DIGITAL COMMUNICATION TECHNOLOGIES AND LEADERSHIP PRACTICE IN HIGHER EDUCATION

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Abstract

This study, undertaken within a social constructivist tradition of inquiry, explores educational leaders' perspectives on e-leadership practices and the ways new information and communications technologies (ICTs) have influenced leadership practices and abilities. I examine the ways in which technology is brought to bear on educational leaders' roles and responsibilities in a post-secondary educational setting and identify skills and dispositions that are considered important for modern digital educational leaders. Using qualitative elite interviewing research methods, six (6) academic and five (5) administrative leaders working in a university environment were interviewed and the data analyzed using thematic data analysis procedures.

The findings show that ICT's exert a transformative effect on leadership practices by enhancing leaders' abilities to communicate widely and effectively, improving leadership productivity and providing new avenues for leader accessibility within the organization. The study also explores some of the challenges of leading in a digital environment including the maintenance of an effective professional online and social media presence, effective time management, cyber security issues, and amplified expectations from online constituents and other actors. The data show that leaders feel unprepared to tackle these challenges and feel they require on-going support and training. Today's educational leaders require effective and sustained professional development in mobilizing ICTs in the leadership practice. Moreover, I suggest that effective technology education in the aforementioned areas must become an essential component of formal leadership education programs in order to prepare educational leaders to keep pace with the changing dynamics of leadership practice.

Definition of Terms

Information and Communication Technology (ICT): Information and Communication technology is a broader term associated with the use of computers and other electronic equipment and systems to communicate, collect, store, use, and send data electronically. This includes the internet, wireless networks, cell phones and other mediums of communication (Christensson, 2010).

Social Media: Social media refers to forms of electronic communication (such as websites or mobile apps for social networking) that allows users to create online communities to share information, ideas, and personal messages. Facebook, Twitter, Instagram, and Snapchat are few examples of social media platforms (Merriam-webster, 2016).

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Chapter 1: Introduction to the Study

1.1 Introduction

The twenty-first century has witnessed a massive technological revolution; modern technologies such as tablets, smartphones, and software applications have become an inseparable part of our everyday life. Technology has revolutionized not only our lifestyle and our ways of communicating but also our workplaces and learning institutions. In modern digital societies, communication within educational organizations and corporate entities is changing, raising questions about whether the mainstream theories of leadership and current approaches to leadership practice are still relevant. Is it time for us to rethink how we conceptualize educational leadership through the lens of the continuously changing economic and social context of the digital world?

Technology has made its way to every field of our life, and our educational institutions are no exception. Today's K-12 students have grown up in technology-saturated environments and most have never known a world without mobile phones, tablets, personal computers and the Internet. Educational leaders are therefore left with no choice but to implement effective technology solutions in schools and post-secondary institutions to meet student and staff demands for the right digital tools to help address their diverse needs as twenty-first century learners.

Certain e-technologies, such as Facebook, Instagram, and Twitter have already become well established and are playing a key role in connecting leaders to their constituents (Kaya & Bicen, 2016; Wang & Berger, 2012). As a student leader, I find myself communicating with

most of my fellow students through web technologies and social media applications. A significant amount of my office time is spent responding to student inquiries via social media such as Facebook or Twitter, even though the official means of communication is through e-mail. I have found myself and my fellow student leaders facing the expectation that we will be available to our constituents through social networking bringing with it the challenge of keeping up with most of our social media applications along with our professional email accounts. As a leadership student at Memorial University and being actively involved in the student union at the leadership level, I started to develop an interest in finding out what kind of digital technologies are mostly in use by academic leadership, specifically in a university setting. How do academic and administrative leaders at a university perceive the use of latest digital channels and social media applications and their impact on their own leadership practices? Existing research in this field is mostly conducted at the school leadership level and there isn't enough research evidence to understand university's leadership experiences with latest digital tools. Because there seems to be insufficient available research in this field, I decided to conduct a study on digital leadership practices, focusing on academic leaders' perceptions and experiences about the use of latest web applications in their leadership practices.

1.2 Statement of the Problem

Leadership in a tech-savvy society brings unique challenges for leaders and their followers that were unknown to their past contemporaries. Computer technology has revolutionized nearly every aspect of today's educational institutes and has frequently been employed as the change agent (Regenstein & Dewey, 2003). Today's academic institutions are equipped with the latest information and communication technologies (ICTs) and online or virtual classrooms are now commonplace. In the United States and Canada, thousands of schools

offer online courses. Canada is known as a leader in distance education, as its far-flung population has Internet delivered and complemented courses in secondary schools throughout its provinces (Jones, 2000). Technology is creating new layers of freedom, access, knowledge, and demands for schools, leaders, teachers, parents, and students (Dickerson, Coleman & Geer, 2012). Today's students can attend lectures in virtual classrooms from anywhere around the globe while both students and professors can download a wealth of information from the Internet in just a few seconds. Some academic institutions are using e-mail and other forms of electronic communications exclusively, and any information can be shared by hundreds of followers or students through email databases and electronic list-serves.

These new trends place academic leaders and education professionals in a position where they need to exercise both good leadership practices and effective technology leadership skills. Modern leaders are challenged to visibly demonstrate their practical commitment to these new technologies (Afshari, Bakar, Wong, Foo Say & Samah, 2009). Leaders are role models and in context of educational leadership, this comes with the transmission of leadership values and dispositions (Gurthie & Reed, 1991). Educational institutions are responsible for infusing not only the best professional practices but the successful adaptation of latest ICTs.

Social media applications such as Twitter, Instagram, and Facebook are among the most popular and widely used communication platforms (Kaya & Bicen, 2016). One study noted that over 90% of students have Facebook accounts (Cheung, Chiu, & Lee, 2011). To engage with their constituents, today's leaders must also use the latest web applications and social media channels that are appearing in the market with regularity. There seems to be a tacit expectation that leaders will make themselves available through social networking bringing with it the challenge of keeping up a range of social media applications, and other communication channels.

Organizational information is also more widely available such that education professionals and other workers know more about decision-making processes, and at earlier points than in past (Banerjee, Akhilesh, & Maheshvari, 2014; Li, 2010; Stroller, 2013). Depending on the source of the information, this has the potential to disrupt the credibility and influence of organizational leaders. The need to keep constituents informed is, therefore, demanding changes in how leaders communicate (Banerjee, Akhilesh, & Maheshvari 2014). Leaders must still be able to communicate effectively and share a range of information/topics, with constituents, but the modes of communication are different. Thus, while many of the fundamental principles of leadership have not changed, enough has changed in the interface between leaders and followers to open opportunities to research these new arrangements.

Technological leadership is also a crucial factor in the growth, acceptance and use of technology by all stakeholders in an educational setting (Dickerson, Coleman & Geer, 2012). Educational leaders play a key role in determining the success of technology integration (Noseworthy, 1998). They must be positioned to recognize the demands of a continuously evolving digital learning environment, particularly the rapidity with which students, instructors, and education professionals embrace the latest innovations (Sowcik, Andenoro & McNutt, 2015). To meet these challenges, leaders must adapt and innovate. Researchers have emphasized a need for educational leaders in schools and post-secondary institutions to become true digital leaders to assist teachers/instructors to better facilitate learning, both in regular 'bricks and mortar' classrooms and in online learning environments (Brockmeier, Sermon & Hope, 2005; Garland & Tadeja, 2013). Some studies (e.g., Gurr, 2004; Weng & Tang, 2014) highlight the significant relationship between leadership and ICT use, in which developments in ICTs lead to changes in leadership behavior. In a recent study, Weng and Tang (2014) observed technology

leadership strategies are related to the effectiveness of school administrators and school administrator's ability to enact technology leadership strategies can significantly predict the effectiveness of school administration. This relationship between technological leadership skills and effective general educational leadership is essential for researchers to understand and further interrogate. Further exploration of this connection is important not only for the success of modern educational institutions but also to help map out new leadership strategies for future educational leaders. It is also worth noting that there are few courses or programs at the university level that are designed to prepare "digital" educational leaders (McLeod, Richardson & Sauers, 2015).

While digital leadership is an important and emerging area, it is underrepresented in the research literature and there have been several calls in leadership literature for more research in this field (Bicen & Kaya, 2016; Bonk, 2010; Brockmeier, Sermon & Hope, 2005; Garland & Tadeja, 2013; Mcleod, Richardson & Sauers, 2015; Noseworthy, 1998; Schrum, Galizio, Ledesma & Patrick, 2011; Skuladottir, 2011). This study will explore ICT leadership practices in a university setting and will focus on learning about the leadership experiences and stories of current academic and administrative leaders. This research will also explore ICT challenges faced by current educational leaders and put forward recommendations to help overcome them.

1.3 Research Purpose

The purpose of this research is to explore the impact of ICTs on educational leaders' leadership skills and practices. Since effective leadership is an important success factor for any institution or organization, and because educational institutions and workplaces are now immersed in ICT culture, this subject is an important area of study. This research is particularly beneficial because it addresses some of the key ICT leadership challenges faced by academic and

administrative leaders in educational institutions, specifically in post-secondary institutions. This research enables me to represent a range of local perspectives that will improve our understanding of the perceptions of organizational leaders as they relate to leadership practices and approaches in a digital post-secondary institutional context.

1.4 Research Goals

The proposed study aims to:

- explore educational leaders' perspectives on e-leadership skills and practices and how new ICTs have influenced leadership style and abilities,
- explore the ways in which technology is brought to bear on educational leaders' roles and responsibilities in a post-secondary educational setting, and;
- identify important skills and dispositions that are considered important for modern digital educational leaders.

1.5 Research Questions

This research is guided by following questions:

1. What digital leadership skills, practices, and dispositions are used in post-secondary institutions and how do educational leaders perceive their importance in modern educational leadership?
2. How and to what extent have new ICTs influenced educational leadership practices in today's educational institutions, specifically in post-secondary settings? What are the benefits of these changes?
3. What are the risks/challenges/barriers involved in the adoption of digital leadership practices?
4. How should we prepare our future educational leaders to be digital leaders?

1.6 Significance of the Study

This research contributes an understanding of the evolving role of modern educational leaders in digital educational contexts, and theory and practice of leadership in general. This study investigates the representations of educational leaders with respect to the benefits and challenges, barriers and risks associated with the migration to digitally enhanced leadership.

This research will also be helpful for future researchers, teachers, students, school administrators, and policymakers to develop an understanding of the complexities of the changing role of educational leaders in the modern technology-rich educational setting. Finally, the research will assist policy makers to reflect critically upon existing leadership programs and training offered in different institutions and to identify technology-mediated communication and productivity skills, practices and dispositions that will helpful in shaping the nature of future educational leadership programs.

1.7 Summary

The leadership context in higher education is continuously transforming, driven by new technological capabilities and cultural shifts. Accordingly, we need to start a discussion around the skills needed for effective 21st century leadership and leadership theories must be rethought and rebuilt upon. While there is considerable research literature available related to different leadership styles and theories, very few studies have been conducted exploring different aspects of digital leadership, specifically leaders' perception of the use of latest digital technologies in their leadership practices in post-secondary educational context. This research aims to learn about the perceptions of educational leaders about the growing use of digital web applications in leadership practices.

Chapter 2 presents a review of the literature in the field. A detailed description of chosen research methods, research sampling and data collecting methods can be found in Chapter 3. The research findings will be presented in Chapter 4 of this study. A comprehensive discussion on research findings, research conclusions and implications for further research are discussed in Chapter 5.

Chapter 2: Literature Review

2.1 Introduction

This chapter takes into consideration the existing literature about leadership and presents a brief historical overview of different leadership theories in the past century. This chapter also provides a theoretical framework for this study and discusses the extant literature relating to ICT technologies and leadership.

2.2 Historical Overview

A close study of research literature suggests that the traditional theories of leadership were developed around three theoretical approaches: (1) leadership as a function of traits within the individual; (2) leadership as a function of the situation; or (3) leadership as a function of the group (Henry, 1975; Northouse, 2016). In this section, I will briefly review some of the prominent leadership theories that emerged in leadership studies during the preceding century.

