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**An Empirical Examination of How Supervisor and Peer Knowledge Dissemination
Affects a Salesperson's Performance.**

BY

Ashley Sahar Goreczny

A Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree

Of

Doctor of Philosophy

In the Robinson College of Business

Of

Georgia State University

GEORGIA STATE UNIVERSITY
ROBINSON COLLEGE OF BUSINESS
2018

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ACCEPTANCE

This dissertation was prepared under the direction of the *Ashley Sahar Goreczny's* Dissertation Committee. It has been approved and accepted by all members of that committee, and it has been accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Business Administration in the J. Mack Robinson College of Business of Georgia State University.

Richard Phillips, Dean

DISSERTATION COMMITTEE

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ABSTRACT

An Empirical Examination of How Supervisor and Peer Knowledge Dissemination Affects a Salesperson's Performance.

BY

Ashley Sahar Goreczny

August 8, 2018

Committee Chair: *V. Kumar*

Major Academic Unit: *Marketing Department*

A present trend across industries is to engage salespeople with a more hands-on approach to learning, by increasing feedback from supervisors. With already demanding schedules, firms are seeking ways to ease their supervisor's time constraint. One such solution is to reduce the time a supervisor allocates to training their subordinates, while not impacting overall training. Applying Social Network and Organization Learning theories, this research attempts to identify whom within the firm would be better suited for training initiatives. Past literature has yet to empirically compare the influence of peers and supervisors on a salesperson's different sales capabilities. Thus, using a Type II Tobit model and a Negative Binomial model, we empirically examine which type of colleague influences a salesperson's sales capabilities more, peers or supervisors, and how experience and supervisor-leadership-style affect these relationships. This research can assist managers in training initiatives, as well as time management strategies within sales firms.

Introduction/Motivation:

Supervisors have become even more critical to a firm's success in recent years, as supervisors are beginning to adopt a more hands-on approach to managing their salespeople (Cappelli and Tavis 2016). The present trend across industries is that supervisors no longer meet their direct reports for a review at the end of the year; they must now conduct meetings as often as their employees' request, for example after the completion of a task or on a weekly basis. This trend is supported by firms because increased supervisor involvement impacts profit-driven activities, such as performance (Giang 2013), employee retention (Rader 2017), and goal achievement (Argote and Epple, 1990). Further, where previous generations of salespeople requested independence from supervisors throughout their career (relating a hands-on approach to micromanaging), the newest generation (millennials) that will make up 75% of the workforce by 2025, demand more frequent updates regarding their performance, constant training, and a high-level learning environment (Hall 2017). Because the demand on a supervisor's time is increasing, firms are considering different strategies to lighten a supervisor's workload. This trend is even more emphasized in the sales context because supervisors are not only responsible for their direct reports, but also for their personal sales goals, straining their already limited time.

One aspect of a supervisor's time management strategies that could be attuned is the amount of time a supervisor spends on their subordinate. By understanding whom within the firm impacts the salesperson's various skills, senior managers could direct a salesperson to those individuals for training requirements, rather than relying solely on the salesperson's supervisor. Though research has emphasized the importance of supervisors or peers influencing a salesperson (Hayati, Atefi, and Ahearne 2017; Valentine 2009), there has been limited research comparing the two sets of colleagues in order to capture the different types of impact they each have on a salesperson's various capabilities.

At a recent Atlanta sales executive leadership conference, where senior sales executives from numerous industries came together to discuss trends and concerns in their salesforce, executives discovered that across industries, salespeople are demanding a more hands-on approach to feedback and training. Companies ranging from industries such as telecommunications, logistics, healthcare, consulting, entertainment, insurance, etcetera, all reported similar demands from their salesforce. The conference also discussed the increased costs associated with this approach, due to the need for training programs, mentoring programs, and more time allocated from supervisors to giving feedback. Research from a decade ago stated that over \$800 billion is spent on sales forces in the U.S.; however, the new hands-on approach increases this spending even further (Kumar, Sunder, and Leone 2014; Zoltners, Sinha, and Lorimer 2008). With more than 14 million employees in the U.S. workforce identified as being in a sales position (not accounting for those with other titles yet in a selling role) (Cespedes 2015), it is imperative to enhance training and time management initiatives.

A salesperson's capabilities, which directly influence a firm's bottom line, are a unique asset to a firm and difficult to imitate (Day 1994). Firms should be adopting strategies to enhance a salesperson's capabilities. When a firm utilizes capabilities to spread knowledge, the firm's performance increases as a result (Vorhies, Orr, and Bush 2011), further supporting stronger initiatives that enhance a salesperson's capabilities. The foundational skills a salesperson uses to close sales are considered a part of the salesperson's sales capabilities (Morgan, Slotegraaf, and Vorhies 2009), thus can be where a firm focuses their attention. In the context of our study, capabilities are used to describe a salesperson's abilities.ⁱ Capabilities stem from skills and knowledge, as has been suggested in previous research (Krush et al. 2013). Sales capabilities result in higher performance, in terms of revenue, (Johlke 2006; Pettijohn, Pettijohn, and Taylor

2007), and in terms of cross selling success (Schmitz 2013), which are two of the main drivers of a salesperson's performance (Shah and Kumar 2012; Zoltners, Sinha, and Lorimer 2017). This begs the question, "How can a firm best enhance their individual salesperson's sales capabilities?" Even more relevant is increasing their salesforce's capabilities with limited costs to the firm. A firm can capture and enhance their salesperson's capabilities with proper training initiatives, but only after the firm knows where knowledge dissemination stems from. It is the goal of this research to shed light on where sales capabilities knowledge stems from.

It is important to examine revenue performance and cross selling performance independently for the following reasons. First, a salesperson approaches every customer with a strategy to sell at least a single product or service that matches the customer's needs (Boles et al. 2001). Then, a salesperson considers the next step of his/her relationship with the customer, be that a renewal of a contract, expanding the products and services the customer has, etcetera. As seen in an article about IBM's best salesperson, a salesperson's strategy is to first initiate a sell, then, and only if appropriate, does he/she attempt a cross-selling initiative (Hempel 2008). Whichever path the salesperson utilizes depends on the potential and needs of the customer. However, a successful firm focuses on satisfy customers as well as generating revenue (Boles et al. 2001). Only with proper cross selling strategies, where the salesperson understands the costs associated with each product and service, as well as how the products and services work together, can the firm be the most successful. For example, Kumar and Shah (2012) suggest changing cross selling strategies to target customers that would enhance their financial relationship with the firm, rather than targeting everyone with all cross selling strategies. Some customers require steep discounts or habitually return, so should not be targeted for cross selling strategies. This demonstrates that

performance and cross selling should be approached with different strategies, warranting the need to study them independently from each other.

These two forms of sales capabilities are learned in a variety of ways. However, one of the main sources a salesperson learns from is through gaining knowledge from colleagues, especially in a learning oriented environment (Sujan, Weitz, and Kumar 1994). Previous studies have shown that social environments affect a salesperson's behavior and decision making (Hayati, Atefi, and Ahearne 2017; Lam, Kraus, and Ahearne 2010). Specifically, a salesperson is surrounded by colleagues at a variety of levels, and capitalizing on the different levels of the social environment can improve outcomes (Liu and Batt 2010), while reducing costs (Jones, Hesterly, and Borgatti 1997). One of the most important relationships beyond a salesperson's supervisors are his/her peer relationships (Higgins and Kram 2001). Peers influence profits and costs both directly with their own performance, but also indirectly through knowledge sharing within the firm (Homburg, Jensen, and Krohmer 2008). Social network theory supports the notion that peers and supervisors can uniquely impact a salesperson (Hayati, Atefi, and Ahearne 2017), but can senior managers identify whom impacts what parts of a salesperson's selling capabilities?

To address the need for better time management strategies, we focus our attention on enhancing training initiatives for a firm to enhance their salesforce' individual capabilities. Based on previous research and present demands across industries, our goal is to identify which colleagues senior managers can use to training salespeople on specific skills. Therefore, in this study, we attempt to answer the following research questions: (1) Do supervisors or peers have an influence on a salesperson's performance? (2) If yes, whom influences a salesperson's performance the most? and (3) Can firms enhance their network dynamics, mentoring programs,

and overall training programs for the salesforce, based on the findings of this study? Utilizing an empirical approach, we are able to capture what types of influence a supervisor and peer have on a salesperson's performance and also determine experience and style of leadership change this influence.

Using extant theories from sales, marketing, and management literatures, we develop hypotheses capturing the differences between knowledge dissemination from peers and supervisors, with a focus on how both levels of colleagues should be utilized for a single initiative. We specifically rely on organizational learning and social network theories in an overarching framework (Bell, Mengüç, and Widing 2010; Lam, Kraus, and Ahearne 2010). We test this framework utilizing both a type I tobit model on revenue performance and a negative binomial model on cross selling performance from a fortune 500 telecommunications company with a salesperson-level longitudinal dataset. This is the first study, to our knowledge, to empirically compare knowledge dissemination to a salesperson, in a more junior role, from colleagues at the peer and supervisory level, in an organizational learning framework, using real world data.

