THUMB-DRIVEN LEADERSHIP (TDL): AN EXAMINATION OF LEADERSHIP RELIANCE ON THUMB-DRIVEN COMMUNICATION AND THE POTENTIAL DYNAMICS ON THE LEADER–MEMBER EXCHANGE RELATIONSHIP

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A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Philosophy

Capella University

August 2011

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Abstract

The use of mobile handheld technology devices for communications has permeated every facet of social life and is now embedded into the workplace as well. How leadership use of this device as a primary means of communication with members will impact the leader–member exchange (LMX) relationship is explored in this study. The data collected from 337 leaders of a *Fortune 500* company provides evidence that leadership effectiveness in the context of the LMX relationship is ineffectual when it is performed primarily via thumb-driven technology-mediated devices. Leaders must be fully present during interactions with members and must communicate face-to-face with their members in order to build relationships and have effective interactions that lead to organizational success. This study contributes additional understanding to the LMX body of work by combining LMX relationships and communication methodology. While previous studies in LMX have shown that member commitment to the organization hinged on the behavior and effectiveness of the leader, those studies had not considered how the behavior regarding technology-mediated communication style/method employed by the leader entered the commitment equation. This dissertation study revealed that the method used by the leader to communicate with members (face-to-face vs. electronic means) is a major factor in how much effort the member is willing to expend on behalf of the organization, and on the members commitment, loyalty, and decision to stay and/or advance within the organization.

Dedication

This paper is dedicated to my wife. It was my ambition to obtain my PhD; but it was she who had to spend countless hours alone while I sat hunched over the computer in the study. Too many times in the evenings, on weekends and vacation days I said I needed "just a couple more hours" which became late nights that turned into early mornings spent researching, reading articles and writing. Without her acceptance of the time I needed and her continued support and encouragement, I would not have been able to complete the journey. Thank you, Priscilla.

Acknowledgments

My heartfelt thanks go out to several people who helped me along the way:

- My mother and father, who imparted the importance of education and the value of independent thought in all of their children. They taught us that knowledge is an investment we make in ourselves to expand the range of choices available.
- My friend, Jim Davis, who encouraged me to begin the doctoral journey and continually checked in with me along the way.
- My mentor, John Cornish, a disciplined patrician leader composed of humility and strong resolve. John asked questions and prodded me, offering perceptive advice, guidance and insight to keep me thinking.

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CHAPTER 1. INTRODUCTION

Thumb-driven leadership (TDL) is a relatively new phenomenon that has come about due to the juxtaposition of computer-mediated communication (CMC) and handheld technology-mediated communication (TMC). The combination of CMC e-mail applications and TMC cellular phones led to the advent of wireless thumb-driven communication (TDC) devices that redefined the way in which people correspond, socialize, and interact in everyday life. These wireless devices allowed for immediate accessibility to e-mail, instant messaging (IMing), and texting (Short Messaging Service [SMS] and Multi-Media Service [MMS]) virtually anywhere a person was located. Introduction of these devices to the workplace fundamentally changed the way business was conducted, and leadership utilization of thumb-driven devices as a primary means of communications with members has significantly shifted the workplace dynamics of the leader-member exchange (LMX) relationship.

Thumb-driven communications devices have become as essential to business leaders in 2011 as a pencil was to Engineers in the 1950s. The simplicity of easy-to-use thumb-driven socially interactive technology has changed the nature of how people socialize and altered workplace communications. Business leaders are continually looking for faster ways to access, sort and share the volume of information instantaneously available with their members. Many business leaders have elected to use

handheld thumb-driven electronic communication methods as their primary means of communicating with members, peers and superiors, becoming thumb-driven leaders. Ostensibly this has been done so leaders can take advantage of technology and harnesses these new communication tools to improve business efficiency; the unintended consequence is a reduction in their face-time with members of the organization. Thumb-drive leaders who have come to rely on technology for communication have also adapted their leadership style to this new reality and unintentionally changed the dynamics of the traditional leader–member relationship.

There are many elements to leadership, but at its core, leadership is a people business; leadership requires a person to interact with other people and use their interpersonal skills every day to lead, inspire and develop people (Cangemi, Burga, Lazarus, Miller, & Fitzgerald, 2008). Burns (1978), a leadership author and presidential historian, defined *leadership* as:

> The reciprocal process of mobilizing, by persons with certain motives and values, various economic, political, and other resources, in a context of competition and conflict, in order to realize goals independently or mutually held by both leaders and followers. (Burns, 1978; p. 425)

Leadership is the process of influencing individuals and teams to attain a common goal (Northouse, 2007); it is the ability to get people to go somewhere they normally would not go alone, even when they may not want to head in that direction. While the art of persuasion is vital to leadership effectiveness, it is also crucial to recognize the importance of relationship building (Campbell, White, & Johnson, 2003). Relationship

building is how leaders achieve member commitment to the organization, and in order to establish relationships, leaders must demonstrate supportive communication through their discourse with members that builds rapport (Campbell et al., 2003). Communication used for providing encouragement, support, praise and the expressions of emotion, trust and humanity form the basis of supportive communication and is the dialogue that produces high-LMX relationships (Michael, Harris, Giles, & Field, 2005). Leaders improve the quality of their LMX relationship and influence member behavior through the interpersonal communication strategy they employ (Campbell et al., 2003).

The interpersonal communication strategy is as reliant on the 'what' (the vocabulary and information) that leaders use to communicate with their members as it is on the 'how' (the method of communication). Both are vitally important to the LMX relationship and the success of the vision. The vehicle leaders choose to use to communicate with their members is essential to the success of any business operation, and how leaders communicate is an essential element of what makes a person a good leader. Good leaders also tend to have superior insight in relationships, making them good leaders anywhere, regardless of the setting or situation (Klein & Posey, 1986). Good leaders develop and nurture the leader–member relationship through their understanding of the situation, their understanding of themselves and their understanding of the emotional makeup of their members. This perceptive nature allows good leaders to move and influence people in the appropriate direction to accomplish the goals of the organization. How a leader communicates with their members is vital to influencing them to go in the direction the leader needs them to go in order to have the organization (and the leader) be successful (Northouse, 2007).

In any business situation, the relationship between leaders and members within an organization is a key element to organizational success. The LMX theory of leadership explores the elements of that relationship and is considered one of the premiere styles of transformational leadership (Lee, 2008). Transformational leaders shift the beliefs and values of the members from their own individual goals to the collective group goals, raising them to a greater awareness about issues of consequence to the organization (Kuhnert & Lewis, 1987). Transformational leadership as a broad theory of leadership was first introduced by Burns (1978) as a process where leaders create positive change by transforming both the leader and the member to work together and help each other advance to a higher level of motivation and morality (moral, but not moralistic). Transformational leaders motivate, challenge, inspire, and develop members as individuals by stressing achievement of higher collective purpose where they can be part of something greater than themselves (Ardichvili & Kuchinke, 2002). To be a truly transformational leader—in whichever leadership style they use—the leader must be grounded in moral foundations (Bass & Steidlmeier, 1994). Components of transformational leadership include behaviors of individual considerations, idealized influence, intellectual stimulation and inspirational motivation (Bass & Steidlmeier, 1994). The extent to which a leader is truly transformational is evidenced by the trust, loyalty and respect of the members where they will perform at higher levels of productively, going above that which was expected (Ardichvili & Kuchinke, 2002).

LMX theory of transformational leadership is based on the reciprocal connection between the leader and the followers (members) as defined on an organization chart (Sparrowe & Liden, 1997). The leader's relationship to the members is viewed as a series

of vertical dyads with the leader having unique separate relationships with each member in the work group (Graen & Uhl-Bien, 1995). Work groups within organizations are social units, deliberately constructed to seek common goals; LMX theory asserts that this social reciprocal relationship between the leader and the member defines the interaction (Chen, Wang, Chang, & Hu, 2008) and the individuals on both sides of the vertical authority relationship matter (Kellerman, 2007). By promoting partnerships with each member of the team, leaders create a relationship that can focus on achieving organizational goals and the goals of the leader (Northouse, 2007).

The multitude of sophisticated electronic communication technologies combined with the demand for a quicker flow of information has changed the nature of organizational communications (Yates & Orlikowski, 1992). Leadership reliance on electronic technology as the primary means of communication between leaders and members has the potential to erode the basic underlying social fabric of one-on-one, face-to-face reciprocal relationships that makes LMX successful.

Introduction to the Problem

Communication is an essential aspect of life and a crucial element for success in the work environment. Human beings need interaction, or as it has been so classically stated, "No man is an island, entire of itself" (Donne, 1624). People spend a large part of their lives as members of an organization—whether through their work, volunteer activities, political activity, or participation in religion. When they are not engaged as a member of an organization, they are often clients or customers of an organization. Because communication is clearly fundamental to both getting things done and satisfying

human experiences in organizational settings, communication can be both the solution and the dilemma in organizational dynamics (Bullis, 2005). Organizational communication, particularly communication from the leader to its members, is vital to the success of any organization; consequently communication must be carefully managed so that it enhances the LMX relationship and achieves the organizational goals. Whether it is regarded as a quandary or an answer, communication between leaders and members has always been essential to organizational action and success (Yates & Orlikowski, 1992).

In organizations, communications happen both horizontally and vertically. On the horizontal level, communication is used to integrate plans, coordinate effort, share best practices and compare results. Upward vertical communication is used to report progress, status plans, report issues and offer solutions. In addition, downward vertical communication is required to inform, direct, redirect, motivate, share information and evaluate performance. The importance of good, clear horizontal and vertical communication in organizations cannot be overstated. Research suggests that leaders who achieve high quality working relationships (high-LMX) with their members receive a high degree of respect, loyalty, and proficiency in their members work (Bakar, Mustaffa, & Mohamad, 2009). In contrast, low-quality relationships (low-LMX) are usually governed by a work contract with higher levels of supervisory control and higher turnover (Liden & Graen, 1980).

Leaders who focus on enhancing and developing high-LMX relationships with their members, will, in turn increase the member's job satisfaction and work performance (Hogg & van Knippenberg, 2003; Liden & Graen, 1980). Leaders who desire to be highly effective will strive to create special exchange relationships all their members (Graen &

Uhl-Bien, 1995). This does not imply that they treat all members exactly the same way but that they get to know their members as individuals and cultivate a relationship of mutual support, respect and trust with each member, where each can thrive in an environment of equal opportunity because of their skills and competence (Graen & Uhl-Bien, 1995). Leaders in high-quality LMX relationships will develop a sense of ownership in their members, consisting of self-identity, accountability, and belongingness (de Jong, 2009) based on their relationship with the leader. This can only come about when the leader spends time physically interacting and communicating with their members. Much of the work, however, has become information oriented and communication intensive (Dabbish & Kraut, 2006). As the communicative nature of work has increased, leaders have become progressively more reliant on e-mail as their primary means of communicating work instructions to members. Leaders now spend upwards of 80% of their workday in interpersonal communications of some kind (including meetings, e-mail, phone and face-to-face) leaving little quiet time for personal reflection and strategic planning (Dabbish & Kraut, 2006).

Communications can be viewed in terms of time and location. Traditionally, being in the same place at the same time dictated a face-to-face meeting; and although e-mail is an excellent tool for communications in different-time-and-location situations, the simplicity and speed of e-mail has made it the media of choice for all other categories as well (Palme, 1995). Paper messages (i.e., Post-It notes) left on a person's desk belong to the same-location-different-time category, but have now been overtaken by e-mail even for simple short messages (e.g., "come see me" or "call Bill"). The effortlessness of asynchronous communication has made e-mail a frequent choice for communication

regardless of time and location. E-mail is now used as a replacement for phone conversations within co-located groups (same-time-same-location) and within the same-time-different-location group; e-mail and is even sent to people present and physically located in the same room, displacing traditional communication methods (Palme, 1995).

Communication in the workplace used to be simple: workers in the same location physically walked over to another person's desk (even to another building) to consult with them face-to-face, called on the desk phone or sent a memo/letter depending on whether the communication went inside or outside the company (Korkki, 2009). With the advent of CMC, the attitude changed to "Why walk?" when it is easier to just e-mail or instant message someone. E-mail is considered the most important Internet application in use (Katz & Aspden, 1997) and it fills a niche due to its unique features that allow it to cover a gap between other media in speed and size of the user group (Palme, 1995). Plotted against the time it takes for a communication against the number of people reached finds that a traditional newspaper might reach 100,000 people in a day; a phone call or a meeting may involve 2-20 people for an hour, but a single e-mail can reach a thousand people in an hour and that number rises exponentially as it becomes viral and each person sends it on to his/her distribution list instantly (Palme, 1995).

E-mail communication has now surpassed and replaced talking on the telephone (landline or cellular) and face-to-face contact as the primary means of business communication even for people situated at the same location (Huang & Lin, 2009). The *Westchester County Business Journal* ("E-Mail Beats Telephone," 1998) cited an Ernst & Young human resources survey that found human resource professionals believe e-mail is an effective means of conducting business communication, with 65% saying e-mail

increases productivity and only 15% preferring face-to-face contact. In a survey of senior human resources managers, 67% said they would be more productive if their leaders held personal discussions with them; yet their own preferred method of communicating with their direct reports was e-mail (Martin, 2007). Business leaders in the 21st century are ruled by e-mail, and while most workers have computer e-mail, the handheld thumb-driven communication devices (also referred to as smartphones and feature phones) are leadership's new communication vehicle of choice (Huang & Lin, 2009).

The e-mail usage statistics are startling: 15 years ago the average user received about 15 e-mails and spent around 50 minutes reading and replying (Frazee, 1996). By 2007 the global person-to-person e-mail load exceeded 97 billion messages per day and only 2 years later it had more than doubled to 247 billion messages per day (which roughly equates to 2.8 million e-mail messages being sent every second; Huang & Lin, 2009). It has been estimated that the compound annual growth rate of e-mail traffic would be around 136% from 2010 through 2012 (Huang & Lin, 2009). An e-mail study performed by the Radicati Group (2009), a technology market research firm, tracked corporate e-mail use from 2003–2009, and noted that in 2003 the average worker spent 17% of the workday managing e-mail; in 2009 that number had risen to 41%. Almost 85% of work e-mails are opened within 2 minutes of receipt, yet as speed and volume increase, the line between worthwhile information and distracting information begins to blur, with one in three business e-mail messages deemed by the business people who received them to be unnecessary or irrelevant in nature (Hemp, 2009). Simply composing the e-mail message often takes longer than the verbal expression with reciprocal give and take in a face-to-face meeting, but because technology has made CMC so convenient and

easy to use, leaders use this media selection to avoid face-to-face encounters, especially for sensitive topics (Huang & Lin, 2009). Leadership by failure to act may even be a preferred process; by keeping the discussion within the realm of technology, leaders can continually discuss and deliberate without being forced to commit to an opinion (Martin, 2007). Even complex issues are being debated by e-mail (sending messages back and forth an average of 11 times for each decision) delaying decision making and negatively impacting the work environment (Huang & Lin, 2009).

Workers who use a computer to accomplish their jobs change screens (switching between programs or out to check e-mail) nearly 37 times an hour (Hemp, 2009; Richtel, 2010). The nonstop interactivity experienced by workers is one of the most significant shifts in the workplace in the last decade. During any typical workday, most knowledge workers find themselves unable to complete the work they thought they were being paid to do due to the volume of information coming in (Applebaum & Marchionni, 2008). Information overload combined with continuous partial attention from having to constantly shift their concentration from one thing to another undermines the ability of workers to focus. The speed of TDC and being able to communicate with many people at the same time can lead to efficiencies, but there is also the downside of information overload and the disruptive effect of interrupting the task at hand (O'Kane, Palmer, & Hargie, 2007). Employees feel over-accelerated and over-loaded with activities and tasks without the time or resources to perform their jobs (Bruch & Menges, 2010). The penetration of electronic information into every aspect of daily life has been largely unobtrusive, but the effect of the surplus of information has been pervasive, leading to the rise of a society of multitaskers (Huang & Lin, 2009).

Workers often claim multitasking makes them more productive, but research and multitasking experiments do not bear this out. Multitaskers actually have more trouble focusing and shutting out irrelevant information; jumping from task to task causes an increase in task completion time and a decrease in productivity (Applebaum & Marchionni, 2008). Studies have been performed and advice given on how workers can manage and organize the surfeit of information, but the stress on workers to process multiple tasks simultaneously continues to mount (Spinuzzi, 2007). Multitaskers actually experience more stress than workers who focus on one task uninterrupted due to increasing amounts of fragmented, simultaneous activity with frequent interruptions and numerous inputs from multiple electronic sources (Applebaum & Marchionni, 2008). The multitasking challenge arises from the need manage different tasks; the average number of tasks knowledge workers juggle per day is 12.2, with the average time spent on one continuous, uninterrupted segment approximately 10.5 minutes (Applebaum & Marchionni, 2008). Allowing for uninterrupted work time on task is crucial for productivity, but the continuous flow of communication messages interrupts other tasks causing an adverse affect on efficiency depending on when the interruption occurs (Hemp, 2009). Research reveals that it takes between 15 and 24 minutes for a person to refocus cognitive resources that have been usurped and productively return to a challenging work task after an e-mail interruption (Begley, 2009; Hemp, 2009). Dealing with the message that prompted the alert is only the beginning; people often use the interruption as an opportunity to check other messages or engage in unrelated tasks. Half of the interruption time was spent returning to the previous task; finding their place or scrolling through other applications and getting distracted by other in-process work tasks.

If the delay caused a person to miss crucial information, any decision made may be based on incomplete knowledge (Begley, 2009). Electronic distractions also weaken relationships with colleagues as people tune each other out, making it harder for leaders to manage and motivate members (Fisher, 2009). Research experiments verify that most human's posses a thought process limitation, a central bottleneck from trying to process too much data at the same time (information overload); human cognitive processes simply do not allow for concurrent operations (Oberauer & Kliegl, 2004).

The work force of the 21st century tends to accept information overload, electronic interruptions and multitasking as the norm and even argues that it is unavoidable and essential because the changing demands of the workplace require shifting priorities and rapid response time, increasing demand on workers to concurrently perform on multiple and parallel collaborations (Applebaum & Marchionni, 2008). Constituents of the Millennial Generation (also referred to as Gen Y; people born between 1980 and 2000 and entering the work force between 2000 and 2010) have learned early to multitask; and although there are similar uses for each of the social media (e-mail, instant messaging, text messaging, Facebook and cellular phones) Millennials often use several (or all of them) at the same time to communicate with a variety of different people (Lenhart, Madden, & Hitlin, 2005). Employers who want to secure the Gen Y generation will have to not only use technology, but may have to allow them to select their mobile device of choice rather than designating a single company-wide technology since they are already adept and productive with their own (Beachley, 2010). TDC systems have increased the pace of the workplace, but may have unintended consequences for workers and corporations over time as continuous partial attention

caused by frequent interruptions in concentration can also impair decision making, raise stress levels and increase the frequency of error as well as decrease a person's ability to think creatively (McCartney, 1995). Productivity is taking a hit; leaders need to change their mind-set and accept that they cannot respond to every distraction that flits across their screen (Hemp, 2009). Rapid advances in information and technology have brought about a more convenient and sometimes more efficient means for leaders to communicate with their members, but it has also sped up the pace of life and degraded the relationship exchange between leaders and members to a series of virtual messages (Farhoomand & Drury, 2002).

Background of the Study

Regardless of the method leaders use to communication information with their members (technology-mediated or face-to-face), all communication involves a two-step process: first get the attention of the person you wish to communicate with, and second, deliver the message clearly. Whether through actions, printed or written symbols, or the spoken word, communication ranks as one of mankind's most significant achievements. Over the span of man's existence, communication methods have continually evolved and the rate of communication has steadily increased to where events and information occurring anywhere in the world are instantaneously communicated around the globe.

In times past, most communication between leaders and members was verbal, face-to-face messaging; and if the parties could not be physically present together, then messages were carried by messenger, either in verbal memory or in some for m of writing. These remote communication messages lacked privacy and security and required

time between responses. As technology evolved, the speed of communication increased from writing on bone (1400 BC) to printing presses (1455), pony express (1861) to Morse code telegraph (1832), and from the land-line telephone (1876) to the cellular phone (1979). With the advent of the cell phone, text-based message technology simply picked up where voice messaging left off. E-mail, text messages, and IMing allow for rapid synchronous communications among many friends at the same time.

In 1995, 34 million people in the United States owned a cell phone; by 2007 the number had grown to 255 million, or 84% of the U.S. population (U.S. Census Bureau, 2009). In 2010, wireless data transmissions overtook wireless voice in accounting for the majority of wireless traffic, and it is projected that by 2012, there will be more wireless handheld data communication devices in use than the number of desktop and notebook PCs combined (Meeker, Devitt, & Liang, 2010); and by 2014, it is anticipated that 98% of all wireless network exchanges will be smartphone data transmissions (Sacconaghi, Ferragu, Evenson, & Moffett, 2010). When the cellular phone evolved into a wireless data communication machine, the way society communicated was fundamentally altered with handheld communication technology that does far more than just make phone calls. Electronic handheld communication devices are essentially a computer in your pocket (Sacconaghi et al., 2010); a convergent device that allows users to check e-mails, take still photographs, record video, surf the Internet and send instant messages from any location that receives mobile network services. Due to their advantages of flexibility and asynchronous communication, CMC and thumb-driven technology-mediated wireless data communications devices have marked one of the most dramatic changes to the working life of most employees in recent times (Byron, 2008). Wireless TDC devices

have become an integral part of most, if not all, workplaces and their pervasive role has changed organizational dynamics, practices and processes (O'Kane et al., 2007).

Younger workers tend to incorporate TMC more strongly into their overall social lives than do adults who came to technology later in life (Brown, Mounts, Lamborn, & Steinberg, 1993; Hughes, 2010). Among adolescents, IMing is the most widely used communication Internet tool (Bryant, Sanders-Jackson, & Smallwood, 2006). 74% of online adolescents in the United States use instant messaging to communicate with their peers, compared with 44% of online adults; and the youth who IM tend to use the SMS and MMS services on a daily basis. Youth use this Internet technology tool as a means to satisfy social, emotional and developmental needs (Bryant et al., 2006). Along with IMing on the computer, 64% of this same demographic who have cell phones also text message daily, sending an average of 60 texts messages a day, with one third sending over 100 texts per day (Mayo-Smith, 2009; Stout, 2010). The ability to time-shift and communicate at nontraditional times are cited as primary reasons to use IMing and text messaging services (Bryant et al., 2006). While adults lament the hypersociality and lack of social graces of the teens, and disparagingly refer to their constant craving to be connected; this inclination is not limited to youth. Society has changed the workplace, and companies need to be in tune to the divide between digital natives (young workers embracing technology) and digital immigrants (older workers resisting technology) among their work force so that it does not cause intergenerational conflict (Birkman, 2009; Hughes, 2010). Many business leaders have readily adopted the same preference as the digital natives, using technology to establish a presence and be connected (Hughes, 2010). The central economic imperative is productivity, and believing that being

connected increases productivity and keeps them competitive in the market, leaders have imposed a self-perceived requirement to instantly handle every text message or e-mail the moment it arrives on their mobile device or computer. Since they do not know when (or even if) important news will come, leaders feel must always be connected and ready; whether they are in the office, a business meeting, having a face-to-face conversation, or on vacation; they do not want to risk being left out of the decision process (Richtel, 2007).

Across the corporate world, a growing trend is emerging for leaders to be actively thumbing on their mobile technology device while simultaneously participating in other activities. This hypersocial need to be connected at all times is eroding societal values and common business decorum. Instead of adopting appropriate technology to reach their desired goals, leaders have become intimidated by technology and let technology dictate how and when they perform their work (Bensaou & Earl, 1998). Leaders have allowed technology to determine their behavior rather than managing and controlling technology to enhance their performance.

Statement of the Problem

Work, work processes, and workplace relationships have been fundamentally altered with the extensive leadership use of thumb-driven devices for business communication purposes. With the rise of electronic hyper-connectivity, the landscape of the work environment is changing; in some ways for the worse, with one of the most notable changes being a blurring in work–life balance (Hallowell, 1999). Time-management issues have exploded as technologies migrated from work to home and from

home to work to where there is now almost no practical difference between work and home life for the connected leader (Spinuzzi, 2007). The permanent connectivity afforded by wireless devices that allows work to spill over into the home and friendship networks also allows personal communication to penetrate the formal boundaries of the workplace. In the 21st century e-mail-texting-voice-recognition-Facebook-automated-self-service-wireless communications world, it is ever more possible to go through an entire day without having to physically interact with another person (Dudley, 2010). In this new technological reality, a person can be constantly connected, which creates the illusion of needing to be constantly connected; during and outside of the workday. Technology has enabled a perceived necessity for leaders to be continuously connected so that they can assuage the hypersocial primitive impulse to react immediately to any e-mail and/or text alert. Leaders in this hyper-connected technology age are essentially on overtime—all the time (D. Allen, 2006).

The specific problem is that leaders, pressed with the overload of information they are receiving and processing via their TMC devices, are spending less time investing in face-to-face reciprocal relationship building with their team members. Leaders need to be cognizant of the new leader–member dynamic which derives from their dependence on technology-mediated devices for communication or risk changing the organizational dynamics of the workplace, altering the LMX relationship, and leading to a breakdown of social trust in the workplace.

Purpose of the Study

The purpose of this study is to determine whether leadership has allowed technology to dictate their communication behavior, and if so, to examine whether this dependence on thumb-driven technology for communication has significantly altered the organizational dynamics of the LMX relationship in the workplace.

TDL is the result of a leaders shifting from face-to-face communication with members to predominantly CMC or TDC, and has the potential to deteriorate the personal reciprocal relationship between a leader and a member. Leaders who allow technology to dictate their communication style may unintentionally alter the dynamics of the LMX relationship to the detriment of the organization.

Since its introduction as a leadership theory, LMX has generated a significant amount of attention with most of the research focused on individual leader–member relationships. A shortcoming of prior LMX studies is that the correlation between LMX and the larger social context in which the leaders and members were operating was not considered. Momentum has grown for the enlargement of LMX theory to reflect the broader social environment and more accurately address the current work setting (Balkundi & Kilduff, 2005; Gerstner & Day, 1997, Graen & Uhl-Bien, 1995; Zaccaro, Rittman, & Marks, 2001). The majority of LMX research fails to take into account the broader social contextual environment when studying leader–member relationships. TDCs also have the potential to draw attention away from the task or conversation at hand, and no current data exists on how often leaders allow themselves to be interrupted by technology and impair their concentration. It is critical to examine leader–member

relationships within the social atmosphere of the 21st-century workplace in light of the widespread use of TDC devices.

Rationale

Organizational culture derives from the behavior of the leader of the organization, and conversely, the culture of the organization affects the development of its leadership (Bass & Avolio, 1994). Effective organizations not only require leaders who are tactical and strategic in their thinking, but culture builders as well, since the culture is the setting in which the vision takes hold (Bass & Avolio, 1994). In order to build the culture and develop high-quality LMX relationships leaders must first, have a firm foundational knowledge of who they are and decide what kind of behaviors and culture they want to develop in their organization; and second, leaders must know their members (Raelin, 2004). Leaders are obligated to have a true understanding of the needs, expectancies and preferences of their members as it will have an effect on the member's perceptions of their relationship with the leader (Schyns, Kroon, & Moors, 2008).

Leaders and members often have different views on the relationship and on what outcomes are important to them; the leader must understand these differences so they can either shape the exchange to achieve both sets of outcomes, or take steps to modify the expectations on one side (Schyns & Wolfram, 2008). In addition, knowing the expectations and preferences of the members allows the leader to mold opportunities that stretch the limits of the members, increase their effectiveness and foster ownership in the organization (de Jong, 2009). Leaders who are fully aware of the expectations of the

members will be able to tailor the LMX in such a way as to increase the quality of the relationship.

The quality of the leader–member relationship has four dimensions: professional respect and the acknowledgement of the other's occupational competence; the emotional side of cooperation; loyalty and willingness to defend the other's actions; and perceived contribution coupled with the member's willingness to work hard for the leader (Dienesch & Liden, 1986). In order to attain this quality level of mutual support between leaders and members, the leader and member must have trust of each other gained through continued face-to-face interaction. Research consistently establishes that the most critical factor affecting employee morale, quality, productivity, and retention is consistent daily interaction between members and their direct leaders (Davies, 2006). TDL will not achieve the high quality leader–member relationship required to elevate the relationship and improve performance.

Research Questions and Hypotheses

A review of LMX theory and communication literature suggests that members engaged in high-LMX relationships with leaders should expect to experience higher quality communication with the leader than those in low-LMX relationships (Hogg & van Knippenberg, 2003; Liden & Graen, 1980). Leadership reliance on TDC has altered the traditional LMX face-to-face relationship and changed the nature and means of communication all members receive from leaders. Gertstner and Day (1997) identified LMX theory as "one of the more interesting and useful approaches for studying hypothesized linkages between leadership processes and outcomes" (p. 829). It is within

this approach that the researcher explores linkages between LMX relationships and the communication processes employed by leadership.

The overarching question is whether leadership this use of TDC devices as a primary means of contact impacts the LMX relationship. Based on a review of literature, analysis of research studies and observations regarding leadership behaviors consistent with high-quality LMX relationships, a decomposition of the overarching question leads to the following hypotheses where RQ = Research Question; H_0 = Null Hypothesis; H_A = Alternative Hypothesis).

RQ1: To what extent do leaders have an apparent need to be continually connected and consciously choose to allow themselves to be interrupted by electronic alerts regardless of the situation?

H_A1: All positions/levels of leaders have an apparent need to be continually connected and consciously choose to allow themselves to be interrupted by electronic alerts regardless of the situation.

H_01: All positions/levels of leaders do not have an apparent need to be continually connected and consciously choose not to allow themselves to be interrupted by electronic alerts regardless of the situation.

RQ2: To what extent is the member's perception of leadership effectiveness influenced by observations of leaders engaged in side electronic conversations via thumb-driven technology while speaking or participating in meetings?

H_A2: The perceived effectiveness of all positions/levels of leaders is diminished by a member's observation of the leader engaging in side electronic conversations via thumb-driven technology while speaking or participating in meetings.

H_02: The perceived effectiveness of all positions/levels of leaders is not diminished by a member's observation of the leader engaging in side electronic conversations via thumb-driven technology while speaking or participating in meetings.

RQ3: To what extent are member loyalty and/or commitment to the leader influenced by the communication method employed by the leader?

H_A3: Member loyalty and/or commitment are influenced by (i.e., correlated with) the communication method employed by the leader.

H_03: Member loyalty and/or commitment are not influenced by (i.e., not correlated with) the communication method employed by the leader.

Significance of the Study

Leaders set the tone and culture of the organization. What they deem to be important becomes important for the members of the organization, and what they consider irrelevant becomes unimportant for their members. Leadership and culture are not mutually exclusive; the interplay between them is constant. Cultural norms begin and change based on what the leader chooses to focus their attention on and the behaviors they model. The characteristics of an organizations culture are taught by its leadership and adopted by its members (Bass & Avolio, 1994). Leaders need to be aware of their behavior and communication patterns and pay attention to the effect those have on the members in their organization. While technology can be used to enhance business operations, leaders must take steps to ensure that technology alone does not dictate the manner in which they behave, how they conduct their business, and how they communicate with their members. Rather, leaders must take precautions to harness

technology to enhance their business conduct and communications. Leaders must not lose touch with the face-to-face relationships that are important to maintaining a reciprocal LMX and enhance organizational commitment; and may have to take extra care to ensure that they do not allow technology-mediated communications to replace meaningful face-to-face conversations with their members.

Unlike many communication studies using controlled experiments or conducted outside an organizational context, this study will be performed by obtaining data from leader–member dyads employed in a commercial organization. Results from this study should, therefore, have greater practical significance and better applicability to organizations. The study also responds to calls for additional research to identify variables within organizational communication contexts (Michael et al., 2005). It is hoped that this study will provide practical benefits to organizations and contribute to academic literature by providing an important step in understanding the impact of TDL and organizational behavior.

Definition of Terms

Computer-mediated communication (CMC). Any communication supported or enabled via the computer constitutes computer-mediated communication. This is defined as the use of computers to create, process, store and/or deliver communicative transactions occurring between two or more networked computers (e-mail, instant message, chat rooms) and includes social networking connections (e.g., Facebook). CMC can be both synchronous and asynchronous. Synchronous communications requires all participants to be online and connected at the same time, even while separated by

location and time zones; asynchronous communications occurs without time, distance or location constraints as participants can be online individually and still send communications.

Leader–member exchange (LMX). This theory focuses on leadership as a process with a series of dyadic interactions that grow the relationship between leaders and members based on interdependent work relationships centered on common goals (for reviews of LMX, see Dienesch & Liden, 1986; Gerstner & Day, 1997; Graen & Uhl-Bien, 1995; Lee, 2008; Liden, Sparrowe, & Wayne, 1997; Schriesheim, Castro, & Cogliser, 1999). LMX requires a committed transformational leader who will invest in building long-term personal relationships with each member on his or her team.

Technology-mediated communication (TMC). Technology-mediated communications consists of a variety of communications media facilitated by either networked or wireless means (e.g., computer, telephone, and/or Internet) for the purpose of communicating with another person. TMC includes mobile cellular devices which transmit voice and electronic data. At either end of the technology spectrum, these devices are categorized as smartphones (with high-end computing capability) or feature phones (low-end with less computing capability than the smartphone but more than a conventional voice cell phone). Smartphone and feature phone mobile devices are essentially handheld computers, as they are not limited to making voice calls, but offer advanced capabilities above and beyond telephone technology, integrating the functionality of a mobile phone with a personal data assistant (PDA), Internet access, e-mail, texting, camera, video and a variety of applications that provide the user with a multitasking operating system. Smartphones and feature phones are sometimes referred

to as a personal pocket computer due to their portability, small size and advanced capabilities (Sacconaghi et al., 2010).

Thumb-driven leadership (TDL). When a leader uses hand-held technology-driven communication devices wherein the thumbs are used to press keys on the device as a primary means for communicating with his or her team, the leader is engaging in thumb-driven leadership. Thumb-driven communication refers to the use of any hand-held communications device used primarily for the purpose of sending e-mail, instant message or text message using the thumbs to press letters on the keypad. While it can be done with one hand, most often the device is held in both hands with the thumbs alternating to select letters composing the message (aka *thumbing*: the use of only the thumbs to type). The handheld electronic TDC device most popularly used by the study group for this research is the BlackBerry. The Blackberry is a wireless mobile communication device manufactured by Research in Motion that provides a multitasking operating system and is primarily branded for its ability to send and receive e-mail wherever it can access a mobile Internet network. The device sports a QWERTY keyboard that has been optimized for thumbing and contains a scrolling trackball in the middle of the device. This smartphone version is widely used in the corporate environment because it is a convergent device that in addition to being a mobile telephone, watch, calculator, alarm clock and camera (for still and video), also allows the user to send and receive e-mail, update their calendar date book, organize contacts and supports texting of data, charts, graphs and photos, Internet faxing, web browsing and many other wireless information services.

Assumptions and Limitations

The study is limited to understanding how leaders use TDC and explore how their behavior patterns and communication methods may impact members in the overall organization. This study deliberately chose to reflect leaders and members within the same physical work facility who work in close proximity to one another, and did not explore the LMX relationship with technology as it relates to communications with virtual team members.

One limitation of this study is that it does not have time to explore the long-term ramifications of leadership dependence on technology for communication purposes. The up-and-coming future leaders take their cue from the conduct of the current leaders and follow the behavior they see modeled for them. This phenomenon of leading via TDCs has profound implications for future leadership of the organization. If leaders allow technology to replace traditional LMX relationships, the resulting consequence could erode the development of quality leadership for the future. The millennial generation, which has wholeheartedly brought their affinity for technology into the workplace, will be the business leaders of the future. This group of workers has already incorporated TDC into their everyday social fabric more strongly than those who are their supervisors in the workplace (Bryant et al., 2006). Current leaders will have to learn how to reach this generation of workers through the use of technology without allowing technology to overtake embedding sound business practices and face-to-face relationship building into the foundation of these future leaders. The issue of building future leaders is identified in this study as a side issue for leadership and is not the focus of this research. This study was not intended to analyze the long-term effect of TDC behavior on future leaders.

The study will employ a survey questionnaire sent electronically to participants along with an informed consent form at the participants business e-mail address. The leader of the organization will make the initial contact so that the participants know the leader is approving of the survey and the time it takes to complete the form. The e-mail will contain an explanation of the survey and include a separate link to a secure database where the users will complete the survey. By clicking on the link to the survey, participants are acknowledging their understanding of, and informed consent to complete, the survey. All survey submittals will go directly into this secure database without reference notation as to which individual completed the form. All survey data will be isolated in this secure database during the 2-week data collection period and results are only accessible by the researcher using a unique username and pass-code. At the conclusion of the 2-week data collection period, a summary of participation rate (how many participants completed the survey versus how many were requested) and all survey data will be downloaded from the secure server to the researcher's personal computer and backup drive, both of which are only accessible to the researcher with the correct username and pass-code. Fourteen weeks later the all survey data held on the secure server will be automatically deleted. Survey data will be retained in electronic form by the researcher following normal research protocols for 1 year following publication of the researcher's dissertation, and in secured hard-copy printed data document for 7 years (Creswell, 2007). Upon notice by the researcher that the data has been downloaded, the service housing the secure database will authenticate to the researcher that all data has been deleted from their records.

Participation is strictly voluntary, and there were no observations or interviews as part of the data collection process, assuring complete anonymity for the participants. There were no consequences for nonparticipation; whether a member chose to participate is unknown by anyone, including the researcher. To ensure anonymity, participants were not asked or required to provide any personally identifiable information (PII) when completing the questionnaire. The demographic information collected was only used for the purpose of sorting and grouping responses. To preclude any consequential actions, participation or nonparticipation was not identifiable or in any way traceable or known by the researcher or the organization. Participation was completely voluntary and there were no inducements (monetary or otherwise) offered which could arbitrarily increase involvement. The anonymous online design of the survey reduced the potential for personal risk and no attempt was made to match individual respondents with demographic data. There were no risks or paycheck vulnerability or any compensation for participating. No job requirement existed to participate and neither the researcher nor anyone in the organization or the company knows which members chose to participate. Participation or electing not to participate had no affect on individual entitlements, did not impair any family relationships, and has no connection to job retention or constraint to job advancement. There was no pressure to either participate or not participate from the researcher, the company, superiors or peers.

Nature of the Study

Research in LMX theory has explored the relationship between leaders and members in a variety of reciprocal elements centered on the organization (Sparrowe &

Liden, 1997). Work groups within organizations are social units, deliberately constructed to seek common goals; LMX theory asserts that this social reciprocal relationship between the leader and the member defines the interaction (Chen et al., 2008). One of the key elements of leader–member reciprocity in the relationship is the give and take of communication, which traditionally has taken place face-to-face (Palme, 1995). With the advent of TMCs, more leader–member communication has shifted from face-to-face to face-to-interface, fundamentally altering the social units of the workplace environment (Hallowell, 1999).

Communication research has centered on identifying situational communication practices for leaders in work groups (Farmer, 2005; Goleman, 2000) and research on technology communications has been concentrated on work groups only as it relates to virtual teams (Higa, Sheng, Shin, & Figueredo, 2000). Numerous studies exist on the effectiveness and efficiency of e-mail for information transfer within an organization (Gan Kong Guan, Kiong, Koh Liang Kin, & Wong Chit, 2002), but no good data exist detailing leadership use of TDC and its effect on organizational behavior. There were no studies found on how often or in what situations leaders allow themselves to be interrupted by this technology, or how the use of TDC devices impacted the LMX relationship. Little research has been done on the aspect of TMCs as it relates to the LMX relationship in work groups physically located together.

This study brings together LMX theory and TMC with the variable of the use of thumb-driven communication devices between co-located leaders and members. The study uses a survey instrument to gather quantitative data from individuals in leadership positions and their immediate direct members, to examine whether any correlation exists

between leadership dependence on technology mediated communication devices as a primary means of communication with members who are physically located within the same facility has altered the organizational dynamics of the LMX relationship.

