# Leadership in the Digital Era: Modernizing and

# Transforming the Public Service

By Amy Fatma Amelia Kirtay

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# Dedication

This is dedicated to my parents, Bev and Niyazi. I'm forever thankful for the support that you've shown me and for the love of life-long learning which you passed onto me.

# Acknowledgements

Thank you to Dr. Gordon Gow for your suggestions, guidance, and steadfast support throughout this project. Thanks as well to my fellow 2019 MACT cohort members for all the support and encouragement. Additional thank yous to my sisters, Erin and Alanna, and my friends Asia and Darcie for all the encouragement, support, and inspiration.

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# Abstract

**Purpose:** The purpose of this study was to explore the competencies required for digital leaders and understand how post-secondary institutions are conceiving the concept through their curriculum and instruction. This study also sought to understand where there were points of consensus and divergence among educator-practitioners as to the competencies and concept overall.

**Design/methodology/approach:** A case study with in-depth, qualitative interviews that used grounded theory and employed a constant comparison approach to data analysis.

**Findings:** There was consensus among the majority of interviewees for the competencies required for digital leaders but differing opinions on the methods to provide instruction. Divergent opinions emerged around the concept of digital leadership with some suggesting that digital leadership should be synonymous with leadership and should be viewed the same as transactional leadership but with a technological element given the large role that technology plays in all aspects of an organization.

**Research limitations/implications:** Given the small sample size, more investigation would be warranted to understand how digital leaders are applying instruction into their public service environments and whether the consensus on the concept of digital leadership is applicable in other jurisdictions and countries.

**Practical Implications:** Suggests that technical skills are less relevant than an open mindset, willingness to try and ability to employ new ways of thinking into a workforce culture. Data also revealed that the particular leadership style used should be based on the context of the organization and the boundaries that exist within the culture.

**Originality/value:** Adds valuable insights into the concept of digital leadership and how postsecondary instructions are providing instruction on the topic.

**Keywords:** Digital government, Information technology, Digital leadership, Organizational digital transformation, Innovation

# Chapter 1: Introduction

In this digital age, citizens expect easily accessible and quick services from their governments. This has challenged public services around the world to transform and modernize their offerings to respond to these shifting needs. Given the infusion of technology into almost all aspects of an organization, digital transformation projects and initiatives are no longer a back-office function handled solely by information technology (IT) experts. As a result, business leaders with non-technical backgrounds are expected to make informed decisions around investments in technology and strategize future directions to ensure the organization is adaptable, nimble, and responsive.

The challenge of making data-driven decisions relating to technology, combined with the ability to ready and support the staff of the organization that is being transformed whilst maintaining service standards and operational requirements, cannot be understated. Highly publicized failures relating to public service investments in technology have revealed that an organization's context can be highly complex and fraught with issues that can hinder its ability to transform and modernize. Additionally, given that modernization and transformation can impact areas such as communication, technology, change management, culture, project management, operations, staff and revenue generation or collection, it suggests that this emerging field of digital leadership is multidisciplinary.

Given this, questions around the core skills, knowledge, competencies, and abilities that one needs to have to be a successful digital leader in the public service are raised. Additionally, the increase in new ways of working and approaches to the development of technology in the private sector have yet to fully diffuse into public services - the latter of which are traditionally

more bureaucratic and hierarchical. As a result, it highlights the need to ensure that digital leaders are equipped with the knowledge and skills required to be successful in this emerging area.

The purpose of this study was to explore the competencies required for digital leaders and understand how post-secondary institutions are conceiving the concept through their curriculum and instruction. This study also sought to understand whether there was consensus among practitioners as to the competencies and concept overall. At present, there is limited research into the current state of digital leadership training as it is an emerging field of instruction and there has been even less investigation into how the concept is being applied within the public service context. As a result, this study will add to the existing research by providing insights into the curriculum of existing digital leadership programs, competencies required for digital leaders and how these can inform the creation of a framework for developing internal talent within the public service.

While the results of this study are not intended to be statistically generalized beyond the case study, it can still provide valuable insights into the emerging concept of digital leadership and contribute to the body of knowledge relating to management of information systems (IS), organizational development, and leadership. Though this study specifically looked at the digital leadership concept in public services, there were many similar challenges facing the private sector and the literature revealed that lessons could be learned from this research and applied to a government context.

This study fits at the crossroads of literature relating to three key areas: IS, organizational development and leadership theories. IS literature covered topics such as digital transformation,

digital government, and new ways of working such as agile, scrum and lean. Organizational development literature highlighted topics such as organizational culture, change management and innovative cultures while leadership literature spoke to managing teams, leading change, and different leadership styles and practices in the workplace. Major concepts that have driven this study include Tim O'Reilly's Government as a Platform vision as well as platform ecosystem approaches to technology within large organizations. Additionally, leadership concepts such as Transformational and Transactional Leadership by James MacGregor Burns informed the development of this research.

To conduct this research, a case study approach was taken with in-depth interviews of selected participants representing five post-secondary institutions in both Canada and the United States. These participants were chosen as they provided instruction for business leaders in technology and business-related subjects, included multiple modules of instruction and were either specifically meant for public servants or included a module specific to digital leadership in public sectors. The qualitative data was analyzed using a grounded theory method followed by a constant comparison, open coding approach.

Grounded theory is an approach that promotes the importance of empirical fieldwork and the ability to create linkages between real-world scenarios to best understand the phenomenon (Denscombe, 2010, p.107). This approach was chosen as this research sought to understand the concept of digital leadership specific to the public service context. Additionally, given that this was a small-scale research project, it enabled the ability to constantly compare data against that which had already been collected to identify patterns and emergent themes.

