i>Agency Staff</i>	4	1	0	+ / -	- / -
<i>Territory Potential</i>	122,221	7,746	257,952	- / n.s.	- / +
<i>Territory Insurance Agency Conc.</i>	1.24	1.12	73.00	+ / +	- / -

To conduct the what-if analysis, I considered an advertising allocation scenario. Because the model employed an advertising stock variable, this analysis is based on the allocation of advertising stock – that is, the time-weighted, combined advertising allocation of the current month and the last three months, per the model. I consider the volume of low-tier and high-tier prospects resulting from the allocation of \$4,000 of advertising stock between rich and standardized advertising for each agent. This \$4,000 figure is approximately one standard deviation above the mean observed in the data, making it a realistic value for agents with active advertising in their territories. I use the alternative model described above to generate predictions by plugging in each agent's

characteristics, assuming the month is July, and inserting each allocation of the \$4,000 of advertising stock, from 0% rich advertising (i.e., 100% standardized advertising) to 100% rich advertising (i.e., 0% standardized advertising). The results of this what-if analysis illustrating the heterogeneity of advertising effectiveness across multiple characteristics are plotted in the three panels of Figure 2.5.

**Figure 2.5: An Illustration of the Heterogeneity of Advertising Effectiveness**

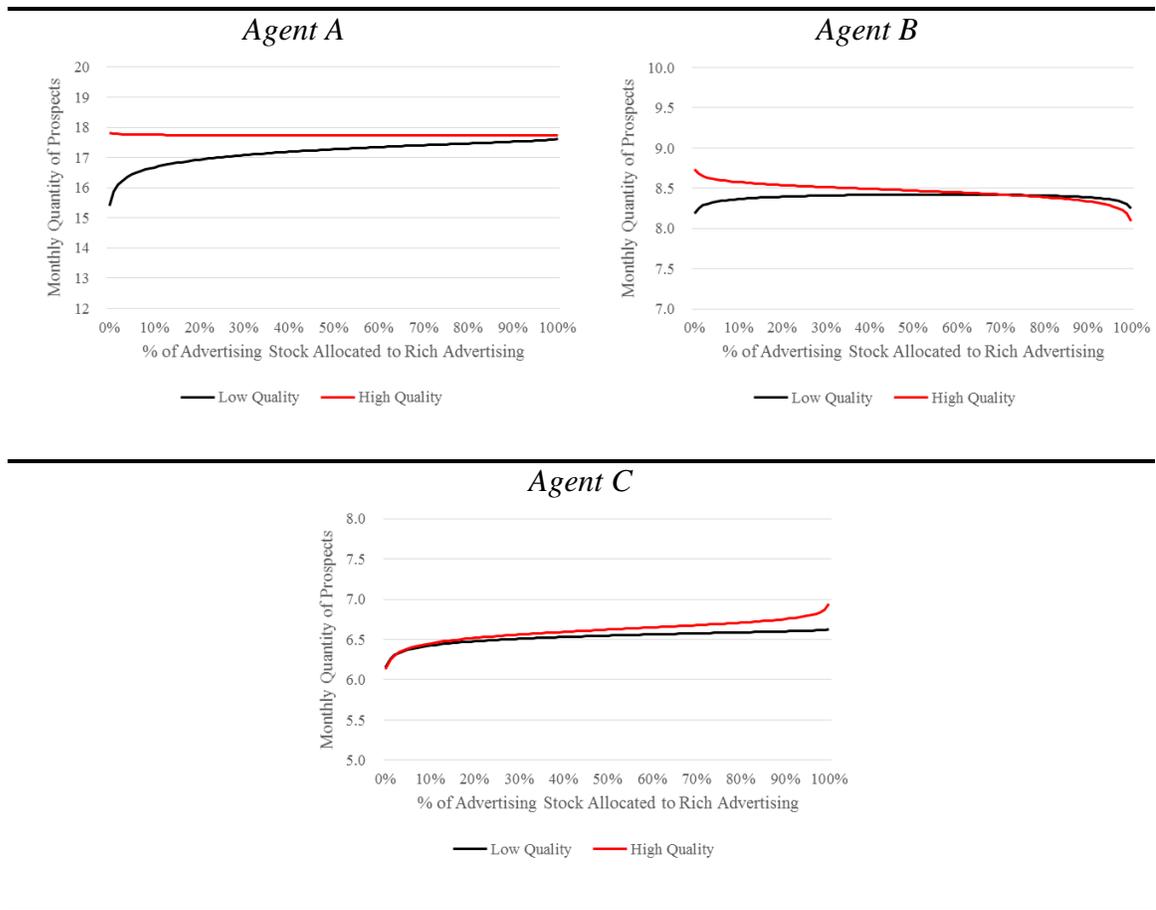


Figure 2.5 reveals that while the strong impact of agent instrumental frontline networking on advertising effectiveness still holds, this effect can be offset or even overwhelmed by other determinants of advertising effectiveness. Agent A primarily

engages in social media instrumental frontline networking, suggesting that allocations in favor of rich advertising should produce superior outcomes for the generation of both low-tier and high-tier prospects. However, the effect on high-tier prospects of allocating to rich advertising is largely washed out by (a) Agent A's above-average agency staff, and (b) agent A's below-average territory insurance agency concentration. Similarly, Agent B networks mainly via traditional means, implying that allocations to standardized advertising should produce a higher volume of prospects. This appears to be true for high-tier prospects, but less so for low-tier prospects. Agent B's (a) below-average extraversion, and (b) above-average agency staff dampened the effectiveness of standardized advertising.

Agent C offers the most extreme example. This agent favors traditional over social media instrumental frontline networking, although his level of traditional instrumental frontline networking is only slightly above average. Despite this, the model predicts that he would very strongly benefit from allocating towards rich advertising. This is contrary to the recommendations implied by the main model, where traditional instrumental frontline networking enhanced the