We demonstrate the importance of comparing where a salesperson learns from to create an overarching time management and training strategy, using our study's results. This tool will assist managers in identifying where a salesperson captures their knowledge, allowing immediate action to adjust training initiatives, as well as where supervisors and peers could spend their time the most effectively to satisfy training needs. This tool will also assist firms in salesperson composition with supervisors, peers and junior salespeople. The results not only hold implications for understanding the balance of peers and supervisors, but also the role they play in developing salespeople to their highest potential.

This article is organized in the following manner. First, we discuss the motivation for this study from both the practitioner's and academic's perspective. Next, we introduce the conceptual framework and breakdown the hypotheses. We then discuss the methodology, including the model development and estimation, used to tests the proposed hypotheses. Finally, we summarize the model results, managerial implications, future research, and limitations of the study.

Research Motivation

To motivate the need for studying knowledge dissemination regarding sales capabilities from supervisors and peers to a salespeople, we look at both a managerial as well as an academic perspective.

Managerial Perspective

To examine the potential for this idea, we conducted a series of interviews with senior sales executives across industries. A few highly important facts came to light and are as follows: First, customers are expecting relationships to go beyond friendly to the level of consultant. Customers expect salespeople to be involved in decision making and help enhance profit. This pattern has increased greatly in recent years (Kaplan 2017). Gone are the days that salespeople can focus solely on addressing a customer's need or simply conducting a transaction. In order for a salesperson to hold the coveted consultant relationship, salespeople must have strong selling capabilities. The salesperson's knowledge must exceed just knowing the price and discounts of the products and services, and include the costs, as well as which products and services complement each other. Then, the salesperson must match that knowledge to the customer's needs and goals. Basically, salespeople must balance their customer relationships with the 'always closing' mantra.

The next theme discussed by the executives is organizational learning. Specifically, the executives stated that there must be a constant learning environment and this learning should occur no matter what level the salesperson is at. Finally, the executives are requiring supervisors to move past the habit of controlling their direct reports, and instead must participate in the process. This means supervisors not only assist their direct reports with learning and growing in their career, but also have to make their own sales goals, and meet their own customer satisfaction levels. This creates a strong need of time management solutions within the firm. The factors discussed by the executives are causing senior managers to change many previously established processes such as training programs and time management initiatives. With the adoption of more hands on approaches, supervisors are being required to spend more time with salespeople, causing even more difficulty in time management decision makingⁱⁱ. Though time management is a major concern with salespeople presently, there are few significant solutions for them to use (Krogue 2018). Therefore, strategies that help companies properly allocate the responsibility of knowledge dissemination from solely the responsibility of supervisors to sharing the responsibility amongst colleagues at the same level of the salesperson (peers) are in high demand. In this study, we attempt to address this need.

We discuss the gap in the supervisor and peer literature, in the following section.

Academic Perspective

This study is unique from prior research across multiple dimensions: 1. The effect of sales capability knowledge dissemination from supervisors to salespeople; 2. The effect of sales capability knowledge dissemination from peers to salespeople; 3. Comparing supervisors and peers to identify what specific knowledge is disseminated to the salesperson from which colleague, a peer or supervisor; and 4. Utilizing empirical methods on longitudinal salesperson data. Table 1 provides an overview of the literature that focuses on these aspects.

Table 1: Literature Review

Article	Capabilities		Supervisors	Peers	DV	Data	Key Findings
	Selling	Customer Relat.					
Kohli and Jaworski (1994)	Y	N	N	Y	Salesperson Performance	Survey	Different peer feedback impacts salesperson performance at different levels.
Challagalla and Shervani (1996)	Y	N	Y	N	Salesperson Performance	Survey	Supervisors enhance performance.
Rich (1997)	Y	N	Y	N	Salesperson Performance	Survey	Supervisor role modeling affects salesperson performance due to trust.
Higgins and Kram (2001)	N	N	Y	Y	Network Strength	Conceptual	Using mentoring to develop strong networks.
Ahearne, M., Srinivasan, N, & Weinstein, L., (2004)	Y	Y	N	N	Salesperson Performance	Survey	Relationship between CRM technology usage and a salesperson's performance.
Valentine (2009)	N	N	Y	Y	Job Satisfaction	Survey	Supervisors and peers influence a salesperson's ethical behavior.
Lam et al. (2010)	N	N	Y	Y	Market Orientation	Survey	Peers and middle managers influence the market-orientation of frontline employees.
Tan & Netessine (2015)	Y	N	N	Y	Sales Capabilities	Longitudinal Data	Peers impact a salesperson's selling capabilities.
Hayati, B., et al. (2017)	N	N	Y	Y	Sales Group's Performance	Survey	Salesperson behavior affects the feedback of peers & supervisors
This Study	Y	Y	Y	Y	Salesperson Performance	Longitudinal Data	Supervisors and Peers uniquely affect a salesperson's capabilities.

Two of the main determinants of salesperson performance are skills and organizational environment factors (Churchill Jr et al. 1985). A salesperson's colleagues affect their work environment in multiple ways, such performance (Kohli and Jaworski 1994; Rich 1997), and capabilities (Tan and Netessine 2015). A broader range of network relationships (supervisors and peers) allows a salesperson to be more successful because of the greater access to experience and resources (Husain, Dayan, and Di Benedetto 2016; Ibarra 1993; Macintosh and Krush 2017). The multiple individuals that effect a salesperson are called 'relationship constellations' (Baugh and Scandura 1999; Higgins and Kram 2001; Higgins and Thomas 2001). Good relationship

constellations create value at higher levels than the sum of their individual parts (Tan and Netessine 2015; Wang, Gupta, and Grewal 2017). This is because personal learning increases as a person's range of colleagues increases (Higgins and Kram 2001), as can be seen beyond the individual to the firm level (Wuyts and Dutta 2014). A salesperson's selling capabilities is learned from experience and influenced by colleagues (Ahearne, Srinivasan, and Weinstein 2004; Challagalla and Shervani 1996; Rich 1997).

Our aim of this research is to empirically test a strategy that allows a supervisor and peer to influence a salesperson based on specific skills to reduce time spent on training, etc. rather than everyone teaching everything.

Conceptual Framework

Theory Background

For salespeople to have the flexibility, innovativeness, and new insights required for learning to disseminate from their supervisors and peers to themselves, there must be a learning environment (Chonko et al. 2002; Fiol and Lyles 1985). The best collaboration within a network creates opportunities for knowledge sharing and creativity (Argote and Epple 1990; Uzzi and Spiro 2005), plus reinforces personal goals (Katzenbach and Smith 2015; Tan and Netessine 2015). However, organizations have learning systems that only exist as employees transmit norms and histories amongst themselves (Fiol and Lyles 1985; Lawrence and Dyer 1983). Therefore, the overarching theories we utilize in this study is the organization learning theory and social network theory.

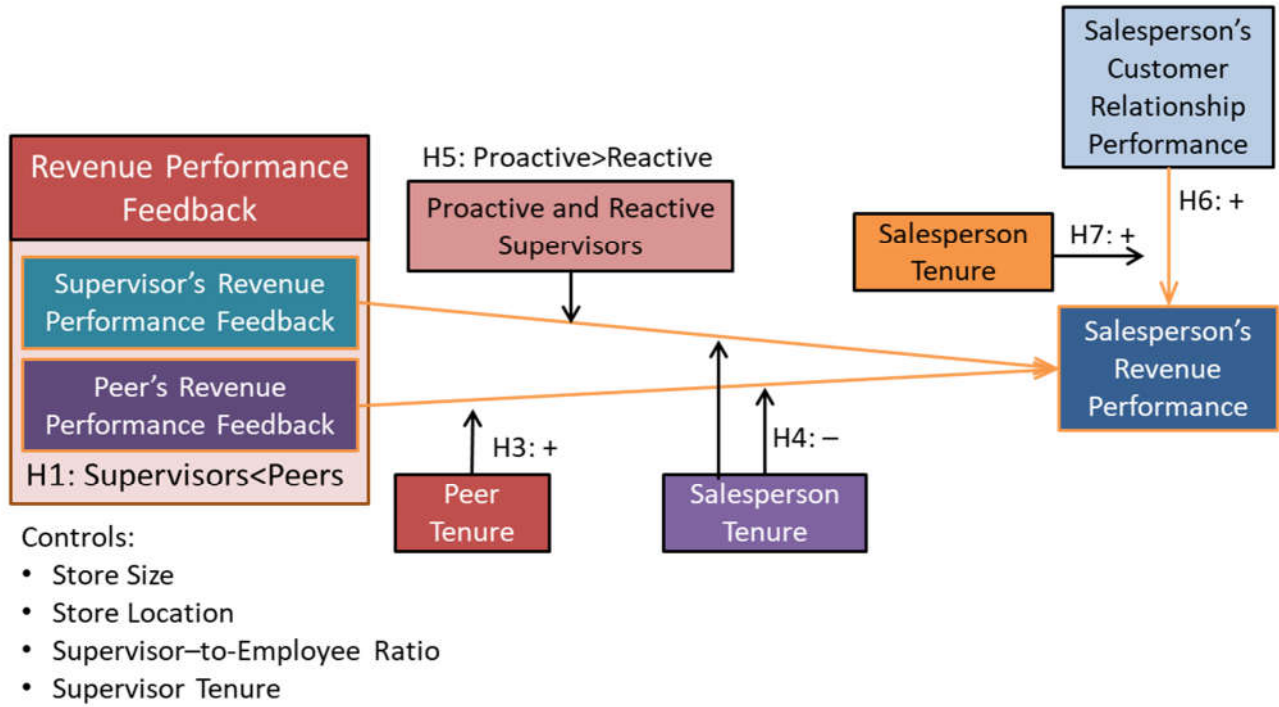
Theorists define learning as new insights or knowledge (Argyris and Schon 1978), or new structures (Chandler 1962) that help improve the future (Fiol and Lyles 1985). Salesperson learning is increased by organizational learning (Bell, Mengüç, and Widing 2010). Salesperson learning is defined as a salesperson improving his/her job-related skills and knowledge by