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A survey of participants in training programs might have been taken, but it would not have been able to examine background assumptions and experts' reasoning for curriculum decisions with digital leadership training programs that are more likely to emerge during in-depth interviews. It also would not have allowed for further exploration of themes highlighted specifically by participants and thus, likely not produced as relevant results.

In sum, this research sought to understand how post-secondary institutions conceive of digital leadership and how the competencies for digital leaders are included in their programs. The research questions used to guide this study included:

- RQ1: To what extent is there an emerging consensus (or not) among educators and practitioners as to the competencies required for digital leadership?

- RQ2: How do different digital leadership programs compare in terms of how they envision digital leadership and related competencies in their curriculum?

It is a significant study as it adds to existing knowledge around digital leadership and the transformation of public services. The literature points towards a multidisciplinary approach to addressing the skills and competencies, and this study explored that phenomenon through a case study method coupled with a grounded theory approach to data analysis. This report will provide an overview of key literature followed by a review of the research design and methodology. It will then explore the findings and provide insights into the practical implications of the information gathered. The next chapter will review the findings from the literature review that was completed to understand this concept within the field of existing research.

# Chapter 2: Literature Review

## Introduction

Technology has profoundly impacted almost all aspects of how people live their lives. These changes have placed immense pressure on public services to adapt to changing expectations and technological trends. Additionally, there is a desire for citizens to engage with their governments through online media on a self-serve basis and participate in the co-creation of products and services. These shifts have resulted in organizational changes at the Federal and Provincial levels within Canada to ensure that public services are becoming digital governments.

To become digital governments, public service organizations must conduct digital transformation initiatives to modernize and evolve. Digital transformation is the enactment of "initiatives to explore new digital technologies and to exploit their benefits" (Matt, Hess & Benlian, 2015, p.339). It often "involves transformation of key business operations and affects products and processes, as well as organizational structures and management concepts" (Matt, Hess & Benlian, 2015, p.339). It's noted that digitally mature organizations typically have cultures that exhibit "an expanded appetite for risk, rapid experimentation, heavy investment in talent, and recruiting and developing leaders who excel at "soft" skills." (Kane, G., Palmer, D., Phillips, A.n., Kiron, D. & Buckley, N, 2016, p. 3-4). Various aspects have contributed to the rise of digital transformation including expectations set by private sector platform companies, rapid changes in technology and other social, economic, and political factors.

Canadian public sector organizations have traditionally struggled to successfully implement digital transformation projects. In 2009, the Federal Government of Canada started

the Phoenix Pay system project, which aimed to replace the 40-year-old legacy pay system that it had been using to pay its 290,000 employees. The digital transformation initiative took seven years to complete, cost $310 million, and resulted in years of pay problems (Office of the Auditor General of Canada, 2017) with unresolved errors amounting to over half a billion dollars (Office of the Auditor General of Canada, 2017).

The Ministry of Community and Social Services in Ontario launched the Social Assistance Management System (SAMS) in 2014 to provide social services to some of the province's most vulnerable. The system immediately began to make errors in calculating payments which resulted in overpayments of $20 million to 17,000 recipients (Why Do Projects Fail?, 2015). Additional problems included payments of incorrect amounts, inaccurate financial records and cheques sent to incorrect recipients and addresses (Why Do Projects Fail?, 2015). Unfortunately, this was not the first instance of a failed technology project being rolled out by the Ontario Government as in 2004, the system used prior to SAMS, the Service Delivery Model Technology (SDMT) system project ran over budget from $284 million to more than $500 million and suffered from many similar problems that SAMS experienced.

While these two examples highlight failed digital transformation projects within Canada, this is a global issue that many other governments are facing. The concept of Government as a Platform (GaaP) has been suggested as an approach to address these pressures, but limited research has been conducted to understand how public servants in leadership roles with decision-making authority over digital transformation initiatives can support and make changes required to move towards GaaP.

As a result, a variety of leadership approaches can be taken to implement initiatives to support GaaP but there is little understanding of the core skills and competencies required by leaders that are supporting organizations amid digital change. To better understand this phenomenon, this research study will explore the competencies required for public servants employed as digital leaders within their organizations supporting transformational initiatives. Additionally, a scan and evaluation of the curriculum included in digital leadership training programs will be reviewed to inform a framework required for the education and development of digital leaders.

The purpose of this literature review chapter is to examine and summarize the research that has already explored the factors influencing digital transformation, how organizations are driving digital change and the leader's role in supporting this shift. While the topic has been explored at length in the private sector context, this chapter will examine the implications for the public sector and how digital leaders must take a lead in creating the idealized organizational state. The goal of the literature review is to provide additional context on the research problem and validate the theoretical framework and methodological approach used to examine it through this study.

The contents of this chapter will include an overview of the study and methodology used to conduct the literature review. It will then provide a review of the literature through three key areas including the history of digital government and definition of digital transformation, the organizational culture required to support modernization and the role of the leader enacting change.

# Overview of the field of study & methodology of the literature search process

Several tools were employed to track and validate the literature to ensure the completion of a systematic library search. Various grey literature and academic article resources had been gathered throughout the Master of Arts in Communications and Technology (MACT) program and were used as a basis to develop initial key search terms. Through a review of the keywords listed within existing literature, three key themes were identified which informed the basis for the preliminary scan: IS, Organizational Design and Leadership.

## Search Methodology

IS is an academic discipline that "teaches those who build, acquire, operate and maintain the systems and those who use the systems" (Davis, 2006, p.11). It is primarily concerned with two aspects "driving the formation of a new organization function and the new technology-enabled systems in organizations" (Davis, 2006, p.11), including the availability "of powerful computer and communications technology" and "the desire of organizations to use the capabilities in organization work" (Davis, 2006, p.11).