Organization of the Remainder of the Study

Chapter 2 presents a review of literature on the subject of LMX and leadership communication patterns and behavior. Chapter 3 describes the research methodology employed in this research study and identifies the methods and statistical analysis used to interpret the results from the survey instrument. Chapter 4 is a presentation of the findings of the study. Chapter 5 is a discussion of the findings and their implications, and proposes recommendations for each accepted hypothesis, along with considerations for future research.

CHAPTER 2. LITERATURE REVIEW

Introduction

Effective leadership is a competitive advantage. Every company within an industry can purchase the same tools, machines and equipment to perform a specific task. The one variable is the people the company employs, and to this end, how the employees are led (or not led) is a deciding component of success. Success in the global marketplace requires that leaders develop a knowledge-intensive work force (Hewlett, Sherbin, & Sumberg, 2009). Efficient communication and the development of productive relationships with their members is an essential capability of effective leaders in that effort (Alexander, Helms, & Wilkins, 1989), yet leadership communication apprehension was found to be the greatest predictor of the quality of the leader–member relationship (Madlock, Martin, Bogdan, & Ervin, 2007). While companies can (and do) succeed despite ineffective leadership, leaders who understand and apply sound relational leadership theories will transform and improve work effectiveness through social interchange with employees, and have a positive impact on the work environment. Leader–member relationship building is a key component of effective leadership (Campbell et al., 2003) and occurs best in a face-to-face environment with frequent and meaningful interaction (DeGrosky, 2009). LMX theory focuses on the relationship

leaders create with their members, and as such is a model for successful and effective leadership.

Leader–Member Exchange Theory

LMX was formally introduced as a relationship-based leadership theory in 1972 and was initially called the vertical dyad linkage model of leadership (Dansereau, Graen, & Haga, 1975). The vast majority of LMX work has focused on how the relationship between a leader and a member impacts the member; including member satisfaction, performance, organizational commitment, attitudes, perceptions and outcomes (Gerstner & Day, 1997; Graen & Uhl-Bien, 1995). Coming full circle, more recent research shifted to a study of LMX outcomes specific to the leader (Wilson, Sin, & Conlon, 2010). All told, few leadership theories have received more attention than LMX, with the conceptual definitions and subdimensions continually evolving (Schriesheim et al., 1999). General agreement has always been maintained for the basic LMX model, but some scholars have disagreed on the foundational basis for the vertical organizational relationships within LMX. It was originally posited that LMX was an exchange relationship based on competence, trust and interpersonal skill; but several years after its introduction, Cashman, Dansereau, Graen, & Haga (1976) decided that the attributes of attention and sensitivity should be added to the core elements of the LMX relationship. As acceptance of the model grew, other subdimensions were offered in various versions of the model: support, reward, and satisfaction with the leader were put forward by Graen and Ginsburgh (1977); and the list was amended a year later with the element of information (Graen & Schiemann, 1978). In the 15 years since the inception of LMX, 18 additional

subdivisions were proposed in the studies by various scholars (trust, competence, motivation, assistance and support, understanding, latitude, authority, information, influence in decision making, communications, confidence, consideration, talent, delegation, innovativeness, expertise, control of organizational resources, and mutual control; Schriesheim et al., 1999). Refinement of any leadership model is to be expected as it is put into practice, and LMX has over time become both a relationship-exchange model and a model of leader acceptance and effectiveness (Schriesheim et al., 1999). Perhaps the clearest definition of LMX was presented by Scandura, Graen, and Novak in 1986:

> Leader–member exchange is (a) a system of components and their relationships, (b) involving both members of a dyad, (c) involving interdependent patterns of behavior, and (d) sharing mutual outcome instrumentalities and (e) producing conceptions of environments, cause maps, and value. (p. 580)

Leader–Member Exchange and Communication

Despite the differences in their approach to LMX, most scholars agree that leadership communication is the key skill by which leaders influence members (Campbell et al., 2003) and it is the quality of the leader–member communication exchange that determines the success of the relationship (Graen, Dansereau, & Minami, 1972). Leaders form differentiated exchange relationships with each member of the team and these separate and distinct relationships are evident in the roles members assume with respect to the leader (Sparrowe, Soetjipto, & Kraimer, 2006). The root of the LMX

theoretical model focuses primarily on the reciprocal relationship between the leader and the group members as defined on an organization chart (Sparrowe & Liden, 1997). LMX draws from social exchange theory in that there is a psychological and sociological perspective embedded within LMX regarding the exchange between leaders and members. Social exchanges have an expectation of some return favor for a person having done something to help another (Gouldner, 1960). This exchange may involve something of tangible value (information, goods, material, etc.) or it can be an unspecified obligation or even symbolic in nature (Cook & Whitmeyer, 1992). Social exchange theorists speculate that this reciprocation of valued resources will result in some strengthening of interpersonal relationships, but since the relationship is influenced by the participants' anticipated cost/benefit calculation it may be only produce a short-term bond of convenience; resulting in the perception of organizational support not actual commitment to the organization (Lynch, Eisenberger, & Armeli, 1999). LMX distinguishes itself from social exchange and other leadership theories precisely because of the long-term dyadic relationship leaders and members develop (Dansereau et al., 1975; Sparrowe et al., 2006). Because the leader's relationship to the members of the organization is viewed as a series of vertical dyads with the leader having unique separate relationships with each member in the work group (Graen & Uhl-Bien, 1995), members in the workplace tend to take a long-term approach to social exchange with the leader, with reciprocity occurring over time (Wayne, Shore, & Liden, 1997).

Through the refinement of various researchers, LMX theory has undergone four distinct stages with each building on the previous body of work in an orderly and chronological progression (Graen & Uhl-Bien, 1995). It was originally theorized that

leaders displayed consistent behavior with all subordinates (called the average leadership style or ALS model), but LMX research found that leaders in Stage 1 actually had different relationships with individual members within the organization. Stage 2 focused on the organization surrounding those differing relationships and is where a majority of LMX research has been focused over the years, exploring the nomological network of the LMX construct (Schriesheim et al., 1999). Stage 3 moved to the leadership-making model (Graen & Uhl-Bien, 1991) where the emphasis shifted from how the leader distinguished the subordinates to how the leader worked with each person on a one-to-one basis developing partnerships with them. Stage 4 sought to broaden the scope from individual dyads to larger group relationships operating within the organizational system (Graen & Uhl-Bien, 1995).

Communication Exchange Quality

Regardless of the sub-elements included, LMX originally posited that leaders would differentiate among members and develop high-quality relationships with high-achieving members and devote fewer resources of time and training on less able members (Sparrowe & Liden, 1997). This literature left unresolved whether leaders should treat members differently; regardless, members do perceive differences, especially in the level of participation-related communications (Yrle, Hartman, & Galle, 2003). The premise behind LMX stated that the quality of the communication exchange between leader and subordinates was paramount to achieving a successful relationship between the leader and member (Graen et al., 1972). The quality of the communication exchange relies heavily on the communication competence of the leader, and is the number one

prerequisite for effective leadership (Payne, 2004). Examining the link between personality and communication traits, McCroskey, Heisel, and Richmond (2001) concurred, finding from their studies that of the big three personality dimensions (extroversion, neuroticism, and psychoticism), the extraverted leader was positively correlated to have the highest degree of communication competence (defined as possessing the ability to be assertive, responsive and cognitively flexible), and rated best for developing high-quality leader–member relationships.

The interactive quality of the LMX relationship can be termed as a dichotomy (insider/outsider) with members either being in the in-group (high-quality) or the out-group (low-quality; Stamper & Masterson, 2002). In the vertical dyad relationship, leader–member interaction is crucially important for the success of the organization. The leader forms individualized working relationships with each of his or her members, and it is the content and process exchange between them that defines their dyadic relationship (Campbell et al., 2003). Each of the dyadic relationships has their own characteristics based in part on the personal characteristics and personality of each party, which in turn influences LMX quality (Dansereau et al., 1975). The in-group receives formal and informal information, greater access to the leader, and they are afforded more opportunities for participation in decision making due to having the confidence of the leader (Mueller & Lee, 2002). The out-group receives only formal organizational communications based on their job descriptions and the LMX relationship does not go beyond that formality; out-group members come to work, do their job and go home. Members of the out-group may perform well, but are typically less compatible with the leader and have a purely economic exchange in terms of the relationship with the leader

(Sparrowe & Liden, 1997). Low-quality LMX relationships result in the member being disfavored and receiving fewer valued resources; little attempt is made by the leader to develop or motivate the member for long-term success (Hogg & van Knippenberg, 2003). Low-quality leader–member communication is the leading cause of member distress at work (Campbell et al., 2003). In contrast, high-quality LMX relationships are ones where the members view the leaders as having an affirming communication style (friendly, relaxed, attentive) and experience high-quality communication exchanges (Madlock et al., 2007). Members in this group are favored by the leader and receive many valuable resources with the leader showing support and giving the member greater autonomy and responsibility, developing them for future leadership roles (Hogg & van Knippenberg, 2003). When members have feelings of personal obligation, trust and loyalty to the leader, they will perform better and consequently be placed in the in-group (Sparrowe & Liden, 1997).

Whether a member is in the in-group or the out-group depends in large measure on how well the leader works with that member and how well the member participates with the leader when the opportunity arises (Dienesch & Liden, 1986; Mueller & Lee, 2002). If a member is not interested in new opportunities or expanding their job responsibilities they will automatically become part of the out-group (Mueller & Lee, 2002). Initial research into LMX primarily addressed differences between the in-group and out-group, but was later expanded to include the dimension of quality within the in and out group exchange relationship (Dienesch & Liden, 1986). Quality of the exchange has four dimensions: professional respect and the acknowledgement of the other's occupational competence; the emotional side of cooperation; loyalty and willingness to

defend the other's actions; and perceived contribution and the member's willingness to work hard for the leader (Dienesch & Liden, 1986). Enhanced mutual support between leaders and members along these four dimensions can elevate the relationship and improve performance, loyalty, commitment, and job satisfaction (Chen et al., 2008).

Members respond best to a leader who provides an environment in which they can flourish and be creative (Walton, 1985); allowing members broad responsibilities without tight controls requires a leader to trust and communicate shared goals effectively in order to build commitment and high-quality relationships (Sherwin, 1972). Leaders who focus on enhancing and developing high-quality LMX relationships with their members will in turn increase the member's job satisfaction and work performance (Hogg & van Knippenberg, 2003). Leaders who desire to be highly effective will strive to create special exchange relationships with all their members in unique ways (Graen & Uhl-Bien, 1995). They will not treat every member exactly the same way but they cultivate a relationship of mutual support, respect and trust with every member where they can thrive in an environment of equal opportunity because of their skills and competence (Graen & Uhl-Bien, 1995). Along with those opportunities, leaders must understand the needs, expectancies and preferences of the members as it affects the member's perceptions of the relationship with the leader (Schyns et al., 2008). Leaders and members have different views on the relationship and on what outcomes are important to them; leaders who are aware of the expectations of the members will tailor the individual exchanges to suit the members. In this way the leader can either shape the exchange to achieve both sets of outcomes, or modify the expectations of the member, increasing the overall quality of the relationship (Schyns & Wolfram, 2008).

Communication as a Reciprocal Exchange

While the LMX model is primarily descriptive and focuses on the consequences of the LMX and how it plays out in leader–member relations, all exchanges between leaders and members are contingent on one fundamental premise—there must be a reciprocal exchange (Phillips & Bedeian, 1994). The form of the exchange and how the exchange is conducted are key determinants to whether the relationship is successful. The most important reciprocal exchange in the leader–member relationship is communication. Graen and Uhl-Bien (1995) proposed that LMX should be evaluated on the quality of the reciprocal relationship rather than the dichotomy of in-group and out-group perspectives because quality communications is a continuum with extremes at either end of the scale. Communication strategies (including both the vocabulary and the means) employed by the leader either builds harmony or impedes the leader–member relationship. The key difference is exemplified in concepts from rapport management theory which examines the use of language to manage social relations (Campbell et al., 2003). Rapport management has mostly focused on cross-cultural communication, encompassing both face (harmony) and sociality (the tendency of people to form groups) but is highly applicable in all exchanges between leaders and members. Spencer-Oatey (2002) defined *face* as being associated with personal credibility and a person's sense of worth; sociality is linked to a person's sense of fairness and social inclusion or exclusion. One of the key elements of high-quality communication in LMX relationships is face time between the leader and the member which leads to rapport and sociality.

The Evolution of Communication

Societies are tied together by three different kinds of infrastructure: transportation, energy and communications; the revolution in communications technology, with the combining of so many networks into one device makes it likely that communications is now the central infrastructure tying society together (Bell, 1979). Throughout history, business leaders have had a need to communicate with their members, and as business systems have evolved, so has the means for communication exchange through four distinct revolutions in the character of social interchange: speech, writing, printing and telecommunications (Bell, 1979). Typically, work took place in relatively stable settings with steady face-to-face contact between leaders and members (Nardi, Whittaker, & Schwartz, 2002). Leaders and members in these situations developed strong working relationships due to a shared social, cultural and organizational knowledge (Spinuzzi, 2007). Leaders would verbally inform their inner circle of members of their desires and rely on those direct followers to cascade their message vertically and horizontally across all layers of the organization. Sometimes the original directive got changed, misunderstood or altered in the retelling as it flowed down and across the organization. When the Phoenicians developed an alphabet (around 3000 BC) it allowed leaders to record their instructions for followers, but relating the orders verbally was still the only viable means of widely disseminating information. These writings would not really become portable until papyrus rolls were perfected in about 500 BC, and by 200 BC messengers on foot or horseback were common in Egypt and China, allowing leaders to get their messages, goals and objectives circulated throughout the organization. From there, mankind developed new and faster methods for

communication, leading to the revolutionary communication instrument called the telephone (1876). With this tool, leaders could speak directly with their members (singly or in a group) without having to be physically present with them. The follow-on inventions of radio, television, computers and microprocessors all led up to development of electronic mail (e-mail) in 1973, followed by cellular phones in 1979. When these two were combined in 1992, leaders could reach out and touch any follower who had a smartphone, and the need for physical face-to-face reciprocal communication had been completely negated. Organizations became interpenetrated; it was now possible to connect any one point to another within or across organizations (Nardi et al., 2002), and the typical stable work environment setting had become destabilized by changes in the social relationships of the organization (Spinuzzi, 2007). The communications revolution and the creation of an information society has enlarged the arena in which social action takes place (Bell, 1979) and the LMX reciprocal dyad paradigm has been altered; leaders have a new reality to confront in how they lead and influence the organization.

Business work takes place through communication between the leader and the members of the organization in formal discussions, meetings, presentations and informal conversation; it is through these types of face-to-face interactional exchanges that leader-member relationships are created and nurtured (Tannen, 1995). In face-to-face communications, the linguistic style of how a leader communicates often overrides the words they are saying. Linguistic style is the normal personal characteristic speaking style of a person and includes such features as directness or indirectness, pacing, pausing, word choice, figures of speech, jokes, stories, questions and apologies. These culturally learned communication signals not only attribute meaning for the person speaking, but

are used to interpret and evaluate what a person hears (Tannen, 1995). Formal and informal face-to-face workplace communication is important for effective collaboration in the process of achieving organizational goals (Nardi et al., 2002) and leaders are more likely to reward linguistic styles similar to their own (Tannen, 1995). Advances in CMC have taken leaders away from face-to-face interactions, negated linguistics as a workplace discriminator, and have had a direct impact on organizational form and function, enabling leaders' greater ability to coordinate and control organizational components (Fulk & DeSanctis, 1995).

Electronic communication technologies offered leaders the ability to overcome constraints of not only time and distance, but the need for one-on-one communication in the distribution of their message. Technology afforded leaders the opportunity to manipulate, shape and direct the content and context of the message sent to one or all their members (Fulk & DeSanctis, 1995). Even with careful manipulation and crafting of the message, and regardless of leadership style, communication method and/or the communication competence of the leader, perceptual differences may distort the message, causing the member to receive an ineffective message even when the leader communicated effectively (Yrle et al., 2002, 2003) and conversely, the distortion may be on the part of the leader, especially if the leader believes the message was ideally sent (Yrle et al., 2003). Studies have indicated that leaders and members have contradictory opinions of the factors influencing their LMX relationship (Boyd & Jensen, 1972; Schnake, Dumler, Cochran, & Barnett, 1990; Wexley, Alexander, Greenwalt, & Couch, 1980). Miscommunication is especially rampant in TDCs, as messages get truncated in the rush to get the message out, and the background may not get adequately explained

(Byron, 2008). Consequently, feelings get hurt and/or the wrong information gets picked up by the senders' failure to accurately transmit their intended meaning and/or by the receivers' inability to correctly perceive the senders intended meaning (Byron, 2008; Hallowell, 1999). Even though written words lack visual and auditory channels, there is significant social information being transmitted in electronic data communications (Lea & Spears, 1992). Leaders can unintentionally evoke emotion in the language, linguistic style, and even in the choice of punctuation they use; causing receivers to misinterpret work e-mail as more emotionally negative than intended (Byron, 2008).

Paralinguistic marks (e.g., ellipses and exclamation marks), emoticons, misspelling, and mistyping (unintentionally reversing the order of characters) have been shown to effect how the receivers perceived the senders intelligence, competence, self-confidence, dominance, originality, verbal fluency, responsibility and assertiveness (Lea & Spears, 1992). Leaders are often overconfident in their ability to precisely put into words ambiguous content and believe they can accurately convey intended emotion; and members may not seek clarification of the message, leading to miscommunication (Byron, 2008). Research suggests that the proliferation of instant computer mediated communication has not only had an adverse impact on workplace relationships, but has increased the likelihood of conflict escalation through the use of flaming conversations (e-mail exchanges with strong expressions of negative emotions) which are made all the easier and quicker to send with the proliferation of TDC devices (Friedman & Currall, 2003).

Communication and Trust

As the use of technology for organizational communication increases, the overall volume and use of other communication methods decrease, causing informal interactions to suffer, and leaving members feeling less trust and less connectedness to their leader (Byron, 2008; Luscombe, 2010). Leadership use of technology-mediated communication has brought about a change in trust and loyalty in workplace relationships as a result of the shift from face-to-face relationships to face-to-interface relationships. Member trust and loyalty have suffered as a result and have been steadily declining over the past 5 years to record lows (Segalla, 2010). Trust is essential for business and economic success, and genetics makes humans predisposed to trust, which also makes humans vulnerable (Kramer, 2009); but a survey of 450 executives found almost half did not trust their next level leader, using words such as "divisive," "threatening," "tense," and "stressed" (as cited in Hurley, 2006, p. 56) to describe their direct superior. In a corresponding survey, data collected from 700 employees found that members also have a significant lack of faith in their direct leader (Segalla, 2010). Asked to rate their level of trust on a scale of 1 to 5 (with 5 being *high trust* and 1 being *low trust*) members rated their overall trust in their leader at 2.7. Trust of members in each other was rated higher (3.7) and members trust the company overall only slightly more than they do their immediate leader (3.0). While trust between members and their leader does increase with the age of the member (rated 3.3, 3.6 and 3.1 respectively by members in their 40's, 50's and 60's as opposed to 2.5 and 2.8 respectively for members in their 20's and 30's), members generally do not feel that their immediate leader is really looking out for their best interests (Segalla, 2010).

Trust begets confidence, which leads to loyalty and commitment; the essential underpinning of organizational effectiveness. Leader–member relationship-building is essential to building trust and is a direct result of the practices of the leader (Reichfield, 2001). Leaders who are absent from their members have no method to build trust, loyalty or commitment since member trust and loyalty are a direct result of the words and deeds of the leader and can only be achieved through long-term relationship-building with face-to-face communication (Reichfield, 2001). Leaders who want to have success must measure loyalty as carefully as they measure profits; when loyalty goes up, profits rise (Reichfield, 1993). Member loyalty to the leader must be earned; it requires leaders to sacrifice time and put relationship building ahead of immediate financial gain for the good of the business. While e-mail might be easier, leaders need to practice true communication—listen hard and talk straight—to truly hear the emotion and understand the members' level of comfort that can only be expressed in voice (Reichfield, 2001).

The biggest destroyers of trust in organizations are inconsistent standards, changing messages, and failure to address 'elephants' (Galford & Drapeau, 2003). Application of inconsistent standards from leaders towards teams of members is one of the fastest ways to destroy trust in an organization, and the repercussions are significant (Galford & Drapeau, 2003). Members understand that not all members are equal in the eyes of the leader, but prescriptive communication, wherein a leader tries to fit all members into one communication method, will normally result in low-quality LMX relationships (Jablin, 1979), and erode trust in the leader. Members need to feel that the leader understands them and communicates with them at their level. Changing messages, where a leader communicates different messages to various members of the organization,

or makes unrealistic commitments and adjustments in priority with little or no apparent reason are another member trust breaker (Galford & Drapeau, 2003). Leaders are overwhelmed with information, frequent interruptions and distractions, often making quick decisions with limited options before they have a chance to even hear all the choices (Peters, 1979). Their working day is fragmented between topics with numerous interruptions and unscheduled encounters which are tolerated because leaders are afraid to miss out or discourage the flow of information. This fragmentation multiplies the opportunities for inconsistent messages and signals to direct members, a team that must be crystal clear on the vision and message of the leader (Peters, 1979). The antidote to this is for leaders to slow down and take the time to think through the message, explain the reason behind it, and explicitly what the goal is before communicating. Just because it is easy to thumb out a message does not mean it should be done right then. The third trust breaker is big issues that go untouched; elephants in the room. When issues are covered up, ignored, or left to fester, rumors run rampant, and nothing destroys trust like false rumors that are unchecked (Galford & Drapeau, 2003). Members understand that they are not privy to all the details, but if they know leadership is being honest when it can, trust will be restored. Trust between the leader and a member is complicated and fragile; if members feel their leaders acted in bad faith, trust will never be restored (Galford & Drapeau, 2003). Honest open face-to-face communication where members can see and hear the leader is the key to a trusting organization.

Communication Richness

Personal interaction with all of the conversational language, visual, verbal and nonverbal cues (e.g., body language, facial expression, gestures, eye contact, posture, tone of voice) is the foundation of all communications (Martin, 2007). People rely on those cues to understand the intentions, repair miscommunications, and build trust-based relationships (DeGrosky, 2009). Research in the field of social intelligence explains how the cues derived from nonverbal communication and emotions are vitally important in a mutually rewarding communication exchange (Wawra, 2009). In virtually every human encounter and social interaction, there is an exchange of emotions; consciously or unconsciously, emotions are transferred from one person to another. Understanding and interpreting the emotional transference can only take place when the exchange transpires face-to-face (Wawra, 2009). The information richness conveyed by the verbal, nonverbal and emotional communication influence tactics leaders employ carry implicit cues that members interpret regarding their status with the leader and their standing in the group (Sparrowe et al., 2006). TDC strips away the visual signals required to build the essential elements of personal and social interaction (trust and empathy) for effective cooperation and helping behaviors between leaders and members (Luscombe, 2010). Communication apprehension may also lure leaders into using technology to communicate negative information as a means of distancing themselves from the message and/or the victim; however identification of this trait in leaders was found to bring out the strongest negative LMX relationship among members (Madlock et al., 2007).

Being the bearer of negative information to members is one of the more discomforting leadership responsibilities, but communicating unfavorable information via

thumb-driven conversations may also produce more harmful reactions in the recipients than are necessary (Timmerman & Harrison, 2005). Leaders must make tough choices and decisions that sometimes result in unfavorable outcomes for members of their team; how they deliver such decisions are paramount to the leader–member relationship. Meeting face-to-face gives leaders the opportunity for discussion and clarification, but due to the ease of use with CMCs and TDCs, and failing to consider the broader negative consequences of distancing behaviors, leaders may choose to avoid potential confrontation when they have 'bad' news to deliver (Huang & Lin, 2009; Timmerman & Harrison, 2005). Senders and receivers always shape information to fit the context and nature of the interaction; being aware of the context, leaders may be reluctant to communicate negative news and interpersonally distance themselves by utilizing TDC means as the delivery vehicle. Recipients of disappointing news tend to resent the communicator if the news is impersonally or insensitively delivered, and the potential for message distortion rises dramatically (Timmerman & Harrison, 2005). Miscommunication is one of the leading causes of organizational mistrust leading to excessive member anxiety and insecurity with the leader (Timmerman & Harrison, 2005). Leaders use distancing as a means to avoid emotional distress, forestall blame (if the negative news was a result of their own leadership judgment). An additional perspective is provided by social presence theory which validated that the communication medium itself conveys a very significant perception of presence among members both for content and purpose (Rice, 1992). The satisfactoriness of an explanation will be increased if the communication medium provides the multiple cues of emotional intensity and nonverbal behavior (Shapiro, Buttner, & Barry, 1994). Ranked on a scale from lean (low)

to rich (high) communication richness for promotion of interactional justice, a study by Timmerman and Harrison (2005) found face-to-face individual communication ranked as the richest medium for all communication types. Group e-mail and personal e-mail were ranked on the bottom of the lean end; with videoconference, group meeting and the telephone occupying the middle ground. This suggests that media should be chosen to fit the message, and leaders should not use one media type for all business communications (Daft, Lengel, & Trevino, 1987). In the media richness theory, e-mail is a lean medium, and no matter the content of the message, the rich medium of face-to-face communication is almost always more appropriate than a lean medium even though it uses a technologically advanced platform; this is especially true for resolving conflict or communicating negative news (Rice, 1993). Even members who enjoyed a high-LMX relationship resent and mistrust the leader when messages are insensitively presented (Timmerman & Harrison, 2005).

This loss of trust in leader–member relations can be overcome by leaders who view each member as an individual with individual communication needs. Within communication literature, empirical studies suggest that the quality of communication has a strong impact on superior–subordinate interactions (Bakar et al., 2009). There have been several leadership studies demonstrating that leaders and members have differing perceptions regarding exactly which attributes have the greatest effect on their LMX relationship (Boyd & Jensen, 1972; Schnake et al., 1990; Wexley et al., 1980); but in almost every instance, communication is included as one of the key characteristics affecting LMX perceptions (McCallister, 1983). Despite being included by both leaders and members as a primary trait, communication remains as a background element in

leadership literature as opposed to being a primary process in the development of LMX relationships (Bakar et al., 2009).

Communication and Participatory Team Decision Making

Compounding the LMX relationship in the work environment of the 21st century is the corporate shift to a participative team-oriented collaborative decision-making model. This model is known by a variety of names (including but not limited to self-directed work teams, empowered teams, group engagement, knowledge-based teams, cross-functional teams, and high-performance work teams) and is built on the premise that work can be accomplished more efficiently if it is organized in teams (Raelin, 2004). The team-oriented model present leaders with one of their greatest challenges: people are brought together because of their individual skills, that in concert will achieve a complex activity; but this invariably leads to natural tension and organizational fragmentation into knowledge silos (Casciaro & Lobo, 2005). Leadership resolution of this tension in teams is crucial to success in the knowledge-based collaborative work environment. The success of these teams relies on the full participation of all team members, with the leader acting as a team member facilitating helping behaviors (Devine, Clayton, Philips, Dunford, & Melner, 1999). Helping behavior is directed toward coworkers rather than the leader or the organization, and research has proven that leaders who stimulate helping behaviors in teams do so mainly through the quality of the exchange relationship leader's form with members (Sparrowe et al., 2006). High-quality LMX relationships promote an environment that is favorable to empowered teams by creating an atmosphere where members are willing to go beyond minimum job requirements in support of the leader

(Graen & Uhl-Bien, 1991). A related set of research concerned itself with the tactics employed by leaders in helping teams, finding that leaders' use of multiple influence tactics of consultation, inspiration, and exchange positively impacted commitment to the leaders' requests (Falbe & Yukl, 1992).

Communication and Commitment

Research in organizational commitment has generally classified members into three categories: affective, continuance and normative. The affective characterization refers to the members' emotional attachment to the organization; which encompasses their level of involvement, work-related behavior, and identification with the organization and the leader. These members stay in the organization and are committed to it because they want to. Members displaying continuance commitment are steady consistent workers; they remain in the organization for fear of the economic and social cost associated with leaving the organization and losing organizational membership. This member stays because they have to rather than out of any obligation to remain; which is the third aspect of member commitment, normative, where the member feels a moral obligation to repay the organization and the leader who have invested in him/her. This member stays because they ought to (N. J. Allen & Meyer, 1990; Meyer & Allen, 1991; Rhoades, Eisenberger, & Armeli, 2001; Shore & Wayne, 1993). While these aspects represent the members commitment to the organization, there is a separate element of the leaders commitment to the member, termed as perceived organizational support; based on the members belief concerning the extent to which the leader values their individual contribution to the organization (Eisenberger, Huntington, Hutchison, & Sowa, 1986).

Employees who perceive a high level of organizational support, and have a high-LMX relationship centered on high communication are more likely to repay the leader with affective commitment (Eisenberger et al., 1986; Shore & Wayne, 1993). Members who display affective commitment are strongly committed to the leader and enjoy high-LMX membership in the organization; they have a sense of belonging that increases their involvement in organizational activity and have a willingness to work with other members in pursuit of team goals, making them ideal members in the team-based work environment (Rhoades et al., 2001).

In traditional organizations the leader made all decisions and directed the members with little or no input from the team. However, the work environment of the late 1990s recognized that the members performing the work tasks were best suited to improve performance and so moved to a team-based model with the team members being more involved in decisions that affect their work. Leader control became distributed, with digital technology playing a vital role in interconnecting the leader and members (Spinuzzi, 2007). Members in the team-based participative model enhance their social identity through the status of the team and their standing within the group (Sparrowe et al., 2006). In work teams, two reciprocal exchange relationships exist for each member: the LMX) and the team-member exchange (Liao, Liu, & Loi, 2010). The differentiation in the quality of those two exchange relationships creates the conditions necessary for group engagement and helping behavior in teams (Sparrowe et al., 2006). In the participative model, decision making is based on leadership consultation with the team and information is shared among the group, not held by the leader (Raelin, 2004). Team members form informal communication networks, where interactions are generally

impromptu, brief, context-rich and dyadic. These interactions are crucial not only to emotional social bonding and social learning among the team, but they are essential for complex collaboration to resolve issues (Nardi, Whittaker, & Bradner, 2000). Social units are perceived to be the primary source of informal team member emotional social bonding. Depending on the degree of teamwork in the exchange task, members will either bond as a social unit or encounter difficulty. When members find it hard to distinguish their individual contribution to the task and see only the shared responsibility for solving the issue, they develop feelings of belonging and cohesion with the social unit (Lawler, 2001).

Face-to-Face Communication

The primary means of informal interaction in the workplace takes place in these face-to-face interactions, and leaders must purposefully coordinate the activities of their members to facilitate these interactions (Bell, 1979). One primary method leaders use to accomplish this is by setting aside time each week for face-to-face meetings to recharge their members team-member exchange relationships in terms of reciprocal contribution and feedback on ideas, and to develop trust among team members and trust with the leader (Liao et al., 2010; Luscombe, 2010). Trust can only evolve through collaboration, interaction and shared experiences between leaders and members (DeGrosky, 2009). Research has revealed that work teams who problem solve via CMC means (i.e., virtual teams) are highly task-oriented but take longer to complete a task, which leads to a decrease in group effectiveness and member satisfaction compared with face-to-face teams who experience more cohesive and personal communications (Baltes, Dickson,

Sherman, Bauer, & LaGanke, 2002; Jonassen & Kwon, 2007). Teams that are able to physically meet together on a regular basis accomplish far more than conventional work groups because they make use of the collective capabilities of everyone on the team rather than depending on the official leader for decisions (Raelin, 2004). Empowerment requires structure to avoid confusion, so while leadership influences the work and provides team structure, decisions are made as a collaborative team within the context of leadership boundaries (Green, Anderson, & Shivers, 1996). This change has altered the traditional LMX relationship, with leaders now being expected to be decisive and yet also be team members (Tjosvold & Wong, 2000). Unfortunately some leaders have used the participative team model as an escape to delegate decisions and absolve themselves of direct personal responsibility (Widmer, 1979). Research has established four basic characteristics related to effectiveness of high performing work teams: social support among members, a high belief that they can be effective, workload sharing, and good communication (Campion, Papper, & Medsker, 1996).

The essence of leadership is communication (Cragg, 1991), but all too often, communication is viewed by leaders as just sharing information and clarifying direction (Baldoni, 2004). Leadership communication is not sharing and clarifying; leaders must engage their members, gain commitment and create a bond of trust in order to drive results and attain the organizational vision (Baldoni, 2004). Leaders must be involved, aware, responsive, and intentionally focused on their members if they are to communicate effectively. Leaders must engage in group-oriented behavior as a prototypical member of the team where members recognize them as both leader and member of the team (van

Knippenberg & Hogg, 2003). Being fully present is a requirement for effective leadership, which has been well framed this way:

> In general, then, if the individual is to be in the situation in full capacity, he will be required to maintain a certain level of alertness as evidence of his availability for potential stimuli. (Goffman, 1955, p. 221)

Leadership communication involves perceptions about human relations and social integration that can only take place when a leader is present in the moment, face-to-face (Ronken, 1951). Hallowell (1999) termed this face-to-face interaction the *human moment*, defining it as "an authentic psychological encounter that can only happen when two people share the same physical space" (p. 59). Human moments require physical presence with emotional and intellectual attention to maintain a sense of social connection to others (Nardi et al., 2000). Emotions are produced by social exchange, and generate stronger or weaker ties to relations with others in the same social unit (Lawler, 2001). TDC lacks the power of human moments and social connection. And leaders who allow a technological interruption or are thumbing while engaged in a social connection cannot have a level of presence with the person they are physically with if they are constantly involved in a remote conversation. To make a human moment work, a person must set aside whatever they were doing and focus on the person they are communicating with (Hallowell, 1999). Too many leaders see member communication as an extracurricular activity and pay only lip service to doing it better when they have time (D'Aprix, 1982). While it may seem less efficient, a member's sense of the leader's concern is directly attributable to the means of communication; personalizing the

communication with face-to-face interaction gives member's a perception of emotional caring (Timmerman & Harrison, 2005). Combining the immediacy of high-tech (speed and volume of information) with high-touch (human moments) is not easy, and technology tends to take precedence over face time with members. Information overload has never been so relevant (Brandel, 2008); leaders are overwhelmed with receiving and processing an ever-increasing stream of information leaving little time for leader–member relationship building (Hemp, 2009). The acceleration trap of instant communication results in two kinds of overload for leaders: information overload with too much volume of information, and interruption overload with fragmentation of focus. Both overloads result in isolating leaders from their members (Bruch & Menges, 2010). The value of decision making with more information is indisputable, but as the volume increases, the line between worthwhile, necessary information and distracting information begins to blur. Useful information comes at a cost; when the volume of information begins to engulf leaders, members' ready access to leaders takes a direct hit (Hemp, 2009). Accessibility overall is on the rise, as leaders feel the need to be constantly connected and available in and out of the workplace; but even as leaders value their ability to be instantly available, they prefer to be the ones initiating the contact rather than being on the receiving end (Kurtzman, 1993). Leaders in Kurtzman's study also preferred e-mail to voice mail or face-to-face communication for the ease and speed, and found more value in the messages they sent than in the messages they received. In this new technological reality of instant access, leaders are able to be constantly connected, which creates the illusion of needing to be constantly connected; during and outside of the workday. As TDC increases, the personal touch tapers off, even as leaders

say their organization would raise productivity with more face-to-face personal discussions (Martin, 2007). Organizational communication is much more important than most leaders acknowledge, and the failure of leaders to understand that face-to-face discussion is not only the best way to communicate with members, but is vital to the success of the organization costs the organization dearly in efficiency, productivity and the will to compete (D'Aprix, 1982).

Chapter Summary

LMX model research has primarily focused on the consequences of the LMX in a descriptive nature, describing the functionality of the dyad rather than how the dyad should operate (Phillips & Bedeian, 1994). Communication literature can be traced to 1689 when John Locke and David Hume performed studies on language and its communicability in social and ethical situations (Hay, 1974). Unlike LMX, communications literature has been mostly prescriptive in nature, following a traditional approach to communication practices (Yrle et al., 2003). While research has been conducted on the impact of communication in workgroups, research in this area has been mainly concerned with identifying best practices in communication styles as an organizational theory (Hay, 1974). The focus was on the identification of tactics and behaviors that can be applied across similar situations, positing a preferred best approach for all leader–member communications exchanges within a group of subordinates (Yrle et al., 2002). This approach suggests that some preordained communication quality elements are applicable for all subordinates, regardless of the situation, leaders or members involved. The underlying idea is that if the best practice and behavior could be

quantified, then if it was used by the leader it would improve leadership effectiveness and lead to member job satisfaction (Pettit, Goris, & Vaught, 1997). Research, however, presented evidence that situational leadership practices involving a prescriptive orientation for communication exchanges between superior and subordinate resulted in a low-LMX relationships, whereas leaders who members' characterized as effective leaders possessed "communication-mindedness" (Jablin, 1979, p. 1201) resulting in high-LMX relationships. The qualities of communication-mindedness are defined by the elements of empathetic listening, sensitivity, openness and persuasion rather than direction (Jablin, 1979). Subordinates who have leaders that exercise these characteristics of communication-mindedness draw a direct correlation between leader–member communication and leaders who are perceived as effective (Yrle et al., 2002). While communication competence is a prerequisite for effective leadership, it need not be prescriptive; but the message must be appropriate for the associated behavior in the context of the interaction (Wellmon, 1988). The impact of communication competence from a skills perspective confirms that higher performing leaders possess higher communication skills, and are thus able to adapt their message to the maturity of the member being addressed and move them to attain a goal (Payne, 2004).

The situational leadership theory developed by Ken Blanchard and Paul Hersey in 1969, proposed that the way in which a leader's relationship behavior interacted with their members was based in large measure on the maturity development level of the follower (Blank, Weitzel, & Green, 1990). The Blanchard–Hersey situational leadership model suggested that the maturity level of the member would have a direct influence on how the leader conducted business and later research showed that indeed, it is the

follower who determines the appropriate leader behavior, including level of communication (Yeakey, 2002). The situational leadership model was based on leadership having a fluid communication style adapted to their understanding of the needs of their members (Farmer, 2005). The Blanchard/Hersey situational leadership model matches the leaders leadership style to the development of the follower so that the leader is able to choose from a collection of distinct leadership and communication approaches and use each in just the right measure, at just the right time to elicit the best performance in his or her members (Goleman, 2000). Rather than follow just one single communication style with all members, leaders use strategic choice in selecting the right style for the demands of the given situation and the person (Goleman, 2000). Situational leaders are not trying to build a relationship, but simply desire to choose the right method to reach the member to accomplish a specific task. In situational leadership, leaders are expected to be more straightforward (directive) in their approach with members who are less mature, and may depart from the identified best communication practice noted in communication research and literature (Goleman, 2000). Situational leaders do not develop relationships to the extent required to affect long term performance because they operate in the moment, shifting their own style of leadership as conditions change in order to get the most out of their followers in that given moment for an explicit purpose (Johansen, 2006). While situational leadership theory and LMX theory are both classified as transformational leadership models; LMX goes a step further than situational leadership theory by focusing on leadership as a process with a series of interactions that grow the relationship between leaders and members (Lee, 2008).

Leaders who have high-LMX relationships with their members go beyond using social intelligence for their self-interest and view each relationship as a separate pairing necessitating the use of distinct communication techniques for the best interests of their members (Wawra, 2009). Under the dyad model, leaders use different communication methods and styles depending on the nature and maturity of the relationship with each member. High-LMX relationships are characterized by high levels of mutual effort on both sides and high communication flow (Maslyn & Uhl-Bien, 2001). In contrast, low-LMX relationships are characterized by dominance-like communication and autocratic decision making (Scandura et al., 1986; Sparrowe et al., 2006). Low-LMX relationships tend to have low-context communication; the leader assumes the member knows very little about the subject and must be told practically everything and given explicit direction (Wawra, 2009). In high-LMX relationships, the leader assumes the member is already "contexted", understands what is required, and does not need to be given descriptive detail, so the leader engages the member in high-context communication with more nonverbal communication (Wawra, 2009). Research by Gerstner and Day (1997) confirmed that leaders can expect to see positive outcomes when a member develops a high quality relationship with the leader; exhibited in increased job satisfaction, loyalty and commitment, and a decrease in employee turnover. In the team-based participative leadership style, high-LMX relationships are directly attributed to the leaders' participatory consultation tactics which recognize members' input to decision making and lead to a helping behavior in members (Sparrowe et al., 2006).