2.2.1 Trait theory and great man theory. The trait approach was one of the first systematic attempts to study leadership. The trait theory of leadership assumes that people are born with inherited traits that situate them as successful leaders. This theory is centered on finding a unique set of qualities that are essential to be an exemplary leader (Northouse, 2007). The 19th-century philosopher, Thomas Carlyle's essays on heroes reinforced the concept of leaders as persons who possessed unique characteristics that helped them to rise to positions of privilege (Bass & Bass, 2008; Chemers, 1997). It was believed that people were born with these traits and that only "great" people possessed them. Leadership theories around that time focused on identifying the innate qualities and developed characteristics possessed by great social, political, and military leaders such as Napoleon, Indira Gandhi, Abraham Lincoln, Joan of Arc, etc.

The great man theories drew attention to these specific qualities of leaders and their identification. During this time, research concentrated on determining the specific qualities that clearly differentiated leaders from followers and two questions were usually posed as Bass and Bass (2008) describe, "(1) what traits distinguish leaders from other people?; (2) what is the extent of the differences" (p.50).

The Trait approach was challenged by researchers who charged that "no consistent set of traits differentiated leaders from non-leaders across a variety of situations" (Northouse, 2007, p.15). Stogdill (1948) also examined the results of 124 traits from 1904 to 1948 and suggested that "an adequate analysis of leadership involves not only a study of leaders but also of situations" (p.65). The trait studies failed to prove the statement that a person must possess some particular set of traits to become a successful leader. A leader with certain traits could be effective in one situation but ineffective in a different situation. Also, two leaders with different patterns of traits could be successful in the same situation (Yukl, 1981).

2.2.2. Behavioral theories. Theorists shifted their focus from traits to behaviors in the 1950s and the focus of studies shifted from the study of leaders to leadership behavior, and this became the dominant style of approaching organizational leadership in 1950s and early 1960s. The Behavioral theory of leadership, in contrast to trait theory, assumes that leadership capabilities are not inherited and can be learned. Behavioral theorists focused on what leaders do and how they behave. Different patterns of behavior are grouped together and labeled as styles. The theory assumes that certain leadership styles will be effective while others will not. Researchers studying the behavioral approach determined that leadership is composed of two general kinds of behaviors: task behaviors and relationship behaviors. Task behaviors are mostly linked with goal accomplishment and facilitate group members to accomplish their goals.

Relationship behaviors, on the other hand, help followers feel comfortable with themselves, with each other, and with the situation in which they find themselves. The behavioral theory describes how leaders combine these two kinds of behaviors to influence followers in their efforts to successfully achieve a goal (Yukl, 1994; Northouse, 2016).

Two major studies into Behavioural leadership took place during the mid-20th century, each identifying two main types of leadership behavior. First, researchers at Ohio State University conducted a series of studies that offered two significant factors of behaviors that were crucial to successful leadership, namely initiating structure and consideration. Initiating structure behaviours were essentially task behaviours and consideration behaviours were relationship behaviours. The Ohio State University studies viewed these two behaviours as distinct and independent, therefore, a leader could be competent both in terms of structure and consideration (Harrison, 2018). The second series of studies was conducted in Michigan State University in 1950's and identified two types of leadership behaviors – employee orientation and production orientation– and concluded that employee orientation generally yielded better results. The managers who displayed relationship-oriented behavior concentrated not only on the task but also on their relationship with their subordinates. They were more considerate, helpful, and supportive of subordinates (Gorton & Alston, 2012).

The aforementioned studies laid the foundation for one of the most popular model of leadership behavior, known as the Blake and Mouton managerial grid, and also referred as the leadership grid. The managerial grid was designed by Blake and Mouton in 1964 and it has been revised many times since. This leadership grid explain how leaders help organizations to reach their goals through two factors: concern for production, and concern for people. Concern for people was offered by one axis of a two dimensional grid; concern for production was

represented by the other axis. Leaders may be high or low on both axes, or they may be high on one axis or low on the other (Bass & Bass, 2008).

Behavioral theories had certain weaknesses. House and Aditya (1997) note, "like trait research, the research of the behavioral school was largely inductive and lacked theoretical orientation" (p. 420). Behavioral theorists couldn't establish a consistent link between task and leadership behaviors. Another criticism was that this approach had failed to find a universal style of leadership that could be effective in almost every situation (Northouse, 2016).

2.2.3 Situational or contingency leadership. The situational approach focuses on leadership in particular situations or contexts. The assertion of the theory is that different situations demand different kinds of leadership. From this perspective, to be an effective leader requires a person to be able to adapt his or her style to the demands of different situations. The contingency theory proposes that there is no certain style of leadership. Effective leaders will use different styles based on the contingencies of the situation; hence, a style of leadership which is ideal in one case, may not work in a different situation. This model of leadership has appealed to many researchers, the most prominent of whom is Fiedler (1967), who proposed contingency theory in the late 1960s.

Fiedler's contingency theory was first to specify how situational variables interact with leaders' personality and behavior. Fiedler (1967) suggested three factors to establish whether a leader is effective: task orientation, human relation orientation, and situational favorableness. Fiedler believed that leadership style is fixed, and can be measured using a scale called Least-Preferred Co-Worker (LPC) Scale. The scale asks a leader to think about the person whom s/he has least enjoyed working with and then rate the feeling of given leader about this person for each factor, and add up scores. In case of a high score, the leader is most likely to be a

relationship-orientated leader. If the total score is low, the leader is more likely to be the task-orientated leader (Northouse, 2016; Yukl, 1981, 2013). Yukl (2013) suggests,

> A high LPC leader is strongly motivated to have close, interpersonal relationships and will act in a considerate, supportive manner if relationships need to be improved…A low LPC leader is primarily motivated by achievement of task objectives and will emphasize task-oriented behavior whenever task problems arise (p.183).

Two different approaches can be used by leaders to maximize their success. One approach is to select the suitable behavior for the situation, and the other approach is to try to change the situation to fit the leader's preferred behavior. Contingency theories were also criticized because of inconsistent empirical findings and inability to account for substantial variance in group performance (House & Aditya, 1997). Also, the interpretation of LPC scores has changed several times over the years, and what the measure actually means is still questionable (Yukl, 2013).

2.2.4 Transformational leadership. During the 1970s and 1980s, researchers became more interested in how leadership could effect change in organizations. This focus led to the significant development in the field of leadership and paved the way for the theory that is widely known as transformational leadership. Transformational leadership involves stimulating followers to go beyond their self-interests to achieve organizational goals or objectives (Burns, 1978). The term transformational leadership was first coined by sociologist James Downton in 1973 but it emerged as an important approach to leadership with a classic work by political sociologist James MacGregor Burns (1978). In contrast to transactional leadership, transformational leadership was noticed as the process whereby a person engages with others and creates a connection that raises the level of motivation and morality in both the leader and the

follower. Thus, the leader and follower transform in this process. Although the transformational leader plays a pivotal role in precipitating change, followers and leaders are inseparably bound together in the transformation process (Burns, 1978; Northouse, 2016; Yukl,1994). Yukl (1994) refers to transformational leadership as the process of building commitment to the organization's goals and objectives and empowering followers to achieve these objectives:

> transforming leadership can be viewed both as a micro level influence process between individuals and as a macrolevel process of mobilizing power to change social systems and reform institutions (p. 351).

Transformational leaders are attentive to the needs and motives of followers and tries to help followers reach their fullest potential. They motivate their followers to do more than the followers originally intended by setting challenging expectations and higher standards of performance (Bass & Bass, 2008).

Bass (1985) expanded the work of Burns (1978) and developed a model for transformational leadership consisting of four (I) behaviors:

- Idealized influence
- Inspirational motivation
- Intellectual stimulation
- Individualized consideration

A transformational leader exhibits each of these four components to varying degrees to bring about desired organizational outcomes through their followers (Bass 1985; McCleskey, 2014). Idealized influence is the emotional component of the leadership and describes leaders as role models for their followers. Transformational leaders act as role models and display a charismatic personality that influences others to want to become more like the leader. Moreover,

transformational leaders inspire motivation by articulating a clear vision for the future, communicate expectations of the group and demonstrate a commitment to the goals to inspire motivation in their followers (Northouse, 2016; Yukl, 1994).

Intellectual stimulation is the behavior that influences followers to view problems from a new perspective and look for more creative solutions (Yukl, 1994). The leaders support their followers by involving them in decision-making processes and stimulating them to be creative and innovative. Furthermore, transformational leaders identify the individual needs of their followers and take up the role of a mentor by identifying learning opportunities to foster the personalized individual growth of followers. Individually considerate leaders pay special attention to each follower's needs for success and growth and create new learning opportunities (Bass & Bass, 2008).

2.2.5 Transactional vs. transformational leadership. Transactional leadership refers to leadership models that focus on exchanges that occur between leaders and their followers. According to Bass (1985), transactional leadership involves contingent rewards which involve the use of incentives to motivate followers. Managers who offer promotions to their subordinates to meet certain goals display transactional leadership. In contrast to transactional leadership, some key practices of transformational leadership are suggested by Noseworthy (1998):

- sharing a vision
- building a learning environment
- being a positive role model
- recognizing individual abilities and values
- reinforcing self-confidence and independence
- supporting followers

- encouraging participation and self-expression
- fostering continuous improvement
- encouraging persistence
- emphasizing intrinsic outcomes

Thus, transformational leadership, in contrast to transactional leadership focuses on improving the performance of followers and developing followers to their fullest potential by having a strong set of internal values and ideals.

2.2.6 Exemplary leadership. James Kouzes and Barry Posner undertook a significant amount of research on leadership in 1980s. The authors surveyed 630 managers about their positive leadership experiences, augmented by 42 in-depth interviews. From this, they identified key leadership traits as: honest, forward-looking, inspirational, competent, fair-minded, supportive, broad-minded, intelligent, straightforward and dependable. Kouzes and Posner's (1987) trait theory is different than classical leadership traits theory because they were not analyzing the actual traits of effective leadership as described by traits theorists. Instead, they asked people what traits they wanted to see in their leaders while compiling a profile of the ideal leader. Kouzes and Posner went on to accumulate more data to support their ideas, establishing their 'Leadership Challenge Model' and a leadership development program called the Five Practices of Exemplary Leadership. Effective leaders are believed to engage in the following five practices of exemplary leadership:

- Model the way
- Inspire a shared vision
- Challenge the process
- Enable other to act

- Encourage the heart

Thus, the exemplary leaders "must be the models of the behavior they expect of others" (Kouzes & Posner, 2002, p.14). Leaders set an example by their own behavior by creating standards of excellence and setting examples by modeling. They also challenge the process by looking for opportunity to change the status quo. Exemplary leaders are said to be pioneers who search for opportunities to innovate, grow and improve and do not insist on keeping things the same. They put efforts towards the recognition of good ideas and are seen as early adopters of change.

Kouzes and Posner (2002) also note that exemplary leaders inspire in others a shared vision whereby they acquire intimate knowledge of people's dreams, hopes, vision, and aspirations. People must believe that leaders understand their needs. "Leaders breathe life into the hopes and dream of others and enable them to see the exciting possibilities that the future holds" (Kouzes & Posner, 2002, p.18). Exemplary leaders also enable other to act by fostering collaboration and building trust. When a leader makes people feel capable and strong, they can exceed all expectations by taking risks and making changes. Lastly, an exemplary leader shows appreciation for people's contribution and creates a culture of appreciation and celebration.

2.2.7 Distributed leadership. Another way of conceptualizing leadership that has emerged in recent years is that of distributed leadership, also known as shared leadership, team leadership, participative leadership and democratic leadership by some researchers (Harrison, 2018). Distributed leadership does not involve a single individual, but is a collective effort of the group or team. Interaction and influence among group members is considered at the core of leadership practice (Bush, Bell & Middlewood, 2010). Leaders work as a team in this kind of leadership and align their agendas and resources to achieve a common goal. Teams can be in the same place meeting face-to-face, or they can be geographically dispersed "virtual" teams

meeting via various forms of communication technology (Northouse, 2016). The distributed leadership model involves distributing responsibility on all administrative levels, working through teams, and taking collective responsibility to perform a task.

Spillane (2006) did a considerable work on distributed leadership and his research is important in renewing researchers' interest in distributed leadership practice. This work reinforces the idea that there are multiple sources of influence and inspiration within organizations (Bush, Bell & Middlewood, 2010). Increasingly, leadership is being seen as an organizational phenomenon where there are multiple sources of inspiration and influence, and how different leaders interact is considered to be more valuable than their formal leadership roles. Spillane (2006) says that "leadership practice is generated in the interactions of the leaders, followers, and their situation; each element is essential for leadership practice" (p. 4). Some researchers have also suggested that distributed leadership is associated with organizational outcomes where some patterns of distribution have greater influence on organizational outcome than others (Leithwood, Mascall & Strauss, 2009). What really matters here is how leadership duties are distributed among different layers of organizational structures and how they interact and engage with other. Also, distributed leadership is specifically applicable in larger or complex organizations or educational institutions (Leithwood, Mascall & Strauss, 2009; Spillane, 2006).