Organizational Design speaks to designing organizations through human-centred approaches that value the staff and people within an organization. It's been noted that organizational design is often conflated with "financial and reporting structures" (Magalhaes, 2020, p. 482) but literature has noted that it should be a "superordinate theme of management education" (Magalhaes, 2020, p. 482) as it should be focused on items relating to "ethics, image, reputation, internal and external relationships, or societal roles" (Magalhaes, 2020, p. 482).

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Leadership theory is "an explanation of some aspects of leadership" (Oberer & Erkollar, 2018, p. 3) that has evolved as "leadership is a flexible developmental process with each new piece of research building on and seldom completely disregarding that which was derived before it" (Ahmed Khan, Nawaz & Khan, 2016, p.1). There are three categories for defining theories: leadership trait theories are concerned with explaining "distinctive characteristics accounting for leadership effectiveness", behavioural theories "attempt to explain the distinctive styles used by effective leaders", and behavioural contingency theories which "explain the appropriate leadership style based on the leader, follower, and situation" (Oberer & Erkollar, 2018, p. 3).

The research question and design which guided this study included literature that fell within three broad categories of IS, Organizational Design and Leadership. Given the emergent nature of digital leadership, the term itself can be subjective and examined from various perspectives. As digital leaders have direct oversight over changes relating to technology, literature relating to digital governments, platform ecosystems, and technical systems guide aspects of this study. Additionally, as leadership theories have evolved over time, they must continue to consider how leadership practices are being impacted by emergent technology. Furthermore, literature has suggested that digital transformation must acknowledge the impact to the organization including the context, culture, change, communication, people, processes, and other interpersonal aspects. As such, this study needs to examine the literature relating to organizational design and development.

Numerous pieces of grey literature were reviewed to better understand general concepts related to this study's topic. These included government documents, such as the United Nations Compendium of Digital Government Initiatives in response to the COVID-19 Pandemic, as well as provincial digital government plans from Ontario and British Columbia. Several books were

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also consulted including work by Everett Rogers, Harvard Business Review, Alex Benay, and Robert K. Greenleaf. It was prudent to include these pieces of grey literature as they were referenced within some of the journals and articles selected for this review.

## Organizing and Categorizing the Data

Content discovered through ABI/Inform and ScienceDirect databases were chosen for this literature review as they contain several journals with relevant information including the International Journal of Public Administration, Journal of Business Research, The Journal of Strategic Information Systems, and Government Information Quarterly.

Throughout the search, a mix of literature that focused on both the private and public sectors was chosen. There were limited journal articles that were specific to public service digital transformation and those that were, were often more internationally focused. Additionally, there is limited research on how Canadian governments are approaching digital transformation.

As literature was gathered, digital PDF copies of the articles were saved and numbered to assist in tracking. As articles were reviewed, a list of keywords was developed and updated as new and relevant terms were discovered. Each time a search was conducted, the date, location, term, and items found were noted. The first iteration of search terms assisted in preliminary searches and relevant content that was discovered was tracked through a Google Sheet spreadsheet. The spreadsheet developed into a document with tabs titled keywords, places to search, search history, criteria, draft, and potential interviewees.

Protocol and criteria were also developed and used to guide searches to inform which articles should be included in the literature review. These criteria included the title, author, date,

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and publication but also considered whether the literature was peer-reviewed, the age of the publication, number of citations, and number of other pieces of work by the author.

There were over 50 pieces of literature found which supported this research study. The articles were printed to develop a binder of resources, which were then thoroughly read to annotate and highlight key points. To begin the building of a narrative, a mind map was developed in Miro using keywords and key points to better understand the linkages between certain areas. This assisted in analyzing the literature itself and allowed the ability to look at the various themes strategically. The next section will provide a review and summary of the literature gathered throughout this process.

# Review of literature

## Digital Government

The origins of digital government can be traced back to the technology boom in the 1990s. Katsonis and Botros (2015) suggest that Digital Government has evolved from Electronic Government (e-Government) in the 1990s to Government 2.0 in the 2000s, to today's digital by default motto, which the United Kingdom's Government Digital Strategy defined as "digital services that are so straightforward and convenient that all those who can use them will choose to do so whilst those who can't are not excluded" (Government of the United Kingdom Cabinet Office, 2012, p.2). They also suggest that during this progression, "the governance, cultural and leadership challenges deepened" (Janowski, 2015, p.223). Mergel, Edelmann, and Haug (2019) suggest that e-Government can be defined as "the use of the Internet and information communication technologies to provide government information to citizens" (p. 3). While e-

Government efforts attempted "to make service delivery more efficient and accessible to citizens" (Mergel et al, 2019, p. 3) it generally was not focused on the creation of new business models.

Digital Transformation

The modern approach of digital by default has given rise to the term digital transformation. While digital transformation is an all-encompassing term, it is often incorrectly used interchangeably in literature with terms like digitization and digitalization. (Mergel et al, 2019, p.1).

Digitization is considered the first step in digital transformation as it takes existing analog processes and digitizes them. Typically, the transition is a "1:1 change in the delivery mode and the addition of a technological channel of delivery" (Mergel et al, 2019, p.12). This stage is not associated with any redesign or improvement and merely seeks to digitize and automate the existing processes, thereby making them available to citizens through a digital format (Janowski, 2015, p.226).