engaging in activities and attempting to understand his/her work environment (Bell, Mengüç, and Widing 2010). Organizational learning builds an environment within a firm that enhances understanding and interpretation of information in order to increase decisions regarding strategies (Daft and Weick 1984; Donaldson and Lorsch 1983; Fiol and Lyles 1985; Jayachandran et al. 2005; Katzenbach and Smith 2015; Starbuck, Greve, and Hedberg 1978), allowing a salesperson to be more adaptable (Day 2011). This type of environment enhances firm performance (Vorhies, Orr, and Bush 2011). As individuals create and analyze situations at the firm, that knowledge will not assimilate to higher levels without a culture and climate of sharing and learning (Bell, Mengüç, and Widing 2010). Combining employees at different levels can increase both organizational and individual learning (Ingram et al. 2005; Katzenbach and Smith 2015). One could argue that a supervisor is assigned, thus implying interaction between supervisors and salespeople, whereas a peer is not. However, salespeople that work within the same location (Peers) could have similar ways of thinking, which naturally increases interactions (Alderfer and Brown 1972; Ibarra 1993).

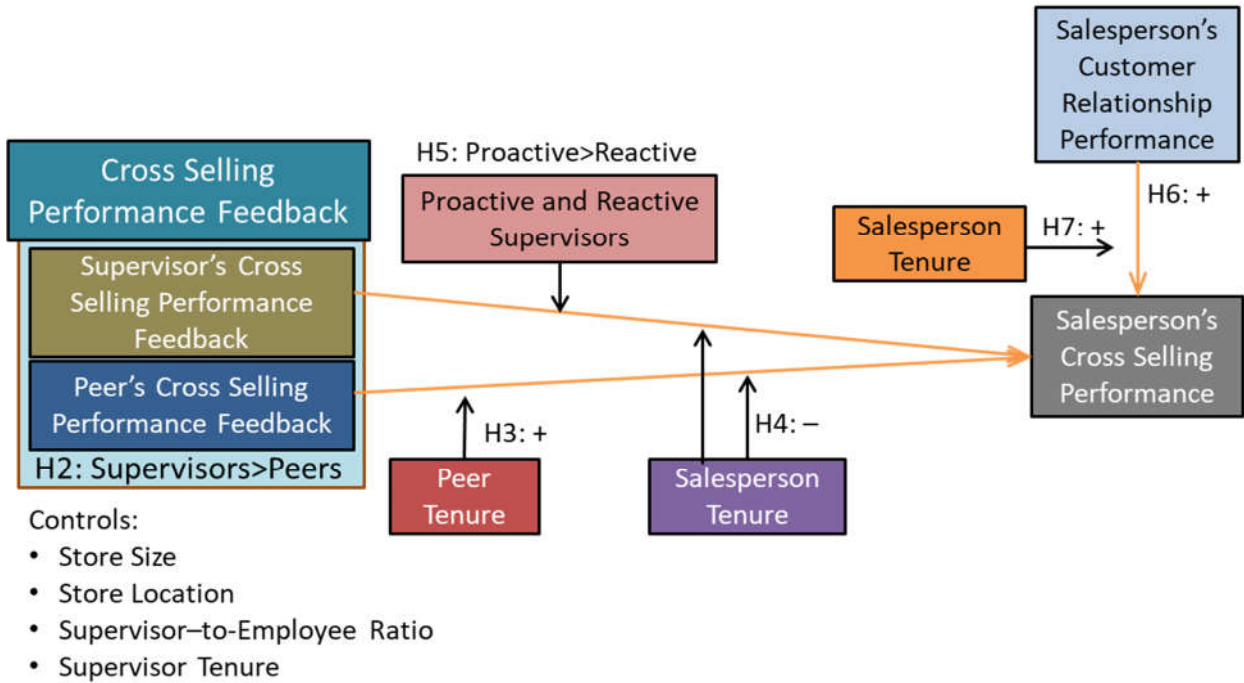
Only recently have researchers tried to uncover the long term organizational benefits stemming from individual salesperson learning (Bell, Mengüç, and Widing 2010). Therefore, in addition to our research questions, we aim at expanding the literary knowledge of the relationship between organizational learning and salesperson learning by empirically testing how the assimilation of knowledge between supervisors, peers, and junior salespeople can enhance performance at the individual level. In Figure 1, we present the conceptual framework detailing the affect supervisors and peers have on junior salespeople. In the next section, we break down the conceptual framework and discuss our hypotheses.

Figure 1: Conceptual Framework

Revenue Performance:



Cross Selling Performance:



Performance

Salesperson performance is a measure of a salesperson's skills regarding either the dollar amount of products and services sold, or the number of products and services sold within one transaction. We hypothesize two main relationships and three moderating relationships regarding the influence of supervisors and peers on a salesperson's performance.

Revenue Performance. The people we interact with the most at work are those that also influence us the most. The size of a salesperson's network positively influences success (Hetty van Emmerik 2004; Janssen, Van Vuuren, and De Jong 2016). Due to the nature of the sales role being filled with uncertainty, salespeople look to established methods for direction (Courpasson, Golsorkhi, and Sallaz 2012). For example, if a salesperson is presented with a difficult selling situation, they will look to norms within the firm. Norms can be communicated by peers and supervisors within the firm. Therefore, when salespeople are having difficult times, they will turn towards their supervisors or peers for a potential solution. For example, salespeople observe the peer's behavior during a sell, what words were chosen, what strategy was used to close the sell, etc. (Hayati, Atefi, and Ahearne 2017). On the other hand, salespeople look to supervisors for advice and guidance concerning a variety of topics, such as organizational goals (Higgins and Kram 2001). Though learning can stem from anyone with the knowledge and experience of the salesperson's current position (Organization Learning Theory), if senior managers can identify whom within the firm disseminates what knowledge to a salesperson, senior managers can create more accurate strategies regarding time management and training.

Colleagues with 'informal' power can exert a strong influence on junior salespeople (Morrison 1993; Yukl and Falbe 1991).ⁱⁱⁱ Even if the relationship is more strategic than personal, salespeople are still able to benefit from the relationship (Sparrowe and Liden 2005). For example, peers create access to opportunities, valuable information, and resources that help

enhance a salesperson's skills (Ibarra and Andrews 1993; Sparrowe and Liden 2005). Salespeople should leverage their peer relationships to not only gain these resources, but also overcome obstacles and gain situational knowledge (Hayati, Atefi, and Ahearne 2017). Peer relationships within an office can disseminate knowledge at levels similar to mentors (Higgins and Kram 2001; Kram and Isabella 1985). Stemming from organization learning theory, a salesperson can learn an immense amount of information from their peers, especially regarding best practices and strategies to be successful at the entry-level jobs (Argyris and Schon 1978; Chonko et al. 2003), which enhances the salesperson's performance (Wang and Netemeyer 2002). Because supervisors and peers are conceptually distinct (Chao 1998), researchers should examine both simultaneously to understand the overarching effect they have on salespeople (Pullins, Fine, and Warren 1996).

Typically, a person is given a supervisory role when they have demonstrated their ability to not only complete the tasks given to salespeople, but also are able to take on more responsibility (Prossack 2018). Stemming from social network theory, the supervisor is tasked with the responsibility to transfer both their experience as well as organization-level information, such as culture and organizational goals, to the salespeople that directly report to them (Higgins and Kram 2001). Because of this birds-eye-view approach supervisors are naturally supposed to have with their subordinates, there is less opportunity to demonstrate typical sales tactics to directly improve revenue.

Thus, our hypothesis is:

H1: A peer's revenue performance will influence a salesperson's revenue performance at a greater level than a supervisor's revenue performance.

Cross Selling Performance. Cross selling performance is a measure of a salesperson's skills regarding the number of different types of products and services sold (Schmitz, Lee, and Lilien 2014) (Cross selling is also referred to as "crossbuying"; see Ngobo 2004). Up to 75% of cross-selling situations are unsuccessful (Schmitz, Lee, and Lilien 2014), never-the-less attempting to cross sell 4 or more items in a single transaction. This requires very specific skills and experience. Cross selling efforts not only reduces switching costs and increases revenue, but also increases the firm's share of wallet from the customer and enhances the customer's buying convenience (Kumar, George, and Pancras 2008; Schmitz 2013). Thus, cross selling initiatives help create a 'local monopoly' for the firm, causing cross selling initiatives to be a priority for both salespeople and supervisors. Cross selling plays an important role for the overall success of the firm, therefore should be carefully monitored by supervisors and senior managers.