Emphasis on dyadic relationships is an important and unique feature of LMX theory, and it was originally expected that the dyads would view the relationship

similarly and there would be strong, positive agreement between the leader and member regarding the quality of the relationship (Graen & Uhl-Bien). Evidence suggests otherwise, as leaders and members often do not agree on the perceptions of the quality of the leader–member relationship (Schnake et al., 1990). It remains somewhat of an enigma as to why leaders' and members' views of the same relationship do not converge (Sin, Nahrgang, & Morgeson, 2009). Leaders need to understand that there are differences in perceptions of their own and the other party's behavior; each party's LMX quality perception depends on the perceived contribution of the other party moderated by their perception of their own contribution (van Gils, van Quaquebeke, & van Knippenberg, 2010). Leadership is personal; relationships develop when leaders and members spend time together, trust one another and gain respect for each other; it can only come about through focused interaction on a personal level (DeGrosky, 2009). To overcome LMX disagreement, leaders need to nurture and develop the personal relationship with high-quality interaction and frequent face-to-face communication with members (Mintzberg, 1975). New communication technologies cannot replace face-to-face contact in building leader–member relationships that drive organizational success.

LMX theory is a value-added process built on a reciprocal relationship, and extensive research has been conducted on various aspects of the relationship between leaders and members within an organization (Dienesch & Liden, 1986; Gerstner & Day, 1997; Graen & Uhl-Bien, 1995; Liden et al., 1997; Schriesheim et al., 1999; Wilson et al., 2010). The majority of the research has focused on the individual dyadic relationships and has not considered the social context of the relationship, and only scant attention has been devoted to communication traits as antecedents for the quality of the relationship

(Madlock et al., 2007). Work groups within organizations are inherently social units, deliberately constructed to seek common goals, and LMX must consider the social network in the context of the leader and the members. While LMX theory asserts that the social reciprocal relationship between the leader and the member defines the interaction (Chen et al., 2008) research needs to be done to examine the broader social environment in the context which exists in the 21st-century work settings. Leaders can build higher quality relationships with all members by paying attention to communication strategies and employing interactional behaviors that build rapport (Campbell et al., 2003). Rapport, or resonance, results from a leader being physically attuned to the members' mood, and results in a leader having social intelligence (Goleman & Boyatzis, 2008). Social intelligence is the science of human relationship; the ability to understand, manage and act wisely in human relationships; and is a requirement for leaders who want to be successful communicators (Wawra, 2009). Effective leaders with social intelligence communicate through rich media to manipulate their social environment and attain organizational goals.

The positive outcomes associated with high-quality LMX relationships; job satisfaction (Fix & Sias, 2006), performance beyond minimum job requirements (Graen & Uhl-Bien, 1991), and participative teamwork (Graen & Uhl-Bien, 1995), can all be personalized and improved through the use of rich communication media (Timmerman & Harrison, 2005). An investigation of the unique and relative perspectives of both parties of the dyad (leader and member) as they relate to the implications of leadership reliance on TDC, may lead to a nuanced understanding of LMX relationships. This study will

contribute to the literature on LMX by exploring the potential impact of TDL on leader–member relationships.

Chapter 3 describes the research methodology employed in this research study and identifies the statistical analysis and methods that were used to examine the questionnaire results.

CHAPTER 3. METHODOLOGY

This exploration is a quantitative inquiry-oriented descriptive research study with the aim of discerning insight into the issue of TDL and LMX. The aim of a quantitative study is to quantify relationships between variables; determine the relationship between one thing (independent variable) and another thing (dependent or outcome variable) in a specific population (Hopkins, 2000). In this particular study, the relationship between TDC and LMX is examined. This quantitative study employed a survey questionnaire regarding the use and preferences of the TDC by business leaders in positions of authority within a *Fortune 500* company. The study collected data on the behaviors of leaders who use this technology as a primary means of communication with members of the organization and explores the relational perceptions of those members to discern any potential effect on the LMX relationship. This leadership team was chosen because of their respective positions within the overall company and the interactions they have with team members co-located within a physical location. The survey instrument was designed using the Likert psychometric scale, and the collected data was analyzed using descriptive and inferential statistical techniques.

Research Design Strategy

Previous studies on LMX relationship focused on workplace settings where the work force was relatively stable, and where workers maintained steady contact within the organization on a face-to-face personal level (Schriesheim et al., 1999). Leaders and members in these settings built foundational social relationships that allowed them to interact and share substantial social, cultural and organizational knowledge and characteristics. Many of these prior studies examined the relationship between communication and performance (accomplishment) of the task (Michael et al., 2005). With the convergence of TDC tools and the information overload from e-mail and the Internet, leaders began to unconsciously distance themselves from face-to-face sharing with their members, turning to thumb-driven messages. Studies on the use of computer-mediated technology in conjunction with LMX have tended to focus on virtual teams with an emphasis on measuring outcome success factors for teams. Research in studies of virtual teams confirmed that use of CMCs increased productivity among members separated by time and space (Higa, Sheng, Shin, & Figueredo, 2000). Very few studies have been conducted on the effect of communication technology and LMX in settings where leaders and members are co-located. To that end, virtual teams were deliberately excluded from this study, and research data was collected only from leaders with members that are co-located in the same physical work facility.

The research design strategy took into account that the LMX relationship is influenced by many different elements. TDC practices by the leader are hypothesized to be a contributory cause having a significant effect on the LMX relationship. The phenomenon of leadership reliance on TDC practices is relatively new in the business

world and long-term implications are unknown. Initially a qualitative study along the lines of the phenomenological research approach had appeal because it would overlap with other qualitative approaches (including ethnography and symbolic interactionism); however, pure phenomenological research begins free of hypotheses or preconceptions; and most often it brings to the fore experiences and perceptions of individuals with an interpretive dimension. To be valid, it would require the use of an inductive qualitative methodology including interviews, discussions, and observations of participants over time, and therefore would not lend itself well to the short time frame of this study.

In lieu of lengthy participant interviews and researcher observations of participant practices, a cross-sectional survey based on a quantitative questionnaire was used to collect information on the use, behavior and perceptions of leaders. Quantitative studies allow the hypotheses to be tested using measurements that are objective, quantifiable and statistically relevant (Golafshani, 2003). The measurements can be summarized with an emphasis on facts and causes of behavior where the researcher can delimit the phenomena into measureable categories (Golafshani, 2003).

The research questions and hypotheses are concerned with the potential relationships (associations, or co-variations) between the demographic characteristics of the leaders, their TDL processes, and LMX relationships. Consequently, the research design is described as correlational. The limitation of a correlational research analysis is that it only has the power to infer causes or effects, not prove them (Ray, 1995). Causality as a fact can only be established if a measured effect can be proven to be a direct consequence of a measured event. In order to prove that a prescribed cause induces a measurable effect, a researcher must use an experimental design. Only by performing a

controlled experiment can a researcher measure how the variance in a dependent (outcome, criterion, or response) variable is directly influenced by the systematic manipulation of an independent (factor, treatment, or predictor) variable (Ray, 1995). The variables in this study were collected using a cross-sectional survey, in which the effects of leadership characteristics and processes on LMX relationships were ex post facto and could not be manipulated or controlled by the researcher. The correlational research design could only test for the existence of conjoint (associated or co-varying) distributions of two or more variables using statistical analysis. Causal relationships cannot be proven and defined purely in terms of statistics; empirically observed correlation is an essential (but not a sufficient) condition for proving causality (Pearl, 2009). The assumption is often made that if a statistical relationship (e.g., a correlation coefficient between two variables) is more than that expected by random chance (indicated by $p < .05$) then it may be intuitively recognized, in a hypothetical context, that one variable has a causal influence on the other (Holland, 1986). The correlation research design of this study assumes that that the analysis of the relationship between demographic characteristics, the TDC practices of the leaders, and the perceived LMX relationships can be interpreted in terms of hypothetical cause and effect associations.

Sampling Design

The survey was sent to leaders within a specific organization in one company responsible to lead organizations that are co-located in the same geographic facility. The population is a finite group of individuals composed of a mixed group of leaders within one *Fortune 500* company. The entire sample population reports up to one individual

who granted permission for the survey to take place in the organization. The survey was sent to all members of this leadership team. The rationale for using this population for the survey includes both convenience and appropriateness as defined by Swanson and Holton (2005); both are present for the researcher, who is also a member of this leadership team. The team leads a manufacturing operation that regularly utilizes new processes, methodologies and materials; technology plays a key role in the successful accomplishment of their task. The organization structure of this team is hierarchical in nature, and the leaders in this population are a diverse mix: male and female, of varying ages, backgrounds, nationalities, education levels and leadership experience. The purpose of this study is to understand how this leadership group uses and perceives thumb-driven communication; the data was collected from leader–member dyads as identified on the organization chart as executives (designated E); third-level managers, also called directors (designated M); second-level managers, also known as senior managers (designated L); and first-level managers, also referred to as supervisors (designated K). The organizational authority hierarchy of the leadership team maintains that persons designated with E are a higher position/level than M, the M is higher than L, and L is higher than K. As such, supervisors (K) report to senior managers (L); senior managers (L) report to directors (M); and directors (M) report to executives (E). To gauge the perspective of both ends of the leader-member dyad, the study participants consist of management personnel who lead various groups within the overall organization and are leader-member to each other in this hierarchical structure.

The research was conducted using an electronic survey instrument only (no paper copy of the survey was provided) with participants asked to select the most appropriate

response for their personal use/perception for each statement/question. Closed-ended statements and questions with predesigned response choices were utilized for enhanced consistency in the coding and analyzing process. With objective choices, there is less subjective bias on the part of the researcher; vigilance was taken to mitigate bias and potential contamination as the researcher and the participants are all members and colleagues of the same overall organization. Bias mitigation was achieved by using only data gathered as a result of this study; any researcher knowledge, anecdotal or experiential, was not used to influence participants or results. The data provided was examined and used to determine emergent themes, patterns and consistency among the respondents.

Sample

This study required a representative sample of leaders, so that inferences can be drawn pertaining to the overall population of leaders in this company. This ensures that the study has external validity and that the results can be generalized and extrapolated from the sample to the overall population (Hopkins, 2000). Generally, the larger the sample size, the greater assurance that the answers from the sample reflect the overall population and the broader extent that the results can be generalized and extrapolated to the entire population. Within the hierarchy of this organization, the total population of leaders available for this survey is 693 (see Table 1) comprised of the four levels: executive (33), directors (46), senior managers (123) and supervisors (491). Assuming a 95% confidence level (a margin of error of ± 5% in the answers) then the minimum sample size required for this survey is 247 respondents (Creative Research Systems,

2010). It is expected that there will be no selection bias, since the sample will be inclusive of the entire leadership team and thus will be representative of the overall company population.

Table 1. Survey Population

Leader level	Population size	Female	Male
Executive (E)	33	5	28
Director (M)	46	6	40
Senior Manager (L)	123	18	105
Supervisor (K)	491	92	399
Total	693	121	572

Setting

The questionnaire was distributed exclusively via electronic means to reduce any potential for peer, supervisor, social or environmental influence. There was no paper survey available for this study. Participants received an introductory e-mail explaining the purpose of the study, providing the necessary authorizations for their participation and the link to the actual survey. There was a designated time frame for completion of the survey, and after the deadline, no results were considered. Participants were made aware of the deadline and reminded prior to the deadline to submit their questionnaire if they wished to be included in the report. Participation rates were calculated on the population receiving the survey and how many of those completed the questionnaire by the deadline

and satisfied the data-screening criteria for completing the survey. To be included in the study results, respondents had to meet two criteria: (a) answer *Yes* to Q2, "*Do you have a Company-provided Blackberry? If yes, continue; if no, STOP and submit form?*" and (b) answer all questions with no missing values that might cause response bias. The survey results and recommendations were briefed to the leadership team of the organization allowing the research to take place, and a copy of the final report was given to the organizational leader who authorized the study and all participants who requested one.

Instrumentation

Quantitative researchers are required to collect data using an instrument that can be administered in a standardized manner to predetermined procedures (Golafshani, 2003). The study was conducted via electronic survey instrument only (no paper copy of the survey was provided) with participants asked to select the appropriate response for their usage, preference or perception for each statement/question. There are some inherent risks involved with any web survey, and studies have demonstrated that the same question posed via electronic means and in print or in person can yield very different answers (Morrel-Samuels, 2003). Every care was taken to ensure that all issues were understood, addressed and corrected to ensure the responses would limit distortions experienced in many web surveys by following the admonitions and advice generated by survey research conducted by Morrel-Samuels (2002, 2003). Considerations of language, conceptualization, design, sampling, analysis and measurement were constructed within the knowledge base defined by Trochim (2000). The survey itself was designed following standard approved survey formats (Dillman, 1978; McColl et al., 2001; Morrel-Samuels,

2002; Trochim, 2000) with deliberate testing for survey myopia (Andreasen, 1983). Concept mapping was conducted to develop a conceptual LMX framework for the overall study, brainstorm ideas for research, and formulate good research questions (Trochim, 2000; Trochim, Cook, & Setze, 1994) combining LMX and TDL. The final instrument for this study evolved from the concept mapping exercise and was designed using the Likert psychometric scale. The collected data was analyzed using descriptive and inferential statistical techniques to allow comparison between groups or respondents (Agresti, 2007). The use of Likert scales allowed for quantitative analysis of numerically coded responses. Respondents were asked to evaluate a statement/question and choose the best answer that most fits their personal behavior or perception. Likert scaling is a bipolar method usually employing an odd point ordered response level scale to measure either perceived positive or perceived negative responses to a statement (Clason & Dormody, 1990). Likert-type scales measure the extent to which a person agrees or disagrees with the statement or question, and are useful for coding of responses to illuminate trends and themes. Likert designed the scale in 1932 with five response alternatives (*strongly approve*, *approve*, *undecided*, *disapprove*, and *strongly disapprove*) but he implied that the number of alternatives and the choice selections were open to manipulation (Clason & Dormody, 1990). While many psychometricians advocate use of the odd-point ordered response system to produce a higher mean score (Dawes, 2008), the odd scale allows for a neutral response (usually framed as *neither agree nor disagree*) which may render the results unusable for any depth of understanding.

For this study questionnaire, the researcher chose to utilize a variable point scale with no middle ground to force respondents towards one end or the other and to compel

participants to make a conscious choice on each statement. When it is offered, an explicit middle alternative will often be taken by respondents in a forced choice situation to keep them from having to select in the direction of either a perceived positive or negative response. Very few individuals are truly in the middle on a particular issue, so the use of a neutral alternative sometimes renders results impractical for analysis, as participants in the survey may avoid using either end of the extreme response category or try to portray themselves (and the organization) in a more favorable light. Likert scales with a middle or neutral option can be subject to some distortion; but by taking the middle option off the table and supplying an equal number of what may be viewed as positive or negative responses, participants were forced to choose an answer in one direction or the other.

The survey consisted of 27 questions (some with sub-elements) that cover demographics (which will be the *n*), usage, preferences, and relational perceptions regarding thumb-driven practices and LMX. Survey Question 2 was included as the criteria determinant on whether the participant is eligible to complete the survey: "*Do you have a Company-provided Blackberry? If yes, continue; if no, STOP and submit form*." The demographic questions purposefully did not ask for any PII but recorded sufficient characteristics about the respondents to identify the population from which they are drawn (Hopkins, 2000). This information was used only for grouping and sorting purposes for statistical inference comparisons and data analysis. The 20 questions which followed the demographic section asked questions in regard to usage, preferences and perceptions; there were no sections of the survey labeled as usage, preference and perception; and the questions were deliberately alternating in type and mixed together.

The key to which questions correlated to which category was unknown to the survey participants; Survey Questions 11,13,18, 21, and 22 were usage in nature; Survey Questions 10, 12, 14, 17, 20, 23, 24, 26, and 27 were perceptional; and Survey Questions 8, 9, 15, 16, 19, and 25 were preference related. The perceptual and preferential questions constitute the dependent variables for this survey instrument; for statistical mapping, all of the questions are ordinal in nature except for four questions (7, 8, 20, and 26; see Tables 2 and 3). A range of response choices were provided for each question where either of the two extreme selections may have signaled a more positive choice for individual respondents, but no consistency was employed to make one end or the other always positive or always negative as the intent is to determine what the respondents perceive as best fits their behavior. Different response choices were used in each scale depending on the nature of the statement or question. Using forced-choice responses can have an inherent disadvantage of providing little depth of substance to the answer since respondents have limited choices, but the questionnaire is designed to elicit themes and common threads and the data will be analyzed with this in mind. By also including the option to provide comments at the end, respondents were able to offer some explanation for their choices if they wished. Items were averaged within a section and by positional demographic to create a scale score for each set. The quantitative nature of this study approach is designed to illuminate behavior and mind-set from the participants to gain a clear understanding of the relationship between thumb-driven devices, leadership communication practices, and LMX.

No existing survey instruments could be found that measured TDL communication practices and LMX. Survey instruments for use, sorting, sending and

receiving of e-mail, SMS texting and mixed-media communication practices were found, and similar questions for this study were modeled after questions from those instruments. In keeping with established survey practices, the survey instrument for this study was designed so that as many people as fit the inclusion criteria as possible could respond; questions were phrased with common terms familiar to the intended group of respondents, and there were no questions that required ranking (Palmer, 2002). The questions inquired about personal behavior and perceptions that could have a link to leader–member performance.

No formal field test was conducted, but the researcher consulted with a panel of PhD-tenured professors for input on the design and selection of questions for the survey in addition to the input received from the dissertation committee members and the dissertation chair. The draft questionnaire, along with an explanation of the purpose of the study, the dissertation proposal and the hypothesis, was presented to the panel and the dissertation committee who made many comments concerning format, question structure, length, confusing wording, and question purpose. Their feedback, suggestions and recommendations over several iterations drove the resulting survey which was again sent to the panel and committee for review. It was found by these two groups to have fulfilled all the criteria for construction of an effective questionnaire and there were no additional suggestions for changes to the wording or the structure of the questionnaire. Final comments from the reviewers included: the questions are short, clear, and straightforward with simple easy wording. Negative wording, reverse coding, sensitive topics, and threatening questions are avoided. The questions are numbered, grouped and organized into a logical sequence. There are no confusing instructions to skip certain questions. The

survey begins with simple general items about the demographic characteristics of the respondents, leading to specific items about thumb-driven communication practices.

Data Collection

The data collection method was via quantitative questionnaire, and the survey contained statements/questions where participants were asked to 'mark the most applicable response' as it pertains to their communication practices. The statements and questions included in the study were designed to expose common emergent themes. Although the survey explanation and informed consent form were sent electronically to the potential participants business e-mail address, the e-mail contained a separate link to a secure database where the users completed the survey, and all survey submittals went directly into this secure database (not to the researcher) without reference notation as to which specific individual completed the form. All survey data was isolated in this secure database during the 2-week data collection period and results were only accessible by the researcher using a unique username and pass-code. At the conclusion of the 2-week data collection period, a summary of participation rate (how many participants completed the survey meeting both elements of the inclusion criteria versus how many were requested) and all survey data was downloaded from the secure server to the researcher's personal computer drive and backup disk, both of which are only accessible to the researcher with the correct username and pass-code. Fourteen weeks later the all survey data held on the secure server was automatically deleted. Survey data will be retained in electronic form by the researcher following normal research protocols for 1 year following publication of

the researcher's dissertation, and in secured hard-copy printed data document for 7 years (Creswell, 2007).

Data Analysis

This study collected data using Likert-type item scales, which are versatile because they can be summated or individually analyzed using a variety of statistical methods (Clason & Dormody, 1990). It is imperative before choosing and using statistical methods to specify the measurement levels of the variables, since different measures require specific methods of analysis (Dytham, 2003; Rae & Parker, 1997). The variables collected were specified in the SPSS data editor as nominal, ordinal, or interval level. Consequently, before describing and justifying the methods of statistical analysis chosen for this study, the numerical codes (SPSS value labels) and measurement levels used to specify the responses to the questionnaire items are listed in Tables 2 and 3. The definition of the measurement levels are as follows.

Nominal variables. Consist of qualitative categories (e.g., gender or preferred communication medium). Although it is necessary to code each category numerically for purposes of statistical analysis in SPSS (e.g., 0 = female, 1 = male to represent gender or 1 = e-mail, 2 = text/IM, 3 = phone, 4 = face-to-face to represent communication medium) the numbers are just convenient labels, and do not imply that one category is ranked higher or lower than any other category. Mathematical operations (e.g., summation and computation of mean values) cannot be performed on nominal variables.

Ordinal variables. Consist of coded categories in which the numbers represent a hierarchy of attributes ranked in a logical order (e.g., 1 = first, 2 = second, 3 = third or 1 =

small, 2 = medium, 3 = big); however each number does not specify an absolute amount or magnitude, because the intervals between each adjacent point on an ordinal scale are not exactly equal. Mathematical operations on ordinal variables are restricted. The summation or computation of mean values of ordinal variables may be performed, but is controversial because it may provide misleading or erroneous results.

Interval variables. Consist of absolute amounts or magnitudes with an equal interval between each adjacent point on the scale. All types of mathematical operations can be performed using interval level variables.

All of the variables in Tables 2 and 3 are categorical, measured at either the nominal or ordinal level using a fixed range of numerically coded responses. No interval level variables were collected.

The cases (in the rows) and the variables (in the columns) were stored in the SPSS data editor where the data was screened and cleaned using the methods described by Hair, Anderson, Babin, Tatman, and Black (2010). The missing values (null responses) were counted and the response rate for each participant (number of completed items/total number of items) was computed. Systematic patterns in the distribution of missing values were recorded. Invalid cases (i.e., participants with more than 20% null responses) were excluded since they could bias the results.

Table 2. Value Labels and Measurement Levels for Demographic Variables

Item	Value labels for categories	Measure
1. What is your current position/level?	1 = Executive (E) 2 = Director (M) 3 = Senior Manager (L) 4 = Supervisor (K)	Ordinal
3. How long have you held your current position?	1 = 0–5 years 2 = 6–12 years 3 = 13–19 years 4 = 20–25 years 5 = 26–30 years 6 = 31+ years	Ordinal
4. How long have you been in management?	1 = 0–5 years 2 = 6–12 years 3 = 13–19 years 4 = 20–25 years 5 = 26–30 years 6 = 31+ years	Ordinal
5. What shift do you work?	1 = 1st 2 = 2nd 3 = 3rd	Ordinal
6. How many direct reports do you have?	0 = 0 1 = 1–9 2 = 10–19 3 = 20–29 4 = 30–39 5 = 40+	Ordinal
7. What is your gender?	0 = Female 1 = Male	Nominal

Table 3. Value Labels and Measurement Levels for Usage, Preferences, and Perceptions

Item	Value labels for categories	Measure
8a–d. What is your preferred communication medium when (a) receiving direction from supervisor; (b) giving information to supervisor; (c) giving direction to direct reports; (d) general work use?	1 = E-mail 2 = Text/IM 3 = Phone 4 = Face-to-face	Nominal
9a–d. Estimate what percent of the communication you receive from your immediate supervisor is via:	1 = Face-to-face 2 = Phone 3 = E-mail	Ordinal
10a–b. Does it bother you when you see other people using their Blackberry during a meeting when (a) you are the presenter (b) a participant?	1 = Never 2 = Sometimes 3 = Most of time 4 = Always	Ordinal
11a–g. Do you check your Blackberry if you receive an alert when you are (a) participant in a meeting; (b) leader of a meeting;(c) delivering a presentation; conversing with (d) peer (e) direct report; (f) immediate supervisor; (g) higher level leader?	1 = Never 2 = Sometimes 3 = Frequently 4 = Always	Ordinal
12a–b. When you see other people working on their Blackberry during a meeting do you feel they are effectively able to (a) follow the speaker; (b) participate in the discussion?	1 = Never 2 = Sometimes 3 = Most of time 4 = Always	Ordinal
13. During a normal workday, how much time do you spend working on your Blackberry?	0 < 1 hour 1 = 1 hour; 2 = 2 hours 3 = 3 hours 4 = 4 hours	Ordinal
14a–b. If you e-mail/text on your Blackberry during a meeting do you feel you are effectively able to (a) follow the speaker; (b) participate in the discussion?	1 = Never 2 = Sometimes 3 = Most of time 4 = Always	Ordinal

Table 3. Value Labels and Measurement Levels for Usage, Preferences, and Perceptions (*continued*)

Item	Value labels for categories	Measure
15a–c. Estimate what percent of the communication you give to your direct reports is via (a) face-to-face; (b) phone; (c) e-mail.	1 = 0–10% 2 = 11–20% 3 = 21–30% 4 = 31–40% 5 = 41–50% 6 = 51+%	Ordinal
16a–b. How much time do you spend per week in personal face-to-face relationship building with your (a) direct reports; (b) immediate superior?	0 = None 1 = 1–30 min 2 = 31–60 min 3 = 1–3 hours 4 = 3–5 hours	Ordinal
17. My individual personal relationship with my immediate superior is:	0 = Nonexistent 1 = Insufficient 2 = Adequate 3 = Strong	Ordinal
18a–b. How many e-mails do you typically (a) receive and (b) send in a workday?	1 = Less than 30 2 = 31–75 3 = 76–120 4 = 121–170 5 = 171–220	Ordinal
19a–c. How do you think your (a) direct reports; (b) peers; (c) immediate supervisor want you to communicate with them?	1 = E-mail 2 = Text/IM 3 = Phone 4 = Face-to-face	Nominal
20. I am inclined to work harder when my supervisor asks me:	1 = Face-to-face 2 = E-mail/text 3 = No difference	Nominal
21. After you leave work on the workday, how much time do you typically spend checking work-related alerts or performing work-related tasks on your Blackberry?	0 = None 1 = 1–30 min 2 = 31–60 min 3 = 1–3 hours 4 = 3– 5 hours 5 = 5+ hours	Ordinal

Table 3. Value Labels and Measurement Levels for Usage, Preferences, and Perceptions (*continued*)

Item	Value labels for categories	Measure
22. On the weekend, how much time do you typically spend checking alerts or performing work related tasks on your Blackberry?	0 = None 1 = 1–30 min 2 = 31–60 min 3 = 1–3 hours 4 = 3–5 hours 5 = 5+ hours	Ordinal
23a–c. How much of a contributing factor is the communication style of your immediate supervisor to your (a) loyalty to supervisor; (b) decision to stay; (c) commitment to supervisor; (d) decision to advance?	0 = None 1 = Small 2 = Medium 3 = Big	Ordinal
24a–b. How important is personal relationship building with (a) your direct reports; (b) your immediate supervisor, to the achievement of your organizational business goals and objectives?	1 = Not important 2 = Somewhat 3 = Very 4 = Essential	Ordinal
25a–c. During a 5-day week, outside of formal meetings, how much time to you spend in face-to-face conversations with your (a) direct reports; (b) immediate superior; (c) peers?	1 = < 1 hr/week 2 = 1–3 hr/week 3 = 4–6 hr/week 4 = 7–11 hr/week 5 = 11+ hr/week	Ordinal
26. What is the primary communication style of your immediate supervisor with you?	1 = Face-to-face 2 = Phone 3 = E-mail 4 = Text/IM	Nominal
27. I believe my immediate superior deserves my loyalty.	1 = Completely disagree 2 = Disagree 3 = Agree 4 = Completely agree	Ordinal

In addition to the Demographic category, the variables measured using the questionnaire items have been classified into three types, denoted as usage, preference, and perception (see Table 4). The Demographic category includes personal characteristics which partition the participants into mutually exclusive groups. The Usage category includes the times and proportions of use of different types of communication medium by the participants, their supervisors, or direct reports. Usage was measured by item scales in which a low score corresponds to low usage of communication media and a high score corresponds to high usage. The Preference category includes the inclinations of the participants, supervisors, or direct reports to use specified types of communication media. Preference was measured by item scales in which a low score corresponds to a low inclination towards specified types of communication media and a high score corresponds to a high inclination. The Perceptions category includes opinions expressed by the participants concerning their relationships with supervisors, and their perceived responses to the use of different types of communication media. Perception was measured by item scales in which deleterious relationships or negative responses correspond to low scores and beneficial relationships or positive responses correspond to high scores.

Table 4. Classification of Variables

Item	Variable	Classification
1	Current position/level	Demographic
3	Time in current position/level	Demographic

Table 4. Classification of Variables (*continued*)

Item	Variable	Classification
4	Time in management	Demographic
5	Shift	Demographic
6	Number of direct reports	Demographic
7	Gender	Demographic
8	Participant's preferred type of communication medium	Usage & Preference (RQ3)
9	Supervisor's percentage use of different types of communication media	Usage & Preference (RQ3)
10	Participant 's perceptions to use of Blackberry at a meeting (1)	Perception (RQ2)
11	Participant's frequency of use of Blackberry	Usage (RQ1)
12	Participant's perceptions on use of Blackberry at a meeting (2)	Perception (RQ2)
13	Participant's time spent using Blackberry	Usage (RQ1)
14	Participant's perceptions on use of Blackberry at a meeting (3)	Perception (RQ2)
15	Participant's percentage use of different types of communication medium	Usage & Preference (RQ3)
16	Participant's time of use of face-to-face communication	Usage & Preference (RQ3)
17	Participant's perceptions of strength of relationship with supervisor	Perception (RQ3)
18	Participant's frequency of use of e-mail	Usage (RQ1)
19	Supervisor's or direct report's preferred type of communication medium	Usage & Preference (RQ3)

Table 4. Classification of Variables (*continued*)

Item	Variable	Classification
20	Participant's perceived responses to use of different types of communication media	Perception (RQ3)
21	Participant's time of use of Blackberry after work	Usage (RQ1)
22	Participants time of use of Blackberry at weekends	Usage (RQ1)
23	Participants perceived responses to communication style of supervisor	Perception (RQ3)
24	Participants perceived level of importance of personal relationship building	Perception (RQ3)
25	Participant's time of use of face-to-face conversations	Usage & Preference (RQ3)
26	Supervisor's preferred type of communication medium	Perception (RQ3)
27	Participant's perception of level of loyalty to supervisor	Perception (RQ3)

Descriptive statistics were used to summarize the variables classified as Demographic in Table 4. The frequency distributions (counts and percentages) of the personal characteristics were computed and tabulated to summarize the demographic profiles of the participants.

A descriptive analysis of the responses of the participants to the 20 items in Table 4 classified by Usage, Preference, and Perception was performed. The frequency distributions (counts and percentages) of the responses to each item were tabulated. It was expected that the distributions of the responses would be skewed so that the modes would not consistently be at the center, so parametric statistics (e.g., means and standard

deviations) were not appropriate to summarize the scores (Cliff, 1996; Kahler, Rogausch, Brunner, & Himmel, 2008; Long, Feng, & Cliff, 2003) and were not used. Categorical methods of descriptive analysis (Agresti, 2007) were used to summarize the trends in the skewness, modes, and medians (50th percentiles) of the scores for each item.

Inferential statistical analysis was used to test the null hypotheses or default conditions in which no significant relationships between dependent and independent variables are assumed. The conventional decision rule was to reject the null hypothesis (H_0) if $p \leq .05$ for a test statistic. The rejection of the null hypothesis implies a probability of 5% or less that the result is due to random chance; rejecting the null hypothesis provides evidence to accept the alternative hypothesis (H_A). If $p > .05$ then the null hypothesis is not rejected, implying that the probability is 5% or greater that the result is due to random chance. The prescription of the .05 level of significance implies a one in 20 chance of making a Type I error (i.e., falsely rejecting a null hypothesis, when the data are, in fact, consistent with the null hypothesis). If a null hypothesis is not rejected, it cannot be inferred that the null hypothesis is true; only that there is insufficient evidence to reject the null hypothesis. Failing to find statistical evidence for a relationship between variables does not constitute evidence of no relationship, since a meaningful relationship in the population may be obscured by sampling errors (Field, 2009).

The inferential statistical tests for the three null hypotheses, the test statistics, and the dependent and independent variables that were used in each test are outlined in Table 5.

Table 5. Inferential Statistical Tests

Null hypothesis	Inferential statistical test	Test statistic	Dependent variables (items)	Independent variables (items)
$H_0$1	Kruskal–Wallis	Chi-square	11, 13, 18, 21, 22	2
$H_0$2	Kruskal–Wallis	Chi-square	10, 12, 14	2
$H_0$3	Categorical correlation	Cramer's V	17, 20, 23, 24, 26, 27	8, 9, 15, 16, 19, 25

The first hypothesis tested by inferential statistics was be $H_0$1: *All positions/levels of leaders do not have an apparent need to be continually connected and consciously choose not to allow themselves to be interrupted by electronic alerts regardless of the situation.*

The ordinal level dependent variables used to test this hypothesis are classified by Usage in Table 4, which included the scores for Items 11 (participant's frequency of use of Blackberry), 13 (participant's time spent using Blackberry), 18 (participant's frequency of use of e-mail), 21 (participant's time of use of Blackberry after work), and 22 (participant's time use of Blackberry at weekends). The nominal independent variable used to test the hypothesis was the position/level of the leader (Item 2) a demographic variable coded by 1 = executive (E); 2 = director (M); 3 = senior manager (L); 4 = supervisor (K). Both the dependent and independent variables are categorical, so that nonparametric statistics were appropriate to test $H_0$1 (Agresti, 2007). Kruskal–Wallis tests based on the chi-square statistic were used to determine if there are significant

differences at $p < .05$ between the median scores for Items 11, 13, 18, 21, and 22, with respect to the four categories of leaders defined by their position/level. The results were used to determine if (a) a continuous high level of TDL practices are consistently used by all leaders, irrespective of whether they are executives, directors, senior managers, or supervisors; or (b) executives (E), directors (M), senior managers (L), and supervisors (K) exhibited significantly different levels of low and high usage of TDL practices.

The second hypothesis tested by inferential statistics was $H_0 2$: *The perceived effectiveness of all positions/levels of leaders is not diminished by a member's observation of the leader engaging in side electronic conversations via thumb-driven technology while speaking or participating in meetings.*

The ordinal level dependent variables used to test this hypothesis were classified by Perception in Table 4, specifically the scores for Items 10, 12, and 14 (participant's perceptions of Blackberry use at a meeting, partitioned into 1, 2, and 3). The independent variable was the position/level of the leader (Item 1), a demographic variable defined nominally as 1 = executive (E) 2 = director (M); 3 = senior manager (L); 4 = supervisor (K). Both the dependent and independent variables are categorical, and therefore nonparametric statistics were appropriate to test $H_0 2$ (Agresti, 2007). Kruskal–Wallis tests based on the chi-square statistic were used to determine if there are significant differences at $p < .05$ between the median scores for Items 10, 12, and 14, with respect to the four categories of leaders defined by their position/level. The results were used to determine if (a) the levels of the participants' perceptions about the effectiveness of thumb-driven communication practices are the same among all participants, irrespective of whether they are executives (E), directors (M), senior managers (L), and supervisors

(K); or (b) if executives (E), directors (M), senior managers (L), and supervisors (K) have a significantly different range of perceptions about the effectiveness of thumb-driven practices.

The third null hypothesis tested by inferential statistics was $H_0$3: *Member loyalty and/or commitment are not influenced (i.e., are not correlated with) the communication method employed by the leader.*

The nominal or ordinal level independent variables used to test this hypothesis are classified by Usage and Preference in Table 4, specifically the scores for Items 8 (participant's preferred type of communication medium), 9 (supervisor's preferred use of different types of communication medium), 15 (participant's percentage use of different types of communication medium), 16 (participant's time of use of face-to-face communication), 19 (supervisor's or direct report's preferred type of communication medium), and 25 (participant's time of use of face-to-face conversations). The ordinal or nominal dependent variables are classified by Perception in Table 4, specifically scores for item 17 (participant's perception of strength of relationship with supervisor), 20 (participant's perceived responses to use of different types of communication media), 23 (participant's perceived responses to communication style of supervisor), 24 (participant's perceived level of importance of personal relationship building), 26 (supervisor's preferred type of communication medium), and 27 (participant's perception of level of loyalty to supervisor).

Since the dependent and independent variables are measured at the ordinal and nominal levels, a method of correlation analysis that is appropriate for categorical variables is required (Agresti, 2007). A matrix of Cramer's V correlation coefficients was

computed between the dependent and independent variables. The variables to compute Cramer's V coefficient are the frequencies of the categorical responses to two items, which were cross-tabulated into rows and columns. A larger value of Cramer's V coefficient equates to a greater strength of association (correlation) between two categorical variables. A Cramer's V score of less than .15 indicates a weak association between dependent and independent variables. A Cramer's V score of greater than .25 indicates a strong correlation between the dependent and independent variables.

The null hypothesis of no correlation was rejected if $p < .05$ for the Cramer's V coefficient. The interpretation of Cramer's V coefficients were < 0.1 = little, if any, correlation; 0.1–0.3 = low correlation; 0.3–0.5 = moderate correlation; > 0.5 = high correlation. Moderate to high correlation at $p < .05$ was used to provide evidence that there is a hypothetical possibility of a causal relationship between the independent and dependent variables.

Validity and Reliability

Validly measures whether the test truly, effectively and objectively evaluates what it was designed and intended to determine; reliability is achieved when the instrument yields consistent results (Cooper & Schindler, 2008; Swanson & Holton, 2005). Scientific research method is the primary means for achieving internal, external and statistical validity wherein a proper conclusion can be reached from the sample population in regards to the larger population (Hopkins, 2000). Quantitative research relies on construct validity; the initial concept, inquiry or hypothesis that determines which data is to be collected and how it will be gathered (Golafshani, 2003). This

quantitative study was constructed to examine the correlation between TDL communication practices and the LMX relationship. While measures, samples and designs do not have validity, those elements should lead to valid conclusions to enable valid inferences. Validity and reliability are further demonstrated in the extent to which the scale used produces consistent results that can be extrapolated to make correct conclusions, and are replicable (Hopkins, 2000). In some cases repeatability is obtained using different administrations to test and retest the scale. To build some measure of validity and reliability into the survey and the resulting data collected, a pretest was given to evaluate the competency of the questionnaire. A select group of respondents who share the same characteristics and demographics as the formal survey participants were asked to pilot test the survey in order to determine comprehension of the questions, relevancy, validity, sequence, wording style and interpretation. The pilot test participants were drawn from the same four demographic groups as the population selected to complete the final survey. The pilot test was designed to determine whether there was reasonableness of anticipated outcomes for the hypotheses as they were presented. The respondents in the pilot test are known by the researcher, but steps were taken to ensure that they face no inherent risks or paycheck vulnerability. There was no compensation for participating in the pilot test and participation was strictly voluntary; participants were given the option to withdraw from the pilot test at any time they so desired by notifying the researcher. Participating, electing not to participate, or withdrawing from the pilot test had no affect on individual entitlements, did not impair any family relationships, and had no connection to job retention or constraint to job advancement. There was no pressure to either participate or not participate from the researcher, the company, superiors or peers.

While no PII was asked on the survey itself, in the pilot test, the individuals who chose to participate and complete the survey were known to the researcher and interviewed regarding their impression and feedback on the overall survey, but not questioned concerning their individual responses. The participants were given information about the study and asked to sign informed consent forms before being allowed to participate in the pilot test, confirming that they understood the study, the context and objectives of the study, and voluntarily agreed to participate in the survey and the discussion that followed. Pilot study participants were asked to complete the survey and note their start and stop time in order to determine the length of time it took to complete the survey. They were further asked to meet in a discussion group with the researcher to provide feedback and make suggestions for improvement on the overall survey form; no discussion took place concerning their individual answers on the survey. The total time commitment for the participants in the pilot test was 90 minutes. The pilot survey data and participant feedback information was considered by the researcher in revisions to the final survey version submitted for the research project to the dissertation committee and the Capella University Institutional Review Board (IRB). The pilot test surveys completed by the pilot test participants were collected and analyzed as a test for the data methodology, and were then shredded and destroyed. No individual forms were kept by the researcher, nor were they shown, given or kept by the company or the organization. The pilot study data analysis was not included in the formal study results.