Digitalization is the use of technology to improve existing digital processes to support service delivery and is often the next step after digitization. It seeks to focus on "potential changes in the processes beyond mere digitizing of existing processes and forms" (Mergel et al, 2019, p.12). The digitalization stage is often seen as the beginning of transforming and improving the "internal process, structures and working practices of a government organization through the application of digital technology" (Janowski, 2015, p.226).

Digital transformation is required to ensure the evolution towards a digital government, whereby "the relationships between government and citizens, businesses and other non-

government actors" are transformed "using digital technologies" (Janowski, 2015, p.227). Vial (2019) suggests that while digital technologies enable the alteration of value creation paths to remain competitive, organizations must also "implement structural changes and overcome barriers that hinder their transformation effort" (p.122). Digital transformation results in changes to the delivery of services but also creates new ways of interacting with customers, like through social media and adapts products and services to shifting customer needs (Mergel et al, 2019, p.2).

The digital transformation stage is also seen as an attempt at engagement and part of a larger movement towards the implementation of digital by default and open government principles, which are aimed at "increasing the transparency and accountability of government operations and the operation of public service providers, and in turn building trust between citizens and institutions, and between the governed and the governing" (Janowski, 2015, p.227).

## Government as a Platform (GaaP)

Given the increasing expectations of citizens, some countries are attempting to take a GaaP approach to automate and expand their service delivery capacities to support digital transformation. The concept of GaaP is the use of "digital technologies to support the resolution of collective action problems at various levels through shared software, data, and services" (Margetts & Naumann, 2017, p. 1). The term was first developed by Tim O'Reilly. O'Reilly (2010) proposes that governments need to enable open standards to encourage innovation, focus on building simple systems that can respond and evolve as needs change as well as ensuring that systems are designed for participation, with the end citizen in mind. O'Reilly suggests that governments need to look at the success of platform companies like Amazon, Facebook, and

Google in their ability to "harness the power of its users" to "co-create its offerings" (2010, p. 13) and enable a participatory approach while using "technology to better solve collective problems at a city, state, national, and international level" (2010, p. 14).

The term platform-ecosystem is often associated with a GaaP approach. An ecosystem approach to public administration is required because each ecosystem encompasses a different sector, such as healthcare, education, corrections, etc. Jacobides, Cennamo, and Gawer (2018) suggest that platform ecosystems take a "hub and spoke form, with an array of peripheral firms connected to the central platform via shared or open-source technologies and/or technological standards" (p.2258).

Alex Benay (2018) suggests that existing policies, programs, services, and strategies must shift when going digital as "creating an ecosystem of government that ensures multi-channel service delivery becomes more important" (p.155). To create this platform ecosystem, a transformation of service delivery along with a reimagination of the traditional bureaucratic, hierarchical ways of working must take place within governments. Given this, there is more research required to fully understand what role the leader plays in enabling GaaP and how Canadian public sectors need to utilize their digital leaders to meet their strategic goals.

There is a misconception that digital transformation is a process only related to technology when in fact, it is also the transformation of business models, new ways of working and attempts to gain a competitive market advantage. It's suggested that this ability to quickly respond to new market opportunities "with innovative offerings is considered a critical advantage in today's business environment" (Mhlungu, Chen, & Alkema, 2019, p.7). It was also noted that while the concept of GaaP and the development of a platform ecosystem may seem

straightforward, there are significant organizational, cultural, and leadership challenges in the adoption of the approach (Katsonis & Botros, 2015, p.42). Given the lack of research into these challenges that may exist in Canadian governments, more investigation is needed to fully understand these barriers.

Public Value

Karp and Helg (2008) remark that public sectors are not driven by their profit-making ability, but rather by their "capacity to create sociality for its citizens" (p. 87). Public services are accountable to multiple stakeholders and need to balance out the needs of government, ministers, media in addition to their citizens (Karp, & Helg, 2008, p. 87). Cordella and Paletti (2019) note that "public agencies that adopt the GaaP configuration with the goal to increase citizens' satisfaction should not only consider the efficiency of the service production and delivery processes but the broader public value" (p.2).

Citizens also evaluate public services by considering the efficiency and effectiveness of services when engaging with their governments. Citing a report from The World Bank, Reddick & Anthopoulos (2014) suggested that government effectiveness reflects more than just the quality of public services, but also "the quality of civil services and the degree of its independence from political pressures, the quality of policy formulation and implementation and the credibility of the government's commitment to policies" (p.399).

Ensuring successful implementation and completion of digital transformation projects can assist in creating public value when governments "deliver collective goals that citizens define in the democratic process of political elections - what is defined by the authorizing environment" (Cordella & Paletti, 2019, p.2). However, the literature suggested that the direct

impact of creating public value for public services using technologies like open data, participation platforms, and smart city technology is a new area that needs further exploration (Criado & Gil-Garcia, 2019, p. 439).

Social, economic, organizational, and political pressures are constantly changing how governments develop innovative digital solutions. Janowski (2015) argues that "understanding and predicting such changes is important for policymakers, government executives, researchers and all those which prepare, make, implement or evaluate Digital Government decisions" (p. 221). As such, it's suggested that a multidisciplinary approach to this problem is taken given that "digital transformation is multidisciplinary by nature, as it involves changes in strategy, organization, information technology, supply chains, and marketing" (Verhoef, Broekhuizen, Bart, Bhattacharya, Dong, Fabian, & Haenlein, 2019, p.2).