To have a successful cross selling strategy, there are a few key concerns supervisors must account for: First, salespeople must be motivated to sell beyond proven successful product sells; second, salespeople are most inclined to resist cross selling; and finally, salespeople resist gaining knowledge about the variety of solutions a firm has for their customers (Duclos, Luzardo, and Mirza 2007; Schmitz 2013; Wieseke, Homburg, and Lee 2008). This is where a supervisor will play a significant role. Previous research has shown that a supervisor's adoption of new technology strongly affects a salesperson's adoption (Homburg, Wieseke, and Kuehnl 2010). This can be paralleled to the learning salespeople have from their supervisors regarding the different concerns of cross selling, the importance of cross selling, and the proper way to initiate cross selling strategies.

Homburg, Wieseke, and Kuehnl (2010), also find that coworkers (peers) also influence a salesperson's adoption of technology. Paralleling this study to peers, we can assume that cross

selling initiatives also includes opportunities for learning and knowledge dissemination from peers. For example, the strategies that enhance cross selling results that include focusing on the customer's problems first, then solving those problems before breaching the topic of an additional product or service (Kamakura 2008) can be taught through observing a peer performing similar tasks. The salesperson must learn to walk the very fine line when pushing the customer for add-on products or services, as too much can have the opposite effect and reduce the local monopoly benefit (Kamakura 2008), which can be observed from a coworker. If a peer is within a similar cohort, they are more likely to communicate and relate to each other, increasing the probability of knowledge dissemination (Ibarra and Andrews 1993). However, due to the complexity and importance of cross selling strategies, supervisors will have a larger impact on a salesperson than peers.

Thus, our hypothesis is:

H2: A supervisor's cross selling performance will influence a salesperson's cross selling performance at a greater level than a peer's cross selling performance.

Peer Tenure. A diverse network enhances a salesperson's career (Higgins and Kram 2001; Janssen, Van Vuuren, and De Jong 2016), which includes engaging with colleagues at different levels of experience. The structure of the firm can enhance or reduce learning, which means managers must strategically integrate salespeople at different experience levels for success (Organization learning theory) (Fiol and Lyles 1985). Because a supervisor's tenure is already solidified in the title and role of being a supervisor (Cron 1984), we maintain that as a control variable and focus on the impact peer tenure could have on the knowledge dissemination relationship.

There are many reasons tenure can affect the relationship between a peer and salesperson. First, tenure within a firm will indicate a person's status, stemming from the consistent, repeated behavior, demonstrating knowledge, from a more senior salesperson (Social Network Theory) (Ibarra and Andrews 1993). Second, this 'status' leads to perceived access to information of the senior salesperson (Brass 1984). As a junior salesperson has limited job knowledge and information regarding how to perform well, they are more desperate for enhancing their knowledge, increasing the likelihood that they will turn to a more tenured salesperson for it (Baird and Kram 1983; Rapp et al. 2006). Third, (Organization Learning Theory) when a salesperson acquires knowledge and accumulates skills, performance will naturally increase (Fu 2009). Because a salesperson's compensation and job security is focused on performance, he/she is more willing to grow their knowledge and skills. Finally, from the perspective of the peer, past research as suggested that a peer with more tenure, will be more willing to pass knowledge and experience on to a more junior colleague (Pullins, Fine, and Warren 1996). Therefore, our hypothesis is as follows:

H3: As peer tenure increases, the relationship between a peer's revenue and cross selling performance and a salesperson's revenue and cross selling performance will strengthen in a positive direction.

Salesperson Tenure_Performance: A salesperson's experience influences many relationships, such as the effect role conflict has on turnover intentions (Karatepe and Karatepe 2009), the effect empowering leader behaviors has on working hard (Rapp et al. 2006), the supervisor orientation's effect on a salesperson's performance (Kohli, Shervani, and Challagalla 1998), demonstrating the importance of examining the impact a salesperson's experience can have on the knowledge dissemination of a supervisor/peer to a salesperson.

As a salesperson's experience grows, their focus is shifted from social aspects of the job to working harder at their salesperson role (Rapp et al. 2006). A salesperson with experience already possesses an enhanced ability and performance (Fu 2009), thus, they could feel more confident about their abilities reducing their learning initiatives. Past research has supported this relationship, suggesting that more experience salespeople are less responsive to a supervisor's intervention (Kohli 1989; Kohli, Shervani, and Challagalla 1998). Thus, our hypothesis is:

H4: As a salesperson's tenure increases, the relationship between a supervisor's [peer's] performance and the salesperson's performance is weakened.

Leadership Style. The style of leadership a supervisor uses can influence the amount of knowledge that is disseminated from a supervisor to a salesperson (Vera and Crossan 2004). Previous research has addressed the relationship between a supervisor's behavior and a salesperson's performance (Hampton, Dubinsky, and Skinner 1986; Kohli 1989; Walker, Churchill, and Ford 1977). Proactive versus reactive strategies have been studied across many domains (Education: (Clunies-Ross, Little, and Kienhuis 2008); Stakeholder Management: (Buysse and Verbeke 2003); Key Account Management: (Brehmer and Rehme 2009), and Response Ability (Dove 1999), to name a few.) In general, when a supervisor utilizes a more proactive approach to leadership, they are allowing their sales team to be agile and move towards a constant improvement mindset (MacKenzie, Podsakoff, and Rich 2001). This leadership style focuses more on long term performance. On the other hand, when a supervisor utilizes a more reactive approach, they are allowing their sales team to accommodate customer preferences, and focus more on the short term, correcting minor issues, state of mind. Therefore, our hypothesis is as follows:

H5: As a supervisor utilizes more of a proactive leadership style, performance is improved at a greater rate than utilizing a reactive leadership style.

Customer Satisfaction. There is a significant and direct relationship between a firm's customer relationship skills and business performance (Ramani and Kumar 2008; Wang and Feng 2012). The most successful salespeople are able to balance both quality relationships and high closing rates (Tan and Netessine 2015). Customer-to-salesperson relationships help generate commitment and trust from the customer (Jayachandran et al. 2005). Commitment and trust coupled with increased satisfaction, enhances a salesperson's success in selling initiatives (Reynolds and Arnold 2000), which leads to improved performance outcomes (Rapp et al. 2006). Thus, our hypothesis is:

H6: As a salesperson's customer satisfaction performance improves, revenue performance also improve.

Salesperson Tenure_Customer Satisfaction: As previously mentioned, a salesperson's experience can impact a salesperson's career in many domains. For example, a salesperson with low levels of experience are impacted by empowering strategies, whereas high levels of experience have no benefit (Rapp et al. 2006). Stemming from organizational learning theory, as a salesperson's experience grows, their ability to adapt to circumstances and improve upon them (Fiol and Lyles 1985) enhances their ability to understand their customers (Davenport, Harris, and Kohli 2001). This higher experience would allow salespeople to enhance their customer's satisfaction at a higher level than salespeople at lower experience levels. Therefore, our hypothesis is as follows:

H7: As a salesperson's tenure increases, the relationship between a salesperson's customer satisfaction performance and revenue performance is strengthened.

Methodology

Data

Our data is from a telecommunications service provider, on the Fortune 500 list, that sells in the business-to-consumer retail context. A salesperson and supervisor have job responsibilities that require one-on-one interactions consisting of selling multiple products and services, as well as troubleshooting. In a sample of 3,618 salespeople and 1,911 supervisors, we observe each individual's sales revenue and customer satisfaction scores for 15 months, ranging between January 2010 and March 2011, across 926 store locations. Salespeople are recruited by the firm with similar profiles, such as education and experience. These two factors from the firm allow us to rule out any systematic differences across salespeople, at any level, which reduces potential confounds from systematic differences (Sunder et al. 2017). We control for several factors to allow us to effectively test our hypotheses, such as regional store location, store size, the number of supervisors to salespeople within a single location, supervisor tenure, and time specific variables (quarters and seasonality). Peers and supervisors are included at the same time period (t-1), as we are considering peers and supervisors to be a salesperson's developmental network rather than a sequence of developmental relationships (Baugh and Scandura 1999; Ragins and Cotton 1999; Whitley and Coetsier 1993). Finally, to capture a supervisor's leadership style, the firm distributed a survey at the end of the last period in our dataset to the salesforce to understand their perceptions about their salespeople. One of those questions captures a proactive supervisor's leadership style (Rank et al. 2007), "My direct manager makes good decisions in a reasonable amount of time." The firm collected the data from each salesperson independently (results were not shared with anyone beyond senior managers).