Ethical Considerations

Once the study was designed and the survey questionnaire finalized, a detailed dissertation proposal was submitted to the researcher's dissertation committee and to Capella University for Scientific Merit Review and IRB approval. After both review approvals were obtained and the dissertation committee gave their agreement, the survey process went forward. In an effort to ensure that the study was ethically conducted and all participants understood the process, participants were fully informed about the nature of the study and apprised of their rights before they completed the questionnaire. Accepting the terms of participation as outlined in the survey e-mail was considered given when a participant selected the survey link included in the explanation. Selecting the link constituted acknowledgement by participants that they understood and agreed to the parameters of their participation in the study.

The conduct of the researcher and the proposed study followed the principle of beneficence that demands the researcher is truthful when reporting results and that he/she 'do no harm' to participants (Cooper & Schindler, 2008; Swanson & Holton, 2005). The researcher also complied with Capella University's IRB which requires that all research conducted under its sponsorship is performed in accordance with all federal regulations regarding the use of human subjects for research. The researcher made every effort to comply with those ethical guidelines and protect the rights of the study participants (Cooper & Schindler, 2008) to ensure the study was ethically conducted.

Although 100% participation is desirable, the participants who received the e-mail notice of the survey were not required to complete the survey, nor were there any consequences for nonparticipation. To ensure anonymity, participants were not asked or

required to provide any PII when completing the questionnaire. The demographic information collected was only used for the purpose of sorting and grouping responses. To preclude any consequential actions, participation or nonparticipation was not identifiable or in any way traced or known by the researcher or the organization. Participation was completely voluntary and at the discretion of the respondent; there were no inducements (monetary or otherwise) offered which could arbitrarily increase involvement. There was no paycheck vulnerability for participation or nonparticipation, nor any correlation to job retention or job advancement. The anonymous online design of the survey reduced the potential for personal risk and no attempt was made to match individual respondents with demographic data. Safeguards and considerations for privacy were built into the research design for the protection of individual respondents and the overall organization. Ethical issues regarding confidentiality, privacy and anonymity of participants' data in the collection, analysis and interpretation of information were also provided for following strict protocols.

Chapter 4 presents the findings of the research analysis performed on this study.

CHAPTER 4. RESULTS

Introduction

The results and research findings are presented in eight sections. The first two sections provide information about the data screening and the demographic profile of the participants. The next three sections present the frequency distributions of the participants' responses concerning their usage, preferences, and perceptions with respect to different categories of communication media. The final three sections present the results of the inferential statistics used to test the null hypotheses listed in the inferential statistics tests (see Table 5). Appendix A displays a tabulated summary of response rates, and Appendix B depicts graphic comparisons between leadership levels for each survey question.

Data Screening

A database was constructed in the SPSS predictive analytics software editor containing item scores for $N = 363$ respondents who completed the questionnaire. The inclusion criteria for data screening were (a) the respondent must answer yes to Q2: "*Do you have a Company-provided Blackberry? If yes, continue; if no, STOP and submit form*" and (b) the respondent must answer all of the items, with no missing values that might cause response bias. Twenty-six respondents, totaling 7.16% of the overall

respondents (comprised of 0 executives (E); 2 directors (M); 1 senior manager (L); and 23 supervisors (K) reported on Question 2 that they did not have a Blackberry so did not satisfy these criteria and were excluded even if they answered other survey questions. The remaining 337 respondents met both criteria making the sample size used for the data analysis $N = 337$, representing a valid response rate of 92.84% of the total respondents.

Demographic Profile

The frequency distributions (counts and percentages) of the six personal characteristics of the respondents collected using Items 1, 3 to 7 were tabulated to construct a demographic profile (see Table 6).

The sample consisting of $N = 337$ respondents was dominated by men ($n = 283$, 84.0%). Four leadership levels were represented, but not in equal proportions. Over half ($n = 200$, 59.3%) were supervisors (K) whereas less than 5% ($n = 15$) were executives (E).

The majority ($n = 29$, 86.1%) had been in their current position for less than 5 years. About a half ($n = 170$, 50.5%) had held a management position for more than 5 years. Most ($n = 293$, 86.9%) worked in the first shift. Nearly all ($n = 323$, 95.8%) had direct reports. The most frequent number of direct reports was 1–9 ($n = 136$, 40.4%). Relatively few of the leaders ($n = 26$, 7.8%) had 30 or more direct reports.

Table 6. Demographic Profile of the Respondents

Demographic category	*n*	%
1. Current position/level		
Executive (E)	15	4.5
Director (M)	44	13.1
Senior Manager (L)	78	23.1
Supervisor (K)	200	59.3
3. Years in current position		
0–5	290	86.1
6–12	31	9.2
13–19	7	2.1
20–25	5	1.5
26–30	2	.6
31+	2	.6
4. Years in management		
0–5	167	49.6
6–12	65	19.3
13–19	56	16.6
20–25	37	11.0
26–30	5	1.5
31+	7	2.1
5. Shift		
1st	293	86.9
2nd	39	11.6
3rd	5	1.5
6. Number of direct reports		
0	14	4.2
1–9	136	40.1
10–19	115	34.1
20–29	46	13.6
30–39	12	3.6
40+	14	4.2
7. Gender		
Female	54	16.0
Male	283	84.0

Usage of Communication Media

The frequency distributions (counts and percentages) used to measure each respondent's usage of different categories of media for communication, collected using Items 9, 11, 13, 15, 16, 18, 21, 22, 25 and 26, are presented in Tables 7–11.

E-mail/text/IM was the most frequent method of communication received from the participant's immediate superior (see Table 7). About half of the participants (n = 172, 51.1%) responded that over 40% of their received communication was by e-mail/text/IM, and over half (n = 176, 52.3%) reported that e-mail/text/IM was the primary communication style of their immediate supervisor. Phone was the least frequent method of receiving communication. The majority (n = 273, 81.0%) recorded that less than 20% of their communication was received by phone. Receiving face-to-face communication from immediate superiors was also limited. One third (n = 103, 30.6%) responded that less than 10% of their received communication was face-to-face. Less than one half (n = 146, 43.3%) considered that face-to-face was the primary communication style of their immediate supervisor. In contrast, the participants reported that face-to-face was the most frequent method that they used to communicate with their direct reports (see Table 7).

Over half (n = 195, 57.8%) reported that over 40% of their communication with direct reports was face-to-face. Phone was the least frequent method of communicating with direct reports. The majority (n = 273, 81%) recorded that less than 20% of their communication with direct reports was by phone. Relatively few (n = 42, 12.5%) reported that they used e-mail/text/IM in more than 50% of their communication given to their direct reports. The overall pattern of these responses revealed a discrepancy between

the proportion of communication received by the participants from their immediate superiors (mainly by e-mail/text/IM) and the proportion of communication given to direct reports (mainly by face-to-face).

Table 7. Use of Communication Media

Item	Face-to-face		Phone		E-mail, text/IM	
	n	%	*n*	%	*n*	%
9a–c. % of communication from superior						
0–10	103	30.6	210	62.3	46	13.6
11–20	42	12.5	63	18.7	33	9.8
21–30	58	17.2	44	13.1	40	11.9
31–40	39	11.6	5	1.5	46	13.6
41–50	36	10.7	11	3.3	38	11.3
51+	59	17.5	4	1.2	134	39.8
15a–c. % of communication to your direct reports						
0–10	24	7.1	214	63.5	69	20.5
11–20	25	7.4	73	21.7	62	18.4
21–30	47	13.9	33	9.8	60	17.8
31–40	46	13.6	13	3.9	55	16.3
41–50	47	13.9	2	.6	49	14.5
51+	148	43.9	2	.6	42	12.5
26. Immediate supervisor's primary style of communication with you	146	43.3	15	4.5	176	52.3

Over two thirds of the participants (*n* = 232, 68.9%) spent 1–3 hours per workday using a Blackberry, whereas relatively few (*n* = 43, 12.8%) were heavy users, spending

more than 4 hours (see Table 8). After they left work on a weekday, nearly two thirds (*n* = 214, 63.5%) spent between 30 minutes and 3 hours checking work related alerts or performing work related tasks on their Blackberry. On weekends, a slightly smaller proportion (*n* = 191, 56.7%) used their Blackberry. Relatively few were heavy users of their Blackberry outside work for more than 3 hours during the weekday (*n* = 16, 4.8%) with heavier usage on weekends (*n* = 53, 15.8%).

Table 8. Time Spent Using Blackberry

Item	*n*	%
13. Time spent on Blackberry during normal workday		
< 1 hr.	62	18.4
1 hr.	71	21.1
2 hrs.	106	31.5
3 hrs.	55	16.3
4 hrs.	31	9.2
5+ hrs.	12	3.6
21. Time typically spent checking work-related alerts or performing work-related tasks on Blackberry after you leave work on a weekday		
None	17	5.0
1–30 min.	90	26.7
31–60 min.	116	34.4
1–3 hrs.	98	29.1
3–5 hrs.	12	3.6
5+ hrs.	4	1.2
22. Time typically spent checking work-related alerts or performing work-related tasks on Blackberry on the weekend		
None	19	5.6
1–30 min.	74	22.0
31–60 min.	94	27.9
1–3 hrs.	97	28.8
3–5 hrs.	38	11.3
5+ hrs.	15	4.5

The majority (n = 247, 73.3%) reported they would *never* check their Blackberry (see Table 9) if they were a leader at a meeting, or delivering a presentation (n = 322, 95.5%) or conversing with a higher level leader (n = 249, 73.9%). Less than half (n = 167, 49.6%) recorded they would *never* check their Blackberry when conversing with an immediate superior.

Table 9. Usage of Blackberry at Meetings

Item	Never		Sometimes		Most of the time		Always	
	n	%	*n*	%	*n*	%	*n*	%
11a–g. Do you check your Blackberry if you receive an alert when you are:								
(a) Participant in meeting	37	11.0	215	63.8	70	20.8	15	4.5
(b) Leader of meeting	247	73.3	80	23.7	7	2.1	3	.9
(c) Delivering a presentation	322	95.5	14	4.2	1	.3	0	0.0
(d) Conversing with a peer	89	26.4	203	60.2	39	11.6	6	1.8
(e) Conversing with a direct report	120	35.6	184	54.6	28	8.3	5	1.5
(f) Conversing with immediate superior	151	44.8	167	49.6	16	4.7	3	.9
(g) Conversing with higher level leader	249	73.9	54	24.9	4	1.2	0	0.0

Most responded that they would *sometimes* check their Blackberry when they participated in a meeting (n = 215, 63.8%) or when conversing with a peer (n = 203, 63.8%) or a direct report (n = 184, 54.6%). Less than 5% *always* used their Blackberry when participating in meetings; however none *always* used a Blackberry when delivering a presentation or conversing with a higher level superior (see Table 9).

The usage of e-mail is summarized in Table 10. The most frequent number of e-mails received per day was 31–120, reported by n = 209, 62.0% of the participants. Less than 5% received less than 30 or more than 221 e-mails per day. Over half (n = 171, 50.7) sent less than 30 e-mails per day. Relatively few (n = 10, 2.9%) sent more than 120 e-mails per day.

Table 10. Usage of E-Mail

Item	*n*	%
18a–b. In a workday how many e-mails do you typically:		
(a) Receive		
< 30	15	4.5
31–75	100	29.7
76–120	109	32.3
121–170	61	18.1
171–220	36	10.7
221+	16	4.7
(b) Send		
< 30	171	50.7
31–75	134	39.8
76–120	22	6.5
121–170	8	2.4
171–220	1	.3
221+	1	.3

The usage of face-to-face communication is summarized in Table 11. The most frequent time spent in face-to-face conversation with direct reports was 1–3 hours, reported by *n* = 98, 29.1% of the participants, followed by 4–6 hours (*n* = 91, 27.0%).

The most frequent time spent in face-to-face conversation with immediate superiors was less than 1 hour, reported by about half of the participants (*n* = 161, 47.8%) followed by 1–3 hours (*n* = 129, 38.3%). The most frequent time spent in face-to-face conversation with peers was 1–3 hours, reported by just less than half (*n* = 126, 37.4%) followed by < 1 hour (*n* = 92, 27.3%). Relatively few participants spent more than 5 hours per week in face-to-face conversation with direct reports (*n* = 53, 15.7%) immediate superiors (*n* = 2, .6%) or peers (*n* = 19, 5.6%).

The most frequent time spent in face-to-face relationship building with direct reports was 1–3 hours, reported by over a quarter of the participants (*n* = 97, 28.8%) followed by 31–60 minutes (*n* = 68, 20.2%). The most frequent time spent in face-to-face relationship building with immediate superiors was less than half an hour, reported by *n* = 138, 40.9%), followed by .5–1 hour (*n* = 66, 19.6%). Relatively few participants spent no time at all in face-to-face relationship building with their direct reports (*n* = 12, 3.6%) but 16% report spending no face-to-face time with their immediate superior (*n* = 55, 16.3%).

Table 11. Usage of Face-to-Face Communication

Item	*n*	%
25a–c. Time spent per week in face-to-face conversations with:		
(a) Direct reports		
< 1 hr.	39	11.6
1–3 hrs.	98	29.1
4–6 hrs.	91	27.0
7–11 hrs.	56	16.6
12+ hrs.	53	15.7
(b) Immediate superior		
< 1 hr.	161	47.8
1–3 hrs.	129	38.
4–6 hrs.	35	10.4
7–11 hrs.	10	3.0
12+ hrs.	2	.6
(c) Peers		
< 1 hr.	92	27.3
1–3 hrs.	126	37.4
4–6 hrs.	71	21.1
7–11 hrs.	29	8.6
12+ hrs.	19	5.6
16a–b. time spent per week in face-to-face relationship building with:		
(a) Direct reports		
None	12	3.6
1–30 min.	37	11.0
31–60 min.	68	20.2
1–3 hrs.	97	28.8
3–5 hrs.	50	14.8
5+ hrs.	73	21.7
(b) Immediate superior		
None	55	16.3
1–30 min.	138	40.9
31–60 min.	66	19.6
1–3 hrs.	49	14.5
3–5 hrs.	20	5.9
5+ hrs.	9	2.7

Preferences for Communication Media

The frequency distributions (counts and percentages) for each respondent's preferences with respect to the use of different categories of communication media, collected using Items 8 and 19, are presented in Table 12. The preferences for communication by text/IM or phone were relatively low. Less than 6.5% of the participants preferred to use these media. The overwhelming preference of the participants was for face-to-face communication, when receiving direction from immediate superiors (n = 252, 74.8%); when giving information to immediate superiors (n = 235, 69.7%); and also when giving direction to direct reports (n = 297, 88.1%). In contrast, for general work use, e-mail was the communication medium preferred by the majority (n = 225, 66.8%).

The majority thought that their direct reports (n = 270, 80.1%) and peers (n = 185, 54.9%) wanted to use face-to-face communication; however, the participants were divided about how they thought that their immediate supervisor wanted to communicate with them, since n =155, 46.0% chose e-mail and n = 146, 43.3% chose face-to-face.

Perceptions Concerning the Use of Communication Media

The frequency distributions for each respondent's perceptions concerning the use of different categories of communication media, collected using Items 10, 12, 14, 17, 20, 23, 24, and 27, are presented in Tables 13–15.

Table 12. Preferences Concerning the Use of Communication Media

Item	E-mail		Text/IM		Phone		Face-to-face	
	n	%	*n*	%	*n*	%	*n*	%
8a–d. Preferred communication medium when:								
(a) Receiving direction from immediate superior	70	20.8	8	2.4	7	2.1	252	74.8
(b) Giving information to immediate superior	85	25.2	11	3.3	6	1.8	235	69.7
(c) Giving direction to direct reports	35	10.4	5	1.5	0	0.0	297	88.1
(d) General work use	225	66.5	5	1.5	14	4.2	93	27.6
19a–c. How do you think your direct reports/peers/ immediate superior want you to communicate with them?								
(a) Direct reports	53	15.7	10	3.0	4	1.2	270	80.1
(b) Peers	127	37.7	13	3.9	12	3.6	185	54.9
(c) Immediate superior	155	46.0	14	4.2	22	6.5	146	43.3

The responses indicated that the majority of the respondents were bothered when they saw other people using their Blackberry at a meeting (see Table 13). Relatively few were *never* bothered when other people used a Blackberry, if they were a presenter (*n* = 46, 13.6%) or a participant (*n* = 54, 16.0%) at a meeting. About one third reported that when they saw someone working on their Blackberry during a meeting, they could *never* follow the speaker (*n* = 106, 31.5%) or could *never* participate in the discussion (*n* = 111, 32.9%). Only 4, 1.2% of the respondents perceived that they could *always* follow the

speaker or participate in the discussion when they saw other people working on their Blackberry.

When leaders rate their own effectiveness when using a Blackberry at a meeting less than half perceived that they could *sometimes* follow the speaker (n = 135, 40.1%) or *sometimes* participate in the discussion (n = 125, 37.1%) whereas n = 27, 8.0% perceived that they could *always* do so. A divide exists where leaders think they are able to effectively follow the speaker and participate in the discussion but do not believe others are able to do so as effectively. In the executive ranks no one said they were *always* able to follow the speaker or effectively participate in discussions while thumbing on their Blackberry, the 8% who believe they are so able come from the lower ranks.

The communication style of the supervisor was perceived to be important (see Table 14). Most of the participants (n = 204, 60.5%) were more inclined to work harder, or to put in extra effort, when their supervisor asked them face-to-face. Over half perceived that the communication style of their immediate superior was a medium or large contributing factor to their loyalty (n = 183, 54.3%) and to their decision to stay in the organization (n = 172, 51.0%). Less than half perceived that the communication style of their immediate supervisor was not a contributing factor to their commitment (n = 118, 35.0%) or to their decision to advance in the organization (n = 144, 42.7%).

Over two thirds of the respondents (n = 227, 67.4%) perceived that they had adequate or strong individual personal relationships with their immediate superiors. Relative few (n = 28, 8.3%) perceived that such a relationship was nonexistent (see Table 15).

Table 13. Perceptions Concerning the Use of Blackberry at Meetings

Item	*n*	%
10a–b. Does it bother you when you see other people using their Blackberry during a meeting when you are:		
(a) The presenter		
Never	46	13.6
Sometimes	134	39.8
Most of the time	78	23.1
Always	79	23.4
(b) A participant		
Never	54	16.0
Sometimes	155	46.0
Most of the time	80	23.7
Always	48	14.2
12a–b. When you see other people working on their Blackberry during a meeting do you feel they are able to:		
(a) Follow the speaker		
Never	106	31.5
Sometimes	175	51.9
Most of the time	52	15.4
Always	4	1.2
(b) Participate in the discussion		
Never	111	32.9
Sometimes	181	53.7
Most of the time	41	12.2
Always	4	1.2
14a–b. If you e-mail/text on your Blackberry during a meeting do you feel you are effectively able to:		
(a) Follow the speaker		
Never	67	19.9
Sometimes	135	40.1
Most of the time	108	32.0
Always	27	8.0
(b) Participate in the discussion		
Never	97	28.8
Sometimes	125	37.1
Most of the time	88	26.1
Always	27	8.0

Table 14. Perceptions Concerning Communication With Immediate Superior

Item	*n*	%
20. I am inclined to work harder or put in extra effort when my immediate superior asks me using:		
Face-to-face	204	60.5
Text/IM	6	1.8
Phone	4	1.2
E-mail	123	36.5
23a–c. How much of a contributing factor is the communication style of your immediate superior to your:		
(a) Loyalty to your immediate superior		
None	93	27.6
Small	61	18.1
Medium	87	25.8
Large	96	28.5
(b) Decision to stay in the organization		
None	112	33.2
Small	53	15.7
Medium	84	24.9
Large	88	26.1
(c) Commitment to immediate superior		
None	118	35.0
Small	59	17.5
Medium	85	25.2
Large	75	22.3
(d) Decision to advance in the organization		
None	144	42.7
Small	58	17.2
Medium	72	21.4
Large	63	18.7

The majority perceived that personal relationship building with their direct reports (n = 306, 85.5%) and immediate superiors (n = 211, 62.6%) was very important or essential with respect to the achievement of their organizational business goals and

objectives. More than half (n = 200, 59.3%) completely agreed and almost a third (n = 104, 30.9%) agreed that their immediate supervisor deserved their loyalty.

Table 15. Perceptions Concerning Relationship With Immediate Superior

Item		n	%
17.	My individual personal relationship with my immediate superior is:		
	Nonexistent	28	8.3
	Insufficient	82	24.3
	Adequate	142	42.2
	Strong	85	25.2
24a–b.	How important is personal relationship building with direct reports/immediate superior to the achievement of your organizational business goals and objectives?		
(a)	Direct reports		
	Not important	17	5.0
	Somewhat	32	9.5
	Very	153	45.4
	Essential	135	40.1
(b)	Immediate superior		
	Not important	33	9.8
	Somewhat	93	27.6
	Very	142	42.1
	Essential	69	20.5
27.	I believe my immediate superior deserves my loyalty.		
	Complete disagree	15	4.5
	Disagree	18	5.3
	Agree	104	30.9
	Completely agree	200	59.3

Test of $H_0$1

The first hypothesis tested by inferential statistics was $H_0$1: *All positions/levels of leaders do not have an apparent need to be continually connected and consciously choose not to allow themselves to be interrupted by electronic alerts regardless of the situation.*

The dependent variables were the summated scores for Items 11 (participant's frequency of use of Blackberry), 13 (participant's time spent using Blackberry), 18 (participant's frequency of use of e-mail), 21 (participant's time of use of Blackberry after work), and 22 (participant's time of use of Blackberry at weekends). The independent variable was the position/level of the leader (Item 2) coded by 1 = executive (E), 2 = director (M), 3 = senior manager (L), and 4 = supervisor (K). The grouped median scores were computed for each position/level of leader (where the higher the score, the higher the usage). Kruskal–Wallis tests were used to compare the median scores. The results are presented in Table 16.

The Kruskal–Wallis tests revealed three significant ($p < .05$) differences between the median scores with respect to the different categories of leaders, indicating variance in the usage of Blackberries. Executives (E) were, in general, the most frequent users of Blackberries at work (median score = 3.10, compared with 2.14 to 2.53 for other categories). Executives were also the most frequent users of Blackberries at weekends (median score = 5.40, compared with 3.65 to 4.00 for other categories). Supervisors (K) were, in general, the least frequent receivers of e-mail (median score = 2.82) and executives were the most frequent receivers of e-mail (median score = 3.32).

Table 16. Comparison of the Use of Blackberry and E-Mail Across Leader Positions/Levels

Item	Grouped median score				Kruskal–Wallis test	
	Executive (E)	Director (M)	Senior manager (L)	Supervisor (K)	χ^2	p
11a–g. Frequency of Blackberry use	5.40	3.65	4.00	3.77	7.898	.048*
13. Time spent using Blackberry	1.75	2.00	1.83	1.76	1.099	.777
18a. Frequency of receiving e-mail	3.32	3.15	3.31	2.82	7.862	.049*
18b. Frequency of sending e-mail	1.67	1.58	1.50	1.54	1.129	.770
21. Frequency of Blackberry use after work	2.18	1.85	2.04	2.05	1.132	.769
22. Frequency of Blackberry use on weekends	3.10	2.38	2.53	2.14	8.480	.037*

*Significant difference between grouped median scores ($p < .05$).

Test of $H_0$2

The second hypothesis tested by inferential statistics was $H_0$2: *The perceived effectiveness of all positions/levels of leaders is not diminished by a member's observation of the leader engaging in side electronic conversations via thumb-driven technology while speaking or participating in meetings.*

The dependent variables were the scores for Items 10, 12, and 14 (participant's perceptions to use of Blackberry at a meeting). The independent variable was the position/level of the leader (Item 2). With respect to Item 10 (Does it bother you when you see other people using a Blackberry at a meeting?) the median scores were consistently between 1.30 and 1.55 on a scale where 1 = *sometimes* and 2 = *most of the time* (see Table 17). The median scores between 1 and 2 imply that most leaders are bothered sometimes or most of the times when they see people using a Blackberry at a meeting. There was no significant differences between the median scores ($p > .05$) implying that all levels/positions of leaders exhibited a similar level of perception regarding this issue.

With respect to Item 12 (When you see other people working on their Blackberry during a meeting do you feel they are effectively able to (a) follow the speaker and (b) participate in the discussion?) the median scores were consistently between .57 and .87 on a scale where 0 = *never* and 1 = *sometimes* (see Table 17). The median scores < 1 implied that most respondents perceived that people working on their Blackberry at a meeting were never or only sometimes able to follow the speaker or participate in the discussion. There was no significant differences between the median scores ($p > .05$) implying that all levels/positions of leaders exhibited a similar level of perception regarding this issue.

With respect to Item 14 (If you e-mail/text on your Blackberry during a meeting do you feel you are effectively able to (a) follow the speaker and (b) participate in the discussion?) the median scores varied between .81 and 1.37 on a scale where 0 = *never*, 1 = *sometimes*, and 2 = *most of the time* (see Table 17).

Table 17. Comparison of the Perceptions on the Use of a Blackberry at Meetings Across Leader Positions/Levels

Item	Grouped median score				Kruskal–Wallis test	
	Executive (E)	Director (M)	Senior manager (L)	Supervisor (K)	χ^2	*p*
10. Does it bother you when you see other people using their Blackberry during a meeting when you are:						
(a) The presenter	1.33	1.47	1.55	1.55	.525	.913
(b) A participant	1.38	1.16	1.30	1.35	1.653	.648
12. When you see other people working on their Blackberry during a meeting do you feel they are effectively able to:						
(a) Follow the speaker	.57	.76	.79	.87	3.203	.361
(b) Participate in the discussion	.57	.71	.77	.81	2.271	.518
14. If you e-mail/text on your Blackberry during a meeting do you feel you are effectively able to:						
(a) Follow the speaker	1.00	.94	1.26	1.37	7.376	.061
(b) Participate in the discussion	.92	.81	1.13	1.14	3.153	.369

The median scores < 1.4 implied that most respondents perceived that when working on their Blackberry at a meeting the participants were never or sometimes able to follow the speaker or participate in the discussion. There was no significant differences between the median scores ($p > .05$) implying that all levels/positions of leaders exhibited a similar level of perception regarding this issue.

Test of $H_0$3

The third null hypothesis tested by inferential statistics was $H_0$3: *Member loyalty and/or commitment are not influenced (i.e., are not correlated with) the communication method employed by the leader.*

The independent variables used to test this hypothesis were classified by Usage and Preference, specifically the scores for Items 8 (participant's preferred type of communication medium), 9 (superior's percentage use of different types of communication medium), 15 (participant's percentage use of different types of communication medium), 16 (participant's time of use of face-to-face communication), 19 (superior's or direct report's preferred type of communication medium), and 25 (participant's time of use of face-to-face conversations). The dependent variables were classified by Perception, specifically the scores for Items 17 (participant's perception of strength of relationship with superior), 20 (participant's perceived responses to use of different types of communication media), 23 (participants perceived responses to communication style of superior), 24 (participants perceived level of importance of personal relationship building), 26 (superior's preferred type of communication medium), and 27 (participant's perception of level of loyalty to superior). A matrix of Cramer's V

coefficients for categorical variables is presented in Tables 18–22. The correlation coefficients indicated the strength of the associations between dependent variables in the columns and the independent variables in the rows.

The perception that the participant would be inclined to work harder or put in extra effort (see Table 18) was correlated with the preferred communication medium of the participant when receiving direction, or giving direction, or receiving information (Cramer's V = .149 to .186, $p < .05$). Similarly, this perception was correlated with how the participants thought that direct reports, peers, and superiors preferred to communicate (Cramer's V = .146 to .178, $p < .05$). The implications were that the participants perceived that they were more likely to work harder or put in extra effort by use of face-to-face communication than by use of e-mail, text/IM, or phone.

The strength of the participants' relationships with their immediate superiors (see Table 20) was positively correlated with the percent of face-to-face communication they received (Cramer's V = .249, $p < .05$) but was less strongly correlated with the percent communication received by e-mail/text/IM (Cramer's V = .164, $p < .05$). A high level of use of face-to-face communication by the immediate supervisor (see Table 20) also contributed largely towards the participant deciding to stay in the organization (Cramer's V = .158, $p < .05$), being committed to his/her immediate superior (Cramer's V = .180, $p < .05$), building a relationship with his/her immediate superior (Cramer's V = .158, $p < .05$), and perceiving that his/her superior deserves loyalty (Cramer's V = .183, $p < .05$). The strength of the relationship with the supervisor (Cramer's V = .164, $p < .05$) and relationship building with the supervisor (Cramer's V = .156, $p < .05$) was also positively correlated with the use of e-mail/text/IM; these correlations were not as strong as those

established by face-to-face communication. The implications of the results in Table 20 attest that personal relationships between the participants and their immediate supervisors are significantly more enhanced by face-to-face communication than by electronic communication.

Further indication of the importance of face-to-face communication relative to electronic communication is presented in Table 21. A high percent of face-to-face communication between and a participant and his/her direct reports contributed largely towards the participant's decision to advance in the organization (Cramer's V = .169, $p < .05$) and to build relationships with direct reports (Cramer's V = .202, $p < .05$) and superiors (Cramer's V = .158, $p < .05$).

Yet more results indicating the importance of face-to-face communication relative to electronic communication are presented in Table 22. The hours per week that the participants used face-to-face communication to build relationships with their immediate superiors (Cramer's V = .310, $p < .05$) and to converse with their superiors (Cramer's V = .253, $p < .05$) were positively correlated with the strengths of the relationship with their superiors. A long time spent having face-to-face conversations contributed towards a high level of loyalty to their superiors (Cramer's V = .164, $p < .05$), commitment to their superiors (Cramer's V = .148, $p < .05$), and decisions to stay in the organization (Cramer's V = .151, $p < .05$). The hours per week that the participants used face-to-face communication for relationship building were positively correlated with the levels of relationship building with their direct reports (Cramer's V = .269, $p < .05$) and superiors (Cramer's V = .183, $p < .05$). The hours per week that the participants used face-to-face

communication for conversing with their direct reports was correlated with the levels of relationship building with their direct reports (Cramer's V = .185, $p < .05$).

Table 18. Categorical Correlations (Cramer's V Coefficients) Between the Participants' Perceptions and Their Preferred Communication Medium

Preferred category of communication medium (e-mail, text/IM, phone, face-to-face)	Perceptions								
	17. Strength of relationship with superior	20. Inclined to work harder or put in extra effort	23a. Contribution to level of loyalty to superior	23b. Contribution to staying in organization	23c. Contribution to commitment to superior	23d. Contribution to decision to advance	24a. Relationship building with direct reports	24b. Relationship building with superior	27. Superior deserves loyalty
8a. When receiving direction from superior	.127	.166*	.074	.100	.110	.102	.109	.082	.073
8b. When giving information to superior	.111	.186*	.086	.083	.070	.078	.100	.115	.083
8c. When giving direction to direct reports	.086	.149*	.060	.046	.061	.088	.115	.092	.086
8d. For general use	.066	.072	.123	.112	.106	.092	.079	.101	.127

*Significant correlation ($p < .05$)

Table 19. Categorical Correlations (Cramer's V Coefficients) Between the Perceptions of the Participants and How Others Prefer to Communicate

Preferred category of communication medium of participant for others communicating with the participant (e-mail, text/IM, phone, face-to-face)	Perceptions								
	17. Strength of relationship with superior	20. Inclined to work harder or put in extra effort	23a. Contribution to level of loyalty to superior	23b. Contribution to staying in organization	23c. Contribution to commitment to superior	23d. Contribution to decision to advance	24a. Relationship building with direct reports	24b. Relationship building with superior	27. Superior deserves loyalty
19a. Direct reports	.102	.178*	.098	.092	.082	.097	.136	.129	.094
19b. Peers	.105	.158*	.110	.138	.106	.098	.099	.133	.072
19c. Communication preference of superior	.125	.146*	.122	.141*	.107	.097	.121	.096	.120

*Significant correlation ($p < .05$)

Table 20. Categorical Correlations (Cramer's V Coefficients) Between the Perceptions of Participants and Their Communication Received From Superiors

	Perceptions								
% of communication received by participant from immediate superior	17. Strength of relationship with superior	20. Inclined to work harder or put in extra effort	23a. Contribution to level of loyalty to superior	23b. Contribution to staying in organization	23c. Contribution to commitment to superior	23d. Contribution to decision to advance	24a. Relationship building with direct reports	24b. Relationship building with superior	27. Superior deserves loyalty
9a. Face-to-Face	.249*	.122	.106	.158*	.160*	.180*	.117	.158*	.183*
9b. Phone	.090	.101	.136	.139	.087	.122	.102	.127	.100
9c. E-mail /text/IM	.164*	.103	.116	.142	.107	.109	.150*	.156*	.123

*Significant correlation ($p < .05$)

Table 21. Categorical Correlations (Cramer's V Coefficients) between the Perceptions of the Participants and their Communication with Direct Reports

	Perceptions								
% of communication between participant and direct reports	17. Strength of relationship with superior	20. Inclined to work harder or put in extra effort	23a. Contribution to level of loyalty to superior	23b. Contribution to staying in organization	23c. Contribution to commitment to superior	23d. Contribution to decision to advance	24a. Relationship building with direct reports	24b. Relationship building with superior	27. Superior deserves loyalty
15a. Face-to-Face	.079	.128	.088	.116	.144	.169*	.202*	.158*	.107
15b. Phone	.125	.074	.102	.108	.124	.113	.123	.129	.072
15c. E-mail /text/IM	.117	.150	.109	.116	.106	.137	.144	.154*	.097

*Significant correlation ($p < .05$)

Table 22. Categorical Correlations (Cramer's V Coefficients) Between the Perceptions of the Participants and Use of Face-to-Face Communication

	Perceptions								
Hours per week participant uses face-to-face communication	17. Strength of relationship with superior	20. Inclined to work harder or put in extra effort	23a. Contribution to level of loyalty to superior	23b. Contribution to staying in organization	23c. Contribution to commitment to superior	23d. Contribution to decision to advance	24a. Relationship building with direct reports	24b. Relationship building with superior	27. Superior deserves loyalty
16a. Relationship building with direct reports	.119	.150	.121	.091	.139	.084	.269*	.141	.087
16b. Relationship building with superior	.310*	.155	.076	.103	.101	.121	.187*	.183*	.128
25a. Conversations with direct reports	.077	.142	.120	.136	.119	.125	.185*	.123	.121
25b. Conversations with superior	.253*	.090	.164*	.151*	.148*	.104	.084	.135	.119
25c. Conversations with peers	.127	.104	.095	.103	.112	.096	.137	.095	.122

*Significant correlation ($p < .05$)

Results of Hypothesis for RQ1

Research question RQ1: *To what extent do leaders have an apparent need to be continually connected and consciously choose to allow themselves to be interrupted by electronic alerts regardless of the situation?*

Null hypothesis H_A1: *All positions/levels of leaders have an apparent need to be continually connected and consciously choose to allow themselves to be interrupted by electronic alerts regardless of the situation.* H_A1 is accepted.

Null hypothesis H_01: *All positions/levels of leaders do not have an apparent need to be continually connected and consciously choose not to allow themselves to be interrupted by electronic alerts regardless of the situation.* H_01 is rejected.

The answer to RQ1 was that participants at all levels expressed an apparent need to be continually connected and consciously make a choice to allow themselves to be interrupted by electronic alerts regardless of the situation. Whether engaged in conversations with direct reports, peers or their immediate superior, leaders and members allowed themselves to be interrupted and made a conscious choice to check their Blackberry alerts

There was a large amount of variability in the frequency of use of different categories of communication between and within different groups of leaders. Executives (E) were, in general, the most frequent users of Blackberries both at work and on weekends. Supervisors (K) were, in general, the least frequent users of e-mail and executives (E) were the most frequent users of e-mail.

Results of Hypothesis for RQ2

Research question RQ2: *To what extent is the member's perception of leadership effectiveness influenced by observations of leaders engaged in side electronic conversations via thumb-driven technology while speaking or participating in meetings?*

Null hypothesis H_A2: *The perceived effectiveness of all positions/levels of leaders is diminished by a member's observation of the leader engaging in side electronic conversations via thumb-driven technology while speaking or participating in meetings.* H_A2 is accepted.

Null hypothesis H_02: *The perceived effectiveness of all positions/levels of leaders is not diminished by a member's observation of the leader engaging in side electronic conversations via thumb-driven technology while speaking or participating in meetings.* H_02 is rejected.

The answers to RQ2 give credence to the view that the perceived effectiveness of all positions/levels of leaders was diminished by observing someone engaging in side electronic conversations via thumb-driven technology. Most leaders were bothered sometimes or most of the time when they saw people using a Blackberry at a meeting. Most respondents perceived that people seen working on their Blackberry at a meeting were never or only sometimes able to follow the speaker or to participate effectively. Similarly, most respondents perceived that if they were working on their Blackberry at a meeting then they themselves were never or only sometimes able to follow the speaker or participate effectively. Executives (E), directors M), senior managers (L), and supervisors (K) did not vary significantly with respect their perceptions about these issues.

Results of Hypothesis for RQ3

Research question RQ3: *To what extent are member loyalty and/or commitment to the leader influenced by the communication method employed by the leader?*

Null hypothesis H_A3: *Member loyalty and/or commitment are influenced by (i.e., correlated with) the communication method employed by the leader.* H_A3 is accepted.

Null hypothesis H_03: *Member loyalty and/or commitment are not influenced by (i.e., not correlated with) the communication method employed by the leader*. H_03 is rejected.

The answers to RQ3 verify that member loyalty and/or commitment is influenced by the communication method employed by the leader. The participants perceived that they were more likely to work harder or put in extra effort when asked to do so face-to-face by the leader than by use of e-mail, text/IM, or phone. Personal relationships between the participants and their immediate supervisors were significantly more enhanced by face-to-face communication than by electronic communication. A high level of face-to-face communication between the participants and their direct reports contributed largely towards the participants' decisions to advance in the organization and to build relationships with direct reports and superiors.

The hours per week that the participants used face-to-face communication to build relationships and converse with their immediate superiors and direct reports were both positively correlated with the strengths of the relationships with each group. A long time spent having face-to-face conversations contributed towards a high level of member loyalty to their superiors, commitment to their superiors, and towards decisions to stay in and advance within the organization.

CHAPTER 5. DISCUSSION, IMPLICATIONS, RECOMMENDATIONS

Discussion and Implications

The results of the survey data analysis revealed that (a) all positions/levels of leaders feel the need to be connected and leaders make a choice to allow themselves to be interrupted by alerts on their Blackberry—in meetings and personal conversations; (b) the effectiveness of leaders engaged in side-electronic conversations on their Blackberry during meetings is perceived by all positions/levels of leaders to be ineffective to the decisions and dialogue taking place in the meetings; and (c) the loyalty and commitment of the members to the leader, organization and the attainment of organizational goals, is directly influenced by the behavior and communication method employed by the leader.

The essence of all three findings reflect on the effectiveness of the leader and center on the relationship (or lack thereof) established between leaders and members. Effective leadership practices should be enacted in the context of shared team membership; where the leader, engaged in group-oriented behavior as a prototypical member of the team, asks the members to exert themselves on behalf of the collective organization (van Knippenberg & Hogg, 2003). Team members are willing to give extra effort because they have an established relationship with the leader and believe that leaders who epitomize the organization will clarify, differentiate and highlight the merits of their organization. If leaders do not engage the team and are not prototypical, members

may be concerned these individuals will pursue their own interests over the interests of the organization and thereby not support them. When members identify with the leader, he or she is then able to effectively motivate and direct members to achieve organizational objectives. In contrast, the leader who does not have a relationship with their team members and sets themselves apart from the team will not be effective and unable to motivate extra effort from the team, so may not be able to achieve the goals and objectives of the organization.

One of the primary ways leaders identify with, and establish an effective relationship with, their members is by the method they use to communicate with their members. A large majority (88%) of the leaders in the study said they prefer giving direction to their direct reports face-to-face, and 58% of the leaders reported that face-to-face was the most frequent method they used to communicate with their direct reports. In contrast, 52% of members report that e-mail is really the primary communication medium from their leader; and 31% report that they receive less than 10% of their direction face-to-face. The overall pattern across all levels of leadership in the study reveals a large discrepancy between the proportion of reported communication direct reports received from immediate superiors (mainly e-mail) and how leaders said they give direction to direct reports (mainly face-to-face).