2.3 Leaders as Change Agents

Leadership theory has continued to evolve from individual orientations and interactions to more organizational models (Guthrie & Reed, 1991). One important aspect of organizational change arising in recent years is leaders' ability to lead the process of change. Leaders are frequently perceived as change agents who are able to successfully steer the process of change in an organization. "Leaders are agents of change– persons whose acts affect other people more

than other people's acts affect them" (Bass & Stogdill 1990, p. 19). Today's continuously changing and evolving tech-savvy society is strengthening the idea of leaders as change agents more than ever before:

> Modern leaders can safely assume two things, one is that they will almost have to operate within the context of a large organization. The other is that, since change appears to be the other contemporary condition which is constant, organizations and their leaders must continually adapt (Guthrie & Reed, 1991, p.3).

Fullan (2001, 2002) examined the leader's role as a change agent and argues that a leader's ability to lead the process of change is vital to success. He emphasized the importance of a thorough understanding of the change process for modern leaders to be able to successfully lead the organizational change. "Only principals who are equipped to handle a complex, rapidly changing environment can implement the reforms that lead to sustained improvement in student achievement" (Fullan, 2002, p.16).

Fullan (2002) also suggested five core components of successful sustainable leadership: moral purpose, understanding change, relationship building, knowledge sharing, and coherence making. He described effective leaders as the key to reforms in educational institutions and emphasized the importance of leaders' understanding of change in organizations, relationship building and creating and sharing of useful information with constituents.

2.4 Leadership and Technology: Digital or E-leadership

Over the past decade several researchers have started a discussion about the changing dimensions of modern societies, the advent of digital workplaces and the significance of digital transformative leadership (Akhilesh & Maheshvari, 2014; Avolio & Kahai, 2003; Banerjee, Smith & Cockburn, 2014; Gurr, 2004, 2006; Pulley & Sessa, 2001, 2002;). In one study, Pulley

and Sessa (2001) surveyed 546 leaders to understand the impact of digital technology on leadership and identified e-leadership as a complex process characterized by five key paradoxes: (a) swift and mindful; (b) individual and community; (c) top-down and grass-roots; (d) details and big picture; and (e) flexible and steady. They conducted 35 follow-up interviews to learn more about what skills and experiences are necessary to function effectively in a digital environment and learned that the basic skills traditionally associated with leadership such as communication, vision, motivation, direction setting still apply, but they are evolving. Technology is changing the context in which we work—accelerating ambiguity, the rate of change, and the need to work collaboratively. As a result, many of our assumptions about leadership and organizations must evolve (Pulley & Sessa 2001; Pulley, Sessa & Malloy, 2002).

Avolio and Kahai (2003) also discuss the advancement of information technology as a force that is transforming leadership processes in organizations and emphasized the importance of introducing new ways of leading. Gurr (2004) argues that there is a significant difference between leading traditional organization and digital workplaces that are heavily infused with technology. “ICT-mediated environments are impacting the way we understand leadership. There is a symbiotic relationship between leadership and ICT use in which developments in ICT lead to changes in leadership behavior “(p.122). Afshari et al. (2012) note that the leaders who use technology in their administrative tasks act as strong role models by transmitting a vision for comprehensive integration of ICT in their organizations. Dickerson, Coleman, and Geer (2012) argue that leaders must be willing to adapt their leadership styles to the demands of modern workplaces in new and creative ways to keep their schools modern, relevant and effective. Thus, leaders in general, and particularly those in academic settings, are facing the challenge of adapting their leadership practices for digital learning environments. As ICTs have become an

important aspect of today's academic and administrative leadership, it is an emerging area of leadership research.

Researchers have suggested the possibility of the interconnectedness of leadership performance and technical competence. (Gurr, 2004; Samancioğlu, Kalman & Sincar, 2015; Weng & Tang, 2014). Weng and Tang (2014) surveyed more than 300 administrators and found that school administrators' technology leadership strategies were significantly related to their effectiveness as leaders. Samancioğlu et al. (2015) noted a significant relationship between principals' technology competence and their leadership performance. More research to explore and further understand this connection is essential to understand the concept the leadership in the context of 21st century educational institutions.

Research also suggests that social media tools provide an excellent platform for leaders to share decision-making processes and organizational accomplishments using communication channels that are preferred by constituents (Cox & McLeod, 2014). In one study, Cox and McLeod (2014) examined the experiences of school principals across the US and Canada who used multiple social media tools to interact with stakeholders. Social media tools were found to facilitate strong connections with local stakeholders by helping build effective branding and image projection. Cox and McLeod (2014) further note that the use of social media channels can have a significant impact on a school principal's personal and professional growth and suggest incorporating social media education in formal leadership training programs. Stoller (2013) also emphasizes the importance of using social media channels for university leadership stating, "not understanding something that students are using places leaders in a reactive position. It is vital for school practitioners to focus on their social media fluency" (para. 2).

Recent literature also points to the potential risks and challenges that modern leaders might encounter in their migration to digital leadership. Li (2010) highlights the need for a new approach to leadership named ‘open leadership’ whereby social media culture is pushing leaders towards more ‘openness’ by engaging their constituents in non-traditional ways. According to Stoller (2013), when administrators share their triumphs and challenges on social media, they risk vulnerability and privacy becomes much more fluid. Followers can access personal information about leaders through their social media profiles if leaders are not fully aware of online privacy conventions. Ferriter (2010) suggests that the fear of cyberbullying can be one of the reasons that makes leaders hesitant to engage on social media platforms. These challenges were unknown or unheard of in the past and need to be fully explored by learning from the lived experiences of current academic and administrative leaders. Leaders need to learn specific skills to thrive in tech savvy and spontaneous digital environments as Jameson (2013) observes,

> New e-leadership demands are emerging [with] sophisticated levels of interpersonal and intercultural skills in which the capacity to build high levels of trust in online environments is now an increasingly essential attribute for successful leadership. Therefore, leaders must be comfortable and confident interacting in virtual spaces in order to respond fluently with excellent communication skills to cope with challengingly spontaneous levels of social media interactivity involving both staff and students in ways that have never previously been demanded of leaders (p. 912).

Although the basic principles of leadership are still the same, the instruments are digital and interactive now. Of necessity, many leaders have nearly completely broken away from traditional paper-based communication. Email has largely replaced other forms of communication as the new workplace standard, but other applications, such as Instant Messenger and Twitter are more

effective for reaching certain specific target audiences. Therefore, to thrive in educational workplaces leaders must be effective in reaching out to their constituents quickly and cost-effectively – leaders must diversify and be proficient in a range of e-communication technologies. But this brings certain challenges. The pervasive presence of ICTs in educational management is transforming leadership to digital leadership and leaders must adapt to the new digital culture, often with limited time to learn and experiment.

The preceding discussion provides ample research evidence to show that technological skills can potentially amplify leadership skills not only in different business contexts but also in educational institutions. This relationship between technological leadership skills and effective general educational leadership is essential for researchers to understand and fully interrogate (Weng & Tang 2014). Further exploration of this connection is important not only for the success of modern educational institutions but also to help map out new leadership strategies for future educational leaders. McLeod, Richardson and Sauers (2015) note that despite technology transformations that are dramatically changing everything around us, there are few courses or programs, at the university level, that are designed to prepare a tech-savvy school leader. Within the research literature, there have been several calls for more research in this field (Banerjee, Akhilesh & Maheshvari, 2014; Mcleod, Richardson & Sauers, 2015; Noseworthy, 1998; Skuladottir, 2011; Schrum, Lynne, Galizio, Lyndsie, Ledesma & Patrick, 2011; Weng & Berger, 2012). Steele and Wang (2017) stressed the need for more research in this field as follows,

> As we struggle to better understand leadership in the context of present technologies, the technologies themselves continue to change and the impact of emerging and future technologies on leadership cannot be ignored, so it seems that scholars will need to

> embark on technological learning curve, constantly re-considering their understanding of how technologies impact on leadership practices (p. 154).

2.5 Theoretical Framework: Digital Transformative Leadership

Several researchers have suggested that transformational leadership practices are particularly relevant to the current climate of change in schools and academic institutions (Franciosi, 2012; Leithwood, 1994; Noseworthy, 1998). Leithwood (1994) discusses four premises that support the effectiveness and applicability of transformational leadership in today's schools. First, the fostering of motivation and commitment among all stakeholders, embedded in the theory of transformational leadership, is the primary step needed for significant change in institutions. Second, the current focus on excellence in schools requires first and second order changes. First-order changes allow schools to do things they already do more effectively without modifying their structure. Second-order changes anticipate that the development of values, and a strong school culture are best achieved in the realm of transformational leadership. Third, the complexity of the work involved depends upon empowerment of staff, dispersed thinking, and distributed leadership at various levels of the school. Ultimately, Leithwood (1994) suggests a true professionalization of teachers is required in schools today. Emphasis must be placed on motivation, inspiration, staff development, and life-long learning. All of these processes require the skillful implementation of transformative leadership practices. Franciosi (2012) also advocates for transformational leadership styles as a means of dealing with technology-driven change and notes that the influence of the digital culture on education is shifting it to a dynamic and fast-changing field, so the rigid traditional models of leadership that focus on the delegation of merely routine work should be discarded for more fluid leadership frameworks that emphasize on communication and engagement.

This study aims to contribute towards the existing theory of transformative leadership by exploring the impact of digitalization on leadership practices, and brings forward the key skills that are crucial for future leaders to thrive in a tech savvy society in general and academic institutions in particular.

2.6 Summary

Leadership represents a complex phenomenon that has been continuously evolving for last few decades and the different leadership theories explored in this chapter help to develop an understanding of complex leadership practices and their evolution through the years. Since there are multiple levels of leadership in complex organizations in recent century, the idea of a single leader has also evolved into distributed or team leadership. The growing use of ICT technologies in professional workplaces is transforming the traditional leadership practices as technology has revolutionized the way leaders communicate, engage with, and inspire, and influence their followers. However, there is not enough research carried out on this subject specifically in a post-secondary academic context, and there are several calls in research literature to conduct more research in this subject.

Chapter 3: Methodology

3.1 Introduction

This chapter provides an overview of the research methods that were applied in this study. I begin by describing my theoretical positioning as a researcher. The research questions are then stated, followed by a detailed description of the research methods, research participants, and data collecting procedures.

3.2 Theoretical Positioning

I am a Master of Education student studying educational leadership at the Memorial University of Newfoundland and I have served as a student leader for last two years in the graduate student union. I am adequately informed of the current dynamics of educational institutions in the context of the growing use of ICT technologies. As a student leader and researcher, I am reasonably adept at the use of modern digital channels to connect with fellow students and have utilized social media apps extensively to engage with constituents during my student leadership role. My perception is that the growing use of technology and social media apps in academic institutions are continuously pushing today's leaders to reach constituent audiences in different ways. My own experience with technology during my leadership practices has inspired me to do research in this field.

My qualitative approach to this research is one in which the researcher makes knowledge claims based on a constructivist perspective. This encompasses the view that individual experiences have multiple meanings, and that meanings are socially and historically constructed. As a researcher, I am situated theoretically as a social constructivist – I accept that "meanings are constructed by human beings as they engage with the world they are interpreting "(Crotty, 2003, p.43). Social constructivists "use qualitative methods to try to understand the meaning that

people bring to the social worlds they inhabit and construct their relationships, groups, organizations, communities or subcultures" (Warren & Karner 2005, p. 5). This orientation provides an understanding and description of peoples' lived personal experiences of a given phenomenon, and the understanding of these human experiences enables the researcher to construct a meaning within an essentially social context (Creswell, 2003; Crotty, 2003). Creswell(2003) notes that individuals develop subjective meanings of their experiences that are varied and multiple and lead the researchers to look for the complexity of views. Thus, the goal of the researcher is to rely as much as possible on the participants' views of the situation being studied.

Following social constructionist theory, I used in-depth interview techniques to gather and interpret the subjective representations of current academic and administrative leaders' experiences. Since interpretative qualitative research methods helps the researcher to understand a phenomena thoroughly from research participants' individualized experiences, I was able to interpret and construct the idea of how institutional leaders perceive the influence of digital technologies in their leadership practice.