In Table 2, we describe the operationalization of the variables used in this study. In Table 3, to give insight into the full dataset, we present the basic statistics of our variables across all

salespeople. Revenue performance is captured by taking the sum of sales (measured in \$ revenue) across all products and services potentially sold. The revenue performance variable ranges from 0 to \$7731.50, in a given timer period (months), with an average of \$762.66. A salesperson's performance revenue can have a zero value for a few reasons. Some salespeople have zero performance measures for certain time periods due to the salesperson's returns and sales sum to zero, or the salesperson did not have sales for that time period (training, sabbatical, etc.). Performance variables are calculated the same way across junior salespeople, peers, and supervisors. In order to capture a salesperson's ability to cross sell, we applied a basic count formula. Within a single time period (month), we counted the number of unique products and services sold, with a possibility of 5 total products and services. The count ranges from 0 to 5 items with an average of 2.76 items. The final main variable included in the framework is customer satisfaction. It is measured from a survey distributed to a salesperson's customers regarding their interaction and experience within the store. Specifically, customers were asked, "Overall, how satisfied were you with your experience in the Spring Store you visited?"; "How satisfied were you with the store personnel that helped you during your store visit?"; "How satisfied were you with the personnel's knowledge about your need or issue?"; and "How satisfied were you with how hard the personnel tried to recommend a solution?" Within a given time period, the customer responses regarding the focal salesperson were then aggregated. The customer satisfaction variable ranges from 1 to 5 items with an average score of 4.60.

Table 2: Variable Operationalization

Variable	Operationalization	Adopted From
Salesperson Revenue Perf (t)	The log of the summation of a salesperson's sales performance (\$ Revenue) for the given month across products and services offered by the firm.	Pettijohn et al. (2007)
Salesperson Cross Selling Perf (t)	The summation of the number of products or services a salesperson sold in a given month (Up to 5).	Schmitz (2013)
Salesperson Customer Satisfaction (t)	This is the average of all customer satisfaction surveys for the salesperson for the given month. Each customer rates the salesperson by answering the questions, "Overall, how satisfied were you with your experience in the [Firm Name] Store that you visited (1 = very dissatisfied to 5 = very satisfied)." "How satisfied were you with the store personnel that helped you during your store visit?" "How satisfied were you with the personnel's knowledge about your need or issue?" "How satisfied were you with how hard the personnel tried to recommend a solution?" The following questions are aggregated to make a single Customer Satisfaction variable.	
Tenure	Number of days the person has worked at the firm.	
Supervisor Revenue Perf (t-1)	Average monthly sales performance (\$ Revenue) of supervisors, sold in a given month for the same location as the junior salesperson.	
Supervisor Cross Selling Perf (t-1)	Average monthly number of products or services (Up to 5) that supervisors sold in a given month, for the same location as the junior salesperson.	
Supervisor Tenure	Average number of days the supervisors have worked at the firm in the same location as the junior salesperson.	
Peer Revenue Perf (t-1)	Average monthly sales performance (\$ Revenue) of peers, sold in a given month for the same location as the junior salesperson.	
Peer Cross Selling Perf (t-1)	Average monthly number of products or services (Up to 5) that peers sold in a given month, for the same location as the junior salesperson.	
Peer Tenure	Average monthly number of days the peers have worked at the firm within the same location as the junior salesperson.	
Supervisor-to-Salesperson Ratio	Number of supervisors within a store compared to the number of non-supervising salespeople for the given month.	

Table 3: Descriptive Statistics

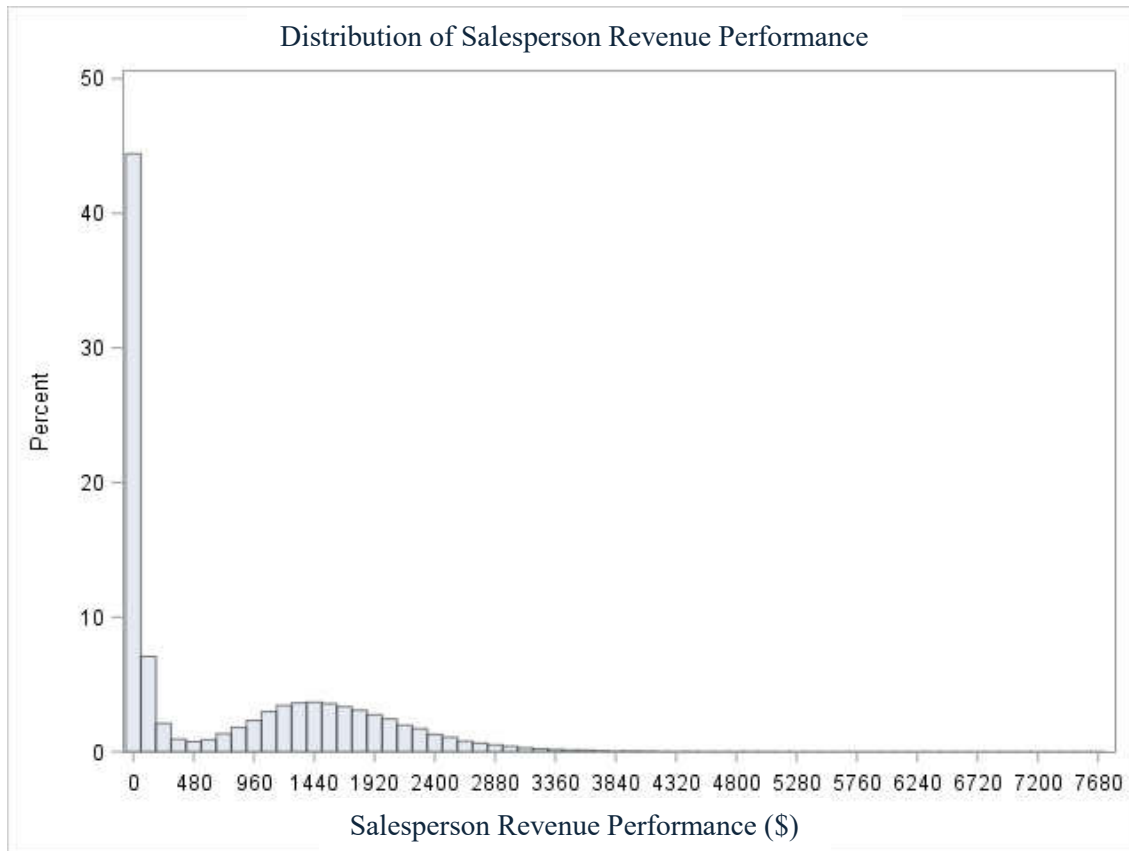
Descriptive Statistics			Pearson Correlation Coefficients			
Variable	Mean	Std Dev	Revenue Performance	Cross Selling Performance	Customer Satisfaction	Tenure
Revenue Performance	762.66	908.66	1			
Cross Selling Performance	2.76	2.31	0.80*	1		
Customer Satisfaction	4.60	0.42	0.08*	0.10*	1	
Tenure	1181	1117	-0.10*	-0.02*	-0.03*	1

Note: *Significance $p < .05$

Model

Tobit Model. Due to the censoring issue in the salesperson's revenue performance variable, we utilize a Tobit model to test our hypotheses. Within our dataset, a salesperson is not guaranteed to have a sale when a peer or supervisor has sold. For example, as previously mentioned, a salesperson could have sales and returns that sum to zero, or the salesperson didn't have a sale when a peer, at t-1, has a sale. Therefore, we have a left-censoring problem (See Figure 2). To address this issue, we must adopt a Type I Tobit model approach to the framework, which is commonly used to model right censored data^{iv}.

Figure 2: Salesperson Revenue Performance Distribution



Our first model, the Tobit model, is denoted by:

*Salesperson Revenue Perf_{it}**

$$\begin{aligned}
 &= \beta_0 + \beta_1 \text{Supervisor Revenue Perf}_{it} + \beta_2 \text{Peer Revenue Perf}_{it} \\
 &+ \beta_3 \text{Salesperson Customer Satisfaction}_{it} \\
 &+ \beta_4 \text{Salesperson Tenure_Supervisor Revenue Perf}_{it} \\
 &+ \beta_5 \text{Salesperson Tenure_Peer Revenue Perf}_{it} \\
 &+ \beta_6 \text{Peer Tenure_Peer Perf}_{it} \\
 &+ \beta_7 \text{Proactive Leadership_Supervisor Revenue Performance}_{it} \\
 &+ \beta_8 \text{Supervisor Tenure_Salesperson customer Satisfaction}_{it} \\
 &+ \beta_9 \dots \beta_{10} \text{Tenure}_{it} + \beta_{11} \text{Proactive}_{it} + \beta_{12} \dots \beta_{22} \text{Control Variables}_{it} + e_i
 \end{aligned}$$

$$\text{Salesperson Revenue Perf}_{it} \begin{cases} \text{Salesperson Revenue Perf}_{it}^* & \text{if Salesperson Revenue Perf}_{it}^* > 0 \\ 0 & \text{if Salesperson Revenue Perf}_{it}^* \leq 0 \end{cases}$$

where,

$e_i \sim iidN(0, \sigma^2)$,

*Salesperson Revenue Perf_{it}** = the index variable,

Salesperson Revenue Perf_{it} = salesperson i's revenue performance,

0 = the censoring point for the salesperson, and

β = the parameters to be estimated.