## Organizational Culture

To support a move towards GaaP, the organizational context must be considered. Ke and Wei (2008) suggest that organizational culture is "the way people think, which has a direct influence on the ways in which they behave" (p.209). It can also refer to "a complex set of values, beliefs, assumptions, and symbols that define the way in which a firm conducts its business" (Martínez-Caro et al., 2019, p.2). Gochhayat, Giri, and Suar (2017) note that organizational cultures can be strong or weak and suggest that "organizations with a strong and deep-rooted culture perform more effectively than organizations with a weak culture (p.691). Most often, the more that staff agrees with, share, and commit to a set of common values and practices, the stronger the culture will be (Gochhayat, Giri & Suar, 2017, p. 692).

Bartlett and Ghoshal (1994) suggest that employees increasingly want to belong to an organization, as opposed to working for a company. As such, they stress the importance of the value of a committed employee and argue that the organization must work to establish a link between the company and its employees. They go on to say that if an organization's focus is "too narrow and self-intrinsic, it will eventually lose the excitement, support, and commitment that emerge when objectives are linked to broader human aspirations" (Bartlett & Ghoshal, 1994, p.88).

## Digital Cultures

To successfully implement digital transformation initiatives, Martínez-Caro et al (2019) suggest that a digital culture must be developed within the organization (p.2). Mhlungu et al. (2019) noted that their study "validates innovation – both in the form of culture and practice – as an underlying success factor of organizational digital transformation" (p.7). Guinan, Parise, and Langowitz (2019) note that a culture of innovation will support digital transformation by "introducing entrepreneurial process approaches that enable them to think and act more like a start-up" (p.722). Recurring themes in the literature show that organizations need to "cultivate a willingness to take risks and to experiment with digital technologies on a small scale before scaling these successful experiments to the rest of the organization" (Vial, 2019, p. 127). This suggests a culture that promotes agility and an iterative way of working.

Within the private sector, Agile methodologies are suggested to support "the ever-increasing speed of change of market conditions and the associated organizational flexibility that is now needed" (Parker & Holesgrove, 2014, p.115). Guinan et al propose that these methodologies are" typically characterized by cross-functional teams, flexibility and autonomy

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within teams, an iterative approach to understanding user needs and delivering products in a quick manner and encouraging constant feedback" (p.718).

This idealistic approach within the private sector has created challenges for adoption in the public sector. While these ways of working may not be new, Vial (2019) remarks that "the literature on digital transformation highlights the reality that in many instances, a significant chasm must still be crossed for these forms of collaboration to emerge and to fuse organizational and information systems strategy together" (p.127).

## The Role of the Leader

### A leader's influence

Tassabehji, Hackney, and Popovič (2015) suggest that the inability to successfully implement digital initiatives may stem from "a lack of understanding of the complexity of digital transformation and the relationships among technologies, information use, organizational context, and institutional arrangements" (p.224). As such, the leader must understand the interconnectedness of the ecosystem in which they operate.

Within the context of digital transformation, Vial (2019) notes that leaders must ensure that their organizations "develop a digital mindset while being capable of responding to the disruptions associated with the use of digital technologies" (p.129). A leader's ability to support their organization through the change associated with digital transformation was a recurring theme throughout the literature. This is particularly prevalent for governments, "where issues and dilemmas caused by conflicting values and multiple options, and a variety of stakeholders are the norm" (Karp & Helg, 2008, p. 86).

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The literature pointed to organizational culture as a key factor in determining whether an organization would be able to effectively implement digital change. Martínez-Caro et al (2019) suggest that "organizational culture has been adopted in information systems research to explain the effects of culture on process management or the impact of information and communication technologies on work environments" (p.2).

Kutnjak and Pihir (2019) note that since digital leaders are tasked with transforming the traditional organization into a digital one, they must also consider how they are generating new value for the end-user (p.136). They suggest that if leaders are not assertive, risk-averse, have a fear of change, and don't have appropriate resources, they will not be able to easily implement digital transformation within their organization (p.139).

Cortellazzo, Bruni, and Zampieri (2019) suggest that leaders must establish three foundational building blocks for developing their organization. These are creating a connected and open work environment that encourages engagement at any hierarchical level and units; gathering knowledge from the customer by focusing on user experience, and by taking a relationship-focused approach to creating a network with both partners and competitors. They suggest that organizations need to be "boundaryless" (p.9) as in flat or decentralized structures which emphasize an egalitarian, instead of hierarchical, approach.

Sainger (2018) suggests that successful digital transformation within an organization depends on how "digital transformation leaders of that organization accept and infuse a work culture where digital technology is used as a tool for synthesizing information in real-time rather than being solely dependent on technology" (p.2). Sainger (2018) goes on to say that a leader

must create an environment for digital transformation and prompt their stakeholders towards action to achieve business objectives (p.3).

Lawrence (2015) remarks that the leader's ability to create an environment for digital transformation stresses the importance of communication skills to ensure that they can "understand others' perspectives, to tailor the message to the audience and to assess issues in a non-judgmental fashion" (p.247).

### Existing Digital Leadership Frameworks

One of the few definitive frameworks for the competencies required for public service leaders has emerged from the Master's Syllabus for Teaching Public Service in the Digital Age - a collaborative effort between educators and practitioners that provide instruction in public policy and administration. The Syllabus outlines eight core competencies for Digital Leaders stating that they should exemplify qualities such as collaboration; designing with users; the anticipation of privacy and security risks; the ability to blend digital skills with traditional public service skills; value iteration and feedback loops; can identify opportunities to enhance service delivery; uses a variety of tools and techniques; makes data-driven decisions; and understand "the current and evolving affordances of digital technologies and can assess how they can be used to improve public outcomes" (Teaching Public Service in the Digital Age, n.d.).