This discrepancy highlights one of the primary issues we face with TMC; the more advanced the tools become, the more there is a perception that communication has occurred. In reality, we are actually communicating less than we did before technology made the appearance of communication so easy. Leaders and members are exchanging information with no sense of a shared mutual comprehension of the message. When an e-

mail or text message has been sent we tend to believe we have communicated with someone; but it does not mean the recipient understood the message. Even if the recipient responds in the affirmative (i.e.; "got it") the sender has no real way of knowing if they fully understood the content, context or meaning. Only through face-to-face interaction can we readily discern the verbal and nonverbal cues as to whether we are truly communicating and being understood.

Having a strong effective leader–member relationship is also vital to the attainment of the organizational vision. Achievement of the goals and objectives to meet the vision relies on having the engagement and commitment of the members to the organization and the business objectives. The two main components of organizational commitment are (a) belief and acceptance of the organization's goals, and (b) a willingness to exert extra effort on behalf of the organization and the leader (Porter, Steers, Mowday, & Boulian, 1974). By a significant margin the survey participants reported that they were more apt to put in extra effort when their leader requested them to do so face-to-face (61%) than when asked to do so via e-mail (2%). The ability of the leader to connect with their members plays a key role in leadership effectiveness and having members being committed to the organization's success. The success of the organization may be judged on achieving the collective goals and objectives established by the team and the leader collectively; yet in the attainment of organizational business goals, 38% of survey respondents viewed having a relationship with their immediate superior as being only *somewhat important* or *not important* at all; and 15% viewed the necessity of having a relationship with their direct reports as only *somewhat important* or *not important* to achieving business goals.

Leadership effectiveness and organizational commitment both rely on members having a strong relationship with the leader, but the study results found that 77% of members get less than 1 hour a week in personal face-to-face time with their immediate superior; another 16% of members reported that they spend no time face-to-face with their leader. A large incongruity exists in these findings, as only 35% of the leaders admitted to spending less than 1 hour a week in personal face-to-face relationship building with their direct reports; 29% reported spending 1–3 hours a week and 36% said they spend 3–5 hours a week face-to-face relationship building time with direct reports. The study results also reveal that when asked to rate their relationship with their immediate superior, 35% of the members rated the relationship as either *nonexistent* or *insufficient*; and another 40% described it as only *adequate*. That leaves only one quarter of the respondents who admit to having a *strong* relationship with their immediate superior.

Member commitment is one of the most important measures of leadership effectiveness, and research strongly suggests that it can only be achieved through high levels of effective leader communication (Mayfield & Mayfield, 2002). The strength of the leader–member relationship is in direct alignment with the amount of work time leaders and members spend building their relationship together outside of meetings and task direction. Leaders set the tone for the organization, and effective leaders of cohesive groups to pay attention to how prototypical they are in the context of the team, and leaders of less cohesive groups pay attention to how well they match task and situation with members (Hogg, 2001).

One of the primary functions of any organization is to resolve issues—receive information, analyze it, prepare appropriate plans of action and execute the plan. The economics of information (how the information flows through the decision points in this process) is the key linchpin to reacting swiftly and correctly to the identified problem (Keren & Levhari, 1979). Through effective communication and engagement of their members, leaders build strong leader–member relationships that allow for this response to take place in an orderly fashion. Leaders with too broad a span of control (also referred to as span of management, span of authority and span of supervision) may find it taxing to spend the time it requires face-to-face with each member, outside of required performance reviews, to build effective leader–member relationships. How many direct reports are too many or too few is a controversial subject among researchers, yet the structure of the organization may play a deciding role in the decision of the leader to use technology for communication versus face-to-face. The structure of an organization is generally termed as either *flat* or *tall* (see Figure 1); with the designation pertaining to the extent to whether the organization has fewer leadership levels with wide spans of control (flat) with many direct reports for each manager; or has many levels of leadership with narrow spans of control (tall) and only a few direct reports for each leader (Ghiselli & Siegel, 1972). There is general agreement on the importance of awareness to the span of control, and while it is a very useful principle and a valuable diagnostic instrument for consideration, there is no rigid rule that can be applied to all situations (Urwick, 1956). Numerical limitations and recommendations are complicated to define due to the nature of the LMX relationship, the complexity of the work, and the capabilities of the leader and the members (van Fleet & Bedeian, 1977).

Depending on the nature of the business, a case can be made for flat organizations or tall organizations, and there are pros and cons for both models. Research in communication has shown that in tall organizational structures, messages have more opportunities to become distorted (intentionally or unintentionally) as they travel up and down the chain of command, with relevant information being dropped-out or dropped-in due to random error or to self-interest and self-protection (Leavitt, 2003). In flat organizations, there are consistent findings that due to the large span of control, leaders may become frustrated with their attempts to cultivate mutuality, and these organizations have lower leader–member participation rates resulting in less organizational commitment (Indik, 1965; Urwick, 1956). Research comparisons of performance on the time it takes to make decisions show no significant difference between flat or tall organizational structures (Carzo & Yanouzas, 1969). While it took a longer amount of time to move a decision up through the tall organization, groups in the flat organizations spent a longer time coordinating their efforts and resolving conflicts, thus equaling out the time in the two differing organizational alignments (Carzo & Yanouzas, 1969).

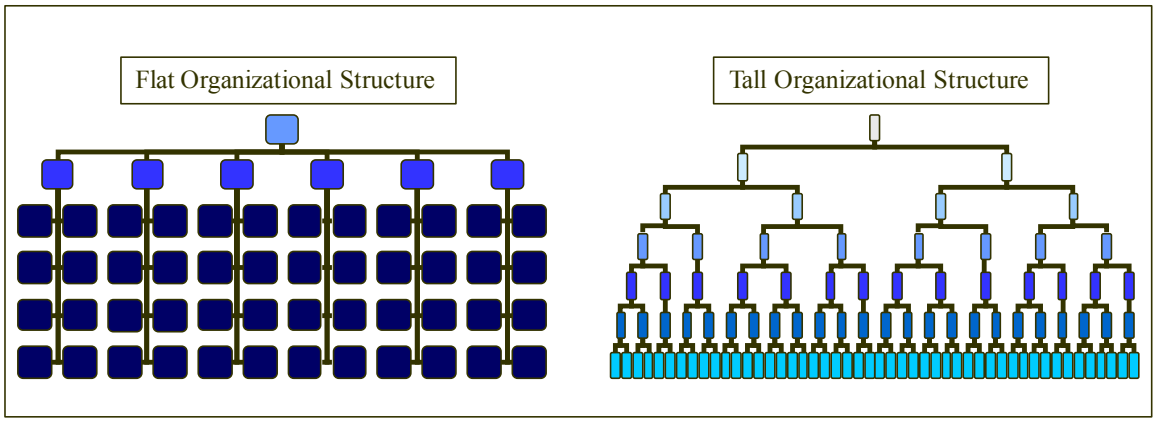

Figure 1. Flat vs. Tall Organizational Structure

The organization queried in this study operates in a tall hierarchical structure, with layers of accountability—supervisors (K) report to the senior managers (L), senior managers (L) report to directors (M), and directors (M) report to the executive (E) position. This tall organizational structure is further evidenced by the results for the number of employees directly reporting to each position. At the higher levels, fewer direct reports was the norm, with between 1 and 9 direct members for 80% of executives (E), 46% of directors (M) and 75% of the senior managers (L). Only at the lowest leadership level (supervisor (K)) was the majority higher, with 45% reporting to have 10–19 direct team members. Overall only 7.8% of the total respondents had more than 30 direct reports; and many reported having no direct reports at all (executives, 7%; directors, 2%; senior managers, 1% and supervisors, 11%). Operating in a tall organizational hierarchy with few direct reports should enhance the LMX relationship and make face-to-face communication customary for the leader.

Regardless of which organizational structure the business employs, authority hierarchy is an important factor in leadership effectiveness and a significant force influencing members' perceptions of organizational roles and expected behavior (Gabris & Ihrke, 2007). Authority hierarchy also has far-reaching implications for the company, as the leaders of tomorrow learn behaviors from their observations of the leaders of today. Leaders establish and model the behavioral norms for the organization and members pay close attention to the manner in which their hierarchical leader performs his/her job and mimic that observed behavior. Research in the field of social neuroscience has demonstrated that the emotions and actions displayed by the leader actually prompt members to mirror those same feelings and deeds (Goleman & Boyatzis, 2008). Leaders

who are thumbing on their Blackberry during a presentation should not be surprised to see their members mimicking their behavior and doing likewise. When a leader exhibits this behavior, he/she sends a signal to their members that this activity is acceptable. This behavior by the leader also tells his/her members, other participants in the meeting, and the presenter that they are either not interested in the subject matter or that the subject and/or the presenter are unimportant to them. Members observing this behavior will likewise treat the subject matter and/or the presenter the same way with the thought pattern that if it is not important to the leader, there is no reason it should be important to the members. The leader being occupied on his/her Blackberry may miss crucial information or ask to have something repeated, thus giving the impression to those observing that this leader is ineffective. To this survey question, 84% of the leaders responded that they will *sometimes/most of the time* check an alert on their Blackberry when they are in a meeting; and 40% of leaders believe they are effective even while thumbing on their Blackberry in a meeting and are *most of the time/always* able to follow the speaker. The perception of the study participants of people thumbing during a meeting is that they are *never/sometimes* able to effectively follow the speaker (83%) and *never/sometimes* able to effectively participate in the discussion (60%). Leaders think they are able to effectively follow the speaker and participate in the discussion, but they do not believe others are able to do so as effectively. None of the executive respondents said they were *always* able to follow the speaker or effectively participate in discussions while thumbing on their Blackberry, those who believe they are able to effectively do so all come from the lower positions. There are some individuals who may be able to effectively follow and participate even while engaged in side-conversations on their

Blackberry; but even if they are one of those people, leaders should bear in mind the impression they give to those around them by thumbing; that the subject and/or presenter is unimportant, and that they are an ineffective leader.

Respondents' Comments Pertinent to Findings

The survey touched a nerve with many of the survey respondents, some of whom included comments with the survey or sent comments directly to the researcher. All total, 144 comments were received. Some respondents expressed thanks and interest in the survey, others vented; but the majority of the comments showed thoughtful consideration of the topic and serve to illuminate and add credence to the findings from the data analysis. Without remarks, representative sentiments pertinent to each of the findings are listed here to share the passion this survey elicited from participants. The comments are sorted by each of the three findings with general comments at the end. The level of the leader making the comment is noted and statements are quoted verbatim as written by the respondent unless there was mention of specific persons or other identifying remarks, in which case those were removed from the comment.

The following comments are related to Finding H_A1: *All positions/levels of leaders feel the need to be connected and leaders make a choice to allow themselves to be interrupted by alerts on their Blackberry—in meetings and personal conversations.*

> My boss will stop in midsentence to check his Blackberry during a conversation with me. (Supervisor (K))

> If I don't respond fast enough to an e-mail from my manager then I get an IM asking where I am. He expects me to answer his alerts immediately no matter where I am, at work or after hours. (Supervisor (K))

I have to check my Blackberry to cover myself—there is an expectation that responses occur immediately between the hours of 6 a.m. and 11 p.m. (Supervisor (K))

My leader has set a team expectation of immediate response regardless of other commitments or situations, so I have to check every alert no matter what I'm doing to make sure I don't miss something from him. (Senior Manager (L))

The continuous "everything is an emergency" message by our leadership makes it almost impossible to ignore Blackberry/e-mail messages. I'm expected to answer whether I'm in a meeting or in a conversation or on the weekend away. (Supervisor (K))

Executives and upper-level leaders are invested in their Blackberry's and have come to expect near-instant responses to all inquiries and direction with disregard for conventional work hours, evenings or weekends. I have had arguments with my spouse because I had to answer my Blackberry on our time. (Supervisor (K))

I have had my direct reports check their Blackberry in the middle of my performance evaluation discussion of them! (Director (M))

The expectation is that data is real-time, answers to questions are real-time; employee availability is all-the-time. The real-time data mentality has greatly impacted communication style and made Blackberry the leadership-by-proxy norm across the company! (Director (M))

The following comments are related to Finding H_A2: *The effectiveness of leaders engaged in side-electronic conversations on their Blackberry during meetings is perceived by all levels of leaders to be ineffective to the decisions and dialogue taking place in the meetings.*

Many times managers spend so much time on their Blackberries during my presentations that they only absorb a fraction of the material, opening me up for future meetings required by them to fill them in on the details. (Director (M))

I believe that reading Blackberries during meetings is rude to the presenter, but there is an expectation that we all keep track of alerts, so we have too. (Supervisor (K))

Working on your Blackberry during a meeting does not constitute attendance. It's very rude to the presenter. (Supervisor (K))

I have 6 hours of meetings almost every day—how else can I get my work done except to use my Blackberry in meetings? (Supervisor (K))

Blackberry use during meetings is a distraction to others and often requires repeating information because someone wasn't paying attention. (Supervisor (K))

I check my Blackberry in meetings because I am here to deliver results and I need to know when important news comes in. I expect others to do the same. (Supervisor (K))

I have often had a manager look up from their Blackberry to ask a "throw-away" question – then they are back on their Blackberry before I even start to answer – I know they aren't listening, but they want to appear to be engaged. (Senior Manager (L))

The following comments are related to Finding H_A3: *The loyalty and commitment of the members to the leader, organization and the attainment of organizational goals, is directly influenced by the behavior and communication method employed by the leader.*

My manager thinks he's team building when he sends an e-mail from his Blackberry to the distribution list saying "great job." Instant delete. (Supervisor (K))

Too many top leaders micromanage the team—there is no trust. That is why they have all of us in the meetings wasting our time when we should be on the floor working with our teams. If it wasn't for Blackberry my directs wouldn't be able to hear from me. (Senior Manager (L))

I never get any support from my immediate superior and I rarely talk to her—she uses text messaging when something is "hot" and e-mail when it's not. (Supervisor (K))

I have been here 11 months and my manager has yet to hold a staff meeting, our team never meets face-to-face so I have no idea what our goals are. If it weren't for e-mail I would never hear from my manager. (Senior Manager (L))

We can't attain our organizational goals because we don't know why the goals are there. Hard to be loyal when you never hear any explanation or have any face-time with your manager. (Supervisor (K))

I don't get enough direct face-to-face career building/growth discussions with my manager because he is task oriented and doesn't care about relationships. Loyalty? Ha! (Senior Manager (L))

General comments were as follows.

The pace of business today is relentless—it's a catch-22—with the size and complexity of organizations it is virtually impossible to develop any sort of verbal/personal communication on a regular basis with all my direct reports. (Senior Manager (L))

Blackberry's are helpful for some things, but I can't get real work done on them; we need more time to just talk, but everything is compressed and there is too much information & data to absorb, and it is expected that I know about all of it. There is a lot of communication taking place, but it doesn't feel like enough real listening. (Executive (E))

While I need face-to-face time with my manager, he is just too busy, so we just send lots and lots of e-mails. It is very ineffective. (Senior Manager (L))

The Blackberry has produced so much non-value-added communication that I am continually sifting through to find the things I need to do. This causes a lot of anxiety. (Senior Manager (L))

I think the Blackberry has had an overall negative effect on personal relationships and how we deal with each other. People place more emphasis on the Blackberry than on the immediate environment. These devices are convenient, but have damaged our quality of life outside work and hurt our ability to conduct face-to-face conversations. (Senior Manager (L))

I have had to follow my superior down the aisle and ride the elevator with him to his next meeting just to be able to talk with him face-to-face. (Supervisor (K))

I believe face-to-face communication is always better, but with our busy and demanding schedules it is just not possible and we have to learn to deal with the electronic world we live in. (Director (M))

If I didn't have a Blackberry I wouldn't ever communicate with my supervisor. He doesn't have enough free time to support individual face-to-face meetings. (Supervisor (K))

I was asked if a new manager could shadow me to learn the job. I responded, "Sure, if you think he would benefit from watching me answer my Blackberry all day long!" (Supervisor (K))

> Use of the Blackberry is the only vehicle I have to communicate with my team or my boss due to the amount of meetings I must attend, leaving no time to manage my own team, let alone have face-to-face conversations with them. (Senior Manager (L))
>
> Blackberry's feed addictive leadership behavior traits. (Director (M))
>
> I think that we as a company have lost a great ability to work toward program goals and objectives because we as managers spend far too much time trying to multitask with all the communication tools available to us and as a result we get far less done. (Director (M))

Overall Recommendations

Leaders have allowed technology to dictate their behavior instead of using technology to its best advantage to help them run the business, and thus have rendered themselves ineffective. Leaders cite the ease of use, burden of responding to the glut of instant information, lack of time, and meeting overload as rationale for circumventing face-to-face contact and relying on technology to stay in contact with team members. To overcome this disparity, leaders may have to take what many might consider to be drastic action and change their behavior: put down the Blackberry, step away from the computer, and live among your team.

Wherever the team is working is where the leader should spend their time; members want to be led by someone they trust to care about them and the organization. Too often leaders are physically isolated from their teams and removed from being face-to-face with their members on a daily basis to understand the issues confronting them. Numerous studies confirm that having a high-quality leader–member relationship positively correlates to the member's attitudes and reaching organizational goals (Schyns,

Maslyn, & Weibler, 2010). Achieving that high-quality LMX relationship requires time and daily face-to-face human interaction. There is no way around it, the human moment can only happen when two people share the same physical space and are maintaining a sense of social connection by paying attention (emotionally and intellectually) to each other (Goffman, 1955; Hallowell, 1999; Nardi et al., 2000). Human moments involve active listening; behaviors of body language, eye contact, appropriate gestures, asking probing questions and validating expressions through considerate conversation turn-taking (Mayfield & Mayfield, 2002) which cannot take place via thumbing messages back and forth on a Blackberry. Leaders who allow themselves to become isolated from their team tend to adopt a victim's mentality lamenting that they have no choice but to use technology as the way to keep in contact with their team, thereby ceding authority to technology to dictate their behavior. In adopting this mentality, leaders shift the blame from their behavior to the tool itself—the inanimate Blackberry is somehow at fault—and may use technology to cover disorganization or to promote the appearance of leadership where none exists. Leaders in this state cannot be effective, as their reliance on technology tools is in direct conflict to the principles of effective leadership and tend to only further isolate the leader.

Leaders who are insulated behind technology do not grow their leadership skills, for at its core, leadership is the ability to influence individuals and teams; without effective leader–member relationships a leader cannot exert influence to mobilize and engage members. This can be especially true of lower-level inexperienced leaders. Not only do the lower level leaders take their cue from and mimic the behaviors and actions of their superiors, but they should one day replace them in a senior leadership position

within the company. Leaders who have spent their time communicating via electronic means versus face-to-face contact are depriving themselves of the opportunity to develop leadership competencies such as the ability to negotiate with peers, learning to regulate their emotions in times of crisis or confrontation, and how to socialize ideas and win support for change. At some point in their careers, raw talent becomes less important for the senior leadership in the organization and the ability to influence the direction and strategy of the organization takes on greater importance. Leaders who have not sharpened their persuasion skills and developed their emotional competencies over the course of their progression through the leadership ranks will not be effective leaders.

It can become a confusing dilemma with a seemingly no-win proposition for leaders: the myriad of technology tools available makes it almost too easy for leaders to get caught up in technology; and in order to succeed, leaders must understand and adapt to changing business conditions created by advancing technology. The key is striking a balance and finding the correct blending of technology and human elements; knowing how and when it is appropriate to use technology; and for what purposes a leader should not rely on technology. Targeted leadership training in the appropriate use of technology tools may be required to help leaders discover the sweet spot where communications technology and human moments of face-to-face communications coexist. If employees are the organization's most important constituency (as proclaimed by many companies) the communication between leaders and members becomes the most important interaction taking place in the company. Effective leader–member communication is the means to effective leadership; therefore, leaders must be trained in what signifies effectual leader–member communication. Fortunately, the communication abilities of

leaders can be improved as a result of targeted training (Mayfield & Mayfield, 2002). In conjunction with improving communication skills, leaders must be instructed in the proper use of the communication technology tools the company provides for them so they are able to appropriately use the tools when the situation calls for it and understand when it is inappropriate to use the tools. Equipping leaders to conduct effective leader–member communications will enable them to serve as the focal point for member communication and strengthen the LMX relationship, resulting in greater organizational success.

Recommendations for Accepted Finding H_A1

All positions/levels of leaders have an apparent need to be continually connected and consciously choose to allow themselves to be interrupted by electronic alerts regardless of the situation.

Leaders have chosen to allow interruptions by checking Blackberry alerts while they are in meetings (81%), in conversations with their peers (72%), conversing with a direct report (63%), during discussions with their immediate superior (54%), and even when talking with a higher level leader (26%). Twenty-nine percent of leaders spend 1–3 hours on their Blackberry after work on a weekday, and 65% spend more than 30 minutes and up to 5 hours on the weekend working on their Blackberry. Executives (E) were generally the most frequent users of Blackberries both at work and on weekends and were the most frequent users of e-mail.

As with any tool, the user needs to exert discipline in the use of it. Just because an alert appears does not mean there needs to be an immediate reaction, but for many Blackberry users, there seems to be an almost Pavlov-like response mentality to an alert.

Often in a room when an audible alert sounds on one Blackberry, many hands automatically reach to check their device, as interaction with the device gives a feeling of validation and inclusion.

The impression of importance and being needed that is created by the alert may be the reason a high percentage of leaders will choose to interrupt face-to-face discussions with peers, immediate superiors and direct reports to check a message. The nonverbal signal leaders send when they do this is that even without knowing who is on the other end of the alert, that person is more important than the individual in front of them. Authority hierarchy is a crucial structural force in organizations influencing member attitudes, and this leadership behavior has the potential to weaken the LMX relationship. The actions of the leader establish the organizational norms for the members and leaders are constantly on display; leaders must exercise discipline to ensure they send the right message with their behavior. Most business ventures rely on the relationship between leaders and members in order to operate successfully; to be effective, leaders must be fully present when they are engaged with members, and not allow distractions to interfere with the building of the relationship.

Another aspect of authority hierarchy was highlighted by a number of respondents who explained their reason for continually checking alerts was due an expectation set by their immediate superior for members to always be available and immediately respond to any alert send by the superior. One first level supervisor noted that they will receive an IM from the leader if they do not reply fast enough to the e-mail, so they cannot afford not to check an alert no matter what they are doing. Leaders who have set such expectations (verbally or implied) giving members an obligation to always be standing by

to respond to their e-mails have effectively diminished the role of members and the lower level leader. The technology of instant access and real-time information has led to this behavioral expectation; leaders must work with their teams to establish a reasonable balance between availability and instantaneous response. If there truly is an urgent, drop-everything-need-to-know-the-answer-immediately situation, leaders should not send an e-mail on a Blackberry, but rather place a phone call to the individual or the leader should find the person for a face-to-face discussion.

The optimum response to an incoming Blackberry alert when a person is already engaged and connecting face-to-face with another individual or listening to a presentation would be to always ignore the vibration and/or tone so that the full capacity of the leader can be devoted to the person in front of them. Knowing there are people or situations that leaders may need to interrupt a conversation to address, there are some alternatives. With improved technology come enhanced tools, so recommendations may include setting different vibration and/or tone alerts for different people, so that if it is their immediate superior pinging them, they will know from the number of vibrations or the tone and can politely excuse themselves to check it; but if it is another series of vibrations or a different tone, they will know it is someone or something that can wait until they are finished and can ignore it to finish their face-to-face discussion. The onus is on the leader, as he/she must control the situation and model the behavior they expect from their members.

Recommendations for Accepted Finding H_A2

The perceived effectiveness of all positions/levels of leaders is diminished by a member's observation of the leader engaging in side electronic conversations via thumb-driven technology while speaking or participating in meetings.

The findings for this element of the study establish that the majority of leaders are bothered (86%) when they are presenting and participants are on their Blackberry, and (84%) are bothered as a participant in a meeting when others around them are thumbing on their Blackberry. When they saw someone working on their Blackberry during a meeting, the reported perception is that those leaders could *never* (32%) or only *sometimes* (52%) effectively follow the speaker, and could *never* (33%) or only *sometimes* (54%) effectively participate in the discussion. Many respondents made comments about the rudeness of this behavior and the signal it sends to the presenter and the other members in the room. Leaders need to be aware of how they are being perceived by other leaders as well as their members when they engage in this behavior.

This is perhaps the easiest finding to fix. Simply do not allow participants to use Blackberry's during the meeting. Leaders must clearly set the expectation by modeling the desired behavior and holding others accountable to follow the expectation. One leader told the researcher that he makes everyone put their Blackberry on the table in front of them during the meeting and no one is allowed to pick it up. A less restrictive method would be to require all participants in the meeting to silence their Blackberry alerts when the meeting begins—and if one goes off, call them on it. Immediately holding the offender accountable will reinforce the sincerity of the message. Since members take their cue from the leader, he/she must also adhere to the requirement.

Recommendations for Accepted Finding H_A3

Member loyalty and/or commitment are influenced by (i.e., correlated with) the communication method employed by the leader.

Almost any business relies on the relationship between leaders and members in order to operate successfully. Companies within any industry can purchase the same machinery and equipment, utilize similar processes, and offer competitive pricing; the key discriminator in successful companies is the people they employ. Effective leaders create a competitive advantage for the company by having effectual leader–member relationships which shape member commitment to the organization, leader, and/or the company. Member commitment can be influenced by any number of factors, many of which are outside the control of the leader, including, but not limited to: personality, race, age, sex, religion, culture, values, challenge of the job, tenure, and degree of autonomy in the job task (Steers, 1977). Despite the wide variety of influences, research suggests that ultimately member commitment to the organization comes down to how members feel about the effectiveness of their immediate leader, and the behaviors exhibited by that leader (Dunham, Grube, & Castaneda, 1994; Hunt & Morgan, 1994). Included in the leadership behavior contributing to organizational commitment, this dissertation study reveals, is the method used by the leader to communicate with members. Over half of the study respondents perceived that the communication style of their immediate superior was a *medium* or *large* contributing factor to their loyalty to the organization (54%) and to their decision to stay in the organization (51%).

The method by which the leader communicated is also a contributing factor in member commitment to work hard on behalf of the organization. A third of members in the survey reported they would work hard no matter how the leader asked them, since it was their job, but the majority (61%) said they were more apt to put in extra effort when their leader requested them to do so face-to-face.

Leaders who want members to work hard and be committed and loyal to the organization must develop a trust relationship with the members; and this can only be built over time, face-to-face. While the business of any company is to stay in business, leaders must pay less attention to task and closer attention to relationship building in order to have successful task execution. When members are committed to the organization, there will be congruence between the goals of the individual and the goals of the organization where the member is willing to expend extra effort on behalf of the organizational goals.

Final Conclusions

The title of this dissertation study may in itself be an oxymoron. The data gathered from this study provides evidence that leadership effectiveness in the context of the LMX relationship is ineffectual when it is performed primarily via thumb-driven devices. Leaders must not allow distractions, but discipline themselves to be fully present during all interactions with members, peers and superiors; everyone is watching. Leaders must communicate face-to-face with their members in order to build relationships and have effective interactions that lead to organizational success. People want to work for someone who they trust and have confidence in; without having a strong LMX

relationship, members feel disconnected and adrift. Members need to be assured that the leader is acting in the best interests of the individual, team and organization. While the boss may be the company who employs the members, members want to work for a leader who cares.

The findings further confirm that today's leadership behaviors shape tomorrow's business leaders through the concept of authority hierarchy. Members pay close attention to leadership behaviors and actions; members take their cues from, and mirror, the behaviors of their leaders; and these observations of leadership conduct influence the perceived effectiveness of that leader from his/her members and from other leaders. Leaders need to be aware of how far-reaching and influential their behaviors and actions can be in shaping the leaders of the future. The issue is not with the technology, but the manner in which the tool is used and abused. Leaders must discipline themselves to follow proper communication etiquette in all their dealings with members and other leaders and be considerate and respectful in their dealings with members. Being conscious of what you are doing and making good choices is one of the tenets of effective leadership; effective leaders understand they are the authority in the hierarchy and establish the decorum to be followed, model the behavior for the team, and hold others accountable immediately when the protocol is violated. Leaders must also be careful to adhere to the practice at all times, whether chairing a meeting, participating in a discussion or having a conversation, they are always on display.

The data results also emphasize the need for leaders to pay careful attention to their use of technology for communications purposes. The rapid advance of technological tools have produced wide ranging methods of communication that can offer assistance in

meeting obligations and objectives, but over-dependency leads to impersonal and dehumanizing leader-member exchanges that produces a communication gap between leaders and members and fails to sufficiently express interactional justice. If the use of technology is not well considered, leaders fail to make quality connections with members and the LMX relationship ends up in a paradoxical affiliation with technology where behavior is driven by the tool. Leaders need to carefully select technologies that will enhance the ability of both leaders and members to operate the business, and use them in a consistent, disciplined, thoughtful manner; not jump on the bandwagon of new technology and then allow the tool to dictate behavior.

Leaders must allow direct reports to lead their teams. Leaders at all levels in this study expressed anxiety with the expectation that they know and keep track of every decision taking place in the organization. Technology has allowed this to be theoretically possible with constant connectivity and access to instant information; but it is not practical. Leaders acting on this need to know and participate in everything become funnel choke points where a lot of information comes in but since all decisions come through them first, very little gets done. The leader effectively suboptimizes his/her team, shutting down decision making at the lower levels and hampering organizational effectiveness. New managers may adopt this style to establish their authority or simply because they got promoted by being task oriented and cannot let go and trust others to take care of the tasks. Leaders in this modus operandi only dilute their capacity for the decisions they should be making at their level by working in the weeds below them.

One of the hardest challenges organizations face is getting people to agree that there is a need for a change—especially behavioral change. The intent of this study was

not only to discern behavior and leadership effectiveness as it pertains to the LMX relationship and the use of handheld communications devices, but to supply leaders with information that might give them pause for thought to reflect on their own use of technology in communication with their members. Leaders should not view face-to-face communication with their members as a burden or something they fit in when they have free time; but should see it as a critical component of their job; the better the communication is between leaders and members, the greater the success of the organization. To that end this study has had some success, as many leaders expressed surprise regarding their use of the Blackberry and commented that just completing the survey for this study made them reconsider their use of technology for communication. Those expressions are summed up in this statement from an executive (E) respondent:

> "I didn't realize the extent to which I used my Blackberry. I need to spend less time in meetings and e-mailing my team and more time face-to-face. I think we all would benefit."

Contributions and Considerations for Future Study

This dissertation study contributes additional understanding to the LMX body of work by combining LMX relationships and communication methodology. While previous studies in LMX have shown that member commitment to the organization hinged on the behavior and effectiveness of the leader, those studies had not considered how the behavior regarding communication style/method employed by the leader entered the commitment equation. This dissertation study revealed that the method used by the leader to communicate with members (face-to-face vs. electronic means) is a major factor in how much effort the member is willing to expend on behalf of the organization, and on

the commitment, loyalty, and the members' decision to stay and/or advance within the organization. Implications of these findings should give leaders pause the next time they begin to thumb an e-mail on their Blackberry instead of going to see the member face-to-face.

More work needs to be done in this area as handheld communication devices are a customary fact of life for maintaining contact in today's society and in the workplace. These devices will only become more prevalent and advanced as the Baby Boomer generation retires and the Gen X and Millennium generations (whose members are already being called 'thumb tribes') move into the workplace and into leadership positions. This generation is at ease with communication technologies and will potentially impact organizations and how members develop relationships with other members and with leaders. Future studies might examine if there is a difference in responses to this same survey based on the generation of the leader. The current study did not ask the age group of the respondent, but it would be interesting to note whether Baby Boomers placed more value on face-to-face communication and consider it more important than a Gen X or Millennium generation leader who grew up communicating via thumb-driven technology. The social structures involved with this technology, where relationships are developed differently, are not subject to the same constraints as traditional social structures. This study could be given to this same organization of leaders (who will have turned over in population somewhat) again in 5 or 10 years to see if or how views have shifted. Another potential avenue for research would be to expand the study to more than handheld communication devices and explore generational views related to various other social media and online social structures to see how those may

impact or influence LMX relationships, loyalty, commitment and/or leadership effectiveness in the workplace going forward.

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APPENDIX A. SURVEY RESPONSE RATE BY DEMOGRAPHIC GROUP

The inclusion criteria for data screening were that the respondent must answer *Yes* to Q2 *Do you have a company-provided Blackberry?* Twenty-six respondents did not have a company-provided Blackberry; thus they did not satisfy this criterion and were excluded from the results even if they answered other survey questions.

Table A1. Survey Response Rate by Leadership Position/Level

Leader Position/Level	Population size	*n*	Valid responses	%
Executive (E)	33	15	15	45.5
Director (M)	46	46	44	95.7
Sr. Manager (L)	123	79	78	63.4
Supervisor (K)	491	223	200	40.7
Total	693	363	337	48.6

Table A2. Survey Response Rate by Female Group

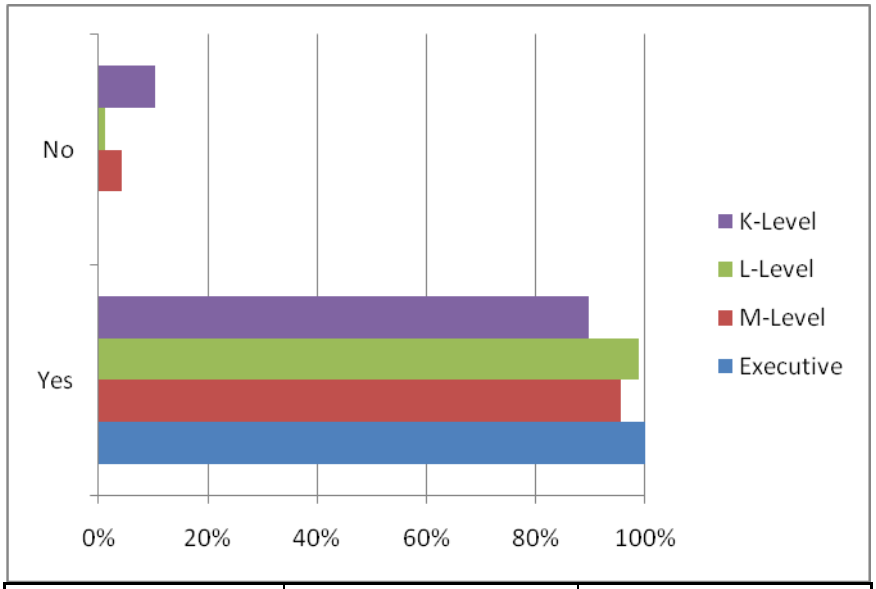
Leader Position/Level	Population size	*n*	Valid responses	%
Executive (E)	5	3	3	60.0
Director (M)	6	6	6	100.0
Sr. Manager (L)	18	12	11	61.1
Supervisor (K)	92	47	34	37.0
Total	121	68	54	44.6

Table A3. Survey Response Rate by Male Group

Leader Position/Level	Population Size	*n*	Valid Responses	%
Executive (E)	28	12	12	42.9
Director (M)	40	40	38	95.0
Sr. Manager (L)	105	67	66	62.9
Supervisor (K)	399	176	167	41.9
Total	572	295	283	49.5

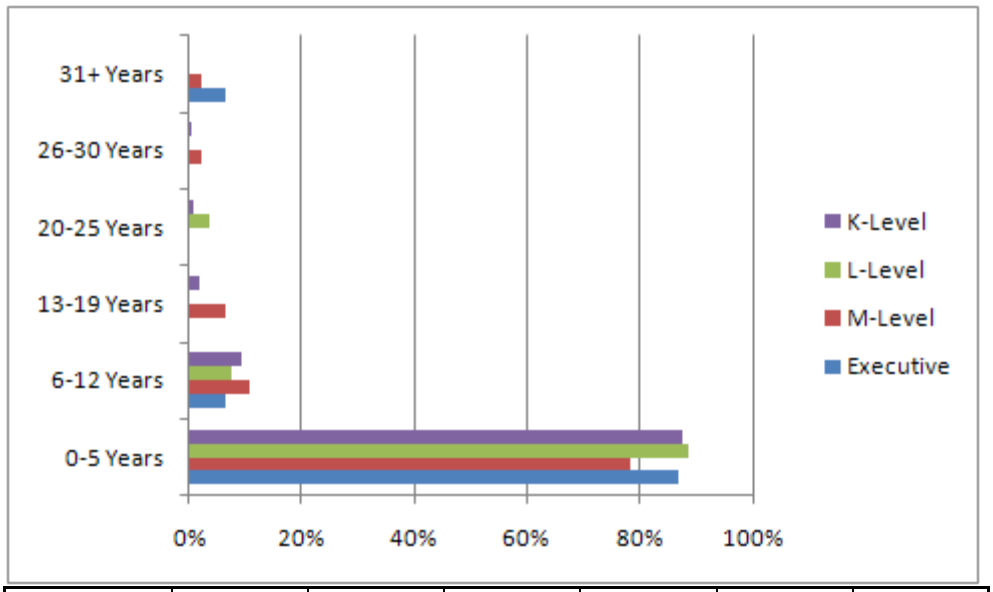
APPENDIX B. COMPARATIVE SURVEY RESULTS BY QUESTION: RESPONSES BY LEADERSHIP POSITION/LEVEL

Survey Question 2. Do you have a company-provided Blackberry? (If Yes, continue survey. If No, STOP and submit form.)



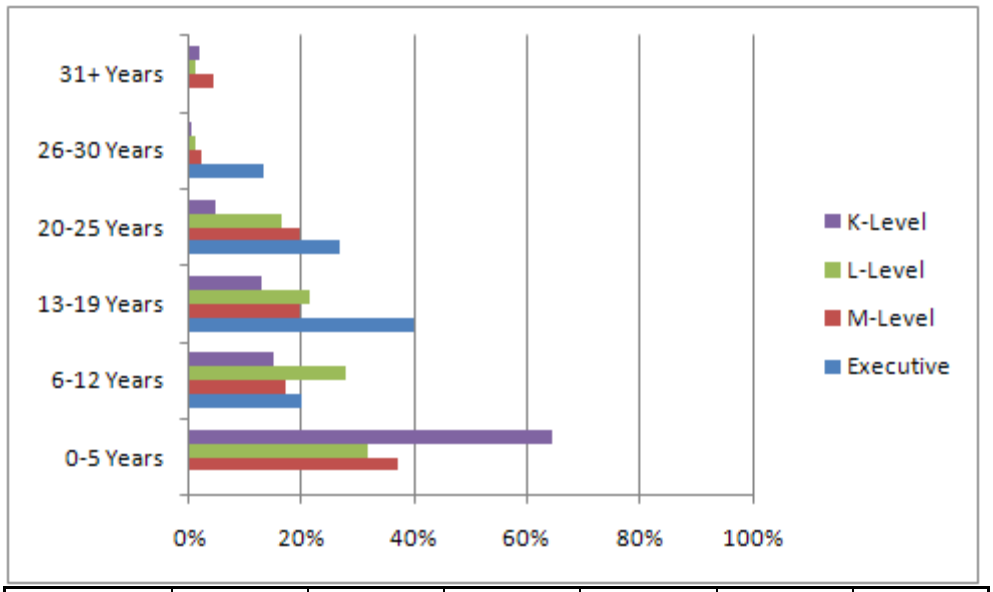
2	Yes	No
Executive (E)	100.00%	0.00%
Director (M)	95.65%	4.35%
Senior Manager (L)	98.73%	1.27%
Supervisor (K)	89.69%	10.31%

Survey Question 3. How long have you held your current position?