Following Amemiya (1984), we specify the likelihood function of the Standard Tobit model as follows:

$$L_i = \prod_0 \left[1 - \Phi \left(\frac{x_i' \beta}{\sigma} \right) \right] \prod_1 \sigma^{-1} \phi \left[(y_i - x_i' \beta) / \sigma \right],$$

where,

L_i = the likelihood function for salesperson I,

y_i = salesperson i's revenue performance,

x_i = vector of covariates affecting the salesperson's revenue performance,

β = the parameters to be estimated,

Φ = the distribution function, and

ϕ = the density function of the standard normal variable.

Negative Binomial Model. As mentioned previously, our cross selling performance variable is a count of the number of products and services a salesperson sold within a single time period. This is similar to data regarding the number of patents used, cross-buying situations, and the number of accidents in the country (Kumar, George, and Pancras 2008). The cross selling performance is organized in a counting process, with each cross selling performance observation corresponding to a particular salesperson and unique time period. Therefore, when identifying the appropriate statistical model to capture our cross selling performance relationships, we must utilize a negative binomial regression¹ (NBD) model. The negative binomial model is a derivative of the Poisson model, with the addition of an independently distributed error term (Poch and Mannering 1996). This allows the mean to differ from the variance of the model, as denoted by:

$$\begin{aligned} & \text{var}(\text{Number of the Salesperson's Cross Sold Products and Services}_i) \\ &= E(\text{Number of the Salesperson's Cross Sold Products and Services}_i)[1 \\ &+ \alpha E(\text{Number of the Salesperson's Cross Sold Products and Services}_i)] \end{aligned}$$

where,
i = individual salesperson, and
 α = the variance of the distributed error term.

Thus, the negative binomial model to analyze the Salesperson's Cross Selling Performance is denoted by:

¹ Typically, data does not abide by the restriction of equidispersion, due to issues such as unobserved heterogeneity. Thus, we utilize the Negative Binomial Regression model instead of the Poisson regression model to analyze the cross selling performance model (Cameron and Trivedi 2013; Kumar and Petersen 2012).

Salesperson Cross Sell Perf_{it}

$$\begin{aligned} &= \beta_0 + \beta_1 \text{Supervisor Cross Sell Perf}_{it} + \beta_2 \text{Peer Cross Sell Perf}_{it} \\ &+ \beta_3 \text{Salesperson Customer Satisfaction}_{it} \\ &+ \beta_4 \text{Salesperson Tenure_Supervisor Cross Sell Perf}_{it} \\ &+ \beta_5 \text{Salesperson Tenure_Peer Cross Sell Perf}_{it} \\ &+ \beta_6 \text{Peer Tenure_Peer Perf}_{it} \\ &+ \beta_7 \text{Proactive Leadership_Supervisor Cross Sell Performance}_{it} \\ &+ \beta_8 \text{Supervisor Tenure_Salesperson customer Satisfaction}_{it} \\ &+ \beta_9 \dots \beta_{10} \text{Tenure}_{it} + \beta_{11} \text{Proactive}_{it} + \beta_{12} \dots \beta_{22} \text{Control Variables}_{it} + u_i \end{aligned}$$

where,

$u_i \sim N(0, \sigma^2)$,

k = the overdispersion parameter in the model,

Salesperson Cross Sell Perf_{it} = salesperson i's cross selling performance,

β = the parameters to be estimated,

i = individual salesperson, and

t = time period.

Due to the random effects correction (to be discussed in the next section), it is important to note that the dependent variable, *Salesperson Cross Sell Perf_{it}* is conditional on the latent variable ζ_{ij} , which has a Poisson distribution. This latent variable is conditional on the random effects u_j , and has a Gamma distribution, mean r_{ij} and variable p_{ij} (where, i represents individual salespeople and j represents different clusters from the random effects). The variables r_{ij} and p_{ij} represent the mean-overdispersion parameterization, and constant-overdispersion parameterizations, respectively, stemming from the inclusion of random effects in the NBD. The variable u_j is distributed normally with a mean of 0 and variance of Σ ("Mengreg" n.d.).

Key Model Issues and Corrections. Two modeling issues that arise owing to the nature of this framework. Due to the relationships within this model, between a salesperson and his/her peers and supervisors^v, we must first account for a potential simultaneity issue due to the reflection problem. The identification issue we must first address is the need to separate causal effects from correlations across salespeople. Due to the knowledge of the composition of the supervisor to salesperson and supervisors to peers, there is less potential of an inference bias stemming from supervisors (Manski 1993). However, we still need to correct for the potential simultaneity issue that can be seen in the form of endogeneity in group formation among salespeople and their peers (Hartmann et al. 2008; Nair, Manchanda, and Bhatia 2010; Sunder et al. 2017).

There are two ways to address this issue, as suggested by literature. First, we can utilize the temporal ordering between the independent and dependent variables. Specifically, the peer's revenue performance and cross selling performance variables at time $t-1$, influences the salesperson's revenue performance and cross selling performance variables, at time t (Manchanda, Xie, and Youn 2008; Sunder et al. 2017), and this is not reversible. Yet, we are trying to capture the dissemination of knowledge between peers and salespeople. Some of this communication can be informal in nature or stem from colleagues within the firm, which is not observable and could influence the salesperson's revenue performance and cross selling performance variables. Thus, temporal ordering is not enough to capture the simultaneity issue, so we must also adopt an instrumental variable approach to address the endogeneity that might arise.

Omitted variables can arise, as managers could be placing pressure on specific salespeople through feedback and goals during one-on-one meetings that could change how that salesperson's peers, thus influencing the salesperson. Due to this endogeneity problem, we must

utilize the instrument variable correction to our model. The basic model to find instrument variables that satisfy the exclusion and relevance criteria (Miller and Tucker 2009; Nair, Manchanda, and Bhatia 2010; Sunder et al. 2017). To verify the right instrument(s) for our models, we turn to previous literature, as well as policies within our dataset's firm that could affect a salesperson's performance. Our first instrument we utilize exploits a firm policy that allows us to instrument revenue performance goal achievement in our model. The firm will disclose a salesperson's quarterly performance, but will not disclose the salesperson's goal achievement to reduce the concern of fairness. Therefore, the focal salesperson does not observe peer goal achievement, causing the focal salesperson's revenue performance to be uncorrelated with peer goal achievement. Similar to Sunder et al. (2017), we then averaged the goal achievement variable across peers within the same location as the focal salesperson to arrive at an aggregated measure, which we used as an instrumental variable.

Therefore, our first instrument equation, corresponding to our Revenue Performance Tobit model is as follows

$$Peer\ Revenue\ Perf_i = \pi_0 + \pi_1 Peer\ Revenue\ Perf\ Goal_i + \pi_2 \dots \pi_{10} Control\ Variables_i + \gamma_i$$

where,
 π = the parameters to be estimated,
 γ_i = the residual from the instrument variable
 i = individual salesperson, and
 t = time period.

We then capture the residual from the instrument model, and place it into the main Tobit model.

The second set of instruments we utilize for cross selling performance are different than revenue performance, given the different nature of cross selling strategies rather than the typical

increasing revenue-focused strategies. First, instead of goal achievement as an instrument, we utilize a peer's goals. As previously stated, goals are not disclosed amongst salespeople due to the potential for a sense of unfairness. Since, a salesperson can have varying sales skills selling specific products or services, senior managers may assign goals that capture the most potential of their salesperson. Further, the peer wants their firm to succeed to increase job security and compensation, so even though they are focused on specific products and services, someone else needs to keep up cross selling initiatives. This is especially true if the salesperson is focused on long-term profit items, a colleague must balance with selling short-term profit items. For example, in telecommunications, firms make the most profit off of selling accessories and warranties. If a salesperson is the strongest at persuading customers to transfer from their current cellular service provider to the focal firm's service (which has more long term effects), their time is best spent convincing as many customers as possible to switch providers. They would be wasting the firm's revenue potential if they spent their time selling accessories over converting more people. Teammates would then need to pick up the pace on selling accessories and warranties to help short-term profits. Thus, they count on their colleagues to sell the remaining products and services to increase overall firm profit.

As previously mentioned regarding capturing a salesperson's opinion on leadership style, to capture how the firm's salesforce feels about working with their focal team, the firm distributed a survey, and collected data from each salesperson independently (results were not shared with anyone beyond senior managers). Thus, the results of the level of agreement on a salesperson's enjoyment of working with a team will be highly correlated with the peer and uncorrelated with the focal salesperson. The survey was distributed to the salespeople at the end of the last period within our dataset. The instrumental correction for the negative binomial model is as follows:

Peer Cross Selling Perf_i

$$\begin{aligned} &= \pi_0 + \pi_1 \text{Peer Cross Selling Perf Goal}_i \\ &+ \pi_2 \text{Peer's Enjoyment of Working with Team}_i \\ &+ \pi_3 \dots \pi_{11} \text{Control Variables}_i + v_i \end{aligned}$$

where,

π = the parameters to be estimated,

v_i = the residual from the instrument variable,

i = individual salesperson, and

t = time period.

To check the instrument variables exclusion restriction and relevance criterion, we correlate the instruments with the salesperson's and peer's revenue performance. The instruments are highly correlated with the peer's revenue [cross selling] performance (Relevance Criterion) and weakly correlated ($p < .1$ (Sunder et al. 2017)) with the salesperson's revenue [cross selling] performance (Exclusion Restriction).