3.3 Research Questions

The research questions guiding this thesis are as follows:

1. What digital leadership skills, practices, and dispositions are used in post-secondary institutions? and How do educational leaders perceive their importance in modern educational leadership?
2. How and to what extent have new ICTs influenced educational leadership practices in today's educational institutions, specifically in post-secondary settings? What are the benefits of these changes?

3. What are the risks/challenges/barriers involved in the adoption of digital leadership practices?
4. How should we prepare our future educational leaders to be digital leaders?

3.4 Research Design

Qualitative research design has been used as a means of acquiring profound meaning or understanding of a complex social phenomenon by engaging with groups and individuals to interpret their lived experiences (Creswell 2012, 2014, Silverman 2000; Taylor, Bogdan & Devault, 2015). Marshall and Rossman (1994) refer to qualitative research as that which "delves in depth into complexities and processes" (p.43). Taylor at el. (2015) describe qualitative research in the broader sense as "research that produces descriptive data – people's own written or spoken words or observable behavior" (p.17). Discovery, description, meaning, and understanding are all vital to qualitative research (Merriam, 2015, p. 126). Qualitative research focuses on finding deeper meanings of a given phenomenon from multiple perspectives. Rather than seeking cause and effect, (i.e., predicting or describing the value of a variable for a given population), qualitative research focuses on finding the meaning of a phenomenon for the involved people. Qualitative research is interested in understanding how people interpret their own experiences (Merriam & Tisdell, 2016). According to Marshall and Rossman (1994),

> Qualitative research seeks to discover participants' perspectives on their worlds, views inquiry as an interactive process between the researcher and the participants, is both descriptive and analytic, and relies on people's words and observable behavior as the primary data (p. 4).

This research aims to develop a thorough understanding of academic leaders' perspectives about the use of digital communication and information technologies in their workplaces, ascertaining

participants' individual stories and experiences; therefore, a qualitative interpretative research approach is best suited to achieve this objective. Interpretative qualitative research methods are employed in this research to explore the current leaders' perspectives on the use of technology in educational institutions and its impact on educational leadership practices. Several methodologists (e.g., Creswell, 2012, 2014; Silverman 2000) have emphasized that qualitative research methods are most appropriate when we need a complex, detailed and thorough understanding of an issue or phenomenon. Moreover, qualitative research methods enable researchers to understand and represent participant experiences to develop theories and conceptualizations of meaning. Following social constructionism theory, I am able to understand leadership practices from the research participants' individualized experiences. This detailed understanding allows me to socially construct the meanings of leadership phenomena and interpret them to define, understand and interpret digital leadership styles.

3.5 Research Participants

I selected twelve educational leaders following the method of 'purposeful sampling' (Creswell, 2012) where researchers intentionally choose a sample that can help them to meet the demands of their research (Creswell, 2012). Purposeful sampling enables the researcher to choose their research sample carefully by keeping research objectives in their mind (Silverman, 2000, Creswell, 2012). This study focuses on post-secondary educational leaders; therefore, the research sample was drawn from the pool of leaders working in the academic and administrative branches of a post-secondary institution in Canada (i.e., Memorial University of Newfoundland). As Memorial University is one of the largest universities in Atlantic Canada, there is a significant number of leaders in this institution who are performing academic and/or administrative duties in their respective leadership positions. Both academic and administrative

leaders were included in the sample of research participants to get multiple perspectives and a thorough understanding of the leadership phenomenon through different lenses.

A comprehensive list of academic and administrative leaders was prepared using the official website of the Memorial University of Newfoundland. Creswell (2013) suggests that a sample of 12-15 participants can help a researcher to achieve saturation of data in qualitative interviews. A sample of 12 participants was randomly chosen that consisted of two sub-categories: administrative leaders and academic leaders. Within each sub-category participants were balanced by choosing three male and three female leaders. Participants were chosen randomly within each of the sub-categories. Leaders were contacted through their official email address that is available on the Memorial University's official website. An invitation email was sent to selected leaders (see Appendix B). Eleven leaders agreed to participate in interviews.

Table 3.1

Sample Selection Table

Position	Gender	Total population	Sample Size	Total
Administrative Leaders	Male	12	3	6
	Female	15	3	
Academic Leaders	Male	11	3	6
	Female	14	3	
		52	12	12

3.6 Data Collection Methods and Techniques

3.6.1 Qualitative interviews. Interviews are generally considered to be the most useful research method when the purpose of research is to learn individual stories and lived experiences. Seidman (2013) describes, "[a]t the root of in-depth interviewing is an interest in understanding the lived experience of other people and the meaning they make of that experience" (p.9). One to one interviews were planned and conducted with current leaders to learn about their professional experiences with technological devices and how digital technologies have impacted their leadership practice. I chose to conduct semi-structured interviews since this form of interview ensures that respondents are answering a similar set of questions and certain topics and themes are addressed in all interviews, yet there is flexibility to allow for exploration of other related themes. This enables the researcher to see congruence of perspectives as well as differences in experiences among the respondents and the different ways in which they frame answers (Scott & Garner; 2013, Edward & Holland; 2013). Open-ended interview questions not only help researchers to collect the data, but also to help elicit stories about the phenomenon under study (Merriam, 2015). This open-endedness allows participants to include as much information as they desire and allows researchers to ask probing questions as a means of follow up (Turner, 2010). I developed a questionnaire consisting of ten open-ended questions (Appendix A) that was designed to achieve goals of this study. All interviews were audiotaped. The data analysis techniques and ethics protocol are discussed later in this chapter.

3.6.2 Elite interviewing. I prepared myself to conduct the research interviews as a form of elite interviewing. An elite interview is a special case of interviewing that focuses on a particular type of interviewee (Marshall & Rossman, 1994). Scott & Garner (2013) describe elite research participants as the influential, the prominent, and the well-informed people in an

organization or community. Typically, elites are selected for interviews based on their expertise in areas relevant to the research. The problem of accessing to elites is often great because they are usually busy people operating under demanding time constraints; consequently, they are also often difficult to reach. For this study, participants were contacted through their professional email available at the official website of Memorial University. In negotiating and conducting the interview, I was aware of the importance of the time commitment of interviewing participants and I expressed this to potential participants selected for the study.

3.7 Ethical Considerations

Three main issues identified by Silverman (2006) to strengthen the ethical credibility of a research are informed consent, confidentiality, and trust.

3.7.1 Informed consent. Informed consent forms and interview questions were approved by Memorial University's Interdisciplinary Committee on Ethics in Human Research (ICEHR). All interviews were conducted with participants' informed consent (see Appendix C).

3.7.2 Confidentiality. Confidentiality in a research means researchers are "obliged to protect participants' identity, the place and location of research" (Silverman, 2006, p. 419). Confidentiality of all research participants was maintained and identities are known only to the researcher. Any identifying information in participant data was removed from research documents, and replaced with alpha-numeric codes.

3.7.3 Trust. Silverman (2006) notes that "[t] rust refers to the relationship between the researcher and the participants, and to the researcher's responsibility not to spoil the field for others in the sense that potential research subjects become reluctant to further study" (p. 419). For this study, I created a safe, confidential space for participants to openly express their views. To achieve this, I offered the participants to choose an interview location of their choice where

they feel safe and confident about not being overheard and interrupted. I endeavored to interpret and represent their experiences with maximum accuracy in the presentation of the research data. Furthermore, the ethics approval for this study focuses on protecting the rights and welfare of all research participants. Memorial University of Newfoundland strives to ensure that those conducting research involving human participants achieve a proper balance between respect for the dignity and welfare of the participants on the one hand and the need for advancement of knowledge on the other (Memorial University of Newfoundland, 2017).

Electronic information and data collected from interviews and research were stored in a laptop secured by a password. Paper documentation relating to the research was secured in a locked cabinet. Given that I am a leader in student government, any potential conflict of interest arising in the selection of sampling was avoided. In the sampling process, I purposefully excluded university leaders with whom I worked closely during my terms of office in student government.

3.8 Data Analysis

The task of qualitative data analysis is considered to be the most challenging component of qualitative research. According to Marshall and Rossman (1994):

> "Identifying salient themes, recurring ideas or language, and patterns of belief that link people and setting together is the most intellectually challenging phase of data analysis and one that can integrate the entire endeavor. Through questioning the data and reflecting on the conceptual framework, the researcher engages the ideas and data in significant intellectual work" (p. 114).

To analyze and interpret the interview data in this study I closely followed Creswell's (2014) six-step qualitative data analysis procedure that includes: (1) organization and preparation of data;

(2) reading all data; (3) coding; (4) generating a description through coding; (5) representation of findings; (6) Interpretation. After the completion of interviews, the collected data were arranged and saved in the format of audio files. I transcribed all audio files by carefully listening to the audio tapes multiple times and ensured that there were no errors in the data transcription. Transcribed files were saved in form of Microsoft Word files on my personal laptop. Afterwards, I read and scanned all the data to become familiar with the collected data and to get an overall understanding of the body of transcribed data. Reading and scanning the interview transcripts multiple times ensured a careful analysis of data.

3.8.1 Coding of data. Merriam and Tisdell (2015) describes 'coding' and 'retrieve' as the most commonly used approach to analyze qualitative interviews. Coding involves labeling each passage of text according to its content. Retrieving involves collecting similarly labeled passages. After going through the whole data set, I assigned different codes to the paragraphs that contained similar information. I assigned alphabetical letters as a code to each category. Assigning these codes helped me to construct categories and themes by inductive reasoning as Creswell(2014) suggests, " Qualitative researchers build their patterns, categories, and themes from the bottom up by organizing the data into increasingly more abstract units of information" (p. 234). After coding the entire data carefully, I collected similarly labelled paragraphs and created categories. Similar categories were grouped together under one main heading and general themes were created. I grouped these themes into broader categories (headings and sub-headings). After classification of data into different themes and categorizing the main themes, a detailed account of the findings was prepared and presented comprehensively in Chapter 4.

3.8.2 Making sense of the data. A final step in qualitative data analysis is the writer's own interpretation of the data, what Creswell (2014) describes as the essence of the data. Chapter

5 of this research contains a thorough analysis of the findings of this research as represented by the researcher's description and understanding of the collected data. "Meaningful coherence" of all the identified themes was achieved by reviewing and reflecting on the research process. Tracy's (2012) criteria for meaningful coherency state that "the qualitative research should achieve their stated purpose and accomplish what they espouse to be about, use methods and presentation practices that partner well with espoused theories and paradigms and; attentively interconnect literature reviewed by research foci, methods and findings" (p. 245).

The discussion references the existing research in the field and explains the connection between the current research and the finding from this study. The conclusions are drawn carefully, with attention to the research goals and questions guiding the research. The theoretical significance of the research is established. Conclusions are clearly drawn and there are recommendations for further study. Research limitations are also noted to situate the validity of the research.

3.9 Reliability

Reliability involves the accuracy of research methods and techniques. Following Creswell (2014) recommendations for reliability in a qualitative research:

- I checked transcripts to make sure that they did not contain obvious mistakes made during transcription.
- I ensured that there was no drift in the definition of codes by constantly comparing data with the codes and by writing memos about the codes and their definitions. For this research, transcripts were double checked to ensure the coding definitions were accurate and there were no errors in transcripts or coding mechanisms.

3.10 Validity

Marshall and Rossman (1994) argue that "the strength of a qualitative study that aims to explore a problem or describe a setting, a process, a social group, or a pattern of interaction will be its validity" p.143). To strengthen this research and ensure research validity, the following steps, recommended by Marshall and Rossman, (1994) were taken:

- The research method is explained in detail so the reader can judge whether it is adequate and makes sense;
- The research questions are clearly stated and the study responds to those questions and generates further questions;
- Data are preserved and available for reanalysis;
- Rich, thick descriptions are used to convey the findings offering many perspectives about a theme so that results become more realistic and richer;
- The research is stated in a manner that makes an adequate translation of the findings so that the others will be able to use the findings in a timely way, and;
- The research acknowledges the limitations of the findings.

3.11 Summary

One to one semi-structured interviews were conducted to understand the perceptions of 12 academic and administrative leaders from Memorial University of Newfoundland. The sample of research participants was chosen after creating a database of all academic and administrative leaders of Memorial University. Leaders were contacted through their official email address that is available on Memorial University's website. Interviews that were 60 to 90 minutes long were conducted and audio taped, and later transcribed by myself. Transcribed data was coded and decoded to identify common themes and patterns in the collected data and each

theme is presented under a separate heading in Chapter 4 of this study. To ensure the research data's validity and reliability, data are presented accurately as thick descriptions with the help of direct quotations. Data are also preserved and available for reanalysis. A detailed interpretation of the research data is given in Chapter 4.