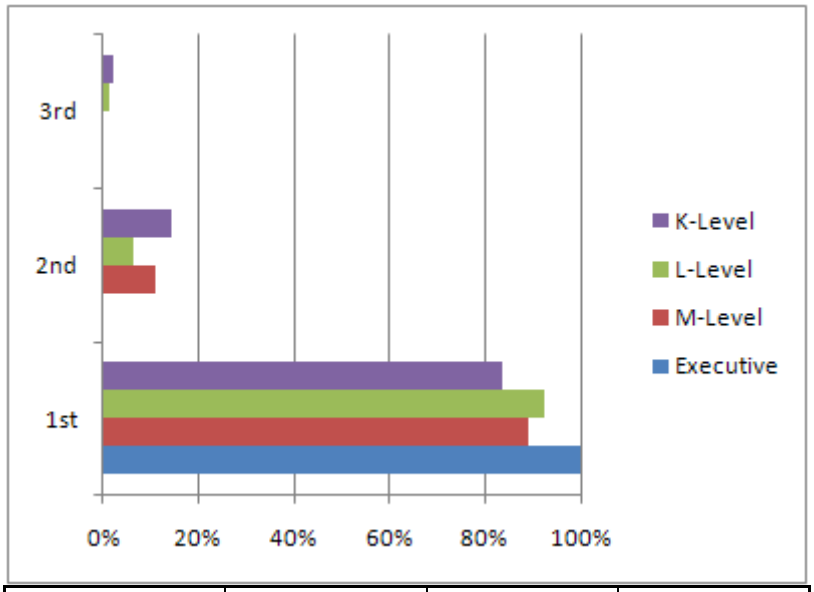
3	0–5 Years	6–12 Years	13–19 Years	20–25 Years	26–30 Years	31+ Years
Executive (E)	86.67%	6.67%	0.00%	0.00%	0.00%	6.67%
Director (M)	78.26%	10.87%	6.52%	0.00%	2.17%	2.17%
Senior Manager (L)	88.61%	7.59%	0.00%	3.80%	0.00%	0.00%
Supervisor (K)	87.44%	9.42%	1.79%	0.90%	0.45%	0.00%

Survey Question 4. How long have you been in management at this company?



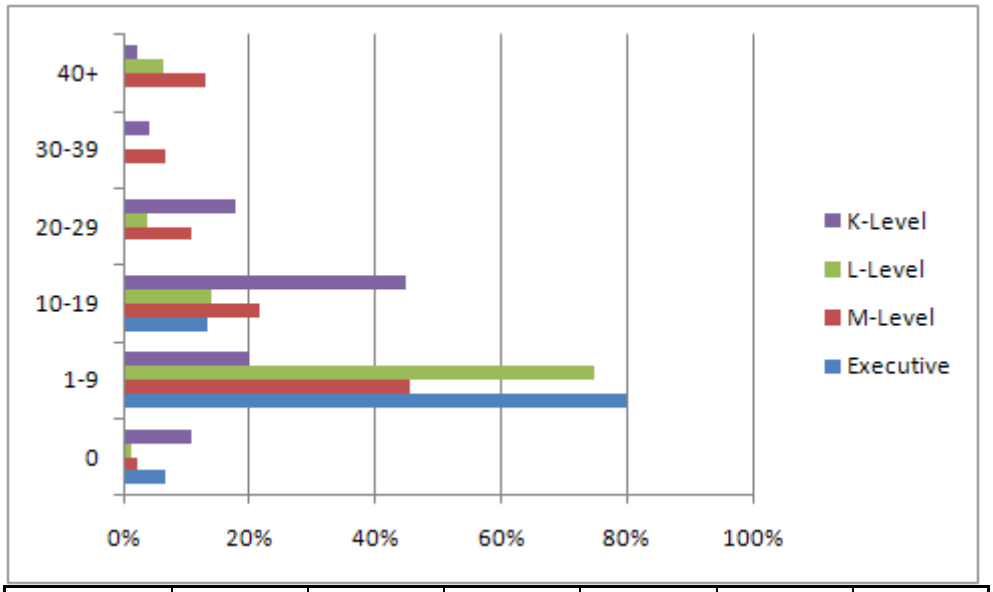
4	0–5 Years	6–12 Years	13–19 Years	20–25 Years	26–30 Years	31+ Years
Executive (E)	0.00%	20.00%	40.00%	26.67%	13.33%	0.00%
Director (M)	36.96%	17.39%	19.57%	19.57%	2.17%	4.35%
Senior Manager (L)	31.65%	27.85%	21.52%	16.46%	1.27%	1.27%
Supervisor (K)	64.57%	15.25%	13.00%	4.93%	0.45%	1.79%

Survey Question 5. What shift do you work?



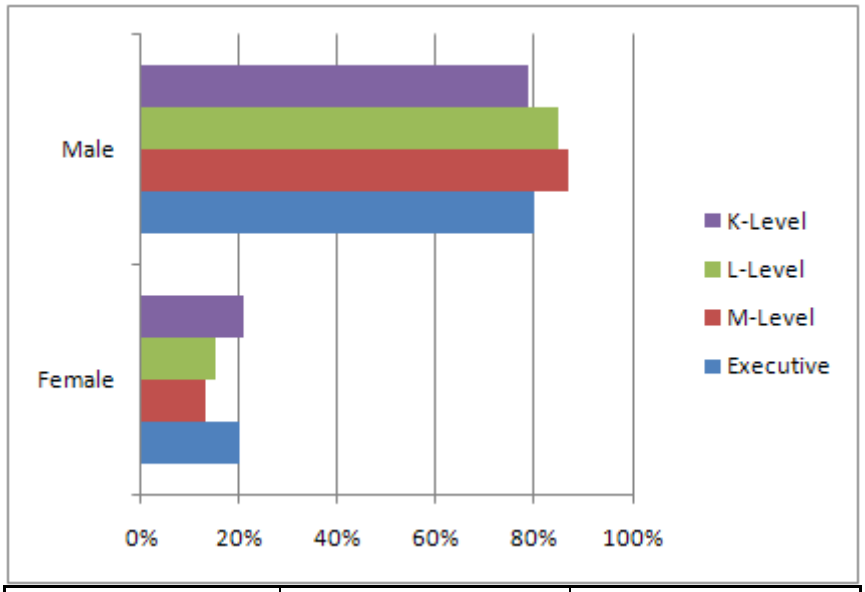
5	1st	2nd	3rd
Executive (E)	100.00%	0.00%	0.00%
Director (M)	89.13%	10.87%	0.00%
Senior Manager (L)	92.41%	6.33%	1.27%
Supervisor (K)	83.41%	14.35%	2.24%

Survey Question 6. How many direct reports do you have?



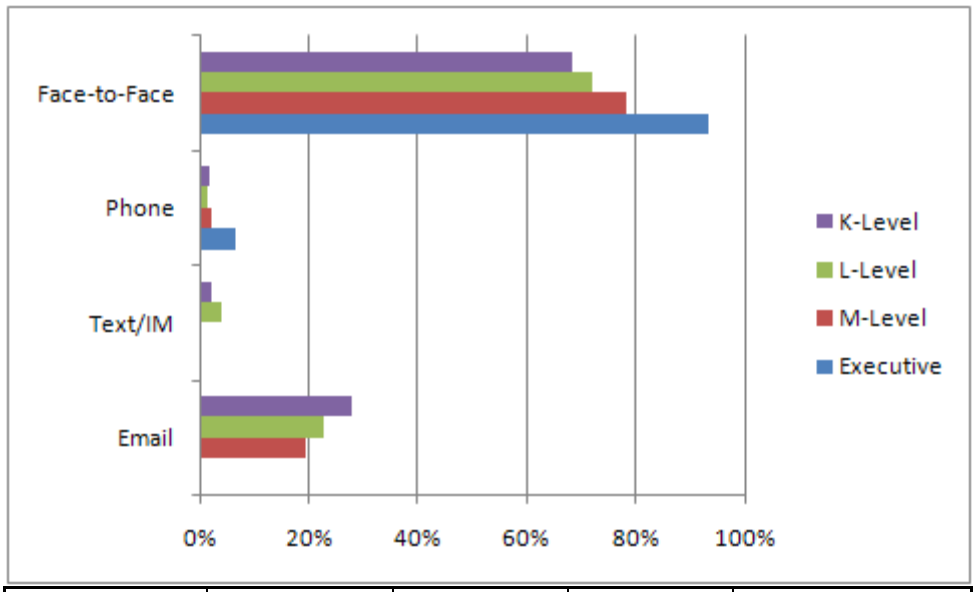
6	0	1–9	10–19	20–29	30–39	40+
Executive (E)	6.67%	80.00%	13.33%	0.00%	0.00%	0.00%
Director (M)	2.17%	45.65%	21.74%	10.87%	6.52%	13.04%
Senior Manager (L)	1.27%	74.68%	13.92%	3.80%	0.00%	6.33%
Supervisor (K)	10.76%	20.18%	44.84%	17.94%	4.04%	2.24%

Survey Question 7. What is your gender?



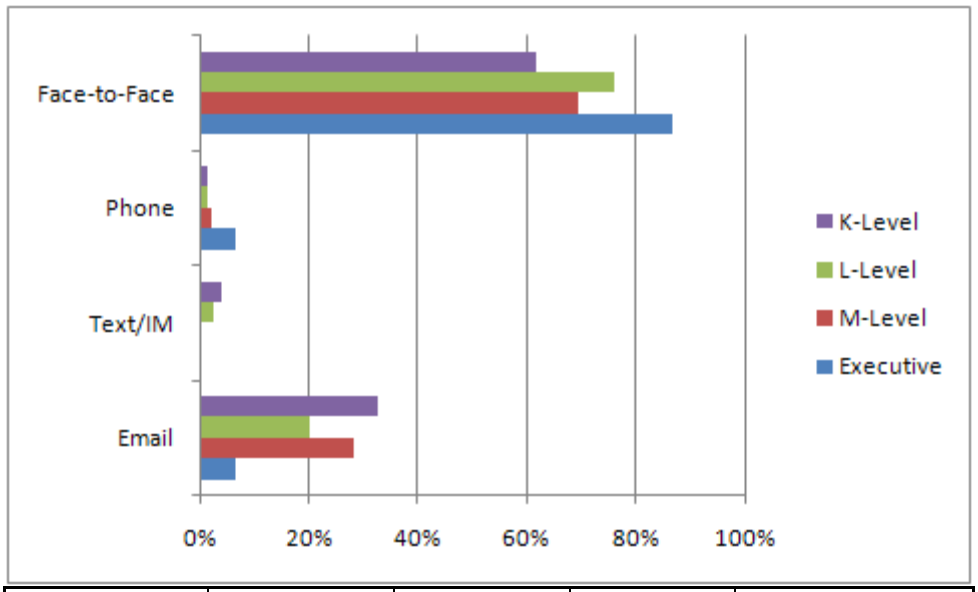
7	Female	Male
Executive (E)	20.00%	80.00%
Director (M)	13.04%	86.96%
Senior Manager (L)	15.19%	84.81%
Supervisor (K)	21.08%	78.92%

Survey Question 8a. What is your preferred communication medium when receiving direction from your immediate supervisor?



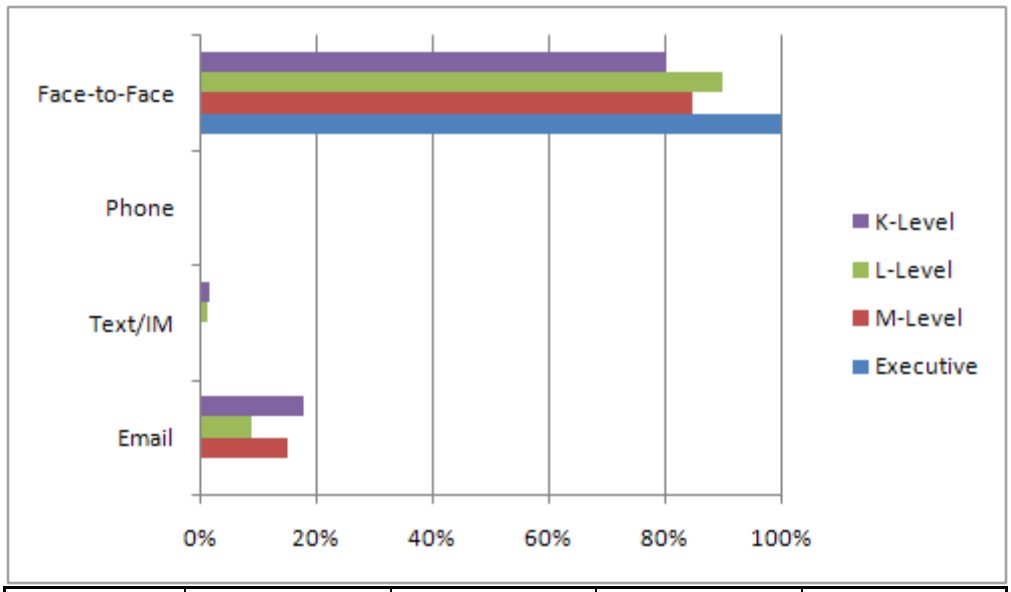
8a	E-mail	Text/IM	Phone	Face-to-Face
Executive (E)	0.00%	0.00%	6.67%	93.33%
Director (M)	19.57%	0.00%	2.17%	78.26%
Senior Manager (L)	22.78%	3.80%	1.27%	72.15%
Supervisor (K)	27.80%	2.24%	1.79%	68.16%

Survey Question 8b. What is your preferred communication medium when giving information to your immediate superior?



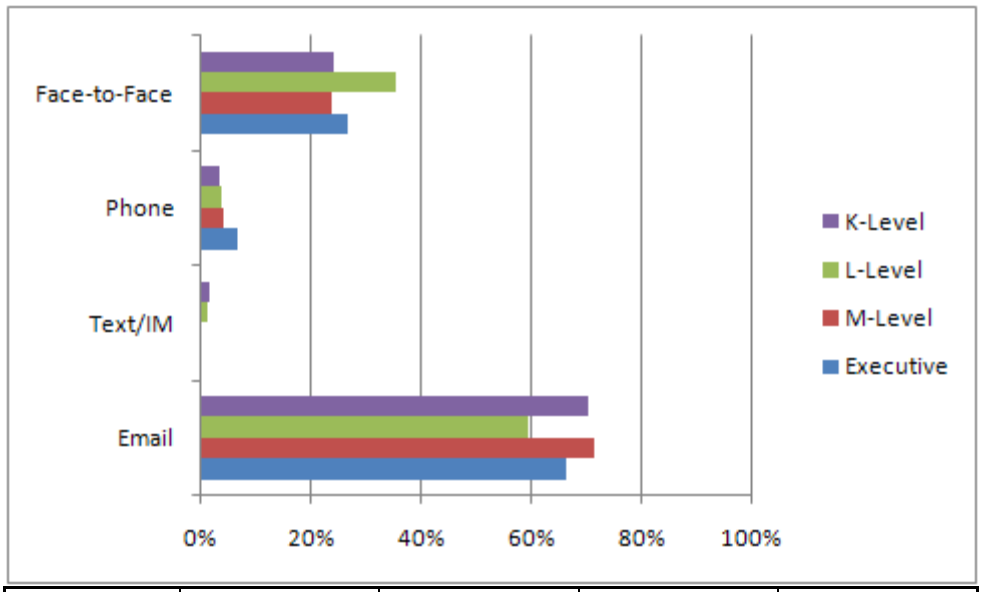
8b	E-mail	Text/IM	Phone	Face-to-Face
Executive (E)	6.67%	0.00%	6.67%	86.67%
Director (M)	28.26%	0.00%	2.17%	69.57%
Senior Manager (L)	20.25%	2.53%	1.27%	75.95%
Supervisor (K)	32.74%	4.04%	1.35%	61.88%

Survey Question 8c. What is your preferred communication medium when giving direction to your direct reports?



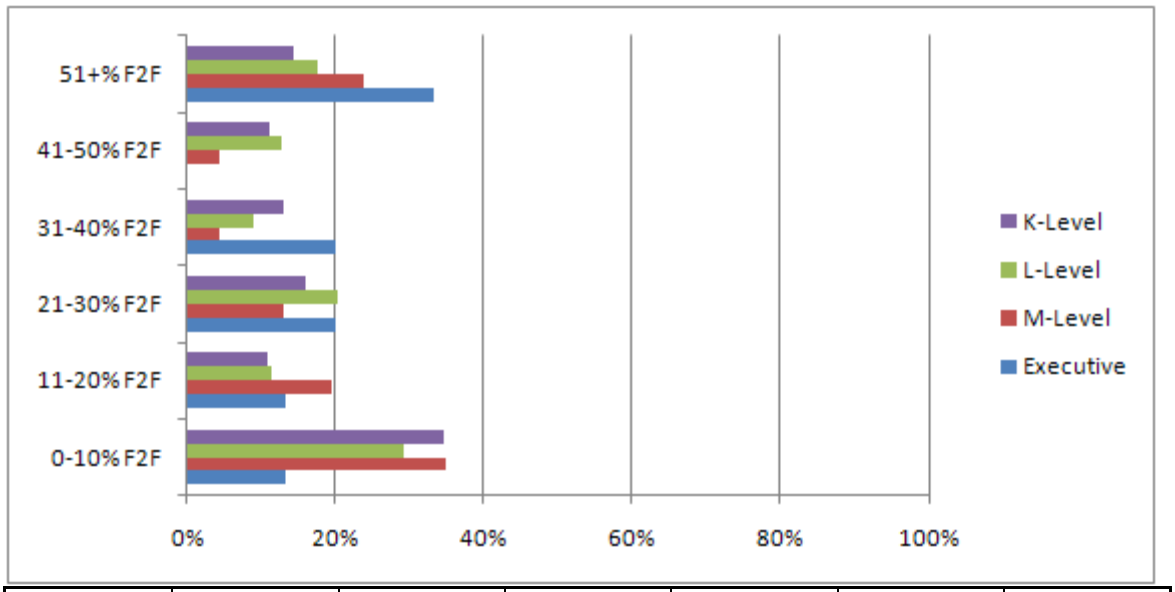
8c	E-mail	Text/IM	Phone	Face-to-Face
Executive (E)	0.00%	0.00%	0.00%	100.00%
Director (M)	15.22%	0.00%	0.00%	84.78%
Senior Manager (L)	8.86%	1.27%	0.00%	89.87%
Supervisor (K)	17.94%	1.79%	0.00%	80.27%

Survey Question 8d. What is your preferred communication medium for general work use?



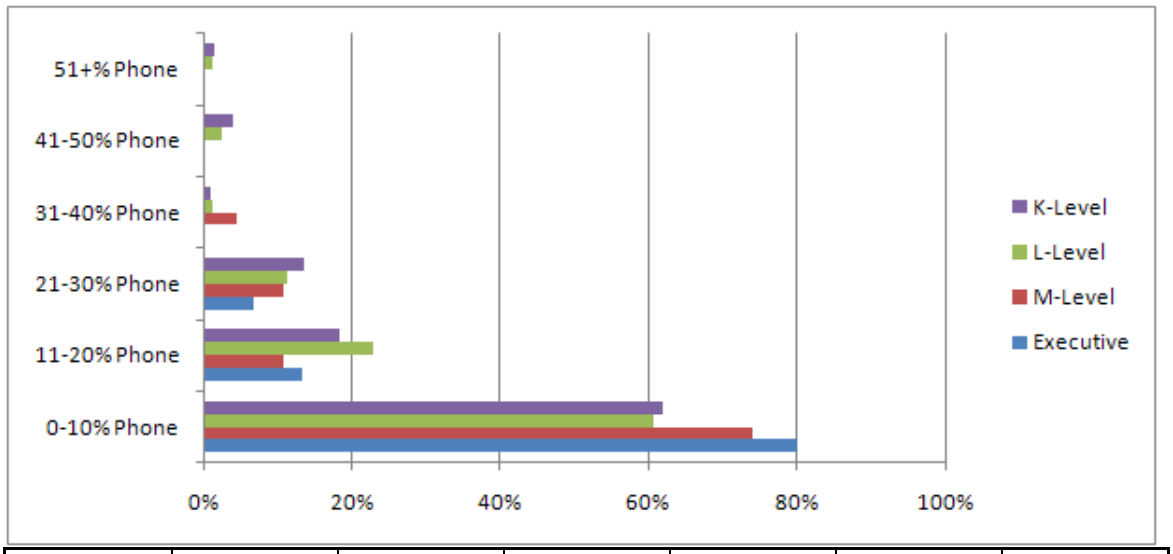
8d	E-mail	Text/IM	Phone	Face-to-Face
Executive (E)	66.67%	0.00%	6.67%	26.67%
Director (M)	71.74%	0.00%	4.35%	23.91%
Senior Manager (L)	59.49%	1.27%	3.80%	35.44%
Supervisor (K)	70.40%	1.79%	3.59%	24.22%

Survey Question 9a. Estimate what percentage of the communication you receive from your immediate superior is done face-to-face.



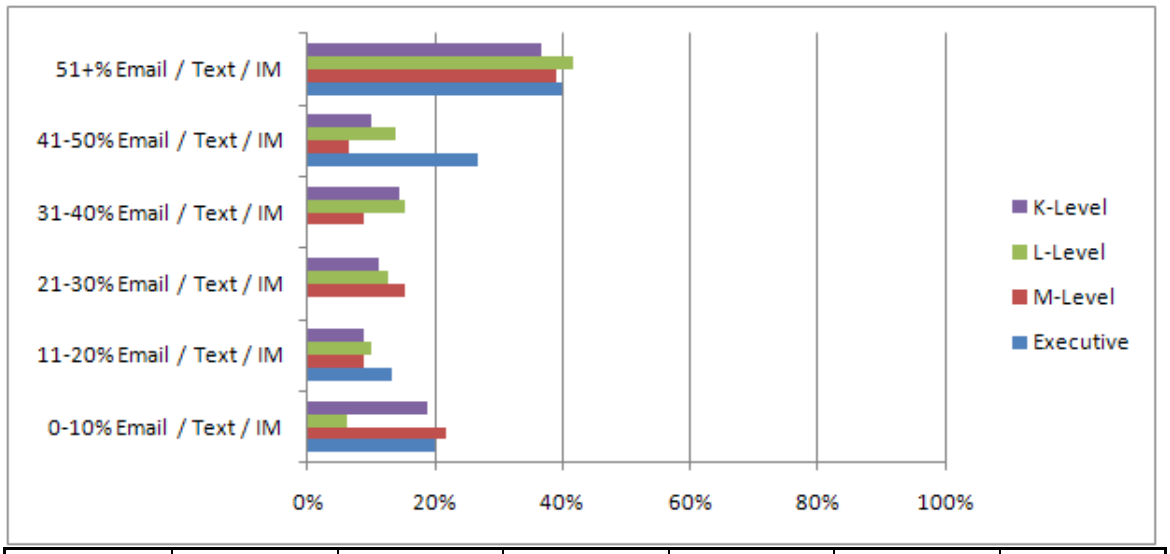
9a	0–10%	11–20%	21–30%	31–40%	41–50%	51+%
Executive (E)	13.33%	13.33%	20.00%	20.00%	0.00%	33.33%
Director (M)	34.78%	19.57%	13.04%	4.35%	4.35%	23.91%
Senior Manager (L)	29.11%	11.39%	20.25%	8.86%	12.66%	17.72%
Supervisor (K)	34.53%	10.76%	16.14%	13.00%	11.21%	14.35%

Survey Question 9b. Estimate what percentage of the communication you receive from your immediate superior is done via Phone.



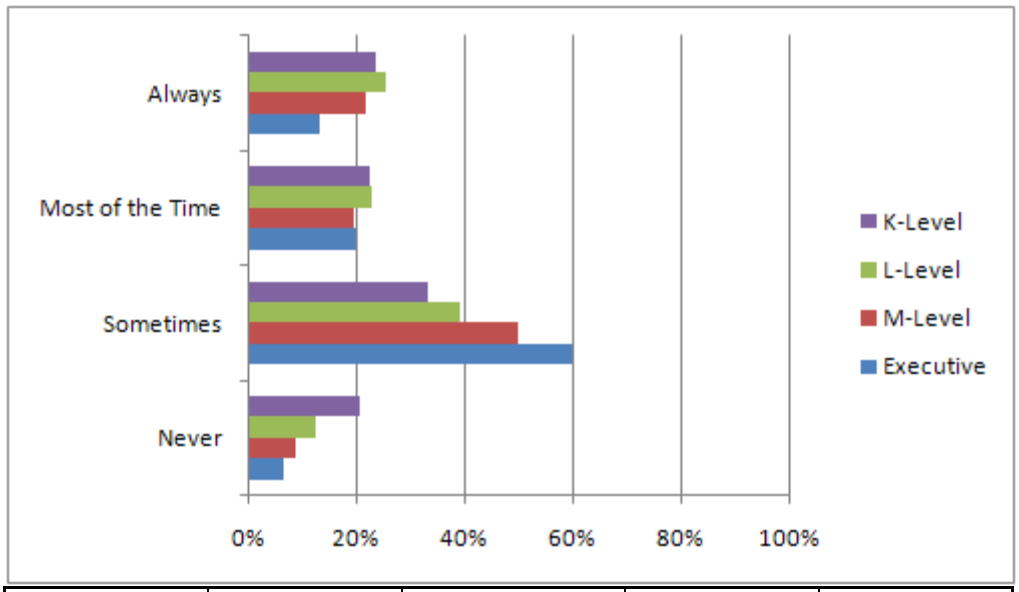
9b	0–10%	11–20%	21–30%	31–40%	41–50%	51+%
Executive (E)	80.00%	13.33%	6.67%	0.00%	0.00%	0.00%
Director (M)	73.91%	10.87%	10.87%	4.35%	0.00%	0.00%
Senior Manager (L)	60.76%	22.78%	11.39%	1.27%	2.53%	1.27%
Supervisor (K)	61.88%	18.39%	13.45%	0.90%	4.04%	1.35%

Survey Question 9c. Estimate what percentage of the communication you receive from your immediate superior is done via e-mail/text/IM.



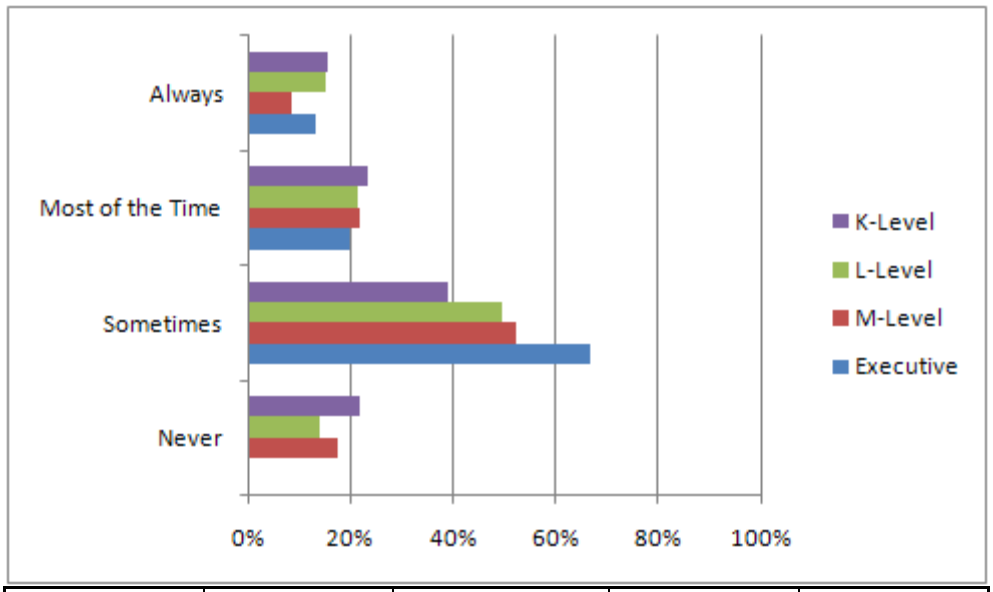
9c	0–10%	11–20%	21–30%	31–40%	41–50%	51+%
Executive (E)	20.00%	13.33%	0.00%	0.00%	26.67%	40.00%
Director (M)	21.74%	8.70%	15.22%	8.70%	6.52%	39.13%
Senior Manager (L)	6.33%	10.13%	12.66%	15.19%	13.92%	41.77%
Supervisor (K)	18.83%	8.97%	11.21%	14.35%	9.87%	36.77%

Survey Question 10a. When you see other people using their Blackberry during a meeting and you are the presenter, does it bother you?



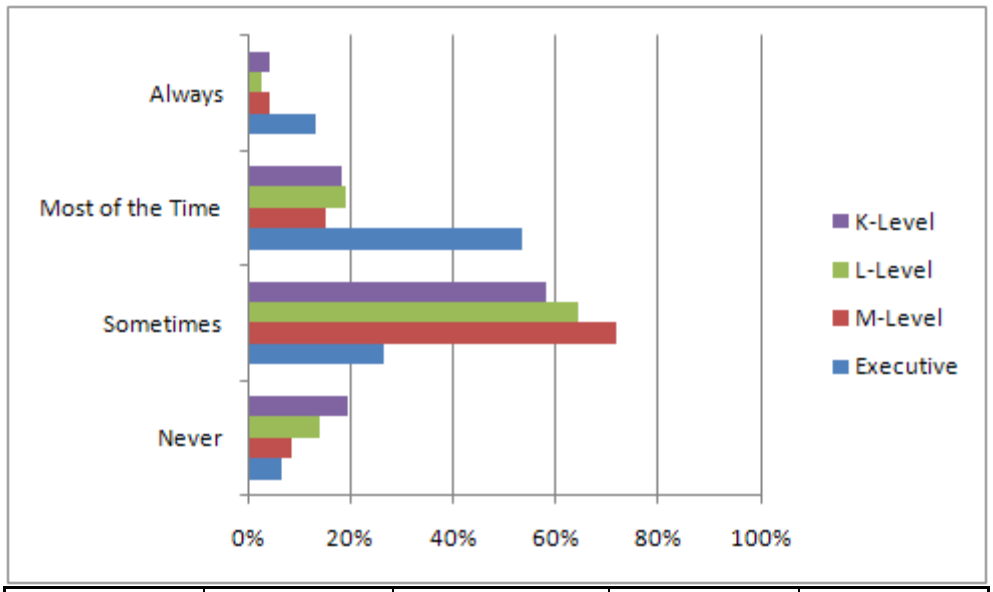
10a	Never	Sometimes	Most of the Time	Always
Executive (E)	6.67%	60.00%	20.00%	13.33%
Director (M)	8.70%	50.00%	19.57%	21.74%
Senior Manager (L)	12.66%	39.24%	22.78%	25.32%
Supervisor (K)	20.63%	33.18%	22.42%	23.77%

Survey Question 10b. When you see other people using their Blackberry during a meeting and you are a participant in the meeting, does it bother you?



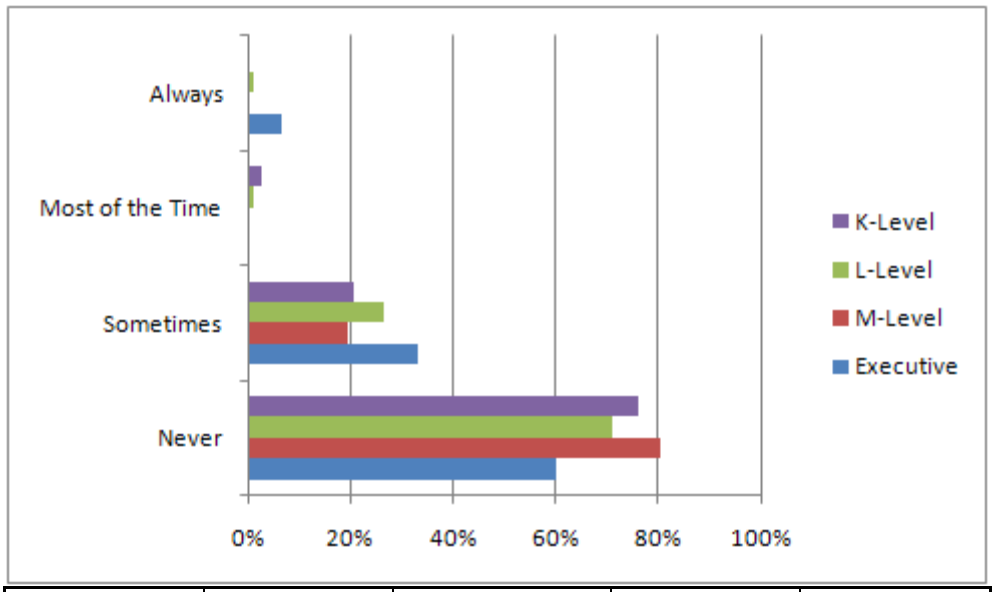
10b	Never	Sometimes	Most of the Time	Always
Executive (E)	0.00%	66.67%	20.00%	13.33%
Director (M)	17.39%	52.17%	21.74%	8.70%
Senior Manager (L)	13.92%	49.37%	21.52%	15.19%
Supervisor (K)	21.97%	39.01%	23.32%	15.70%

Survey Question 11a. Do you check your Blackberry when you receive an alert while you are a participant in a meeting?



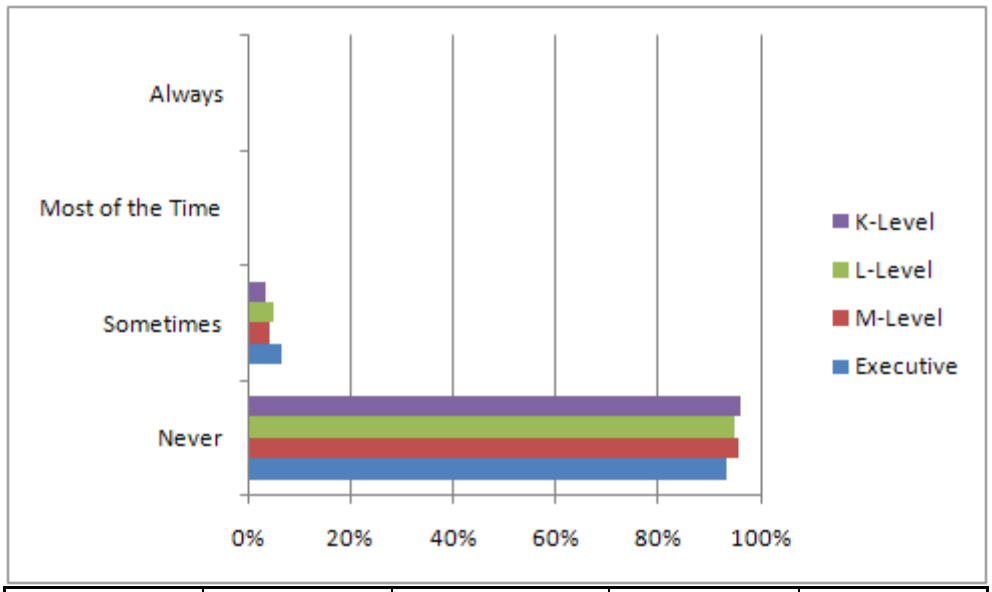
11a	Never	Sometimes	Most of the Time	Always
Executive (E)	6.67%	26.67%	53.33%	13.33%
Director (M)	8.70%	71.74%	15.22%	4.35%
Senior Manager (L)	13.92%	64.56%	18.99%	2.53%
Supervisor (K)	19.28%	58.30%	18.39%	4.04%

Survey Question 11b. Do you check your Blackberry when you receive an alert while leading a meeting?



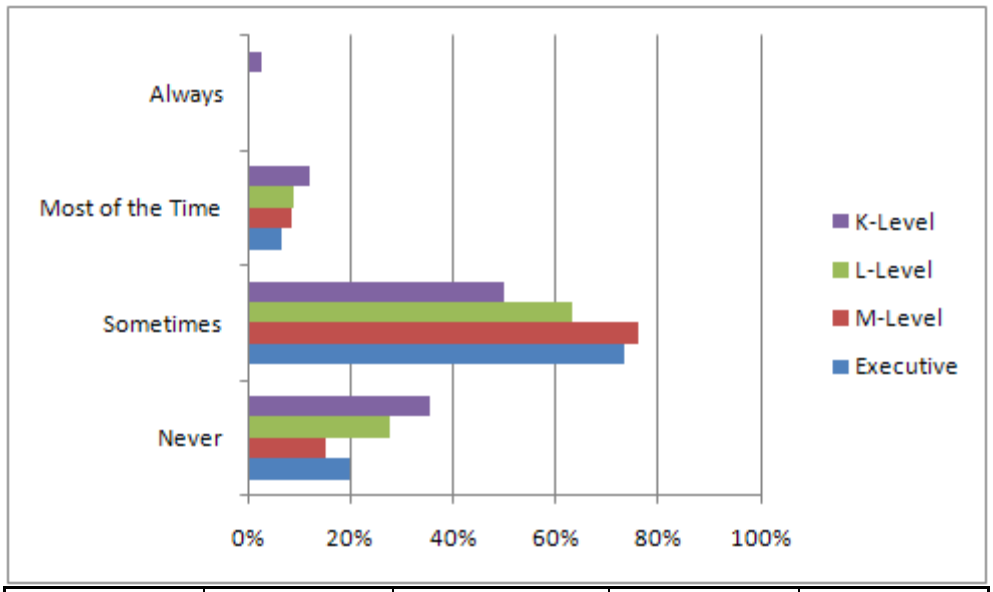
11b	Never	Sometimes	Most of the Time	Always
Executive (E)	60.00%	33.33%	0.00%	6.67%
Director (M)	80.43%	19.57%	0.00%	0.00%
Senior Manager (L)	70.89%	26.58%	1.27%	1.27%
Supervisor (K)	76.23%	20.63%	2.69%	0.45%

Survey Question 11c. Do you check your Blackberry when you receive an alert while delivering a presentation?



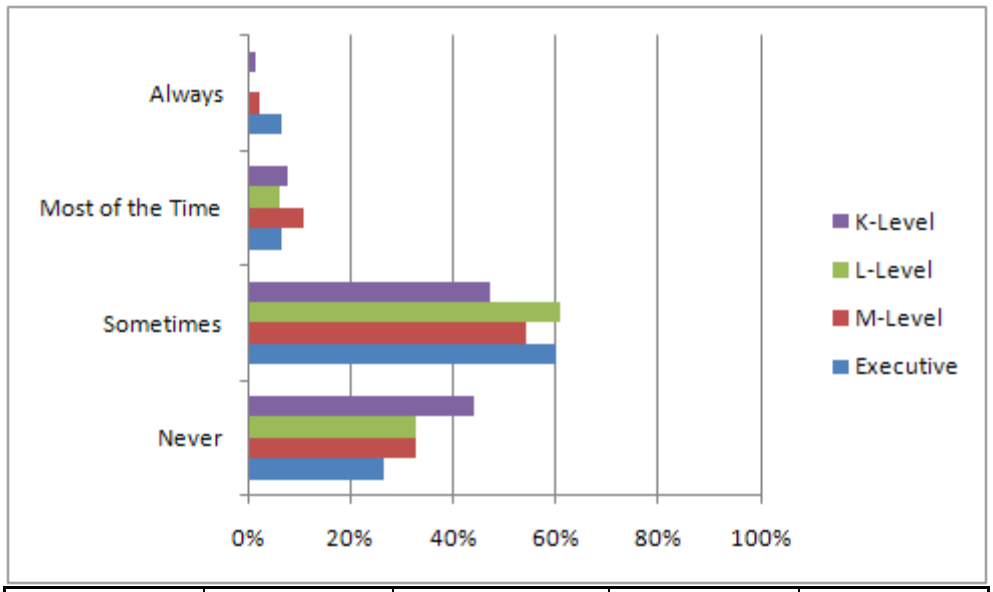
11c	Never	Sometimes	Most of the Time	Always
Executive (E)	93.33%	6.67%	0.00%	0.00%
Director (M)	95.65%	4.35%	0.00%	0.00%
Senior Manager (L)	94.94%	5.06%	0.00%	0.00%
Supervisor (K)	95.96%	3.59%	0.45%	0.00%

Survey Question 11d. Do you check your Blackberry when you receive an alert during a conversation with a peer?