## Analysis of Findings

The literature has noted that the approach towards digital transformation has been evolutionary with implementation in the government building on best practices in the private sector. This evolution has happened due to factors such as technological advancement, service

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delivery standards set within the private sector by platform companies and shifting needs from citizens and staff. The failure of digital transformation initiatives by governments to respond to various needs have impacted trust in governments and required public services to rethink how they are providing public value to citizens.

The promotion of platform ecosystem approaches to enable GaaP has raised questions around the role of the organizational culture and the leader's role in promoting the ideal environment to support modernization and transformation in governments. Research into leadership styles and traditional business practices are numerous but the consideration of how these practices and styles are applied within public services as an effort to become digital is limited. It's been indicated that digital transformation impacts four key areas within an organization: "use of technologies, changes in value creation, structural changes, and financial aspects." (Matt, Hess & Benlian, 2015, p.340). But while successful private sector organizations can balance the change in the four key organizational areas whilst also creating new business models and embracing new ways of working, there is limited understanding of how these concepts are applied in government.

The literature review revealed numerous gaps in the applicability of these approaches in the public service and best practices for leaders in this space. While individual leadership skills and abilities relating to the development of organizational culture or the technical aspect of digital transformation were noted, the combination of these perspectives in the public service context was limited. This raises questions around how leaders can support their organization as they move towards GaaP and what skills they need to exemplify to be successful in the creation of a culture to support transformational changes. The literature has noted the large role that digital leaders play in enabling transformation within their organization but how do these leaders

develop the required skills, knowledge, and competencies? More exploration is required to understand how public servants play a role in digital transformation and how leaders must consider them within the transformation of an organization.

As a result of these gaps in the literature, this research sets out to understand what competencies are required at the senior leadership level within organizations in flux, what training is available for them and where organizations can acquire this knowledge and a general inquiry on the state of training and competency development for digital leaders. These gaps have highlighted how literature from the three areas of IS, Organizational Design and Leadership studies combine to make a strong foundation for this research study.

## Theoretical Framework

The theoretical framework used to guide this research is the Transformational and Transactional Leadership theory first conceptualized by James MacGregor Burns and further developed by Bernard Bass. Bass argues that "transformational leaders inspire, energize, and intellectually stimulate their employees" (Bass, 1990, p. 19) and that leaders with transformational traits were "more likely to be seen by their colleagues and employees as satisfying and effective leaders" (Bass, 1990, p.21). Bass also noted that transformational leaders were seen as high performers and their organizations often were more financially competent (p.22).

Based on this theory, this research sought to understand whether a transformational leadership approach by digital leaders was more conducive to creating the ideal organizational culture and environment to support digital transformation. It also raised questions around what skills, behaviours and traits are relevant for digital leaders and whether they signify a

transactional or transactional leadership approach. All of these questions and opportunities for further inquiry present an ample opportunity to research this phenomenon and add to existing literature around the leader's role in modernization and transformation of governments.

## Summary

The purpose of this chapter was to examine and summarize the research that has already explored the factors influencing digital transformation, the organizational culture required to support this public service modernization and the digital leader's role in supporting this shift. The goal of the literature review is to provide additional context on the research problem and validate the theoretical framework and methodological approach used to examine it.

The key findings from the literature review indicate that digital transformation is a progressive and evolutionary process driven by various factors. While Governments are facing similar challenges to the private sector, they have additional constraints such as organizational culture and providing public value, among others. The literature points to the need for a specific organizational culture that promotes new ways of work and embraces the use of new technology to create innovative environments. It also notes that the role of the leader is crucial in the establishment of a culture and that there are different leadership styles, traits and behaviours that can impact staff.

As a result, these findings have informed the design of this research study and guided the theoretical approach chosen to assist in explaining the phenomenon of digital leadership. The research questions that will guide this study include:

- RQ1: To what extent is there an emerging consensus (or not) among educators and practitioners as to the competencies required for digital leadership?

- RQ2: How do different digital leadership programs compare in terms of how they envision digital leadership and related competencies in their curriculum?

The next chapter will outline the research methodology and design developed to conduct this research and will be followed by a chapter that reports on the research findings gathered through this study.

# Chapter 3: Research Design and Methodology

## Introduction

Governments around the world are having to transform in response to socio, economic and political pressures. With the use of smartphones and 5G technology expanding rapidly, citizens come to expect to be able to access various services using various media on a self-serve basis. This is increasing pressure on governments to transform their services and increase the availability of digital service delivery channels.

The challenges of transforming such large, often bureaucratic organizations are not to be understated. To address these increasing demands, the literature is pointing towards a GaaP approach for providing government services. The vision is a digital government, and digital transformation is required to achieve this vision. To do so, a full transformation of existing analog and digital products and service delivery must take place.

With this being the case, it raises questions around how leaders of public service organizations can assist in this transformation and what kind of competencies are required from senior leadership levels as part of that transformation. Additional questions emerge around what types of training are available and how organizations find the training to develop their digital leaders.

This chapter will provide an overview of the research design and methodological approach for this case study, which seeks to understand the competencies for digital leaders and how different digital leadership programs model it in their curriculum. The research problem and research questions will be reviewed and an explanation of how the theoretical frameworks are

applied to the research and analysis will be provided. The rationale for a case study mixed-method approach will be outlined in addition to the data gathering methods and subsequent procedures used to select digital leadership programs reviewed in the preliminary scan and interview participants. The tools used in this research for data gathering and analysis will be reviewed along with a description of the coding scheme that was developed to analyze the data. Lastly, the strategies employed to ensure reliability and validity will be presented in addition to any challenges and limitations of this research.

The research questions to guide this study are:

- RQ1: To what extent is there an emerging consensus (or not) among educators and practitioners as to the competencies required for digital leadership?
- RQ2: How do different digital leadership programs compare in terms of how they envision digital leadership and related competencies in their curriculum?