Chapter 4: Leaders' Use of Information and Communication Technologies

4.1 Introduction

This chapter provides an in-depth interpretation of the collected data acquired through the research interviews. A detailed interpretation of collected data is presented through a number of themes that were identified through careful analysis of the data (as discussed in chapter 3, section 3.8).

4.2 Interpretation of Collected Data

After reviewing the entire data set, codes were assigned to segments of interviews that contained similar information. The codes represent thematic consistencies in the data. Assigning codes to the data facilitated the process of constructing categories and themes. Data were classified into different themes and by categorizing the main themes, findings were derived. All emerging themes from the data are presented in detail in this chapter. Thick descriptions and direct quotations were used to convey the information as accurately as possible in this section of this study.

4.3 Thematic Analysis

After coding the entire data set, the data were arranged in sub-categories. The data are grouped into seven headings, each representing a particular theme. The acquired categories are as follows:

- Commonly used ICTs by leaders
- Purpose of using ICTs
- Leaders' use of social media channels
- Leaders' perception of the significance of ICTs

- Leaders' perception of the impact of ICTs on leadership practices
- Potential challenges of ICTs
- Implication for leadership education

4.3.1 Commonly used ICTs by leaders. A careful analysis of the collected data reveals some of the commonly used ICTs by administrative and educational leaders interviewed. These data are presented in Table 4.1

Table 4.1

Participants' Usage of Digital Technologies

Digital technology	Mostly used by	Details
Emails	Academic and administrative leadership	All participants in this research were using e-mail system.
E-calendars	Academic and administrative leadership	All participants this research were using e-calendar to save important dates.
Text messages and cell phones	Academic and administrative leadership	All participants in this research were using text messages to communicate with their colleagues.
Skype	Academic and administrative leadership	All participants in this research were using Skype to attend meetings virtually.
Video conference	Academic and administrative leadership	All participants in this research were using video conferencing to attend meetings virtually.
Desktop computers	Academic and administrative leadership	All participants in this research were using to desktop computers to assist in performing their day to day leadership duties.
i-pads, laptop computers	Academic and administrative leadership	All participants in this research were using either i-pads or laptops to augment their use of desktop computers.
Social media channels (Facebook, Instagram, Twitter)	Administrative and Academic leadership	2 administrative, 2 academic leaders were using social media applications to engage with their students.
BlueJeans technology	Administrative leadership	Only one academic leader was using blue jeans technology for virtual meetings.
Evernote	Administrative leadership	One administrative leader was using the Evernote app to save notes and carry important information.
Cloud computing	Administrative leadership	One administrative leader was using cloud computing to save data on multiple devices at the same time.
Blogging	Administrative leadership	One administrative leader was using blogging to engage with constituents and students.

Most of the technologies outlined in Table 4.1 were used by participants on daily basis in their professional work routine and participants reported that the usage of technology has increased exponentially over the last decade. Most of the leaders at Memorial University are currently performing their everyday duties on their computers by using different ICT technologies and see technology playing a key role in performing their everyday leadership duties. “I can’t imagine any leader including myself nowadays to function without them”, a senior leader said. Another leader added, “I cannot function without my computer system and it is absolutely critical to me.” The above mentioned technological devices are a vital part of the professional routine of the respondent leaders.

4.3.2 Purpose of using ICTs. There was a common pattern in the usage of ICT technologies by academic and administrative leadership at Memorial University to achieve their respective leadership goals. Most of these leaders are using ICT technologies for similar purposes. Three common purposes that emerged from the collected data are: (1) to communicate effectively with faculty and students, (2) to easily access and store data on digital devices and (3) to multi-task at work.

4.3.2.1 Virtual channels of communication. All leaders interviewed in this study were using ICT technologies most of the time to communicate with students, staff, and their respective communities. Academic and administrative leaders see electronic communication as an integral part of their leadership duties. During interviews, when participants were asked about the reasons they use technologies, most of them replied that it was for communication or reaching out to students, faculty, the public or broader communities. Both academic and administrative leaders said they use several technologies to communicate in their normal day to day routines. They

view email as a critical communication tool at their job and invest a lot of their time in drafting and responding to emails. Email is the official means of communication for these leaders; they say they hardly use any paper-based communication anymore. One of the administrative leaders in the study told me that s/he receives a huge number of emails every day and to manage the flow of e-mail s/he must now keep two email accounts. Most of the senior leaders have some support staff available to them who assists them with electronic correspondence, in some cases even extending to the task of answering some of these emails on behalf of their respective senior leaders.

Some other technologies commonly used by leaders for communication purposes are cell phones and text messages, Skype, video conferencing, BlueJeans technology and certain social media channels, mostly Facebook and Twitter. One leader told us,

> BlueJeans technology helps us to be able to join people in meeting online. I have used that numerous times in my current role. Emails are also useful to be able to reach several people at the same time.

Leaders are attending meetings virtually by using Skype, video-conferencing, and BlueJeans technologies if they cannot be physically present. The data also show that some leaders are using popular social media applications such as Facebook, Twitter, and LinkedIn to keep an online virtual presence and to communicate with their followers. I will be discussing the leaders' use of social media in more detail in the section 4.3.3 of this chapter.

4.3.2.2 Digital storage of data. Another common theme emerging from the data is the importance of storing information using digital technologies. Most of the educational leaders in this research say that they rely heavily on ICTs to store their data and they perceive them as a form of external memory. One leader stated,

> I save all my emails and it is for important for me to do that. I remember things better when I review my emails. And I frequently need the documentation in my emails too to verify that if I said something to someone in past. I think it is a lot more accurate than my memory.

Another leader added,

> ICTs are your external memory system basically and a great way to organize. So, if you are dealing with information as an administrator that is from many different sources, and you don't have the luxury to spend hours on one thing, usually you are doing 3 or 4 small things and you need information and communication technology to keep track of what you did and what you need to do.

Another leader offered,

> I think they have changed quite a bit, I barely use paper anymore. I have gotten entirely digital. The biggest change lately for me is cloud computing for storage and I had some problems with encrypted files stored in the cloud lately and found a software to help with that.

The ease, accessibility, and ability to store data and important documents on multiple devices at the same time are two of the key features that most leaders say are essential to their ability to perform their everyday leadership duties.

4.3.2.3 Multi-tasking at work. Another important reason that leaders are using digital technologies at work is to facilitate multi-tasking. One leader suggested that s/he uses his/her cell phone if s/he wants to send an email quickly and s/he is in the middle of an event that is important to attend: "I use technology where I see the efficiencies and ability to allow me to have

the flexibility of doing my job while traveling or being off campus and still allow me to be on campus virtually."

Participants also mentioned the use of text messaging to communicate more urgent messages. Another leader added that s/he can do two or three small things at the same time with the help of technology and it helps to save time to perform other important tasks. Academic leaders say they are also able to supervise their students virtually while they are traveling. Thus, the technology seems to enable the current leaders to perform their jobs effectively by providing them multiple options to multi-task at work and it is one the reasons that leaders are integrating these digitals tools and applications in their everyday professional routine.

4.3.3 Leaders' use of social media channels. Leaders' use of social media is another theme emerging from the data. Some leaders in this research report that they use social media extensively to reach out students and the broader communities outside the university. Facebook, Twitter, and LinkedIn three examples mentioned by some participants. Almost all leaders in this research seem to be aware that today's students are spending a good deal of their time on social media channels and it is necessary for leaders to start considering options for how to invest their efforts into an effective social media presence. "It is becoming more and more important," one leader noted, "not just for leaders but also for faculty members to have some sort of online presence. I am not sure about academic deans with social media but there are people who do that. but it is absolutely necessary for administrative deans." Participants find themselves in a situation where they don't see social media usage as a choice anymore; they know that the current generation of students is digital and social media savvy and they are feeling the push to exploit the social media environment to perform well in their roles. One of the leaders shared his/her experience on using social media applications to connect with the students:

> I never had a Facebook presence until I started working at Memorial University. I very quickly realized that I must have a Facebook page because so much happens through Facebook here now. So, I do now have the Facebook presence and I communicate through Facebook directly to students because email is no longer the fastest way to hear back quickly from students. And, every time I write an email to my students, I must wait 24-48 hours to hear from them but Facebook messaging is the quickest way to get the faster response from students.

This leader further added,

> I think Facebook is a generational thing. Whenever I want to communicate with faculty, I will write emails as many of them are not very active on social media channels. but to connect well with students, or If I need to send out a quick message, email just doesn't work with that generation.

Three leaders from the research sample told me that they just started using their social media to perform their role more effectively after noticing that it is absolutely essential to connect well to students, and to have an effective social media presence. Leaders are noticing trends in technology and they seem to have a sound understanding of the value of investing their efforts in creating and using social media channels. One leader told me that s/he uses a Facebook presence to show appreciation and recognize students' academic achievements. According to this leader,

> I think the fabulous thing about Facebook, Twitter, or even LinkedIn is that you can recognize people's accomplishments as they happen. So, we don't have to wait for an award ceremony to say how fabulous something is or who wonderful student research is. We can highlight those things on day to day basis and that is what I am trying to do.

S/he further added,

> The other part of it is trying to raise awareness about the type of facilities we give to our students. That's something that is really frustrating, that students come to me and say we need this thing while we have already that facility available to students. So, trying to communicate for funding, jobs etc. that we already provide. That is the main reason I am using the social media.

Another leader who is using social media channels extensively since last year stressed the significance of using social media channels:

> From my point of view, it's not just important for leaders in today's world, it's essential. If one does not that, the worst case is to not be able to develop significant connections with several people. If we must connect with people we will have to make an effort to communicate with them in the ways they are comfortable with. We have to look at the variety of channels. So, the engagement with communication technologies or social media is absolutely essential. If not then you are missing out a whole variety of ways to communicate with people [who] can impact your leadership.

One leader who is adept at using social media shared his/her experience of using a Facebook group as a platform to share important news with students about their faculty:

> We have more than 500 students in our Facebook group that we created for all undergraduate students in our faculty and I share with students there the news of important events, academic awards, scholarships or jobs postings or any useful information that can of students' interest and the response we receive is tremendous.

Most of the participants in this research seem to agree that social media channels and applications have significant potential as tools to engage with a large number of constituents effectively and these mechanisms cannot be ignored anymore. However, I noticed that only a

few leaders from my research sample are investing their time and efforts to actually utilize the potential advantages of social media channels. The rest of the leaders I interviewed were less enthusiastic about keeping a social media profile to perform their professional duties. One of the common reason for their lack of engagement on social media is lack of time and adequate knowledge of how to mobilize social media platforms. As one leader observed, “It could be quite positive but I think you will have to spend a lot of time, figuring out, cultivating social media if you want to use it effectively.” Another leader added, “It’s a time thing; being accessible through social media requires a lot of time.” Another reason that leaders are hesitant to use social media is the fear of online hacking and other issues related to the digital environments. Leaders feel that they are not knowledgeable enough to understand the potential risks of social media channels and they need more education on the effective and safe use of new media, especially for use in their capacity as officers of the university.

4.3.4 Leaders’ perception of the significance of ICTs. One purpose of this research is to find out how current leaders perceive the importance of ICTs in their current leadership roles. I asked this question of all research participants and responses reveal that current leaders are well informed about the technological trends in their workplaces. All of them stressed that it is crucial for modern leaders in a tech-savvy world to understand the value of technological tools and their value to constituents and stakeholders. One leader offered the following:

> I think that is absolutely essential. It is important to understand the context and role of communication technology. In educational leadership, it is specifically important. Because of the multi-generational setting of an academic organization, you have got people with all different ICT channels, awareness, and practices and you need to be able to engage with them.

Leaders are aware that they are dealing with students who are heavily invested in digital technologies and social media channels. Another leader noted,

> Leaders may not need to know the nuts and bolts but they do need to understand the principles of how these things work. Like if a leader wants to do marketing of some product, social media has changed a lot nowadays and marketing has become very precise. So, you don't need to know the mechanics but you need to know the potential for that. Utilizing a technology without knowing it fully can lead to major negative consequences. That is very important.