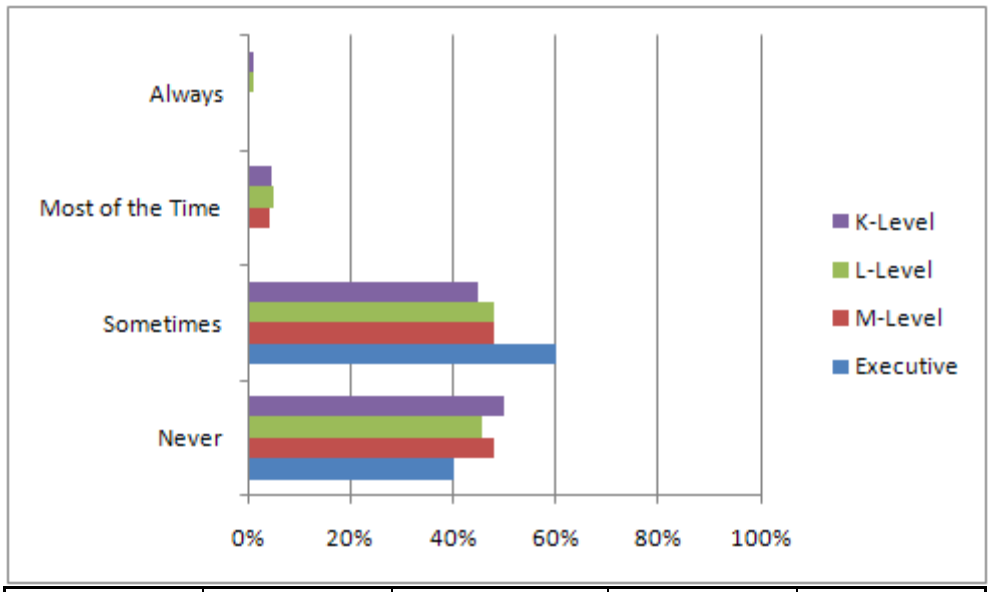
11d	Never	Sometimes	Most of the Time	Always
Executive (E)	20.00%	73.33%	6.67%	0.00%
Director (M)	15.22%	76.09%	8.70%	0.00%
Senior Manager (L)	27.85%	63.29%	8.86%	0.00%
Supervisor (K)	35.43%	49.78%	12.11%	2.69%

Survey Question 11e. Do you check your Blackberry when you receive an alert during a conversation with a direct report?



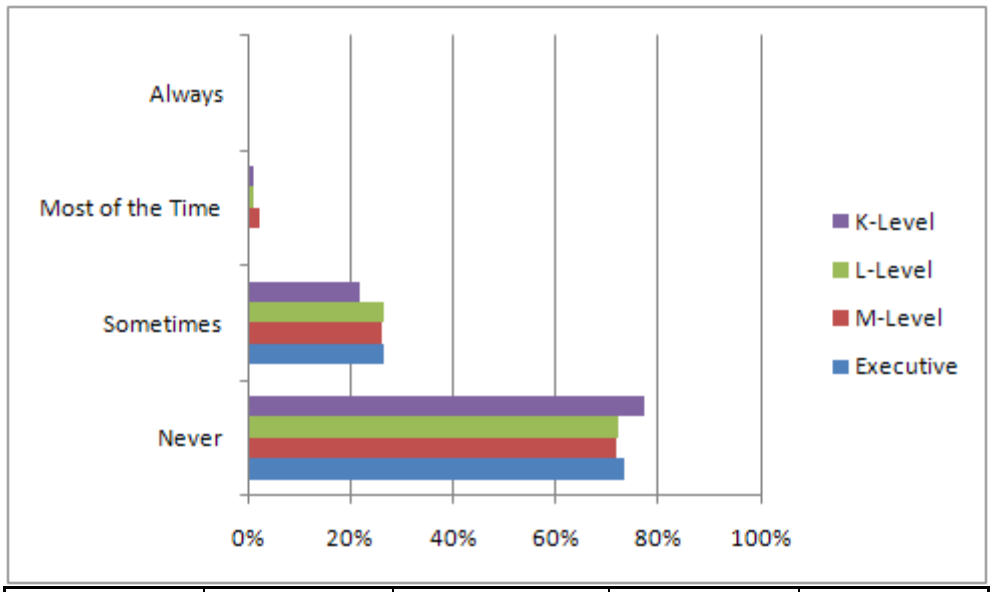
11e	Never	Sometimes	Most of the Time	Always
Executive (E)	26.67%	60.00%	6.67%	6.67%
Director (M)	32.61%	54.35%	10.87%	2.17%
Senior Manager (L)	32.91%	60.76%	6.33%	0.00%
Supervisor (K)	43.95%	47.09%	7.62%	1.35%

Survey Question 11f. Do you check your Blackberry when you receive an alert during a conversation with your immediate superior?



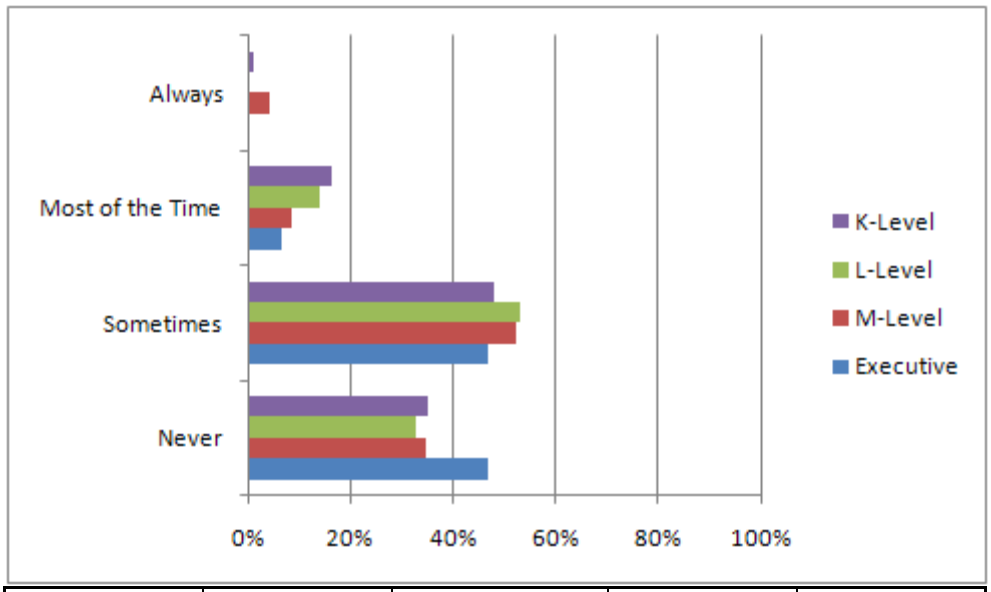
11f	Never	Sometimes	Most of the Time	Always
Executive (E)	40.00%	60.00%	0.00%	0.00%
Director (M)	47.83%	47.83%	4.35%	0.00%
Senior Manager (L)	45.57%	48.10%	5.06%	1.27%
Supervisor (K)	49.78%	44.84%	4.48%	0.90%

Survey Question 11g. Do you check your Blackberry when you receive an alert during a conversation with a higher level leader (above your immediate superior)?



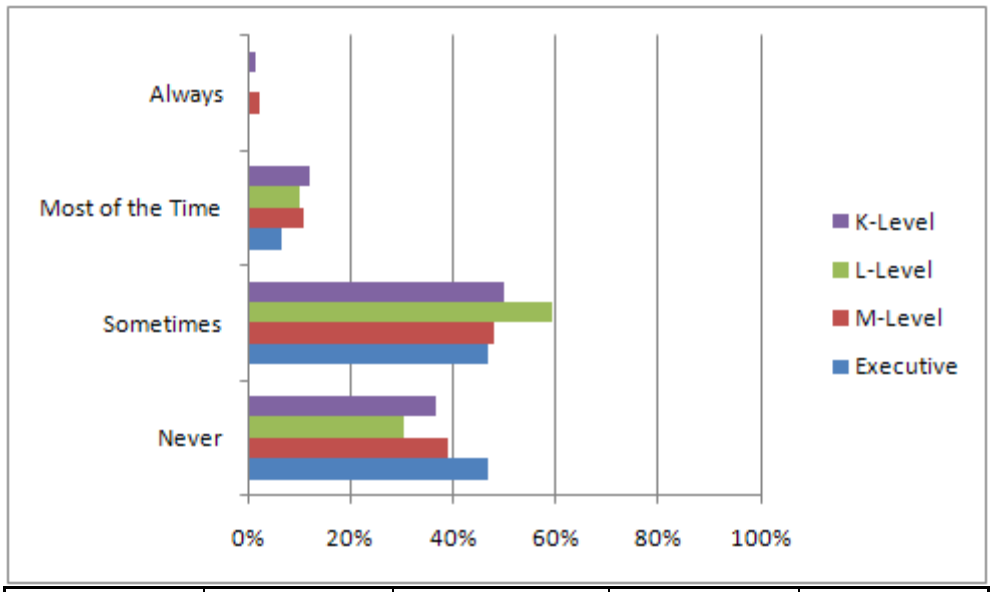
11g	Never	Sometimes	Most of the Time	Always
Executive (E)	73.33%	26.67%	0.00%	0.00%
Director (M)	71.74%	26.09%	2.17%	0.00%
Senior Manager (L)	72.15%	26.58%	1.27%	0.00%
Supervisor (K)	77.13%	21.97%	0.90%	0.00%

Survey Question 12a. When you see other people working on their Blackberry during a meeting do you feel they are effectively able to follow the speaker?



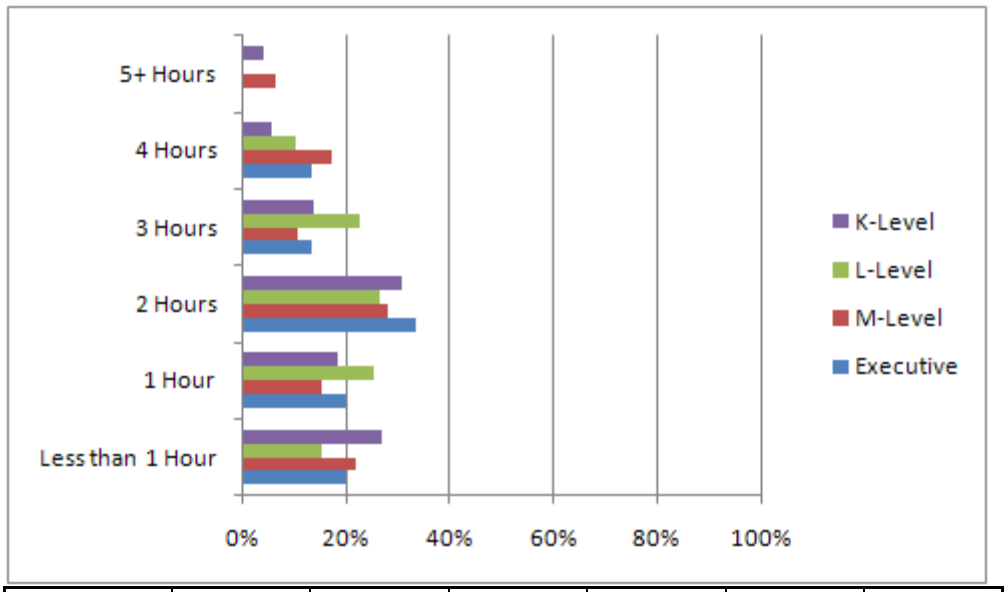
12a	Never	Sometimes	Most of the Time	Always
Executive (E)	46.67%	46.67%	6.67%	0.00%
Director (M)	34.78%	52.17%	8.70%	4.35%
Senior Manager (L)	32.91%	53.16%	13.92%	0.00%
Supervisor (K)	34.98%	47.98%	16.14%	0.90%

Survey Question 12b. When you see other people working on their Blackberry during a meeting do you feel they are effectively able to participate in the discussion?



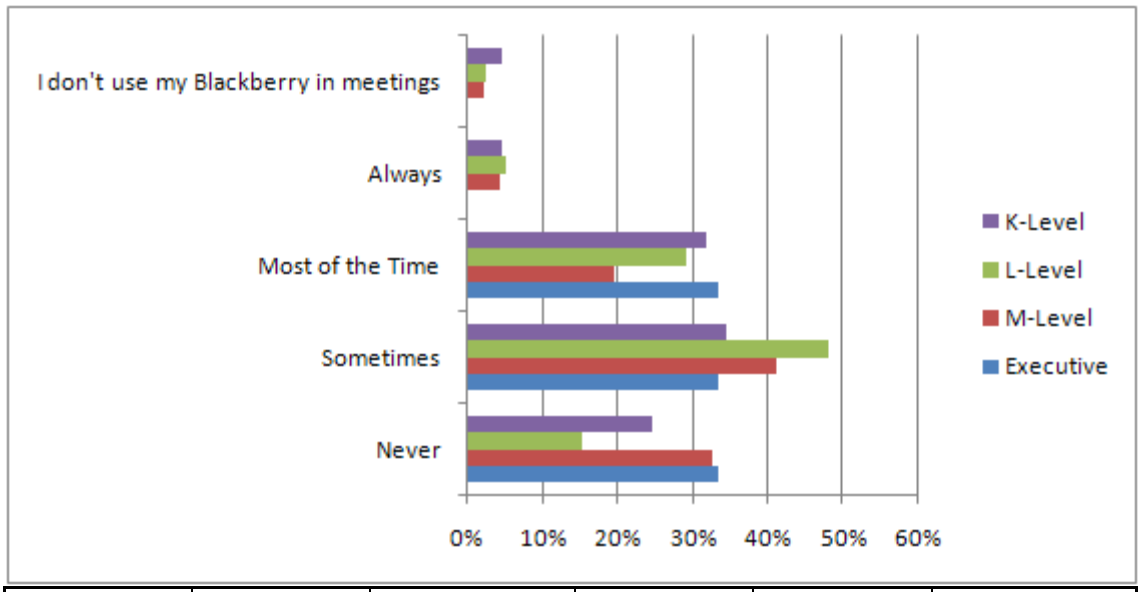
12b	Never	Sometimes	Most of the Time	Always
Executive (E)	46.67%	46.67%	6.67%	0.00%
Director (M)	39.13%	47.83%	10.87%	2.17%
Senior Manager (L)	30.38%	59.49%	10.13%	0.00%
Supervisor (K)	36.77%	49.78%	12.11%	1.35%

Survey Question 13. During the workday, how much time do you spend working on your Blackberry?



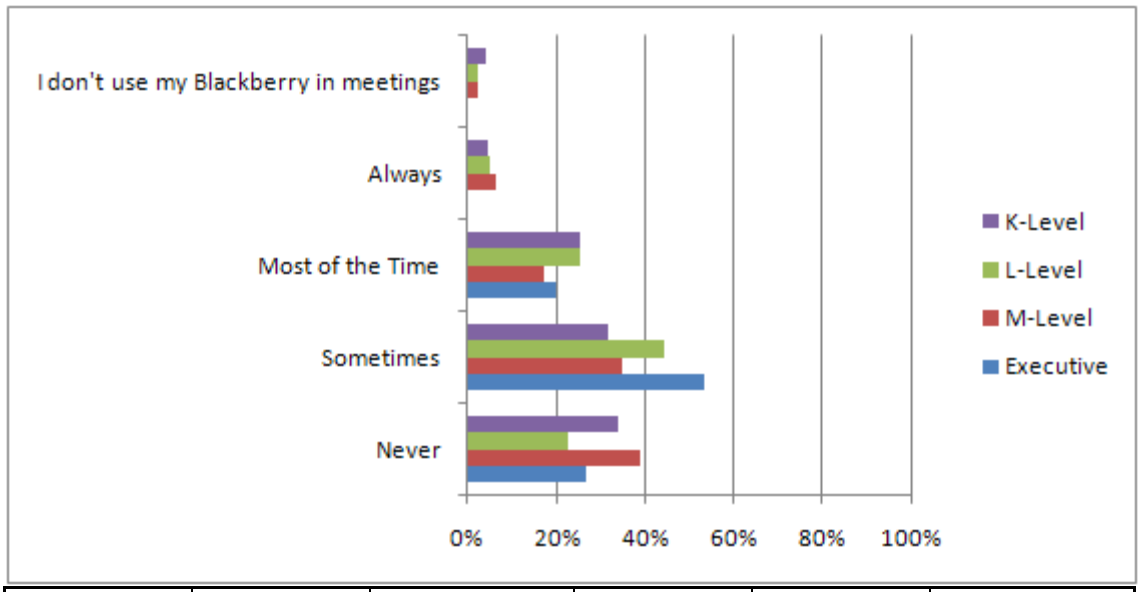
13	Less than 1 Hour	1 Hour	2 Hours	3 Hours	4 Hours	5+ Hours
Executive (E)	20.00%	20.00%	33.33%	13.33%	13.33%	0.00%
Director (M)	21.74%	15.22%	28.26%	10.87%	17.39%	6.52%
Senior Manager (L)	15.19%	25.32%	26.58%	22.78%	10.13%	0.00%
Supervisor (K)	26.91%	18.39%	30.94%	13.90%	5.83%	4.04%

Survey Question 14a. If you e-mail/text/IM on your Blackberry during a meeting, are you able to effectively follow the speaker?



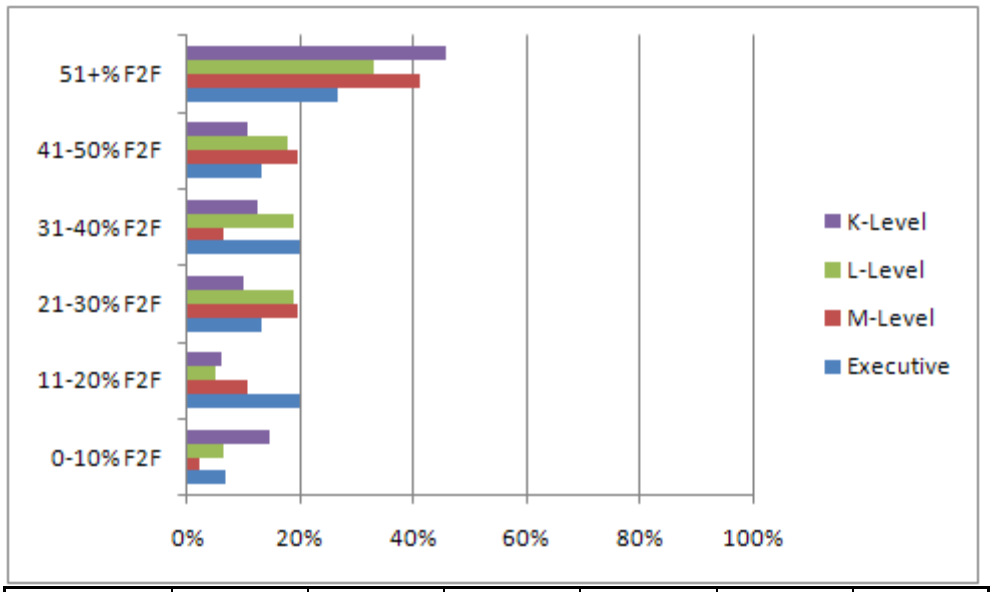
14a	Never	Sometimes	Most of the Time	Always	I don't use my Blackberry in meetings
Executive (E)	33.33%	33.33%	33.33%	0.00%	0.00%
Director (M)	32.61%	41.30%	19.57%	4.35%	2.17%
Senior Manager (L)	15.19%	48.10%	29.11%	5.06%	2.53%
Supervisor (K)	24.66%	34.53%	31.84%	4.48%	4.48%

Survey Question 14b. If you e-mail/text/IM on your Blackberry during a meeting, are you able to effectively participate in the discussion?



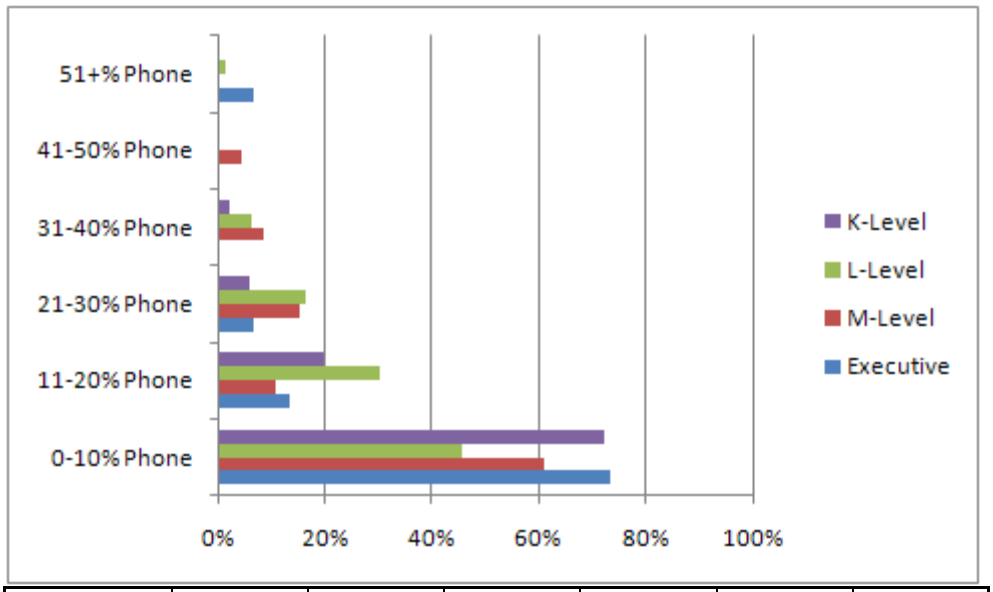
14b	Never	Sometimes	Most of the Time	Always	I don't use my Blackberry in meetings
Executive (E)	26.67%	53.33%	20.00%	0.00%	0.00%
Director (M)	39.13%	34.78%	17.39%	6.52%	2.17%
Senior Manager (L)	22.78%	44.30%	25.32%	5.06%	2.53%
Supervisor (K)	34.08%	31.84%	25.56%	4.48%	4.04%

Survey Question 15a. Estimate what percent of the communication you give your direct reports is done Face-to-Face.



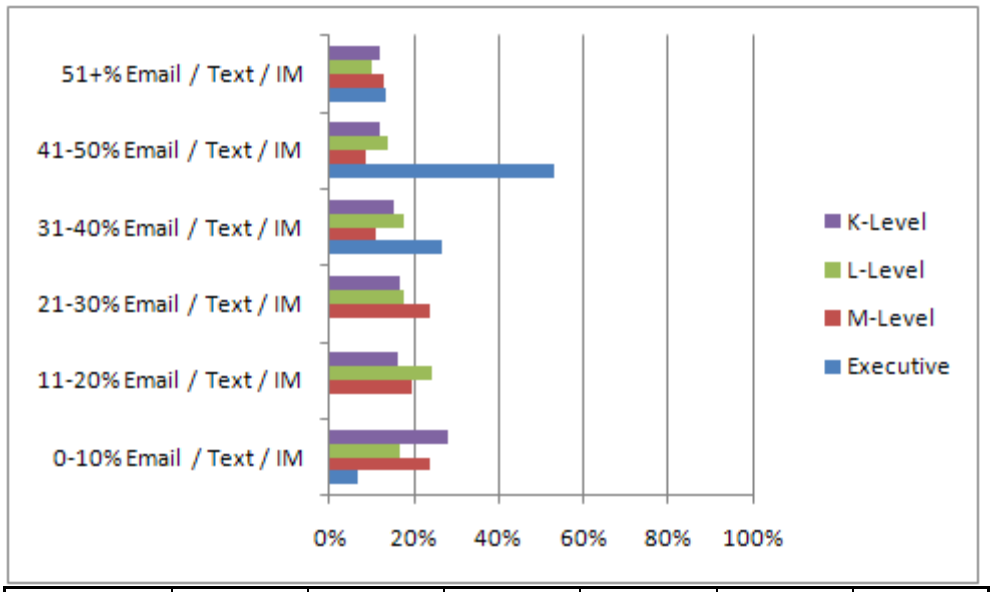
15a	0–10%	11–20%	21–30%	31–40%	41–50%	51+%
Executive (E)	6.67%	20.00%	13.33%	20.00%	13.33%	26.67%
Director (M)	2.17%	10.87%	19.57%	6.52%	19.57%	41.30%
Senior Manager (L)	6.33%	5.06%	18.99%	18.99%	17.72%	32.91%
Supervisor (K)	14.80%	6.28%	9.87%	12.56%	10.76%	45.74%

Survey Question 15b. Estimate what percent of the communication you give your direct reports is done via Phone.



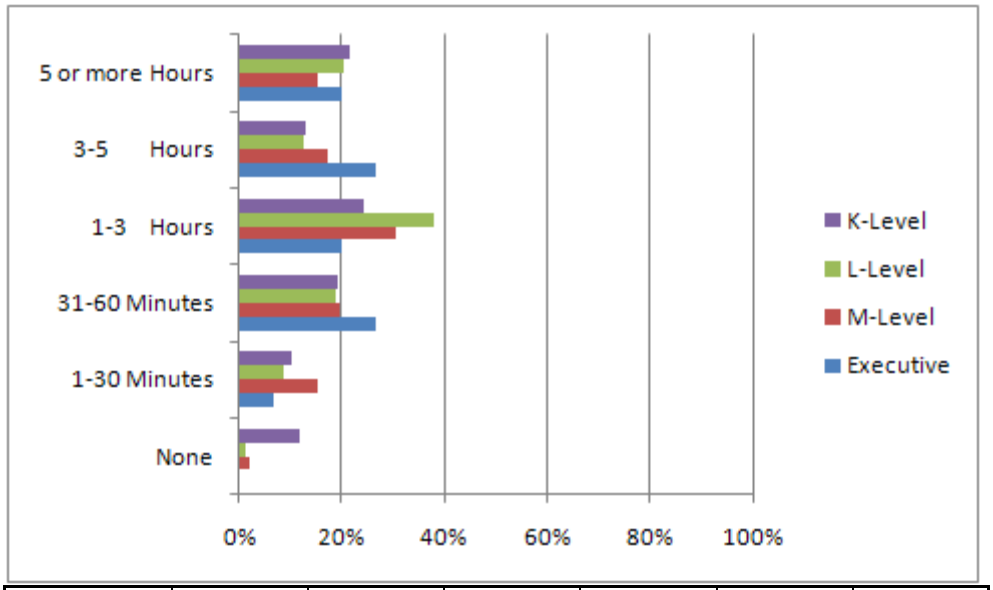
15b	0–10%	11–20%	21–30%	31–40%	41–50%	51+%
Executive (E)	73.33%	13.33%	6.67%	0.00%	0.00%	6.67%
Director (M)	60.87%	10.87%	15.22%	8.70%	4.35%	0.00%
Senior Manager (L)	45.57%	30.38%	16.46%	6.33%	0.00%	1.27%
Supervisor (K)	72.20%	19.73%	5.83%	2.24%	0.00%	0.00%

Survey Question 15c. Estimate what percent of the communication you give your direct reports is done via e-mail/text/IM.



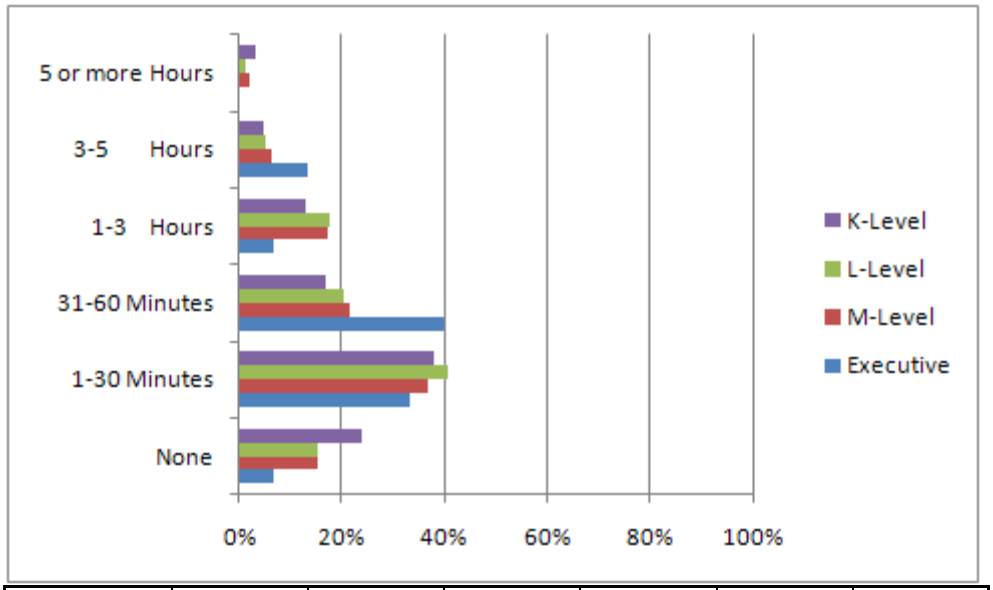
15c	0–10%	11–20%	21–30%	31–40%	41–50%	51+%
Executive (E)	6.67%	0.00%	0.00%	26.67%	53.33%	13.33%
Director (M)	23.91%	19.57%	23.91%	10.87%	8.70%	13.04%
Senior Manager (L)	16.46%	24.05%	17.72%	17.72%	13.92%	10.13%
Supervisor (K)	27.80%	16.14%	16.59%	15.25%	12.11%	12.11%

Survey Question 16a. How much time do you spend per week in personal face-to-face relationship building (time not spent in task direction or business meetings) with your direct reports?



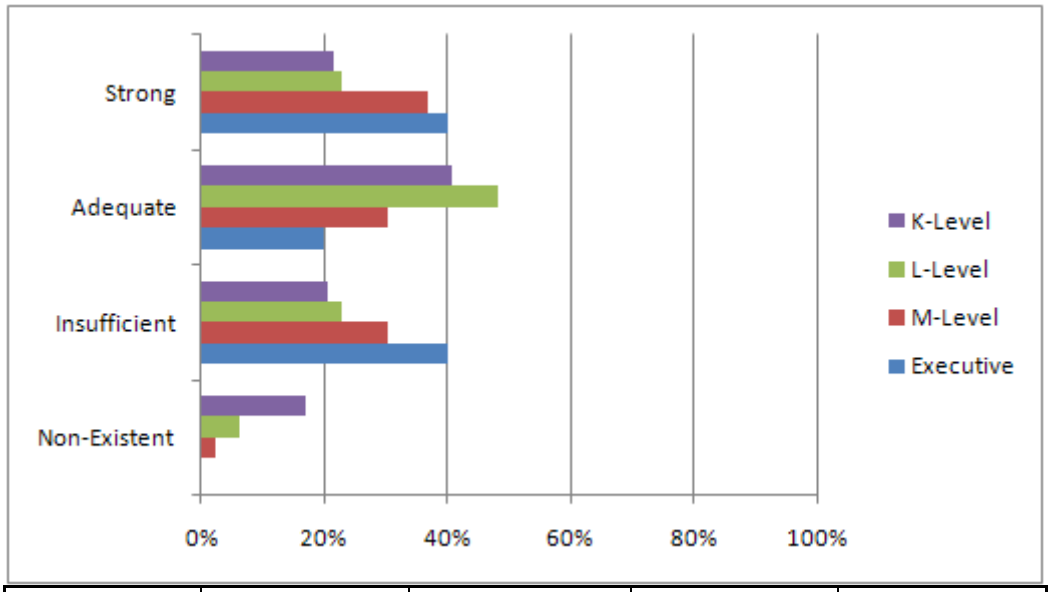
16a	None	1–30 Minutes	31–60 Minutes	1–3 Hours	3–5 Hours	5 or more Hours
Executive (E)	0.00%	6.67%	26.67%	20.00%	26.67%	20.00%
Director (M)	2.17%	15.22%	19.57%	30.43%	17.39%	15.22%
Senior Manager (L)	1.27%	8.86%	18.99%	37.97%	12.66%	20.25%
Supervisor (K)	11.66%	10.31%	19.28%	24.22%	13.00%	21.52%

Survey Question 16b. How much time do you spend per week in personal face-to-face relationship building (time not spent in task direction or business meetings) with your immediate superior?



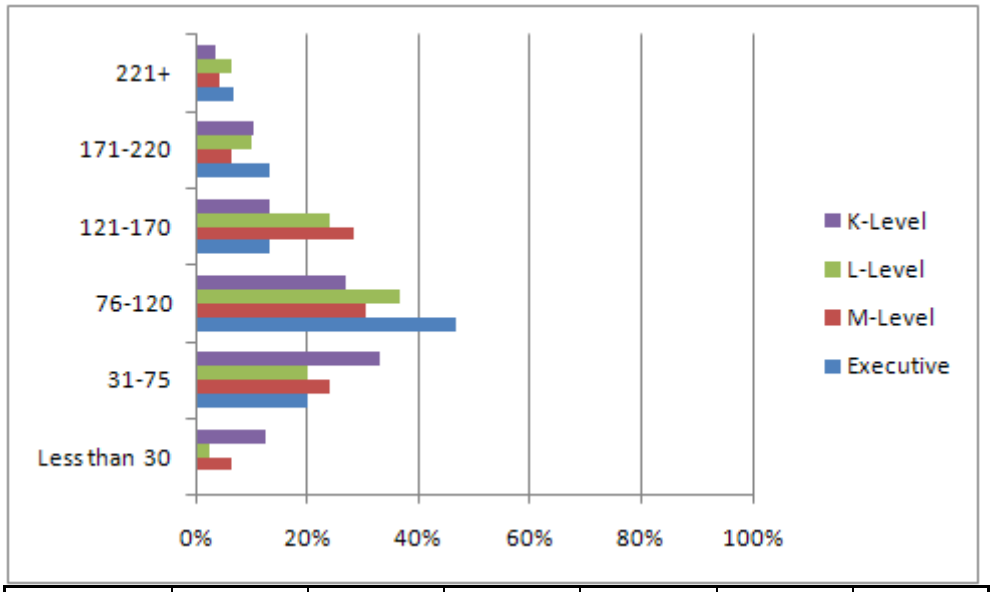
16b	None	1–30 Minutes	31–60 Minutes	1–3 Hours	3–5 Hours	5 or more Hours
Executive (E)	6.67%	33.33%	40.00%	6.67%	13.33%	0.00%
Director (M)	15.22%	36.96%	21.74%	17.39%	6.52%	2.17%
Senior Manager (L)	15.19%	40.51%	20.25%	17.72%	5.06%	1.27%
Supervisor (K)	23.77%	38.12%	17.04%	13.00%	4.93%	3.14%

Survey Question 17. My individual personal relationship with my immediate superior is:



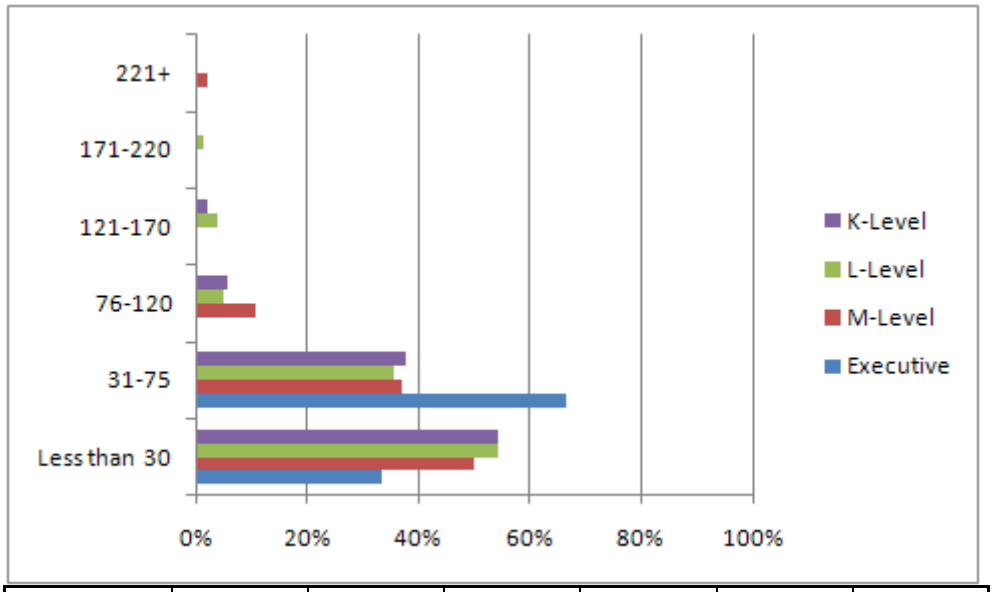
17	Nonexistent	Insufficient	Adequate	Strong
Executive (E)	0.00%	40.00%	20.00%	40.00%
Director (M)	2.17%	30.43%	30.43%	36.96%
Senior Manager (L)	6.33%	22.78%	48.10%	22.78%
Supervisor (K)	17.04%	20.63%	40.81%	21.52%

Survey Question 18a. How many total e-mails do you typically receive in a workday?



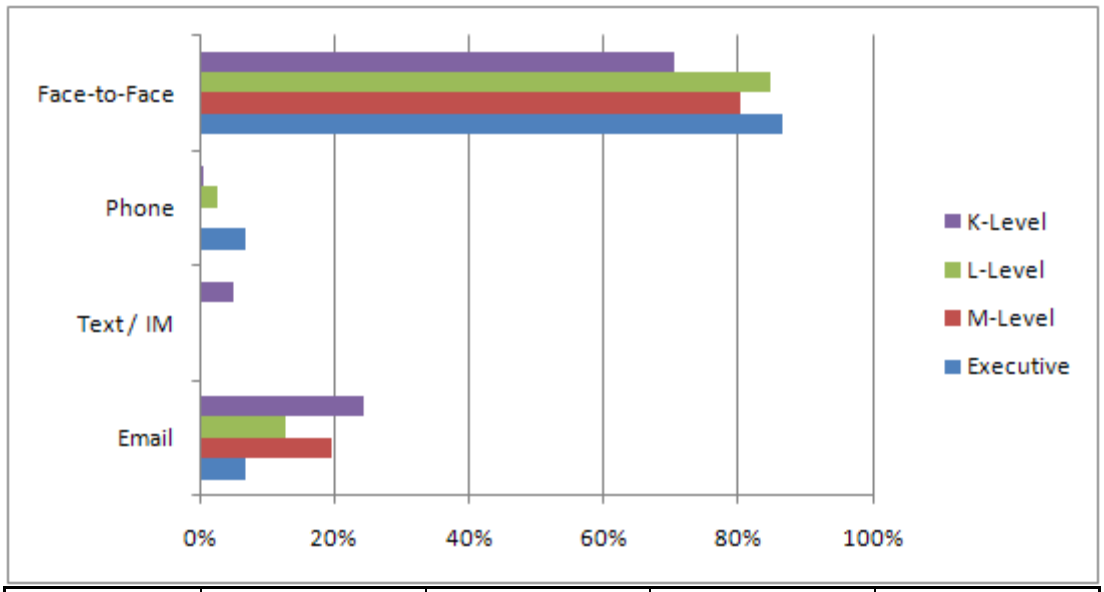
18a	Less than 30	31–75	76–120	121–170	171–220	221+
Executive (E)	0.00%	20.00%	46.67%	13.33%	13.33%	6.67%
Director (M)	6.52%	23.91%	30.43%	28.26%	6.52%	4.35%
Senior Manager (L)	2.53%	20.25%	36.71%	24.05%	10.13%	6.33%
Supervisor (K)	12.56%	33.18%	26.91%	13.45%	10.31%	3.59%

Survey Question 18b. How many total e-mails do you typically send in a workday?