effectiveness of standardized advertising, and reduced the effectiveness of rich advertising. This result occurs because Agent C is located in a territory with one of the highest levels of insurance agency concentration, a condition improving the effectiveness of rich advertising and diminishing the effectiveness of standardized advertising – likely due to consumers tuning out mass media overcrowded with messages from various insurance agencies. This effect overwhelms the interaction with instrumental frontline networking. This example, as well as those of agents A and B above, highlight the practical implications of my results.

Specifically, it is not the case that advertising allocation decisions should be based *solely* on salesperson instrumental frontline networking patterns; rather, in making these decisions, salesperson instrumental frontline networking should be *added* to the set of known factors influencing advertising effectiveness.

## **DISCUSSION**

The focus of this research is the notion that consumers integrate information from word-of-mouth channels, driven in part by salesperson instrumental frontline networking, with information from advertising media channels. Ostensibly, if the firm understands how consumers integrate this information, it can understand how advertising interacts with salesperson instrumental frontline networking in driving prospects to the company and its salespeople. Advertising and salesperson instrumental frontline networking, then, can be leveraged strategically towards the crucial aim of generating qualified leads.

The results of my model for the effects of instrumental frontline networking and advertising on the generation of prospects can be viewed through the theoretical lenses discussed in my theoretical framework – specifically, in terms of the consumer’s internal cognitive processes. The pattern of interactions between rich advertising, standardized advertising, social media instrumental frontline networking, and traditional instrumental frontline networking can be interpreted in a consistent fashion in terms of information integration and the confirmation effect. In general, consumers integrate information in such a way that introducing a new piece of information regarding some attribute reduces the weight attributed to other information regarding that attribute. This suggests that

many combinations of alternative communication forms should be expected to be redundant and substitutable in their effects on each consumer, and accordingly in their aggregate effects. The results for the Rich advertising  $\times$  Traditional instrumental frontline networking interaction and the Standardized advertising  $\times$  Social media instrumental frontline networking interaction were consistent with this principle. My results suggest that information from advertising messages and instrumental frontline networking-driven word-of-mouth via these two pairs of communication modes were perceived as partially redundant by consumers.