In response to a question that asked whether a leader can still be an efficient leader without a good understanding of ICTs, one of the senior leaders responded:

> Yes, I think so, but in this age and time, a good leader without the knowledge of technology, will need to have a lot of people around him/her supporting him/her in using technology. Because I don't think you can divorce the position from technology anymore. A leader can be a good leader with a lot of support around technology.

Another leader added,

> I think we at least need to be informed because we as a leader need to be in tune and even if I don't know how to use social media or Facebook, we have communications staff/person and I would not hire somebody who doesn't know about Twitter/Facebook or other forms of social media. So, it helps me to figure out what we need. Our students are looking at Facebook, and Twitter and websites. They are not looking at paper calendars to see what courses they can take in next semester. It's a different generation and I think as a leader we need to be aware of that and it gives us messages where our money need to be spent or where our time needs to be spent.

Thus, the respondents say that they understand the value of social media channels and feel that if leaders are not adept at using these tools or do not have time to establish and maintain a social media presence, they will need competent staff around them to support them in their leadership positions.

4.3.5 Leaders' perception of the impact of ICTs on leadership practices. Do leaders feel that their leadership practices have been impacted by using ICTs and social media tools? Most of the participants in this study told me that their leadership practices have been positively impacted and these digital tools are enabling them to perform their leadership duties effectively. The principles of leadership are still the same but the tools have changed; there are now multiple ICT options for leaders to use in their leadership roles:

> Technology has helped me as a tool to my ability to be connected. I can participate in meetings from anywhere in the world through Skype and video conferencing. With the help of technology, a leader can participate in long distance meetings in a meaningful way. I think it helped me in performing my day to day duties as a leader.

The findings show that participants value the ability of digital communication tools to help them deal with different issues in a timely and cost-effective manner. One leader noted,

> I don't think the amount of work I do now is different than before; it is just been sliced differently. When I have these technologies, I prefer the ability to deal with issues quickly and timely. It works better for me.

Another leader mentioned that the professional use of social media technology has broadened his/her perspective and has made him/her better informed. According to this leader,

> Social media has impacted my thinking and my branding. The amount of information I can get on social media, the data I get through social media impacts the broadening of perspective and scope. Social media has also positively influenced the efficiency of my communication.

Some participants in this research say that ICTs are playing an important role in their everyday leadership responsibilities by enabling them to communicate with a large group of people in a short time, as compared to how they used to connect in past. One participant offered, "I think the technology has increased my efficiency to communicate and connect." Another added, "I think it helps me to be more effective, more efficient in my work. It makes work easier for me and I can get access to constituents a lot easier than I could before".

4.3.6 Potential challenges of ICTs. ICTs have some potential challenges and issues and I asked the participants to share experiences where they had to face these challenges in their everyday work routine. One participant offered,

> One of the challenges is the instant kind of environment. News and information travel so quickly in this time and age. From a leader's point of view, a leader must do a whole lot of things, meetings, assignments etc. monitoring the social media channels in this day of instant response can be very challenging.

Another leader added,

> People wants to things digested in 140 characters and in very small bites. As a leader, we deal with some very complex subjects that are never black and white. There are always grey areas and then there is always the challenge of one person putting their point of view forward very publicly and you are not able to put your point of view because you know

> that there are items that can't be disclosed publicly. So, there are a lot of challenges around wanting instant answers and quick fixes to the issues that are much broader.

Some participants expressed their concerns about dealing with the pressure of constituents' higher expectations caused by the "instant response" kind of virtual environment. One leader said,

> Our expectation is really high from leaders in this digital world. We are no longer willing to wait and need an instant response. The other thing is that social media is essentially making us all have very short attention spans.

Under these circumstances, participants say that they are facing the challenge of meeting this higher expectation of their constituents. The potential risks of social media are even broader. One leader expressed concern over being too accessible to students through Facebook. S/he noted,

> I worry sometimes that I am becoming too accessible. So, instead of going through the procedure, where students need to talk to their supervisors first and if they don't have the answer they want, then they will go to the department head or dean and then they will talk to me. Students feel like they know you personally, and there can be some dangers to that and I am little worried about that. And it does worry me a little bit and it is one of the reasons that I didn't want to use Facebook when I was just a professor because I didn't want students to think of me as a friend because I am not a friend. I am happy to spend time with students and I really want to help them but again, there are certain channels they should go through first before coming to me. So that's a concern that worries me a little.

Another recurrent issue with social media that came up is that leaders find themselves needing to spend a lot of their time on social media. One leader expressed in this way:

> It's a time thing. Being accessible through social media requires a lot of time. There is no part of my waking hours when I am not potentially working. The downside of all that wonderful accessibility is that you are accessible through all those channels pretty much all the time. As much these make communication quicker, the downside is that you can potentially be working all the time through these channels. And it can really take over your personal life or downtime.

Another leader added,

> I am spending too much time trying to figure out something that I can get someone else to do. I have too many ideas which I haven't started work on yet. Also, trying to keep up with Facebook and Twitter is a lot of time and I could never have had time to use my LinkedIn account. It is too much work. So, there are two things, first not having the expertise and then the time.

4.3.7 Implication for leadership education. In the final section of research interview, I asked participants for their perspective on what kind of leadership studies would help future leaders to excel in their positions in a digital educational and administrative environment. Most participants answered that the use of ICTs should be taught in leadership studies as an essential component of the degree. One leader said,

> Something we haven't done very well yet is digital literacy. It can mean different things to different people but what I am talking is the overall understanding of how things work, an overall understanding of how you create your digital identity. What does that look like? An overall understanding of digital security because that is huge in this day and age.

Participants emphasized the importance of acquiring skills to use technology; how to create and maintain digital identity, how digital security works, how to use social media tools. These elements should be incorporated into future leadership education. One senior leader offered,

> I think it is extremely important and we are doing [the] worst job at it: a) to have specific training in leadership and b) to include the ways to use social media including possibilities and cautions. That should be a part of any kind of leadership training. The broader idea of how to communicate, what are you trying to do is the most difficult part that should be included in training programs. The other part of leadership training that should be emphasized is to "listen" to make sure you make decisions after listening other voices and that is something that is hard in age of email, where you are tempted to respond immediately. So I think the strategy to be able to delay a response to think about it is something that should be included in any sort of leadership training. Communication is important.

Another participant suggested that future leaders should have sound knowledge about the efficient ways of using email technology: (1) how to use email effectively and productively as a tool rather than letting it control you, and (2) learning correct email and social media etiquette. Most of the participants emphasized the fact that as younger generations are significantly engaged on social media channels, leaders should be taught the ways to engage on social media with their constituents. One leader offered,

> I think there should be a component about it at the very least. Probably, a lot of our leadership students go to schools as principals. If that's the case, they need to be able to use social media to advertise events at school or community, and stakeholders' meetings. In order to reach or communicate with students, you need to be aware that you can

> always get more knowledge about it but you need to know the value around it and where does it fill in your role.

Another leader suggested creating an online course on leadership in using Facebook, Twitter, and other social media platforms.

To sum up the preceding data, participants in this research were uniform in representing the idea that future leaders must be perceived as digital leaders who will need significant knowledge and ICT skills to meet the demands and challenges of a digital world. Participant leaders recommended a reconsideration of leadership education programs to prepare successful digital educational and administrative leaders for schools and academic institutions.

4.4 Summary

Research findings were presented in this chapter. Several key themes emerged from data including: participants' experiences in using ICT technologies to perform their leadership duties, leaders' use of social media channels and leaders' understanding of the growing importance of technology in academic institutions and professional workplaces. Participant leaders also stressed the importance of practical knowledge about the cutting-edge web applications and modern technological channels as an essential part of future leadership education.

Chapter 5: Discussion and Results

5.1 Introduction

In this chapter I discuss the research findings and the implications of the research for educational leadership practice. The significant themes that surfaced from the data analysis and interpretation in Chapter 4 are examined as they correspond to the four research questions. In this chapter I also describe the limitations of this study and offer suggestions for future researchers.

5.2 Leadership Goes Digital: Digital Leadership

This study explores leaders' perspectives on e-leadership skills and practices and how ICTs have influenced leadership style and abilities. In particular, I examine the ways in which technology is brought to bear on educational leaders' roles and responsibilities in a post-secondary educational setting, and the skills and dispositions that are considered important in the post-secondary education context.

The participants in this study are aware that to lead a digital workplace, they must part ways with traditional methods of leadership and integrate new ICTs in their leadership practices. All leaders emphasized that they don't have the option to be indifferent to changing technologies Even if they have communication and technological staff around them, they still need to understand ICT technologies so they can direct staff in organizations and make knowledgeable management choices. Several scholars have already stresses the significance of practical knowledge of ICT skills for leaders to be able to efficiently lead the technological transformation in educational institutes (Bennett, 1996; Cox & McLeod, 2014; Jameson 2013; Wang & Steele, 2017). Within the context of a transforming tech-savvy world, academic and administrative leaders must understand the basic principles of using educational technology and how ICT tools

can be applied within educational institutions. To be effective, deans, directors, school principals and other leaders must become knowledgeable actors in increasingly tech-reliant educational institutions.

Increasingly, over the past quarter century, most institutional communication is carried out through electronic channels. Becoming fluent in ICTs implies more than simply signing in to an online application or acquiring basic knowledge on the use of a productivity tool. Fluency implies having a detailed understanding of the affordances of the technology and the technological efficacy to utilize those affordances not only for the purpose of communication of specific content or information, but also for the purpose of relationship building across technological channels.

One simple example is email communication. As this research confirms, many leaders spend a good deal of their time constructing and responding to emails to and from colleagues, employees and students. Understanding of the difference between a one to one meeting and electronic communication is significant. Email, social media and other forms of mass messaging represent opportunities to motivate, build team relationships, receive feedback from constituents and inspire people to help achieve organizational goals. Recognizing the potential of technology and the wider organizational goals that can be achieved using that technology seems to be a key attribute of digital leaders.

Today's educational leaders need to be able to differentiate among communication options and understand which channel of communication is best suited to the individual or group with whom they are trying to communicate. There are a variety of channels out there to choose from and new applications are emerging with startling frequency. This requires continuous

efforts from educational leaders to stay current with new technologies, especially in educational settings where students are digital natives and are quick to adopt new digital tools.

While the participants in this study recognize the importance of marshalling ICTs in their leadership practice and use online resources every day to communicate and connect, few of them appear to be tapping into the actual power of the Internet to enhance their leadership practice and build their profile as a leader. For instance, among the leaders interviewed in this study only one indicated they write a blog and several said they do not have time to maintain an active Twitter account, Facebook page, or LinkedIn discussion space – digital activities that could be considered active leadership engagement. However, there are tremendous prospects for leaders to foster academic leadership practices such as sharing research and evidence, expert interviews, TED talks, and profiling student accomplishments or organizational success stories.

There are also risks associated with leading a digital environment including technical risks such as digital security failures, online hacking, and hardware and software issues. Leaders must understand digital storage applications and be aware of how to secure important and confidential data. There are few other risks. General public is equipped with tools such as cell phones with built-in cameras and several other features that can be used to record information, or respond negatively to leaders' digital communications and can be shared with multiple groups of people immediately. Leaders should be aware of these potential risks. To prepare successful digital leaders who understand the effective application of ICTs, and who are prepared for the risks and challenges associated with digital communication in virtual working environments, current leadership education programs should be reviewed. Leadership practices in educational institutions are continuously evolving and constituents' expectations of leaders are now different than the past.

To sum up, leaders from this research are consistent in the view that e-leadership skills are becoming a significant part of their stock and trade; therefore, educational leaders have no choice but to create space to acquire ICT knowledge and skills and to strategically use these in their leadership roles. These findings align with the existing research (Cox & McLeod, 2014; Howell et al., 2014; Jameson 2013; Wang & Berger, 2012) signifying that leaders who can adapt to change by shifting their roles and communication practices will be best positioned to interact with students, teachers and other educational stakeholders.