This research seeks to understand what the current state of training and competency development is for digital leaders and develop a framework for the instruction of digital leaders. To answer this question, a case study with document-based research and in-depth interviews to generate data analyzed using a grounded theory approach with a method of constant comparison. Participants were chosen from both public and private institutions currently providing formal instruction in digital leadership. This chapter will outline the design of the research and provide more details of the theoretical frameworks being used to explain these phenomena.

## Design

For this study, a case study approach was used to understand the competencies required for digital leaders. A case study method is ideal to study topics in greater detail to "discover things that might not have become apparent through more superficial research." (Denscombe, 2010, p.53) A case study method can utilize "multiple and not singular sources of evidence" (Yin, 2011, p.4), thereby, being more "holistic" rather than just investigating "isolated factors" (Denscombe, 2010, p.53). This is particularly ideal for this research as there were multiple sources of data identified as being valuable for an explanation of digital leadership competencies.

The case study approach also values the context and "other complex conditions related to the case(s) being studied" (Yin, 2011, p.4) to better understand how they impact the overall case. The context is particularly important to the explanation of digital leadership as this research has sought to highlight the particular areas which warrant attention for leaders within government organizations.

A single case study was chosen for this research as the objective was to capture "the circumstances and conditions of an everyday or commonplace situation" (Yin, 2003, p.41) as the "lessons learned from these cases are assumed to be informative about the experiences of the average person or institution" (Yin, 2003, p,41).

### Theoretical Framework

Over time, leadership theories and styles have advanced to promote "context and the follower and toward practices that concentrate further on the exchange between the followers and leaders." (Ahmed Khan, Nawaz & Khan, 2016, p.3). As noted in the literature review, this

research works within the framework of the Transformational and Transactional leadership theory. According to James MacGregor Burns, Transformational leadership is a process by which "leaders and followers help each other to advance to a higher level of morale and motivation" (Rao, 2014, p.150). Through this approach, the leader seeks to develop their followers "who, in turn, develop their organizations by accomplishing the determined goals and objectives" (Rao, 2014, p.150). Transformational leaders focus interactions with followers on their "common values, beliefs and goals" (Ahmed Khan et al, 2016, p.3) and work together to achieve a shared vision.

Transformational leadership is associated with four dimensions including idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. By "inspiring followers to take their leader as a role model" (Ahmed Khan et al, 2016, p.4), they "instill self-confidence onto others" (Ahmed Khan et al, 2016, p.4). Through inspirational motivation, leaders provide increased autonomy for their followers and encourage them in their development. Leaders that seek to intellectually stimulate their followers create spaces for engaging with creativity and accepting challenges as part of their job. (Ahmed Khan et al, 2016, p.5). Additionally, through individualized consideration, the leaders consider their followers as "fundamental contributors to the workplace." (Ahmed Khan et al, 2016, p,5). It's suggested that "transformational leaders are often highly visible and known for their passion and energy in all aspects of their work" (Batista-Taran, Shuck, Gutierrez, & Baralt, 2009, p.17).

Adversely, transactional leadership is exhibited when the "leader relies heavily on passive management-by-exception, intervening with his or her group only when procedures and standards for accomplishing tasks are not being met" (Bass, 1990, p.20). This leadership style is composed of three components "contingent reward, management-by-exception (active) and

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management-by-exception (passive)" (Ahmed Khan et al, 2016, p,3). Ahmed Khan et al (2016) suggest that leaders employing a transactional approach use contractual agreements to motivate and use rewards to enhance their followers' motivation.

Bass (1990) notes that transformational leadership is not a solution for all organizational issues and suggests that in certain instances, a transactional approach may be more effective. He states that "if the technology, workforce, and environment are stable as well, then things are likely to move along quite well with managers who simply promise and deliver rewards to employees for carrying out assignments" (Bass, 1990, p.30). Given that digital transformation creates environments that are not stable, it raises questions about whether transformational or transactional leadership is more effective for modernization and transformation. Subsequently, this theoretical framework provided guidance for looking at the competencies required for digital leaders and to understand the key attributes required to successfully lead digital transformation initiatives.

## Participants

To determine the participants for this research, a preliminary scan of digital leadership programs was completed. Through this scan, the program heads of five digital leadership programs were chosen for further examination based on their suitability and characteristics based on criteria that were developed. The inclusion criteria for digital leadership programs included those which were:

- Focused on business leaders
- Contained instruction in both technology and business-related subjects

- Were specifically meant for public servants or included a module specific to digital leadership in public sectors

- Developed for business leaders with multiple modules of instruction

Digital leadership programs were excluded if they were:

- Not currently being offered or if their content was under revision

- If the program did not have multiple modules or courses for instruction

Digital Leadership programs were also excluded if they were promoted by organizations that did not have some level of academic rigour around the curriculum. These included programs developed by for-profit companies. those that provided resources for free online or enabled the co-creation of curriculum from participants.

A total of 15 post-secondary institutions were contacted as not all of the first five programs chosen were able to participate in this study. Recruitment of five interview participants and consent to participate in the research was completed through email, due to concerns with social distancing from the COVID-19 pandemic.

The systematic review of programs was completed online over the course of multiple searches and then entered into an excel spreadsheet (see Appendix A). The information gathered that informed eligibility for inclusion was the location, total length, course length, total hours of instruction, whether there was a certification or statement of completion offered at the end and the delivery method. The courses as well as their syllabi were publicly available, were gathered and considered as well. Denscombe notes that publicly available documents gathered through the internet can be considered as a form of data (p.219). Denscombe goes on to state that documents

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gathered through systematic searches can be used as an "alternative to questionnaires, interviews or observations" (p.216).