However, by the confirmation effect, if one of the pieces of information is highly *diagnostic*, while the other is highly *non-diagnostic*, the diagnostic information will confirm the non-diagnostic information. Information may be perceived as diagnostic for a variety of reasons – because it comes from a credible source, or contains more detailed content. Regardless, if this is the case, the sources of the two pieces of information will be complementary in their effects on each consumer, and accordingly in their aggregate effects on outcomes of importance to the firm, such as the generation of qualified prospects. The two interactions suggesting this effect were Rich advertising  $\times$  Social media instrumental frontline networking, and Standardized advertising  $\times$  Traditional instrumental frontline networking. This implies that for many consumers, information from rich advertising media and traditional networks may be perceived as diagnostic, while information from standardized advertising media and social media networks may be perceived as non-diagnostic. This may be due to the perceived trustworthiness of the source, given that rich advertising and traditional instrumental frontline networking both require the agent's physical presence, while standardized advertising and social media

instrumental frontline networking do not. The positive interaction between social media and traditional instrumental frontline networking is also consistent with this explanation.

The primary surprising result, then, is the non-focal interaction between rich advertising and standardized advertising, which appeared to indicate that standardized advertising reduced the effectiveness of rich advertising (and vice versa). It may be that the comparison between rich advertising and standardized advertising produces a less dramatic contrast in the diagnostic character of information acquired by consumers as a result of these media channels than the comparison between rich advertising and social media instrumental frontline networking-based word-of-mouth, or that between standardized advertising and traditional instrumental frontline networking-based word-of-mouth. This creates the usual information integration effect whereby one form of communication reduces the impact of another form, rather than a confirmation effect. What seems to be implied by this pattern of results is a hierarchy of diagnosticity among information arising from these communications modes, from most to least diagnostic: traditional instrumental frontline networking, rich advertising, standardized advertising, social media instrumental frontline networking. Communications modes that are further apart from one another on this hierarchy appear to enhance each other's effectiveness in generating prospects. This hierarchy does not, however, explain why the main effect of social media instrumental frontline networking was greater than that of traditional instrumental frontline networking. More research with individual consumers (e.g., experiments) is needed to empirically establish the diagnostic character of information received through various channels.

There was one additional unexpected feature of the results: the nature of the positive interaction between standardized advertising and traditional instrumental frontline networking on low-tier prospects. As panel C of Figure 2.3 demonstrated, this is the reversal of a small negative effect for standardized advertising, rather than the amplification of a positive effect. It may be that potential low-tier prospects are suspicious of information communicated through mass media promotional messages, causing these prospects to distrust the firm or salesperson, but information received through face-to-face word-of-mouth channels confirms these messages. It is, however, less clear why this effect is not evident for high-tier prospects. It may be that the modal potential high-tier prospect accesses more sources of information on service providers. If this is the case, then it is more likely that such a prospect would have received information he perceives as diagnostic even in the absence of traditional instrumental frontline networking-based word-of-mouth, thereby confirming the mass media message. Again, empirical research at the level of the individual consumer is needed to assess such explanations.

### ***Implications for Theory***

My primary contribution to theory is the conceptualization of instrumental frontline networking as a form of marketing communication executed by a salesperson across the frontlines of the organization. Viewing instrumental frontline networking through this lens allows researchers to build bridges from instrumental frontline networking – and networking more broadly – to the many and diverse theories pertaining to communications. I have built a foundation for this effort by connecting instrumental

frontline networking to information integration theory and the confirmation effect. In addition, I contribute to the limited theoretical understanding of networking as an antecedent of sales performance. Prior research has not taken a behavioral approach to networks and sales performance, has focused on internal networks, and has not considered interactions with actions by the firm. I establish that the relationship between salesperson instrumental frontline networking behaviors and performance is contingent on actions by the firm – specifically, advertising. By the same token, I contribute to the understanding of integrated marketing communications by empirically establishing that the effectiveness of advertising depends not only on sales force expenditures or overall effort, but specific behaviors of individual salespeople, such as instrumental frontline networking. This opens the door for the consideration of other salesperson behaviors that enhance or attenuate advertising effectiveness, a domain with very limited prior work (cf. Swinyard and Ray 1977).