5.3 Leadership and Social Media: Social Media Leadership

The leaders I interviewed for this research were positioned somewhat differently regarding the use of social media channels in their leadership practices. There was relative consistency in the view that that social media channels are extremely important, especially in connecting with students, as they use social media in almost every arena of their life. However, most of the respondent academic leaders say they have not been able to use social media applications due to either lack of knowledge or time. One leader cautiously acknowledged that social media represents significant opportunity, but there are also major risks: "[t]here are ways to engage on social media but instant messaging is a strange world, as you can see [from] the issues going on [with] Donald Trump." Few leaders in this study were comfortable communicating through social media channels as part of their professional duties, due to certain fears attributed to online engagement. Most of the leaders exhibited a risk-averse stance by protecting themselves against unknown potential risks in the social media world. Part of this seems to be rooted in their perceptions of inadequacy in clearly understanding the environment and managing an effective social media presence. Several respondents referred to Donald Trump's use of Twitter as an example of the fallout that could come from using social media

without adequate knowledge. These results are in line with existing research literature, for example, Ferriter, (2010) who has reported that fear, driven by concerns about one's digital profile, cyberbullying or inappropriate postings can cause school leaders to think twice about whether the advantages of social media outweigh the potential consequences of misuse.

The concerning question here is whether any educational leader can remain indifferent to the widely popular inter-connected world of social media? Research suggests that the answer is no. A social media presence is now an expectation; it is no longer optional (Cox & McLeod, 2014). By keeping an effective social media profile, leaders can engage with their followers or students in a non-formal, more interactive way where they can share interesting information about their programs and students can provide feedback by either simply liking or commenting on the post. One social media savvy leader who was interviewed described social media as multi-generational and stressed the significance of incorporating social media channels in educational leaders' practices as:

> In an educational setting, leadership must be engaged through social media channels because of the multi-generational setting of an academic organization. To connect with students, we will have to try to communicate with them in the ways they are comfortable with.

The challenge for educational leaders, who are often among the most senior and most experienced persons in an institution, is that many of their constituents are digital natives and have not known a world without social media and web 2.0 applications. Today's students think and process information fundamentally differently from their predecessors, because of being surrounded by new technology. Educational leaders need to invent "digital native methodologies" (Prensky, 2001) for all levels of their work. One obvious approach is to look to

students as a guide for how to incorporate social media in leadership practice. Engagement with constituents is a significant feature of successful or effective leadership and unless leaders migrate to the most popular engagement channels, they won't be able to continue to excel in their field.

The rise of the culture of 'sharing' in modern society in many ways runs counter to traditional, hierarchical leadership and administrative practices. The repeated successful exchange of people sharing their thoughts, concern, and activities result in relationship and trust building. Certain technologies like blogs, social media channels, and Twitter create personal connections making it easy to form these new relationships. Building trust has been noted as an important feature of leadership by researchers for years, but the tools to build trust, and establish relationships with followers have changed now. There are fewer opportunities for leaders to stand in front of groups of people; personal charisma and commitment to mission must be demonstrated using different platforms. As Ferriter (2010) notes, "[i]ntegrating social media tools into a school work is essential if a leader hopes to build meaningful relationships with stakeholders" (p.88). Thus, leaders' engagement with their followers through social media is essential if they are to effectively share their vision and organizational goals as a means of developing relationships and shared commitment.

According to Fullan (2001) successful leaders are change agents with a significant understanding of the process of change that enables them to lead the change effectively. In the new workplace, leaders need to shift their practices to stay in step with the developing shift in technological approaches and the interests of contemporary society, especially students. Without becoming engaged on social media, can leaders lead a generation of social media users? One leader in this research shared her/his experience of engaging with students on Facebook as the

quickest way to get a response from them. S/he noticed that current students are less keen to quickly reply to emails in comparison to Facebook messaging. Facebook group chats are already considerably popular among students and colleagues for collaboration and teamwork. Considering the popularity of social media channels, specifically Facebook and Twitter, digital leadership may further transform into social media leadership; academic leaders need to be ready to embrace that change as well.

5.4 Leaders' Perception of the Impact of Technology

As discussed in Chapter 4, all leaders in this research regarded ICTs as important productivity tools that have impacted their leadership practices positively. The leaders perceived ICTs as critical to the effective, timely and cost-effective performance of their jobs. They rely heavily on these tools to generate, process and store important data and information. Digital mobile devices, such as smartphones, are also allowing respondent leaders to multitask at work, which has been noted as another important advantage of technology.

All leaders interviewed for this research represented technology as transformative, as it has amplified their efficiency at work, their ability to communicate effectively and their accessibility through online virtual meetings and other limitations of time and space. The amount and speed with which information that can be accessed through the Internet is also making leaders more informed than ever before. The advent of ICTs, including social media and other productivity applications, has had a transformative effect on the leadership practice.

Those who were more adept with social media channels agreed that these tools facilitate the quickest interaction between leaders and their constituents and help build trust and meaningful relationships. Leaders say they can get useful feedback from their constituents; similarly they can reach out to individuals or groups to show appreciation for successes and

achievements or to encourage interaction and collaboration. Leaders also used social media web applications to raise awareness about different student services, events or opportunities by sharing useful posts or messages with followers.

Both academic and administrative leaders therefore perceive digital technologies as very favourable. From a productivity angle, leaders are more effective. From a communications angle, social media tools assist leaders to advance their organizational (and their own) brand imaging, their communication abilities and their vision and strategic direction for the institution.

5.5 Risks/Challenges of Digital Leadership Practices

One purpose of this research study is to understand the potential hazards, risks, and challenges modern leaders encounter related to their use of ICT technologies. Although ICTs provide a variety of channels through which to engage with audiences, some leaders in this study expressed concern about the shift in leadership practice vis a vis the time investment required to fully utilize the digital options open to them. Modern digital applications demand a substantial time commitment from leaders to stay connected to different channels throughout the day. Some leaders complained about being required to spending inordinate amounts of time on their smartphones in early mornings or during the evenings outside of the normal workday when they are not at their offices. One leader suggested that s/he starts the day by checking work-related emails on the cellphone even before getting out of bed. Similarly, the use of social media channels and the pressure of instant virtual world makes leaders feel that they are working most of their time even after the end of actual working hours. Since most of the modern apps send notifications for every new post or comment, it's almost unmanageable for a leader to not check their social media during off-work hours. Interconnected web applications therefore can be quite time-consuming and in some cases can intrude upon a significant portion of a leader's personal

time. Moreover, to keep an effective social media presence is an continuous task that is an added responsibility for leaders, beyond their regular work load.

Another important point to note is that in a digitally collaborative world, the communications expectations of leaders are different than for their past contemporaries. Today's educational leaders work within the 'instant' messaging environment where there is an expectation that communication be much more rapid – minutes rather than hours or days. Students, instructors, parents and other stakeholders expect quick and informed responses to their queries. This creates a rapid and impoverished communications environment that resists thoughtful, and informed decision-making. As one leader noted, "students are expecting an apt, concise and immediate response from a university administrator, [but] being a leader it is not that easy to give an instant statement, as some issues are broader or grey and need a lot of thinking."

Thus, some of the challenges faced by current educational leaders are unique and different from those of the past. News and information can be passed on to thousands of constituents in a matter of seconds. And once information is out in an online environment, it can't be easily taken back. Another challenge relates to leaders' accessibility through social media channels. Because access through social media or other ICTs is virtually guaranteed, it can be difficult for leaders to establish boundaries between their personal and professional lives. Constituents can easily try to use a Facebook or Twitter account of a leader as a shortcut, completely overlooking the regular channels of communication. In addition, it is hard for leaders sometimes to separate their professional and personal use of social media channels since there are no strict rules or certain institutional policies that constituents must follow when commenting on or reacting to a leader's social media posts; social media giveth and social media taketh away.

Another challenge emerging from the findings of this study is that leaders say they don't have enough expertise to use ICTs efficiently. As one leader observed," I have a lot of ideas but I don't know how to put them to work in a technological framework." Since there is a wide variety of social media channels and each is somewhat different from other, acquiring specific skills is challenge for today's leaders. Although leaders are proficient with using standard Windows or Mac-based productivity and communication tools , they need dedicated time for regular training and ready access to technical support.

Technological tools are not a one-time thing. There are new trends, tools and application emerging every few weeks and some technologies become out-dated as soon as there is something newer, that promises more features and greater ease of use. By the time a leader becomes adept at a certain technology, her/his constituents might have already moved on to the next iteration of a technology. For academic leaders, therefore, it is a continuous challenge to stay informed and current.

The previous discussion make it easy to understand that integration of technology in leadership practices is a complex phenomenon that brings certain benefits, but also risks and challenges. To deal with these challenges effectively, leaders will need effective and skillful knowledge of various ICT and social media channels and a commitment to continuous learning.

5.6 Leadership Education for Future Leaders

Most of the respondents in this research learned technology on their own and have never received very much formal education about their use. While the virtual world is full of leadership opportunities there are also significant challenges and risks. The education leaders who participated in this study embrace ICTs, including social media, but express concern about, their levels of digital literacy and technological skill development. There was a strong view that

digital literacy, skill development, and risk analysis for digital leaders must become essential components of leadership studies programs. Participants felt that there should be a component about ICT or social media skills at the very least embedded in leadership studies programs. As one leader noted,

> Probably a lot of our leadership students go to schools as principals. If that's the case, they need to be able to use social media to advertise events at [the] school or community, board level or stakeholder meetings, to reach or communicate with students, you need to be aware that you can always get more knowledge about it but you need to know the value around it and where does it fill in your role.

This work is consistent with recent studies e.g., (Ahliquist, 2014; Cox & McLeod, 2014; Howell et al., 2014; Jameson, 2013) that identified the importance of teaching e-skills to new leaders as an important component of future leadership education. This research further establishes that future digital leaders will need a more specific and detailed education to achieve successful ICT skills. Leadership scholars and program developers would do well to initiate a framework of ideas that can strengthen leadership studies programs in preparing competent and successful digital leaders in future.

A close look at the findings of this research can assist in mapping out some of the necessary skills needed for 21st-century digital leaders. Because we know that leaders rely extensively on digital tools for communication with constituents, a working understanding of the principles of different communication tools is one area that can help leaders to achieve digital fluency. Necessary steps should be taken to include emerging technological trends in leadership studies programs specifically in educational institutions. These understandings will empower

future leaders to establish an effective online presence and will assist them in choosing the precise online channels for their specific professional goals.

Leaders also need to be aware of some possible threats in the online digital world. They need information about how to protect the organization (and themselves), maintain their privacy and establish virtual boundaries. One of the main reasons that leaders say they stay away from social media is the fear of online direct interaction with followers. Leaders feel unprepared and ill equipped to understand and maintain digital security. Future leaders should be armed with necessary information about online interactive channels to navigate safely and confidently in an ever-connected online environment.

Time management is another very important feature of effective leadership. A useful education around different technologies can help leaders to organize and manage their time effectively. Furthermore, leaders should be encouraged to innovate different ways of incorporating technology in their leadership practices. Effective technology education can provide leaders the necessary insight and skills that are must to utilize the digital technologies to their fullest potential.

To sum up, future leaders need to receive pre-service and ongoing instruction to help develop appropriate digital skills, competencies and dispositions. These will assist them to maintain a safe and effective social media presence online presence, develop fluency in e-communication skills, establish brand imaging, and practice effective time management skills. Effective leadership education that incorporates the necessary ICT skills and useful social media knowledge for future leaders can play a key role in preparing successful digital leaders to effectively lead 21st century technology rich educational institutions.

5.7 Research Implications

This research contributes to existing leadership literature as it addresses some of the key issues in current leadership practice. This study represents the experiences of current leaders with the integration of technology into their leadership practices and highlights the impact of technology on leadership, specifically in a post-secondary educational context. The findings from this study are beneficial to help us develop an understanding of some of the unique challenges that current leaders experience in navigating myriad digital applications in modern educational institutions. I believe this work makes a modest, but valuable addition to current e-leadership literature and invites further exploration of these challenges by future researchers.

This study established the significance of incorporating ICT knowledge into leadership training programs and mapped out some important ICT skills that should be an essential part of future leadership education. I hope this work encourages leadership program advisors to analyze current leadership educational programs and propose changes to meet the demands of 21st century e-leadership.

This research is helpful for future researchers, teachers, students, school administrators, and policymakers to develop an understanding of the complexities of the shifting role of educational leaders in the modern technology-rich educational setting. Leadership is a complex phenomenon and the latest ICT technologies have added unique challenges and benefits to this phenomenon. This research describes leaders' lived experiences of dealing with these challenges that provides insight into the digital leadership phenomenon.

Finally, the research should be valuable for policymakers to reflect critically upon existing leadership programs and training offered in different institutions and to identify

technology-mediated communication and productivity skills, practice and dispositions helpful in shaping the nature of future educational leadership programs.