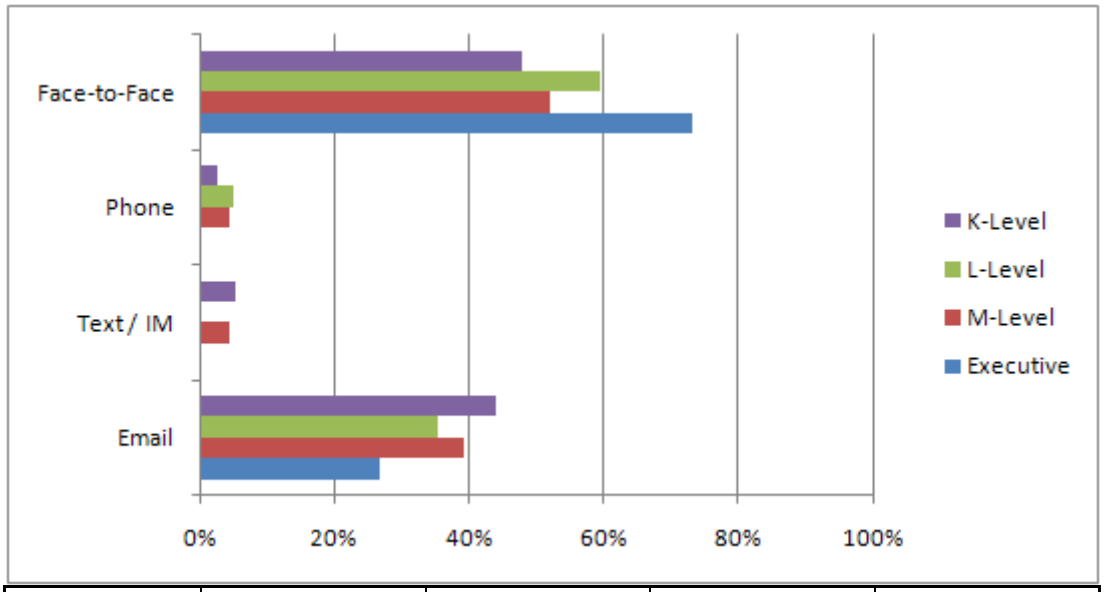
18b	Less than 30	31–75	76–120	121–170	171–220	221+
Executive (E)	33.33%	66.67%	0.00%	0.00%	0.00%	0.00%
Director (M)	50.00%	36.96%	10.87%	0.00%	0.00%	2.17%
Senior Manager (L)	54.43%	35.44%	5.06%	3.80%	1.27%	0.00%
Supervisor (K)	54.26%	37.67%	5.83%	2.24%	0.00%	0.00%

Survey Question 19a. How do you think your direct reports want you to communicate with them?



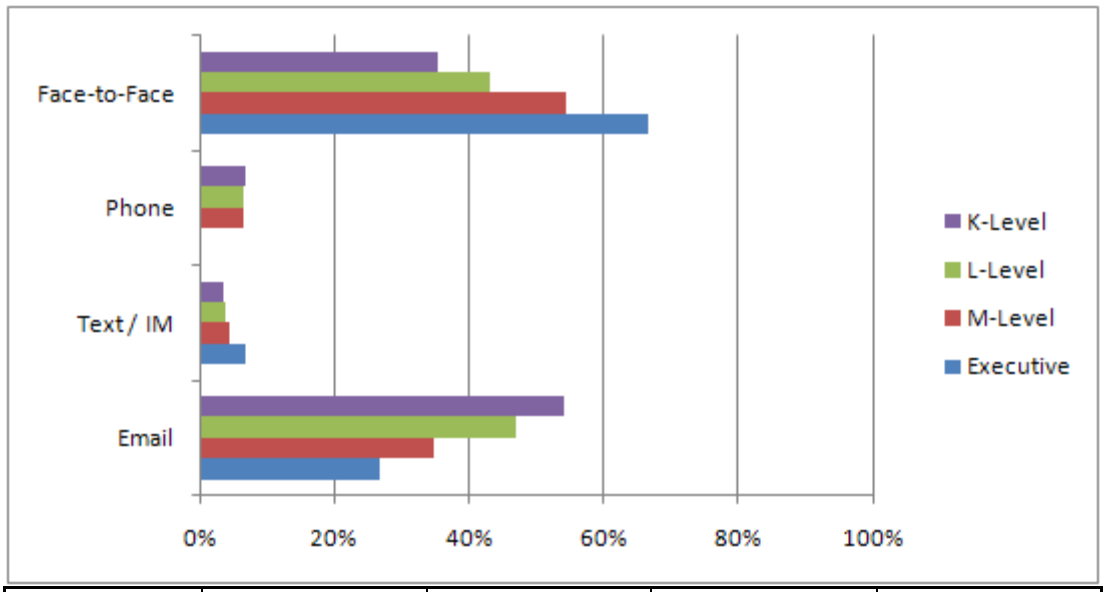
19a	E-mail	Text/IM	Phone	Face-to-face
Executive (E)	6.67%	0.00%	6.67%	86.67%
Director (M)	19.57%	0.00%	0.00%	80.43%
Senior Manager (L)	12.66%	0.00%	2.53%	84.81%
Supervisor (K)	24.22%	4.93%	0.45%	70.40%

Survey Question 19b. How do you think your peers want you to communicate with them?



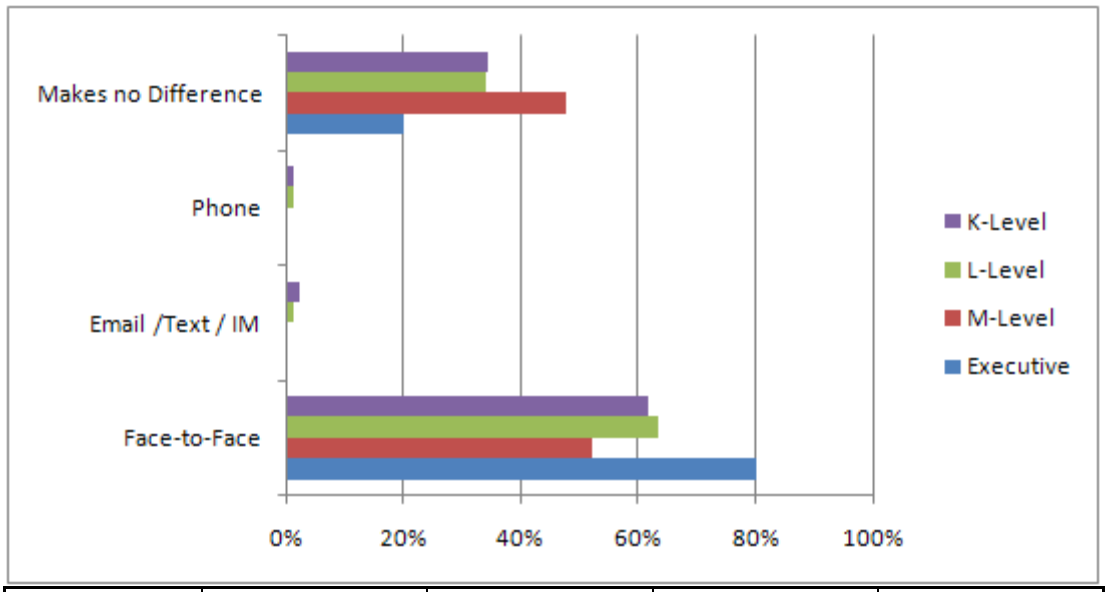
19b	E-mail	Text/IM	Phone	Face-to-Face
Executive (E)	26.67%	0.00%	0.00%	73.33%
Director (M)	39.13%	4.35%	4.35%	52.17%
Senior Manager (L)	35.44%	0.00%	5.06%	59.49%
Supervisor (K)	43.95%	5.38%	2.69%	47.98%

Survey Question 19c. How do you think your immediate superior wants you to communicate with them?



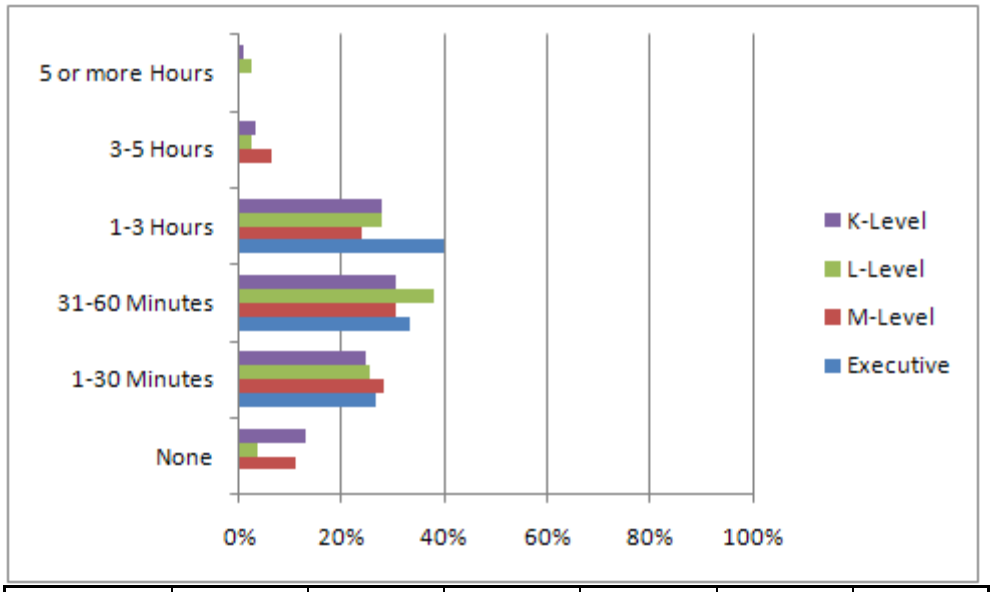
19c	E-mail	Text/IM	Phone	Face-to-Face
Executive (E)	26.67%	6.67%	0.00%	66.67%
Director (M)	34.78%	4.35%	6.52%	54.35%
Senior Manager (L)	46.84%	3.80%	6.33%	43.04%
Supervisor (K)	54.26%	3.59%	6.73%	35.43%

Survey Question 20. I am inclined to work harder or put in extra effort on a task when my immediate superior asks me:



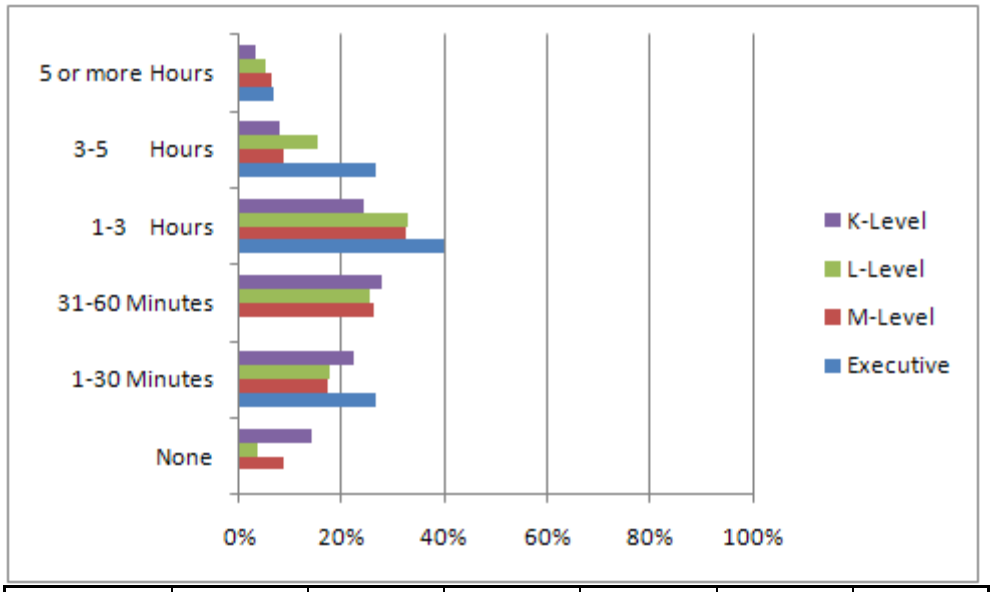
20	Face-to-Face	E-mail /Text/IM	Phone	Makes no Difference
Executive (E)	80.00%	0.00%	0.00%	20.00%
Director (M)	52.17%	0.00%	0.00%	47.83%
Senior Manager (L)	63.29%	1.27%	1.27%	34.18%
Supervisor (K)	61.88%	2.24%	1.35%	34.53%

Survey Question 21. After you leave work on the workday, how much time do you typically spend checking work-related alerts or performing work-related tasks on your Blackberry?



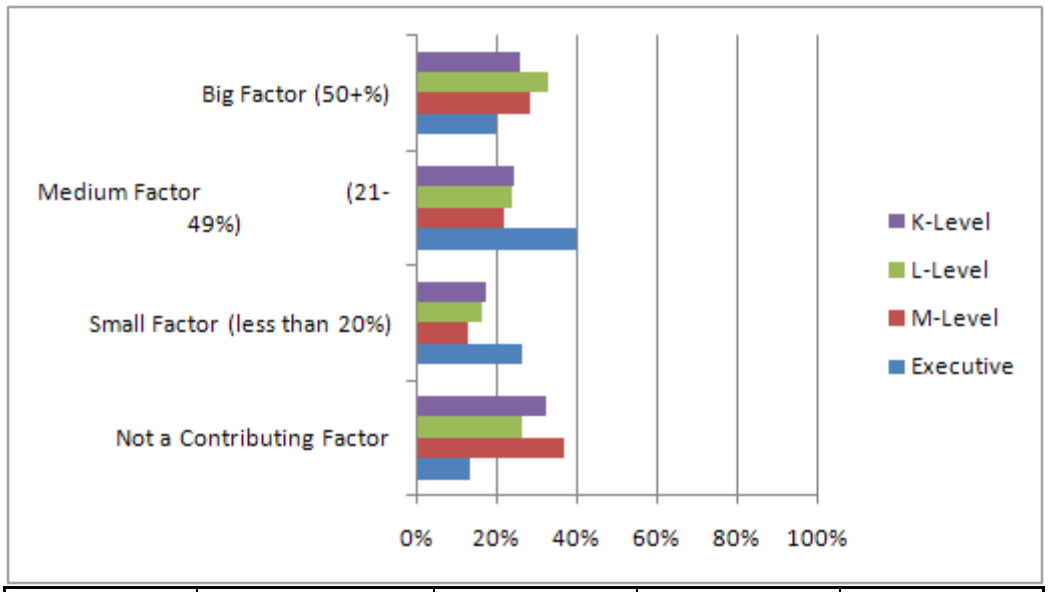
21	None	1–30 Minutes	31–60 Minutes	1–3 Hours	3–5 Hours	5 or more Hours
Executive (E)	0.00%	26.67%	33.33%	40.00%	0.00%	0.00%
Director (M)	10.87%	28.26%	30.43%	23.91%	6.52%	0.00%
Senior Manager (L)	3.80%	25.32%	37.97%	27.85%	2.53%	2.53%
Supervisor (K)	13.00%	24.66%	30.49%	27.80%	3.14%	0.90%

Survey Question 22. On the weekend when you are not at work, how much time do you typically spend checking work-related alerts or performing work-related tasks on your Blackberry?



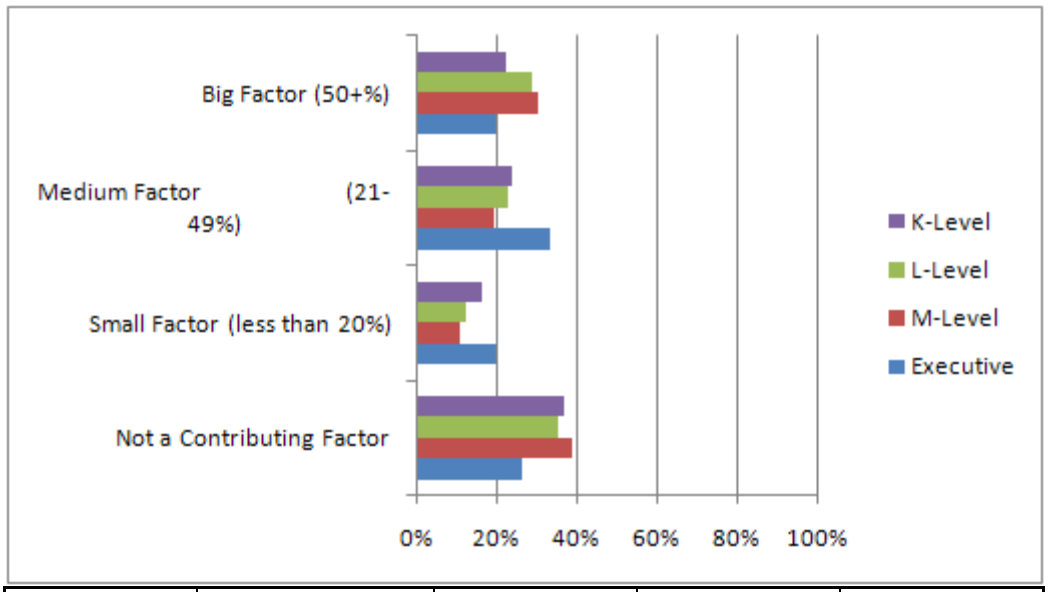
22	None	1–30 Minutes	31–60 Minutes	1–3 Hours	3–5 Hours	5 or more Hours
Executive (E)	0.00%	26.67%	0.00%	40.00%	26.67%	6.67%
Director (M)	8.70%	17.39%	26.09%	32.61%	8.70%	6.52%
Senior Manager (L)	3.80%	17.72%	25.32%	32.91%	15.19%	5.06%
Supervisor (K)	14.35%	22.42%	27.80%	24.22%	8.07%	3.14%

Survey Question 23a. How much of a contributing factor is the communication style of your immediate superior in your loyalty to your immediate superior?



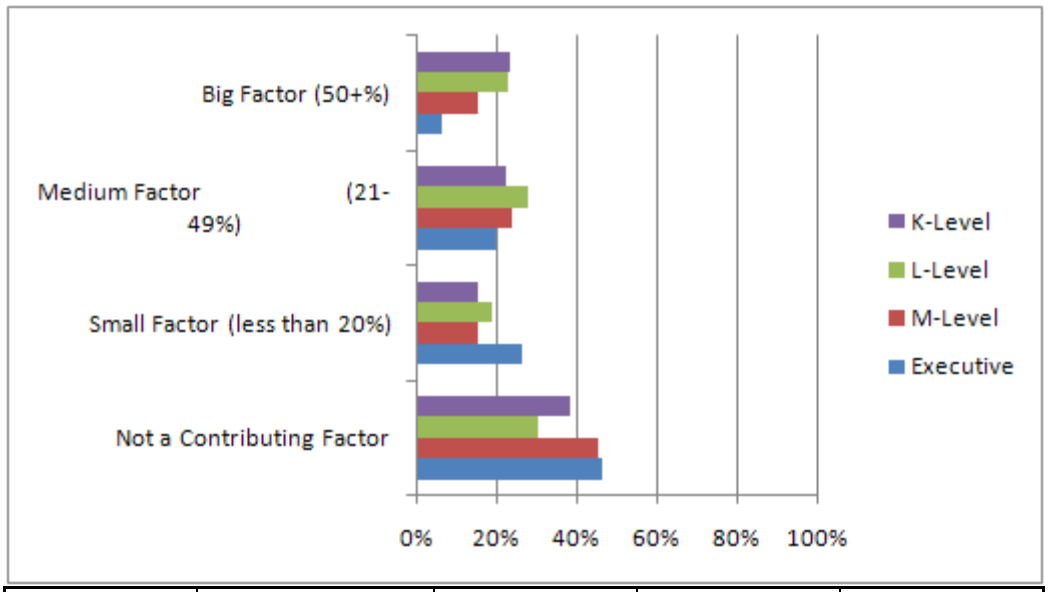
23a	Not a Contributing Factor	Small Factor (less than 20%)	Medium Factor (21–49%)	Big Factor (50+%)
Executive (E)	13.33%	26.67%	40.00%	20.00%
Director (M)	36.96%	13.04%	21.74%	28.26%
Senior Manager (L)	26.58%	16.46%	24.05%	32.91%
Supervisor (K)	32.29%	17.49%	24.22%	26.01%

Survey Question 23b. How much of a contributing factor is the communication style of your immediate superior in your decision to stay in the organization?



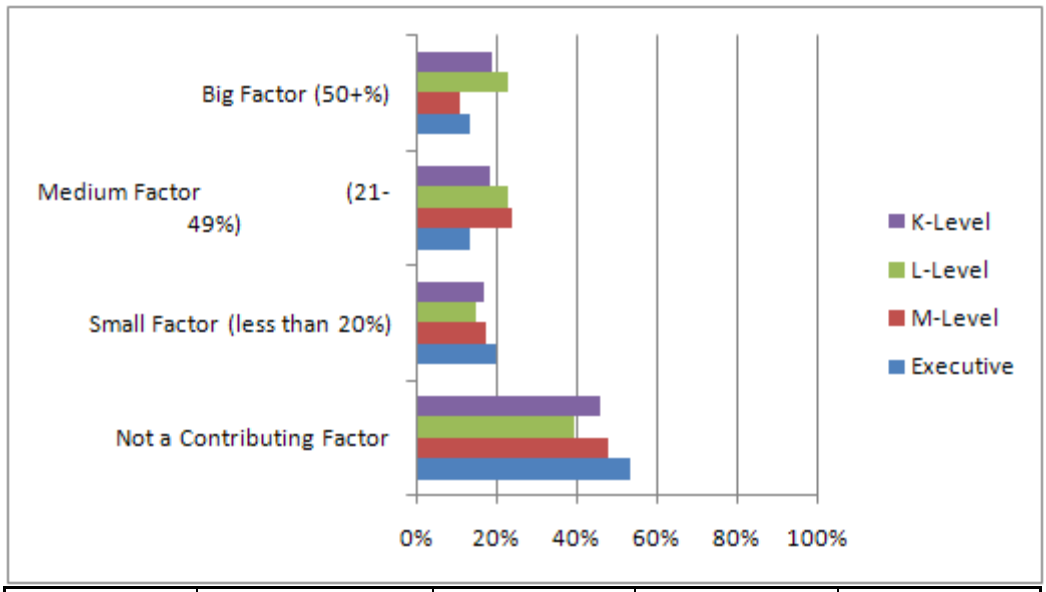
23b	Not a Contributing Factor	Small Factor (less than 20%)	Medium Factor (21–49%)	Big Factor (50+%)
Executive (E)	26.67%	20.00%	33.33%	20.00%
Director (M)	39.13%	10.87%	19.57%	30.43%
Senior Manager (L)	35.44%	12.66%	22.78%	29.11%
Supervisor (K)	37.22%	16.59%	23.77%	22.42%

Survey Question 23c. How much of a contributing factor is the communication style of your immediate superior in your commitment to your immediate superior?



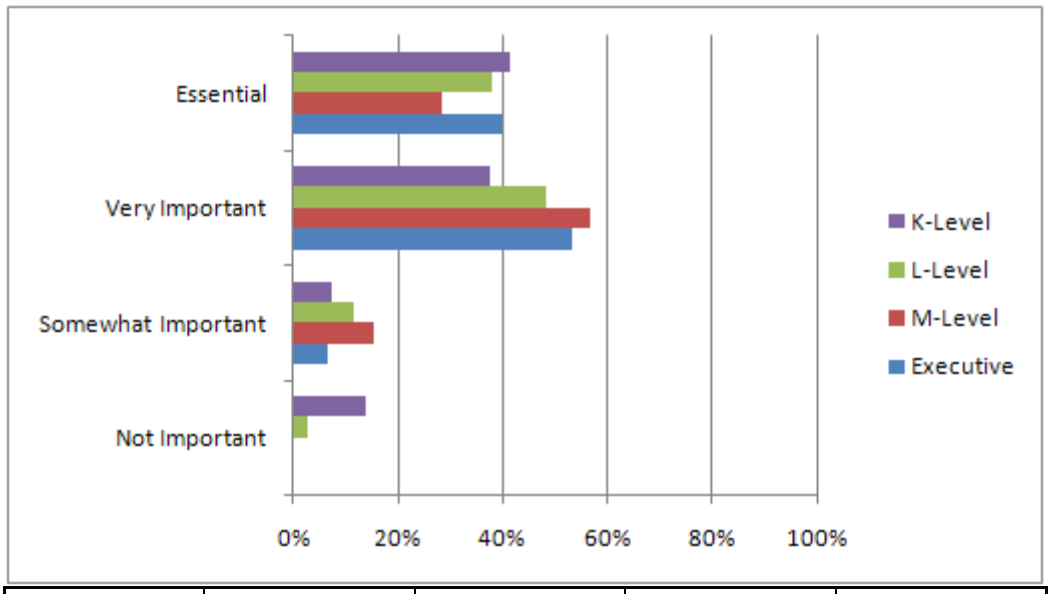
23c	Not a Contributing Factor	Small Factor (less than 20%)	Medium Factor (21–49%)	Big Factor (50+%)
Executive (E)	46.67%	26.67%	20.00%	6.67%
Director (M)	45.65%	15.22%	23.91%	15.22%
Senior Manager (L)	30.38%	18.99%	27.85%	22.78%
Supervisor (K)	38.57%	15.70%	22.42%	23.32%

Survey Question 23d. How much of a contributing factor is the communication style of your immediate superior in your decision to advance in the organization?



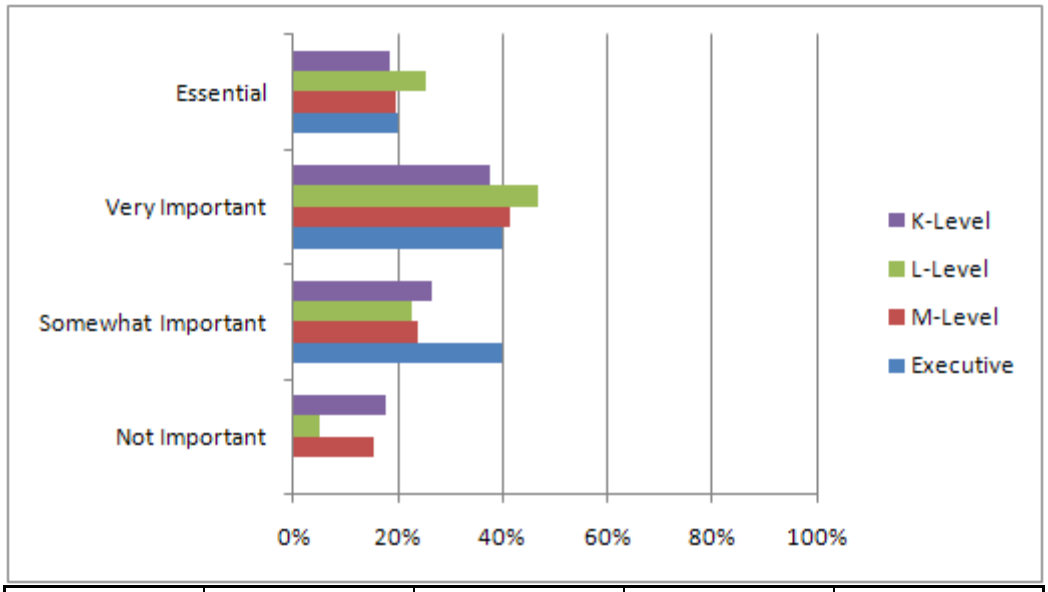
23d	Not a Contributing Factor	Small Factor (less than 20%)	Medium Factor (21–49%)	Big Factor (50+%)
Executive (E)	53.33%	20.00%	13.33%	13.33%
Director (M)	47.83%	17.39%	23.91%	10.87%
Senior Manager (L)	39.24%	15.19%	22.78%	22.78%
Supervisor (K)	45.74%	17.04%	18.39%	18.83%

Survey Question 24a. How important is personal relationship building with your direct reports to the achievement of your organizational business goals and objectives?



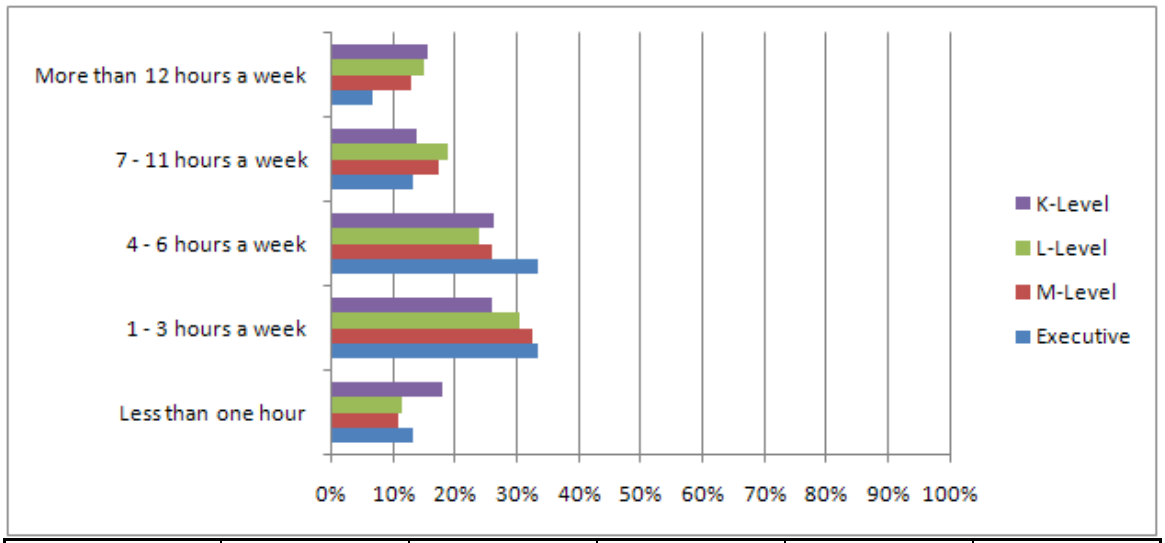
24a	Not Important	Somewhat Important	Very Important	Essential
Executive (E)	0.00%	6.67%	53.33%	40.00%
Director (M)	0.00%	15.22%	56.52%	28.26%
Senior Manager (L)	2.53%	11.39%	48.10%	37.97%
Supervisor (K)	13.90%	7.17%	37.67%	41.26%

Survey Question 24b. How important is personal relationship building with your immediate superior to the achievement of your organizational business goals and objectives?



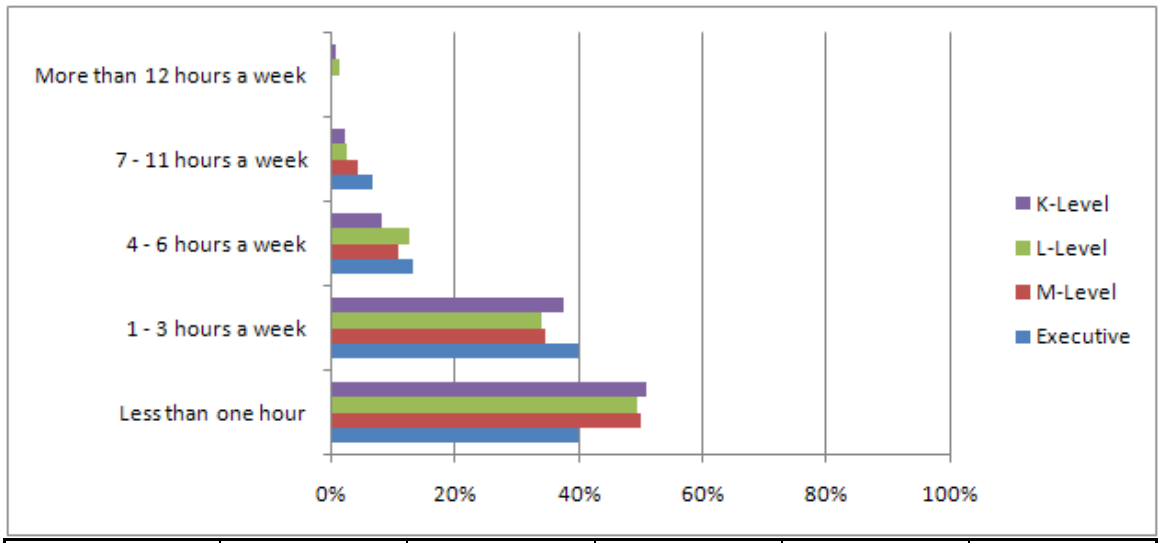
24b	Not Important	Somewhat Important	Very Important	Essential
Executive (E)	0.00%	40.00%	40.00%	20.00%
Director (M)	15.22%	23.91%	41.30%	19.57%
Senior Manager (L)	5.06%	22.78%	46.84%	25.32%
Supervisor (K)	17.49%	26.46%	37.67%	18.39%

Survey Question 25a. During a 5-day work week, outside of formal meetings, how much time do you spend in face-to-face conversations with your direct reports?



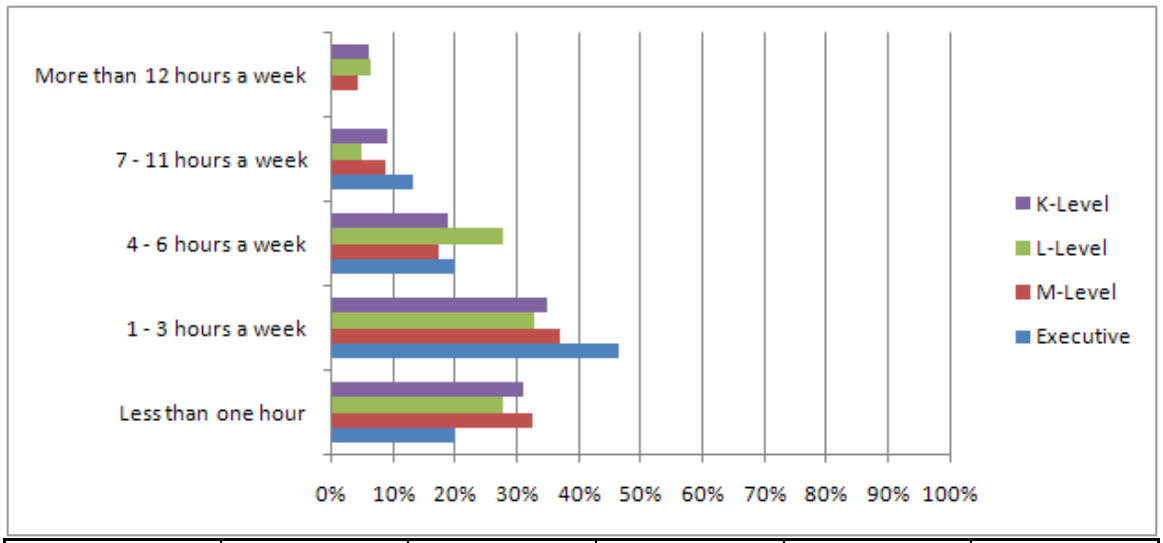
25a	Less than 1 hour	1–3 hours a week	4–6 hours a week	7–11 hours a week	More than 12 hours a week
Executive (E)	13.33%	33.33%	33.33%	13.33%	6.67%
Director (M)	10.87%	32.61%	26.09%	17.39%	13.04%
Senior Manager (L)	11.39%	30.38%	24.05%	18.99%	15.19%
Supervisor (K)	17.94%	26.01%	26.46%	13.90%	15.70%

Survey Question 25b. During a 5-day work week, outside of formal meetings, how much time do you spend in face-to-face conversations with your immediate superior?



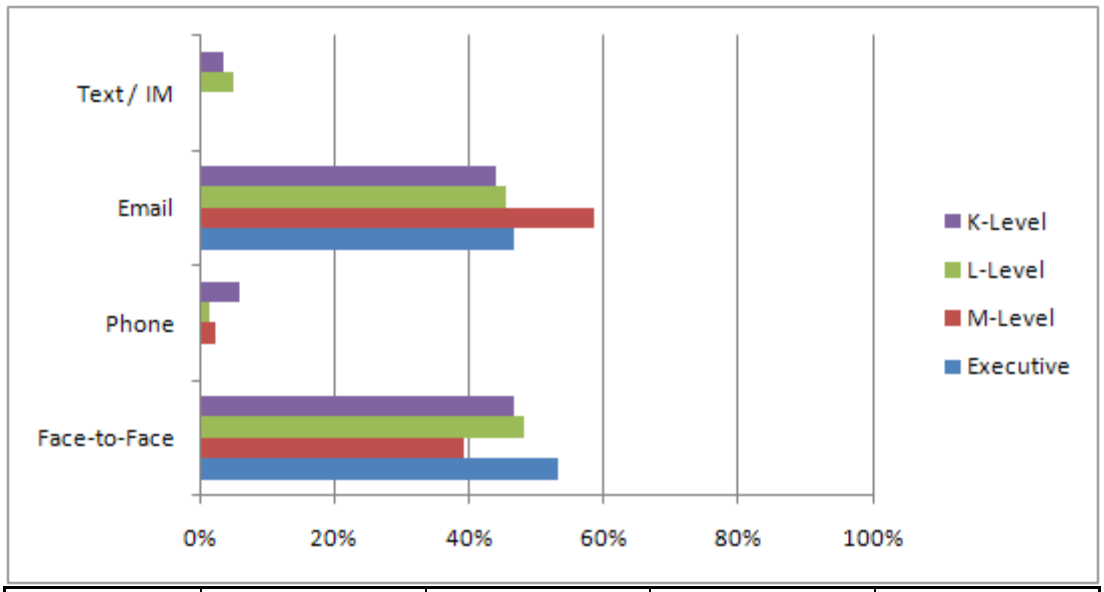
25b	Less than 1 hour	1–3 hours a week	4–6 hours a week	7–11 hours a week	More than 12 hours a week
Executive (E)	40.00%	40.00%	13.33%	6.67%	0.00%
Director (M)	50.00%	34.78%	10.87%	4.35%	0.00%
Senior Manager (L)	49.37%	34.18%	12.66%	2.53%	1.27%
Supervisor (K)	51.12%	37.67%	8.07%	2.24%	0.90%

Survey Question 25c. During a 5-day work week, outside of formal meetings, how much time do you spend in face-to-face conversations with your peers?



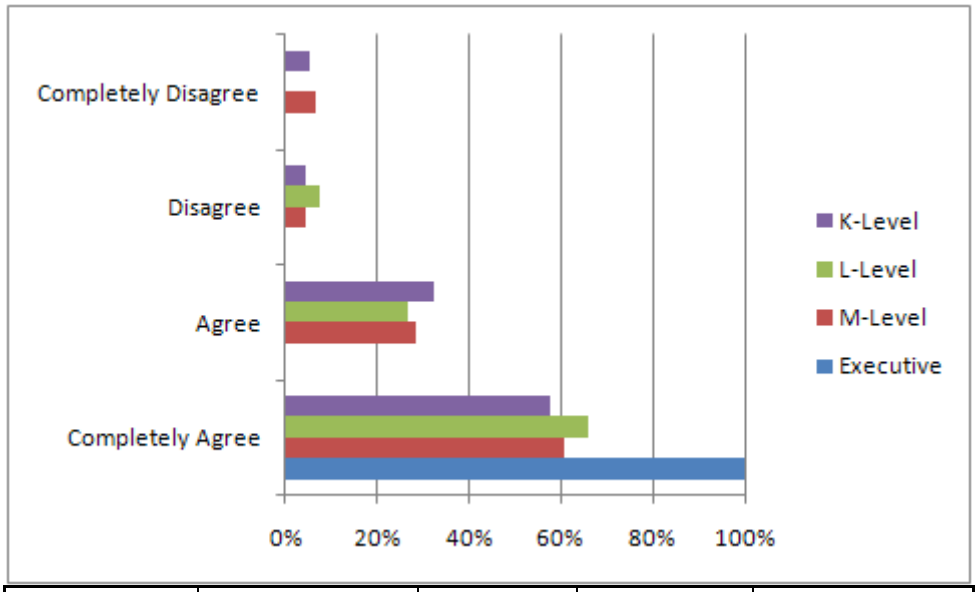
25c	Less than 1 hour	1–3 hours a week	4–6 hours a week	7–11 hours a week	More than 12 hours a week
Executive (E)	20.00%	46.67%	20.00%	13.33%	0.00%
Director (M)	32.61%	36.96%	17.39%	8.70%	4.35%
Senior Manager (L)	27.85%	32.91%	27.85%	5.06%	6.33%
Supervisor (K)	30.94%	34.98%	18.83%	8.97%	6.28%

Survey Question 26. What is the primary communication style of your immediate superior with you?



26	Face-to-Face	Phone	E-mail	Text/IM
Executive (E)	53.33%	0.00%	46.67%	0.00%
Director (M)	39.13%	2.17%	58.70%	0.00%
Senior Manager (L)	48.10%	1.27%	45.57%	5.06%
Supervisor (K)	46.64%	5.83%	43.95%	3.59%

Survey Question 27. I believe my immediate superior deserves my loyalty.



27	Completely Agree	Agree	Disagree	Completely Disagree
Executive (E)	100.00%	0.00%	0.00%	0.00%
Director (M)	60.87%	28.26%	4.35%	6.52%
Senior Manager (L)	65.82%	26.58%	7.59%	0.00%
Supervisor (K)	57.85%	32.29%	4.48%	5.38%