The second key issue that must be addressed is the observed and unobserved heterogeneity across specific stores. We account for the observed heterogeneity by using the size of the store location (Eisenberger et al. 2002; Sunder et al. 2017), the ratio of supervisors-to-salespeople (Tremblay, Cote, and Balkin 2003), the average tenure among supervisors within the salesperson's specific store location (Eisenberger et al. 2002), and the regional location of the store (Sunder et al. 2017). As this is a B2C firm, to account for any potential bias regarding seasonality we include a seasonality variable identifying the holiday season, as well as quarterly identification variables.

Regarding the unobserved heterogeneity correction in the revenue performance model, we include a random coefficient component that captures the variation of both the individual salesperson, as well as the individual store locations (also known as random effects). Parameter

heterogeneity across store locations and salespeople can be modeled as stochastic variation (Kumar, George, and Pancras 2008). This means that instead of constant β 's for all store locations and salespeople, a store location and salesperson-specific β_{si} is assumed for each salesperson and each store location in the revenue performance model. Therefore, for the revenue performance model we can write

$$Y_{si} = X_{si}\beta_{si} + e_{si}, \quad si = 1,2,\dots, H$$

where

$$\beta_{si} = \beta + u_{si}$$

Each β_{si} is assumed to be a random draw from a distribution with mean β and variance Σ . To not restrict the sign of any coefficient, we specify a normal distribution for β_{si} .

$$\beta_{si} \sim N(\beta, \Sigma).$$

Turing our attention to the cross selling model, when considering patterns regarding selling multiple products and services in an individual transaction, consistency of products and services being readily available within the same store would affect our results. Though we control for that by including regional variables as control variables, it is possible that some stores are more prone to not having consistent inventory of certain products, selling out of some products, or have technical issues, causing a bias amongst salespeople regarding those certain products and services. This can only be captured by correcting this unobserved heterogeneity using a store identifying random coefficient within the negative binomial model. This allows for the variation in the coefficients concerning individual store locations, so we add a store location-specific β_s , in the cross selling performance model, as follows

$$Y_s = X_s\beta_s + e_s, \quad s = 1,2,\dots, H$$

where

$$\beta_s = \beta + u_s$$

Similar to the revenue performance model, each β_s is assumed to be a random draw from a distribution with mean β and variance Σ . To not restrict the sign of any coefficient, we specify a normal distribution for β_s .

$$\beta_s \sim N(\beta, \Sigma).$$

Results

To determine which model best fits the data, we analyzed the Akaike information criteria (AIC; Akaike 1973), and Bayesian information criteria (BIC; Schwarz 1978) (Hoef and Boveng 2007; Thomas 2001) (See Table 4). We are able to compare models because we estimate them using likelihood-based methods. Our first model, regarding revenue performance, removes the heterogeneity correction at the individual salesperson level. Second, within the same revenue performance model, we remove the heterogeneity at the store level. Third, we remove all heterogeneity in the revenue performance model. Fourth, regarding the cross selling performance model, we remove the store-level heterogeneity. These models can be seen in Table 4. In the revenue performance models, we can see that the focal model is superior for all variations except when we remove the store-level heterogeneity. However, the AIC and BIC scores are a slight difference of only 2 points. Theoretically, we support utilizing the focal model over a model that does not have a store-level heterogeneity correction. This is because we might not be able to correct for decision making differences that stores make or the patterns we might see in buying behavior that we feel must be addressed. For example, a store location at a college town will have different issues than a store location at a wealthier part of a metropolis. In the cross selling performance models, we can see that the focal model is superior to a model without heterogeneity.

Table 4: Model Comparison

	Revenue Performance				Cross Selling Performance	
	Focal Model	No Salesperson Heterogeneity	No Store-Level Heterogeneity	No Heterogeneity	Focal Model	No Heterogeneity
AIC	31280.3	39310.31	31278.3	41677.21	174514.7	184008.7
BIC	31496.08	39518.38	31486.37	41877.58	174722.6	184207.9

Findings From Both Model Estimations. We display our model results in tables 5 and 6. In the first hypothesis, we propose that a peer's revenue performance will influence a salesperson's revenue performance at a greater level than a supervisor's revenue performance. We find that the peer effect is negative and significant ($b = -.001, p < .01$) and the supervisor effect is not significant. Thus, H1 is supported. Hypothesis 2 theorizes that a supervisor's cross selling performance will influence a salesperson's cross selling performance at a greater level than a peer's cross selling performance. Our results show that the supervisor effect is positive and significant ($b = -.03, p < .01$) and the peer effect is negative and significant ($b = -.15, p < .01$). Thus, supporting H2. The results from H1 and H2 supports the notion that knowledge dissemination to a salesperson from a peer is different than from a supervisor. However, there is a clear negative pattern relationship. We must then examine moderating effects to understand these relationships better.

Moderating Effects. Hypothesis three proposes that as a peer's tenure increases, the relationship between a peer's revenue performance and a salesperson's revenue performance strengthens the positive relationship. Our analysis shows that the inclusion of a peer's tenure changes the direction of the main effect, with this moderating relationship being positive and significant ($b = .001, p < .01$). Thus, though our main effect hypothesis is not supported, hypothesis three is supported. When we examine the effect a salesperson's tenure has on the main effects of

our model, we have interesting results. First, regarding hypothesis 4 that hypothesizes that as a salesperson's tenure increases, the relationships between peer's and salespersons and supervisor's and salesperson's revenue performance are weakened. First, the effect peer revenue performance has on a salesperson's revenue performance is weakened, as the relationship becomes insignificant. Second, the effect supervisor revenue performance has on a salesperson's revenue performance is negative and significant ($b=-.001$, $p<.01$). Thus, the main effect of supervisor revenue performance effecting a salesperson's performance becomes significant when we consider a salesperson's tenure. However this value is negative, which means that our hypothesis is supported because the relationship has a diverging effect (weakens). Therefore, hypothesis 4 is supported. In our model, we wanted to examine the moderating role a supervisor's leadership style has on the relationship between a supervisor's revenue and cross selling performance and a salesperson's revenue and cross selling performance. However, these relationships are insignificant in our results (Hypothesis 5 is not supported). This could be by the way leadership style was captured in the survey.

Finally, a salesperson's performance is effected by his/her ability to satisfy customers, which is the basis of our sixth and seventh hypotheses. Hypothesis six proposes that as a salesperson's customer satisfaction increases, revenue performance will also improve. This is supported, with the relationship being positive and significant ($b=.05$, $p<.01$). Hypothesis seven examines the positive impact a salesperson's tenure has on this relationship. This is not supported, as the relationship becomes insignificant when we take tenure into account. Perhaps this stems from the fact that as junior salespeople become more tenured, they start to push their customers a little harder and become more sales oriented (Saxe and Weitz 1982). However, as they increase their tenure beyond the 'junior' timeframe, we expect this relationship to reverse.

Table 5: Revenue Performance Results - Tobit Model

Variable	Estimate	SE
Customer Satisfaction	.04954***	0.018
Lag Supervisor Rev Perf	-0.0001	0.000
Lag Peer Rev Perf	-0.00007***	0.000
Instrument Residual	.00017***	0.000
Lag Customer Satisfaction_Salesperson Tenure	-.00001	0.000
Lag Peer Rev Perf_Salesperson Tenure	.00000	0.000
Lag Supervisor Rev Perf_Salesperson Tenure	.00000**	0.000
Lag Peer Rev Perf_Peer Tenure	.00000***	0.000
Lag Proactive Leadership Style_Supervisor Rev Perf	.00001	0.000
Lag Proactive Leadership Style	.02590	0.022
Lag Supervisor-to-Salesperson Ratio	-.06318	0.071
Store Size	-.00006***	0.000
Lag Salesperson Tenure	-.00018***	0.000
Lag Peer Tenure	-.00009**	0.000
Lag Supervisor Tenure	.00013***	0.000
Seasonality	.00126	0.018
Quarter 1	-.20107***	0.023
Quarter 2	-.20060***	0.019
Quarter 3	.05892***	0.016
Quarter 4	-.01127	0.018
NE Region	-.29778***	0.073
SE Region	-.11037	0.069
W Region	.31509***	0.085
SW Region	.05635	0.069
Intercept	6.93591***	0.161

Note: Significance *p < .10 **p < .05 ***p < .01

Table 6: Cross Selling Performance Results – Negative Binomial Model

Variable	Estimate	SE
Lag Supervisor Cross Sell Perf	.02674***	0.007
Lag Peer Cross Sell Perf	-0.22305***	0.009
Instrument Residual	.24368***	0.008
Lag Peer Cross Sell Perf_Salesperson Tenure	-.00007***	0.000
Lag Supervisor Cross Sell Perf_Salesperson Tenure	-.00001***	0.000
Lag Peer Cross Sell Perf_Peer Tenure	-.00019***	0.000
Lag Proactive Leadership Style_Supervisor Cross Sell Perf	.00245	0.002
Lag Proactive Leadership Style	-.01076	0.007
Lag Supervisor-to-Salesperson Ratio	-.21042*	0.120
Store Size	-.000013***	0.000
Lag Salesperson Tenure	.00013***	0.020
Lag Peer Tenure	.00044***	0.028
Lag Supervisor Tenure	.00015***	0.022
Seasonality	.27161***	0.019
Quarter 1	-1.21174***	0.020
Quarter 2	-1.12135***	0.057
Quarter 3	-.96448***	0.085
Quarter 4	-.53199***	0.068
NE Region	-.01500	0.000
W Region	-.23800***	0.000
SW Region	-.09264	0.000
Intercept	2.64119***	0.168