### ***Implications for Practice***

My results provide evidence that instrumental frontline networking can both enhance and reduce the effectiveness of advertising in driving the volume of qualified leads generated at the salesperson level. The importance of this finding is highlighted by the fact that the pattern of interactions is stronger for high-tier prospects. Given that high-tier prospects tend to have more relational behavior patterns (i.e., they stick around longer if they are acquired), firms wishing to acquire relational customers would particularly benefit from an awareness of my findings. Specifically, firms must be aware that the effectiveness of advertising depends not only on media type, expenditure, and other

characteristics of the advertising itself, but also on the instrumental frontline networking actions of individual salespeople operating in the market area covered by the advertising. Similarly, salespeople ought to take into account the firm's advertising mix when deciding how to allocate time to instrumental frontline networking behaviors. In other words, the firm and individual salespeople must work together to create the right 'match' between instrumental frontline networking behaviors and advertising in each market area.

The interaction plots in Figure 2.3 and Figure 2.4 bring into focus the substantive significance of these insights to salespeople and managers. As the figures illustrate, a salesperson with *low* social media instrumental frontline networking (i.e., 10<sup>th</sup> percentile) whose rich advertising expenditure shifts from the 10<sup>th</sup> to the 90<sup>th</sup> percentile – a very large boost equivalent to increasing monthly advertising by \$290.50 – secures only a modest monthly gain of 1.8 low-tier prospects, a 24% increase, and 0.9 high-tier prospects, a 12% increase. A salesperson *high* in social media instrumental frontline networking (i.e., 90<sup>th</sup> percentile) with the same increase in rich advertising will see monthly gains of 5.2 low-tier prospects, a 61% increase, and 4.7 high-tier prospects, a 47% increase. Similarly, a salesperson low in *traditional* instrumental frontline networking whose standardized advertising spending shifts from the 10<sup>th</sup> to the 90<sup>th</sup> percentile – a \$564.52 monthly boost – sees a monthly gain of only 0.7 high-tier prospects, a 9% increase, partially offset by a monthly loss of 0.3 low-tier prospects, a 4% decrease. If the same salesperson had *high* traditional instrumental frontline networking, the same change in standardized advertising would result in monthly gains of 1.3 low-tier prospects, a 17% increase, and 4.9 high-tier prospects, a 56% increase. Both of these examples make clear the cost of ignoring the role of salesperson instrumental

frontline networking in driving advertising effectiveness, as well as the benefit of actively leveraging instrumental frontline networking's potential to enhance advertising effectiveness. As noted previously, many factors influence advertising effectiveness, and none of these should be ignored when making advertising allocation decisions. What my results highlight is that marketing managers should make efforts to take into account the instrumental frontline networking behaviors of salespeople when making these decisions, or risk losing out on the potential to maximize the generation of prospects.

## **CONCLUSION**

This study makes several important contributions to theory and practice. I build on existing work in integrated marketing communications on advertising-personal selling interactions by exploring how individual *behaviors* of frontline sales representatives – rather than simply expenditures on personal selling or the overall intensity of personal selling activity – are associated with advertising effectiveness. Specifically, I determine under which conditions – that is to say, combinations of instrumental frontline networking behaviors and media types – instrumental frontline networking and advertising are complements (i.e., networking enhances advertising effectiveness), and under which conditions they are substitutes (i.e., networking reduces advertising effectiveness). I find evidence of both types of relationships, especially in the generation of relational prospects. These relationships are largely consistent with the implications of information integration theory and the confirmation effect. These findings have two

primary practical implications. First, given a known pattern of instrumental frontline networking behaviors being performed by the sales force, my findings provide guidance on the optimization of communication budgets. Second, given a known mix of marketing communications executed by the firm, my results lead to recommendations for the proper mix of instrumental frontline networking behaviors to inculcate in salespeople.