5.8 Research Limitations

This research is limited to one (albeit large) institution and all respondents were selected from a single university. Although Memorial University is a comprehensive university offering multiple disciplines, some leaders might situate their perspectives entirely within their current organizational context and there is a possibility of organizational bias. A future study that can incorporate leaders from several different academic institutions would add more value to this research area.

Semi-structured interviews were used for data collection in this research. Although interviews are seen as a valid source of information, there might be some bias involved in participants' answers based on how they want to be perceived in terms of how they used ICTs. Having more than one data collecting method in future research projects can help address this issue.

I intended to interview 12 leaders for this research. However, only 11 leaders agreed to participate in this research. Thus the research was carried out by interviewing 11 participants only. The qualitative nature of this study limits the scope of generalization. The results of this research are based on a small number of interviews and the representations of a larger population of educational leaders cannot necessarily be inferred.

5.9 Future Research Suggestions

I suggest the future researchers conduct more research about the role of ICT's on leadership by considering following suggestions:

- This research is limited to one university. A comprehensive research exploring leaders' perceptions of technology integration into leadership practices across different universities in Canada can provide a more thorough understanding of the digital leadership phenomenon.
- Further research is important to establish, in finer detail, the potential challenges that ICT technologies are bringing into educational institutions and the kinds of leadership practices that can minimize the risk of these technologies.
- This research found mixed responses of educational leaders towards the use of social media in their leadership roles. A more detailed and specific study around educational leaders' use of social media in future is suggested to get a comprehensive understanding of leaders' perception of the use of social media channels.
- More detailed research about what particular ICT channels are most popular among educational leaders and how these tools are being used to facilitate leadership practices would be a useful addition to the leadership literature.

5.10 Conclusion

It is impossible for today's leaders to excel in their leadership roles without being heavily invested in technological practices. Leadership practice can no longer be divorced from ICTs. The current research records academic and administrative leaders' perceptions about the use of technology in workplaces and confirms that current leaders are fully apprised that digital technologies are an absolutely essential tool. At the same time, educational leaders need time, support, and adequate knowledge and training to be more productive and efficient in the integration of technology in leadership practice.

The findings from this study align with existing research (Gurr, 2004; Pulley & Sessa, 2001, 2002; Skuladottir, 2011) that examines leaders use of various digital technologies to

facilitate their leadership roles. This research affirms work by other researchers (e.g., Gurr, 2004; Weng & Tang, 2014) that show leaders' positive perceptions of digital technologies on practice. Digital tools and technologies are impacting leadership skills positively by enabling leaders to competently perform their role by efficient integration of technology into their leadership exercises.

This work also shows that educational leaders have been slow to embrace the shift towards the professional use of social media. Reasons for this reluctance include factors such as time constraints, the perceived risks of social media and the need for support and education about the use of social media and related web 2.0 applications. This research also suggests that existing leadership studies might not be sufficient to prepare successful digital leaders in future to tackle the challenges of an ever-changing digital world. Current leadership programs may need to be revised to prepare educational leaders to keep pace with the changing dynamics of leadership practice.

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Appendix A: Interview Questionnaire

1. Let's start by talking for a few minutes about your career path? In your career, how long you have been working a leadership role? How long have you been working in your current position at MUN?

2. What do you think are the most important leadership skills necessary for today's leaders to be successful in their workplaces?

3. Talk about some of the information and communications technologies that you normally use in your present position?
    a. How often do you use digital technologies in your role as a leader in the organization?
    b. For what purposes do you use them, generally?

4. How important is it for leaders to embrace information and communication technologies in their leadership practice?
    a) Can you talk about one or two examples where these technologies have been particularly important to you as a leader?
    b) Can you provide one or two examples of positive experiences you have had in using ICTs in your work or where their use has led to positive outcomes?
5. With the advent of the modern digital tools, for example, Facebook and Twitter, followers, (employees or constituents) have greater access to leaders through social

media. How do you feel about this trend?

a) To what extent has this trend made leaders more approachable?

b) What kind of impact (positive or negative) if any, has it had on your leadership practice?

6. We've talked about the benefits of ICTs for leaders. To what extent do you feel the new information and communications technologies might bring some potential challenges for modern leaders?

a) Can you talk about some of the challenges or potentially negative impacts of information and communications technologies in your leadership practices?

b) Do you have to face any gender specific challenges related to technology or social media? If so, can you give me some examples?

7. To what extent have your leadership practices changed over the recent years due to continuous technology innovations and their growing usage in the workplace?

8. How important is it for leaders such as yourself to be well informed about new technological innovations?

a. Is it necessary for leaders to perform their duties proficiently?

b. Can a person still be an outstanding leader without a good knowledge of information and digital technologies?

9. This is the last question I have for you. In terms of leadership education, how important is it for leadership studies programs to include specific ICT skills as a part of the

program of studies? If you were designing a leadership program, what specific ICT skills would you include?

10. Do you have anything else you would like to add to this interview before we conclude?

Thank you for your valuable time and participation in this research.

Appendix B: Recruitment Email

My name is *Maryam Shaheen*, and I am a Graduate student in the Faculty of Education at the Memorial University of Newfoundland. I am conducting a research project called Digital Educational Leaders; for my master's degree under the supervision of *Dr. Gerald Galway*. The purpose of the study is to investigate the relationship between Instructional and Computer Technologies and Educational Leadership. I intend to interview 12 academic or administrative leaders at Memorial University of Newfoundland.

I am contacting you to invite you to participate in an interview in which you will be asked to answer few questions to share your individual experience regarding the use of ICT's in your leadership position. Participation will require 60-90 minutes of your time and the interview will be held at your office. A different location can be booked upon request. If you are interested in participating in this study, please contact me back at this email address to arrange a meeting time.

If you have any questions about me or my project, please contact me by email at ms3181@mun.ca, or by phone at 709-7462535. If you know anyone who may be interested in participating in this study, please give them a copy of this information. Thank-you in advance for considering my request,

Maryam Shaheen

The proposal for this research has been reviewed by the Interdisciplinary Committee on Ethics in Human Research and found to be in compliance with Memorial University's ethics policy. If you have ethical concerns about the research, such as your rights as a participant, you may contact the Chairperson of the ICEHR at icehr.chair@mun.ca or by telephone at 709-864-2861.

Appendix C: Informed Consent Form

Dear Participant:

You are invited to take part in a research project entitled "Digital Educational Leadership." This form is part of the process of informed consent. It is intended to provide information on what the research is about and what your participation will involve. It also describes your right to withdraw from the study. In order to decide whether you wish to participate in this research study, you should understand its risks and benefits so that you can make an informed decision. Take time to read this carefully and to understand the information given to you.

It is entirely up to you to decide whether to take part in this research. If you choose not to take part or if you decide to withdraw from the research once it has started, there will be no negative consequences for you, now or in the future. If you have any questions about the study or would like more information before you agree to participate, please contact me, by email. My e-mail address is ms3181@mun.ca. You may also contact my supervisor, Dr. Gerald Galway at ggalway@mun.ca

Introduction

I am a masters student in the Faculty of Education at Memorial University. As a part of my thesis I am currently conducting research on how educational leaders engage in leadership work in the digital environment. This research is being conducted under the supervision of Dr. Gerald Galway, a professor in the Faculty of Education at Memorial University.

Purpose of the study:

Technology has made its way to every field of our life, and our educational institutions are no exception. Today's students have grown up in technology-saturated environments and most have never known the world without mobile phones, tablets, personal computers and the Internet.

The proposed research will explore the impact of information and communications technologies (ICTs) on educational leaders' leadership skills and practices. Since leadership is an important success factor for any institution or organization, and because educational institutions and workplaces are now immersed in ICT culture, this subject is an important area of study. Further exploration of this connection is important not only for the success of modern educational institutions but also to help map out new leadership strategies for future educational leaders.

What you will do in this study:

You will participate in an interview session and respond to a series of interview questions based on your experiences in your role as a leader in an educational institute. I will provide you with a copy of the interview questions at the beginning of the interview. The interview session is expected to be approximately 60-90 minutes long.

Withdrawal from the study:

Any participant may withdraw their consent at any time, before, during or for a specified period after the interview. If a participant withdraws consent during the interview, any data from that participant up to that point will be removed from the data set. After the interview, data may be removed before July 31st 2017. After this date, the interview data will be processed into anonymous information and cannot be removed.

Possible benefits:

This research will be helpful for researchers, teachers, students and school administrators in formulating an understanding of the complexities of the changing role of educational leaders in technology-rich educational settings. The findings from this research will be particularly helpful for policy makers to help determine whether existing leadership programs and training

need to be revised and to identify technology-mediated communication and productivity skills, practice and dispositions helpful in shaping the nature of future educational leadership programs.

Possible risks, confidentiality and anonymity:

I wish to declare that I have been a leader in the graduate student union at Memorial University. As such some participants may perceive some risk associated with participating in this study. I have, therefore, excluded individuals with whom I have worked directly in my role as a student leader. In addition, any participant may choose to skip any question during the interview or may request not to proceed further and withdraw their consent at any time. I also declare that my supervisor is presently serving in the role of a university administrator. To protect the confidentiality of participants, he will only have access to data after it have been rendered anonymous; any identifiable information will be removed before he may access the data.

In all aspects of this research, your anonymity will be maintained. In every case, confidentiality of participants in this research will be strictly safeguarded and all personal information, participants' identities, position titles,, and other collected data will be kept secure and confidential. All collected information will be converted into anonymous data by assigning pseudonyms to each participant. You will not be identified in any publication or research product, print or electronic, emanating from this research.

Recording of data:

Interviews will be audio recorded and later transcribed and saved in a secure (password protected) folder on my password-protected laptop. I will conduct all transcriptions myself; there will be no third party transcription.

Use, access, ownership, and storage of data:

- Any interview data stored on flash drives or other electronic storage devices and any hard copies of the data will be secured in a locked cabinet in a locked office.
- Other electronic data will be stored in a secure (password protected) folder on my laptop computer. The computer is password protected and I am the only person who has access to the device.
- My supervisor will have access to the anonymized data.
- Data will be kept for a minimum of five years, as required by Memorial University's Policy on Integrity in Scholarly Research.

Reporting of results:

Data will be reported by either using direct quotations (with your permission) or summarized information assessed from interviews.

Sharing of results with participants:

Upon completion, my thesis will be available at Memorial University's Queen Elizabeth II library and will be accessible online at http://collections.mun.ca/cdm/search/collection/theses

Interdisciplinary Committee on Ethics in Human Research review:

The proposal for this research has been reviewed by the Interdisciplinary Committee on Ethics in Human Research and found to be in compliance with Memorial University's ethics policy. If you have ethical concerns about the research, such as the way you have been treated or your rights as a participant, you may contact the Chairperson of the ICEHR at icehr@mun.ca or by telephone at 709-864-2861.

Questions:

You are welcome to ask questions before, during, or after your participation in this research. If you would like more information about this study, please contact the researcher: MaryamShaheen at ms3181@mun.ca or Dr. Gerald Galway at ggalway@mun.ca

Consent Form

Consent:

Your signature on this form means that:

- You have read the information about the research.
- You have been able to ask questions about this study.
- You are satisfied with the answers to all your questions.
- You understand what the study is about and what you will be doing.
- You understand that you are free to withdraw participation in the study without having to give a reason and that doing so will not affect you now or in the future.

Regarding withdrawal during data collection:

You understand that if you choose to end your participation during the interview, any data collected from you up to that point will be destroyed.

Withdrawal after data collection:

- You understand that all data, including audio recordings and transcriptions can be removed up July 31st 2017 upon request. After that date the data will be processed into anonymous information and cannot be removed.

Please complete the following:

I agree to be audio-recorded ☐ Yes ☐ No

I agree to the use of anonymous direct quotations ☐ Yes ☐ No
from my interview

By signing this form, you do not give up your legal rights and do not release the researchers from their professional responsibilities.

Your Signature Confirms:

☐ I have read what this study is about and understand the risks and benefits. I have had adequate time to think about this and had the opportunity to ask questions and my questions have been answered.

☐ I agree to participate in the research project understanding the risks and contributions of my participation, that my participation is voluntary, and that I may end my participation.

☐ A copy of this Informed Consent Form has been given to me for my records.

_____ _____

Signature of Participant Date

Researcher's Signature:

I have explained this study to the best of my ability. I invited questions and given answers. I believe that the participant fully understands what is involved by being in the study and any potential risks of the study, and that he or she has freely chosen to participate in the study.

_____ _____

Signature of Principal Investigator Date