Note: Significance *p < .10 **p < .05 ***p < .01

Discussion

Our study has both academic and managerial relevance. The overarching goal of this research is to capture what knowledge dissemination stems from which colleagues in the early stages of a salesperson's career, where learning is the most important. With the considerable concern for time management amongst the sales industry, especially amongst front-line managers (supervisors), creating the most structured and well planned strategies regarding training is more important than ever. Linking time management with training requirements makes us want to answer the following question, "Is there a way to reduce a supervisor's training responsibilities due to knowledge dissemination from a salesperson's peers?" Our key research objectives are: (1) Determine if supervisors and peers have an influence on a salesperson's performance (2) If they do, understand the type of influence each level of colleague has on a salesperson, and (3) Identify ways firms can enhance their network dynamic, mentoring programs, and training programs based on the findings of this study. To address our objectives, we conduct an empirical examination of a telecommunications firm using longitudinal salesperson data. We, next, briefly discuss our key findings from a managerial standpoint, which could impact firm strategies on salesperson interactions and time management.

To address the first two objectives, we breakdown our results and draw some overarching conclusions and managerial suggestions. From our results, we can see that peers and supervisors influence a salesperson's revenue and cross selling performance at different levels. First, as a peer's tenure increases peer revenue performance increases a salesperson's revenue performance. Second, though a supervisor does not have significant direct influence over a salesperson's revenue performance, as the salesperson becomes more experienced within the firm, we can actually see that supervisor's influence decrease regarding revenue performance. This could be due to the salesperson becoming more confident in their sales skills. Therefore, senior managers

should not just assign peers to help assist in revenue performance training, but make sure slightly experienced peers are training on topics regarding revenue performance rather than a salesperson's supervisor.

Next, regarding cross selling performance, we can see that without taking a salesperson's tenure into account, in general, all knowledge dissemination from peers and supervisors to a salesperson decreases cross selling performance. However, as a salesperson's experience grows, just straight performance might not be enough for them to reach their potential. Instead, they will turn to their supervisor to try to understand what strategies should be utilized in regards to targeting certain products or services for increasing firm profit. This would allow the salesperson to increase their reputation with their supervisor to gain a more positive referral for future promotions and raises.

To address our third objective, we suggest a few initiatives and their potential benefits to the firm. Managers utilize training initiatives that range from classroom learning to role play and simulation, with one of the most popular training being an 'on-the-job' initiative. This training tactic was also reported as consistently used in a few of the executive interviews, previously discussed in the Motivation section of this paper. On-the-job learning is basically where a supervisor observes their subordinate and gives feedback after each customer interaction. Though some popular press sources call it 'low cost' what the article is not realizing is the amount of time a supervisor is losing to their own responsibilities (Council 2018). This hands-on approach also stresses a supervisor's already limited time. Some industries rely on outside firms to training their salesforce. However, by utilizing centralized training strategies rather than third-parties, senior managers still retain control on training methods, and have a stronger impact on what the salesperson is learning (Cron, DeCarlo, and Dalrymple 2010). Thus, we turn to

organizational learning theory to assist firms in their training and time management strategies based on our findings.

First, a learning environment creates a ‘willing and able’ atmosphere allowing salespeople to learn from each other (Day 2011; Vorhies, Orr, and Bush 2011). Road blocks cause difficulty in the transfer of knowledge, such as limited resources (Frankwick et al. 1994) or strategic priorities (Ruekert and Walker 1987). Strategies such as mentoring programs and collaboration with peers reduce these road blocks. To create a learning organization, all levels of salespeople, from junior salespeople to managers, need to expand communication (Vera and Crossan 2004). One of the best ways to increase communication is through the creation and utilization of a mentoring program and an environment that supports collegiality. A present trend across firms, due to the demand of younger generations (See Interviews in Motivation Section), are mentoring programs. Mentors help create a learning atmosphere as they assist employees in adapting to change, advance in their careers, etcetera (Higgins and Kram 2001; Kram and Isabella 1985). Social learning theory (Bandura 1977) suggests that both the environment and an individual’s motivation to learn from a social referent will affect the individual’s behavior (Bell, Mengüç, and Widing 2010; Lam, Kraus, and Ahearne 2010). Therefore, it is not just important for the organization to create strategies that reinforce mentoring, but to also monitor each salesperson’s relationships and knowledge, in case the mentor-mentee relationship is weak or not successful. This is where peer-level training can be incorporated. If a salesperson has multiple opportunities to learn from colleagues at many levels, there is a higher chance to learn the knowledge that they need to be successful. As research and popular press have suggested, people need more than just one mentor to reach their full potential (Clark 2016). Therefore, we suggest a multi-tiered mentoring program with mentors from different career stages in the firm. This will allow the firm

to utilize different focuses in the mentoring relationship based on the findings of this research. A peer can focus on overall revenue and supervisors can focus on cross selling and focused selling initiatives, for example, accessories versus warranties, in the case of telecommunications. This will also allow a supervisor to release some mentoring time to other mentees, saving time in a supervisor's workweek.

A second benefit of having multiple points of contact in training and knowledge sharing strategies revolves around the concept of change management. Research shows that people are generally overwhelmed or untrusting of change. Adopting to changes in an organization, like new technology or strategies, can be very difficult to salespeople. The more resistance there is, the more costly it is to a firm's bottom line. Training initiatives that stem from colleagues at the same or similar cohort of the salesperson could help with the adjustment period, as there is a higher level of compatibility (Ibarra and Andrews 1993). If a firm decentralizes the cognitive workload of salespeople, by use of different levels of colleagues, the firm will be allowing for the assimilation of new initiatives (Fiol and Lyles 1985; Galbraith 1973). Thus, the best way to establish change is by creating change management strategies that allow cooperation amongst colleagues in a high-level learning environment (Vorhies, Orr, and Bush 2011).

Limitations and Future Research

One of the limitations of this study is in the basic creation of store-level variables. For example, we utilized a store average of the supervisor and peer-specific variables. Future research should examine one-on-one relationships that include the actual amount of time spent with each supervisor and peer. The reason we feel these variables are sufficient to demonstrate the relationship we are looking for due to the idea of 'relationship constellations', as discussed by Kram (1995) (Baugh and Scandura 1999; Higgins and Kram 2001). Higgins and Kram

(2001), specifically support the notion of examining multiple developmental relationships, simultaneously, and their effect on employees, as was originally proposed by Kram (1985). We also do not know a supervisor's specific workload and workload breakdown. However, in discussions with the focal firm, we can attest to the concern of supervisor time management, as well as needs for a more structured mentoring and training program. Another limitation is if a mentoring relationship forms outside of a formal program, the salesperson's performance results are even stronger (Bozeman and Feeney 2007; Smith, Howard, and Harrington 2005). We do not observe this within our model. However, our endogeneity corrections account for some of the unobserved relationships. Future research should examine the empirical relationship of whether the mentor is formal or informal, as well as the strength of both types of mentoring relationship. Another limitation is the lack of evidence demonstrating how organization and social network learning theories manifest themselves. A potential solution is to conduct an experiment within a firm that has a salesforce. This could help identify process evidence and help build on organization and social network learning theories. Because our model is not a structural approach, we are unable to conduct simulations, which are theoretically grounded, to support our managerial strategy suggestions. Future research could formally investigate this issue. We also want to mention that the data stems from a single firm. Future research could test the proposed framework using data from multiple firms as well as using experiments. The instruments we utilize to correct our endogeneity concern, as mentioned in the Methodology section, may not be perfect in satisfying the exclusion restriction and relevance criterion. Thus, we suggest caution in overstating the causal inference from the study (Sunder et al. 2017). Next, it is important to note that there is little demographic information available for us to control for in our model. The demographics of a person could affect their relationships within the firm. Thus, future research

could breakdown each salesperson's demographics to understand relationship forming, etcetera amongst colleagues of similar or dissimilar demographics. Finally, though we expand the research examining the connection between organizational learning and training programs, as suggested in Chonko et al. (2003), more research is still needed to understand how to keep learning sustainable amongst salespeople throughout their career.

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ⁱ Definition from dictionary.com: <https://www.dictionary.com/browse/capabilities>

ⁱⁱ This concern was discussed at the Atlanta Sales Leadership Community forum.

ⁱⁱⁱ This power can stem from tenure (Pfeffer 1981; Ibarra and Andrews 1993), as will be discussed further in a later section.

^{iv} http://support.sas.com/documentation/cdl/en/etsug/63939/HTML/default/viewer.htm#etsug_qlim_sect035.htm

^v This is also due to the non-experimental nature of the data collection.