### ***Limitations and Future Research Directions***

The design of my empirical study had many advantages, such as the ability to access multiple sources of data pertaining to the sales agents, and the unique advantage of having advertising vary at the agent level. As sales researchers note, deep collaborations with practitioners offer many benefits that often necessitate single-firm studies (Bolander et al. 2015; Hall, Ahearne, and Sujun 2015). However, with these benefits come several limitations. In my case, because I employ data from a single firm, I cannot conclusively demonstrate generalizability across a variety of industries. Fortunately, these agents operate independent agencies in diverse market areas. This lends greater generalizability to my findings across the sorts of variation faced by these agencies (e.g., selling in a densely versus a sparsely concentrated market area). My what-if analysis of the heterogeneity of advertising effectiveness highlights how the implications of my findings vary across different contexts. In addition, although I have made efforts to address concerns of endogeneity through instrumental variables, my study did not utilize an experimental or quasi-experimental research design tailored towards causal inference. Therefore, I cannot make conclusive claims of causality. Finally, the agents in my context benefited from a limited range of advertising types, with two forms of advertising

constituting over 80% of advertising placements. An empirical setting with a richer variety of advertising utilization would add depth to the foundation built in my study.

My framework and findings lay a foundation for a variety of future research. Although the outcome of prospect identification is practically relevant to marketers, additional outcomes may be worthy of study. In particular, the effects of networking-communications mix interactions on customer lifetime value (Reinartz and Kumar 2003; Venkatesan and Kumar 2004) would be of great interest in precisely defining optimal combinations of the two sets of variables. In addition, examining how my results play out further down the sales funnel, in customer acquisition and retention, would be intriguing and managerially compelling. More broadly, the interaction of specific salesperson behaviors with marketing communications merits further study. In theory, salespeople could be trained in the set of behaviors that maximizes advertising effectiveness, or advertising could be tailored to the idiosyncratic behavior patterns of a particular sales force. Field experiments to explicitly test this notion would be especially worthwhile.

## APPENDIX

### A.1: IRB Approval

*Note: Professor Gopalakrishna was listed as the PI of record for IRB purposes in order to facilitate interaction with the IRB.*



**Institutional Review Board**  
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March 19, 2015

Principal Investigator: Srinath Gopalakrishna  
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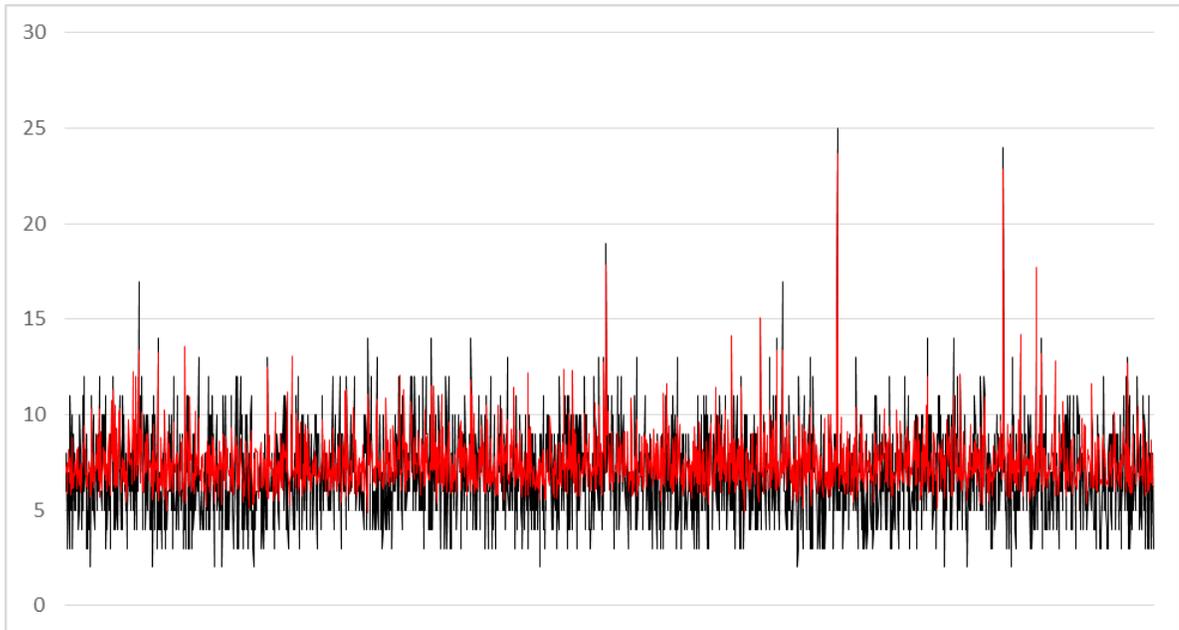
Your Exempt Application to project entitled How do External Networking Behaviors Affect Customer Acquisition? An Empirical Study was reviewed and approved by the MU Institutional Review Board according to terms and conditions described below:

IRB Project Number	2001933
IRB Review Number	202788
Approval Date of this Review	March 19, 2015
IRB Expiration Date	March 19, 2016
Level of Review	Exempt
Project Status	Active - Open to Enrollment
Exempt Categories	45 CFR 46.101b(2) 45 CFR 46.101b(4)
Risk Level	Minimal Risk

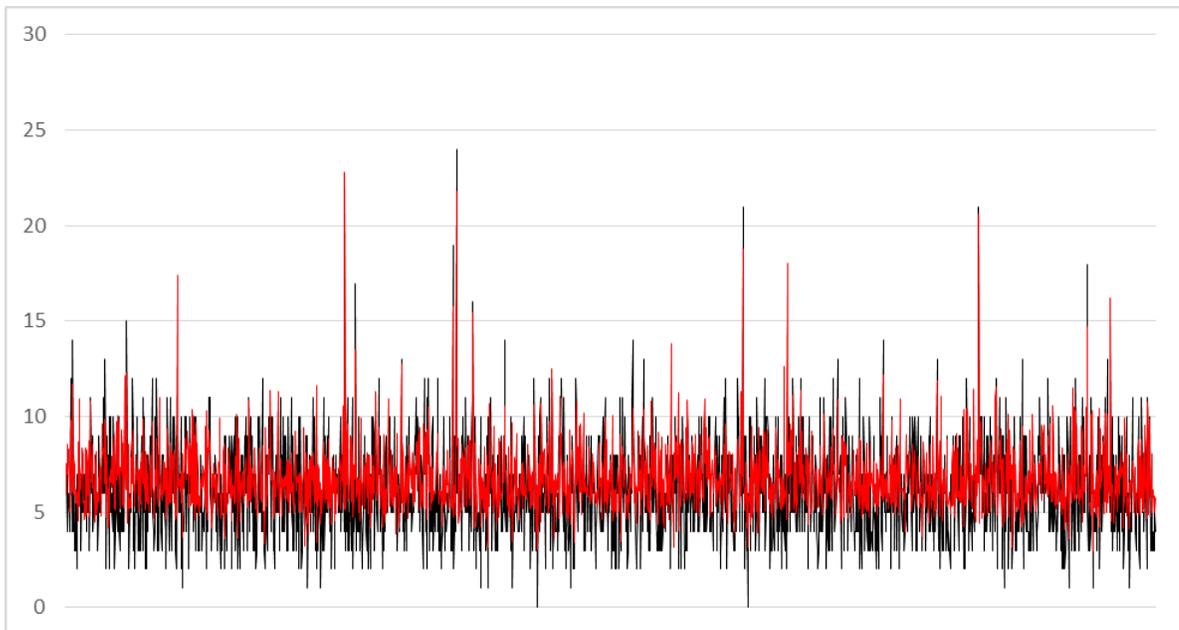
## A.2: Prediction Plots for Essay 2

*Note: In each plot below, the X-axis indexes observations, while the Y-axis indexes quotes (i.e., prospects). The plot compares observed prospects to the number of prospects predicted by the model including interactions, after exponentiating the prediction for  $\log(\text{prospects})$ .*

### Low-tier prospects



### High-tier prospects



### A.3: Full Random Slope Results for Essay 2

	Log(Volume of Low-Tier Prospects)	Log(Volume of High-Tier Prospects)
Constant	1.963*** (0.0246)	2.085*** (0.0255)
Log(Rich advert. stock)	0.0568*** (0.00327)	0.0344*** (0.00338)
Log(Standardized advert. stock)	0.00647*** (0.00236)	0.0382*** (0.00247)
Social media instrumental frontline networking	0.0264*** (0.00840)	0.0246*** (0.00878)
Traditional instrumental frontline networking	0.0115 (0.00791)	-0.00425 (0.00819)
<b>Focal Interactions</b>		
Rich advertising *	0.0155*** (0.00378)	0.00747*** (0.00221)
Social media instrumental frontline networking		
Rich advertising *	-0.0132*** (0.00381)	-0.0239*** (0.00393)
Traditional instrumental frontline networking		
Standardized advertising *	-0.00172 (0.00269)	-0.00731*** (0.00279)
Social media instrumental frontline networking		
Standardized advertising *	0.00542** (0.00276)	0.0141*** (0.00288)
Traditional instrumental frontline networking		
<b>Other Interactions</b>		
Social media instrumental frontline networking *	0.0203*** (0.00731)	0.0132* (0.00767)
Traditional instrumental frontline networking		
Rich advertising *	-0.00457*** (0.00108)	-0.00498*** (0.00111)
Standardized advertising		
Rich advertising *	-0.000481 (0.000435)	-0.000555 (0.000474)
Experience		
Rich advertising *	0.00251 (0.00378)	0.00989** (0.00393)
Extraversion		
Rich advertising *	0.00854*	-0.0106**

Licensed agency staff	(0.00463)	(0.00422)
Rich advertising *	-5.61e-08**	2.55e-08
Territory potential	(2.30e-08)	(2.32e-08)
Rich advertising * Territory	0.000530***	0.000736***
insurance agency concentration	(0.000172)	(0.000207)
Standardized advertising *	0.00267***	0.000780**
Experience	(0.000316)	(0.000346)
Standardized advertising *	0.0214***	0.00158
Extraversion	(0.00267)	(0.00282)
Standardized advertising *	-0.00927***	-0.0126***
Licensed agency staff	(0.00294)	(0.00291)
Standardized advertising *	-6.38e-08***	1.12e-07***
Territory potential	(1.88e-08)	(1.80e-08)
Standardized advertising * Territory	-0.000497**	-0.00186***
insurance agency concentration	(0.000213)	(0.000235)
<b>Controls</b>		
Experience	-0.0144***	-0.0219***
	(0.000882)	(0.000946)
Extraversion	-0.0312***	0.0533***
	(0.00720)	(0.00761)
Licensed agency staff	0.154***	0.236***
	(0.0107)	(0.00958)
Territory potential	-4.81e-08	9.60e-07***
	(5.37e-08)	(4.76e-08)
Territory insurance agency	-0.000680	-0.00713***
concentration	(0.000793)	(0.000875)
Time period (trend)	0.0173**	-0.0525***
	(0.00764)	(0.00802)
3 <sup>rd</sup> quarter (seasonal dummy)	0.0527***	0.126***
	(0.0122)	(0.0126)
4 <sup>th</sup> quarter (seasonal dummy)	-0.0312	0.110***
	(0.0223)	(0.0233)

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## VITA

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