## Setting

The data collection technique that was used for this research was in-depth interviews conducted and recorded using Google Meet's video conferencing software. Online interviews can be helpful when the interviewer and interviewee are not co-located and the use of video conferencing "allow for an interview that closely resembles the natural back-and-forth of face-to-face communication, including verbal and non-verbal signals" (Salmons, 2012, p.2) In this instance, the use of Google Meet allowed for more personal conversations by emulating a face-to-face interview in a virtual environment. This setting was conducive for this study as it enabled the ease of recording and the sharing of information through a text chat box in the video conferencing software. By using video conferencing software, it removed any barriers that could have been introduced by telephones, whereas the participant is unable to see my face or body language.

That said, there are downsides to the use of videoconferencing for interviews as "the human qualities so important to interview communications are experienced differently; the technology delimits the form of the communication in ways both subtle and obvious" (Salmons, 2012, p.2). While the setting for this research was largely determined by the COVID-19 pandemic, it could have been completed through face-to-face interviews, but it would have constrained the number of participants based on geographical location and physical availability.

For this study, the virtual setting of the in-depth interviews allowed participation from interviewees located across North America and not just those within travelling distance of the researcher's physical location. This also allowed for the diversification of data gathered and enabled a broader view of the phenomenon as opposed to the phenomenon as it is perceived in a specific physical location.

Once the interviews were completed, they were transcribed and analyzed. Denscombe suggests that in-depth interviews are ideal when "applied to the exploration of more complex and subtle phenomena" (p.173) or if there is a need to "gain insights into things such as people's opinions, feelings, emotions and experiences" (Denscombe, 2010, pp.173). This technique was ideal for this research as the individuals being interviewed had "a personal stake or interest in the matter at hand" (Wheeler, 2021). As a result, it allowed the gathering of data that was responsive to this study's research design as the flexibility afforded through in-depth interviews allowed "for unexpected themes or issues to be explored"(Wheeler, 2021). Additionally, exploratory or probing questions were used to further investigate ideas that organically came up during the interview.

## Instrument

The main instrument for this study included an interview guide with two research questions. Each research question was supported by three or four main questions and additional sub questions, which were used as prompts if participants strayed off course during the conversation.

Research Question 1 focused on the theoretical concepts such as the definition of, and competencies required, for digital leaders to understand whether there was a consensus. The

characteristics delved deeper into the concepts and were guided by themes and codes that emerged through the preliminary scan of digital leadership programs, the generation of keywords from the program content, and the literature reviewed. The theoretical framework was used to inform the main questions relating to leadership styles and traits. The main questions used support this query included:

- Tell me what you think digital leadership is?

- Tell me a bit about what digital leaders need to have as core competencies?

- What leadership styles do you think are valuable for digital leaders?

Research Question 2 was focused on how the post-secondary schools were applying the concepts in their curriculum, evaluating the participants, and determining the impact of their education on students. The main concepts viewed included materials and evaluation with the questions informed by syllabi and publicly available course content discovered through the preliminary scan. The main questions used support this query included:

- How do you determine the course content you include in the program?

- What types of organizational barriers are you instructing digital leaders to be aware of?

- How do you evaluate the participants that apply?

- How do you understand the impact and benefit of this instruction to the individual and their organization?

## Procedures

The procedure to conduct this study was divided into two parts to gather enough information on the salient issues to develop informed interview questions.

Part one consisted of a preliminary Google search of digital leadership programs. The information gathered was used to develop inclusion and exclusion criteria to determine the most notable attributes of digital leadership programs. A list of post-secondary programs for consideration in this study was completed and compared against the criteria with 15 programs considered for inclusion. From there, the syllabi and course instructions for each program were reviewed to inform a list of keywords. Public service competencies for the governments of Alberta, British Columbia, and Ontario were also consulted. This search was able to identify the most prominent keywords from the digital leadership programs as well as the most commonly identified competencies from Canadian provincial governments. This information was used to develop the questions which were used for the in-depth interviews.

The second part of the study consisted of interviews with leads of five different public and private post-secondary institutions providing instruction on digital leadership. The recruitment process for this study included contacting potential interviewees by email and providing them with an overview of the study. If the participants were willing to participate, they were provided with a consent form by email to review, sign and return to the researcher. An interview was then scheduled at the participant's convenience and completed using Google Meet. The interviews opened with a review of the consent form and an opportunity for participants to ask any questions or withdraw if they did not wish to participate any further. Once the researcher

had validated participants' understanding of the consent form, the interviews commenced and lasted up to one hour.

The interviews were recorded, transcribed, and subsequently analyzed using grounded theory and a constant comparison analysis. The preliminary scan was chosen to understand the salient points related to digital leadership and the basis for the interview questions was developed through the theoretical framework, an understanding of the framing used throughout the courses and program overviews. The first scan and exclusion of programs that did not fit the identified criteria ensured that the programs most suitable for this research were reviewed, which went on to inform the selection of participants for the interviews.

## Ethics

The University of Alberta Research Ethics office suggests that publicly available information, such as that found on the interview, is exempt from ethical review as there is "no reasonable expectation of privacy" (University of Alberta, 2021). As such, all information that was gathered during the first phase of this research was exempt from ethical review. To support the second phase of this research, a Research Ethics Board (REB) 1 application was completed to allow for in-person interviews. This was submitted and approved through the University of Alberta Research Ethics Board 1.

# Analysis

The data gathered through the in-depth interviews was analyzed using the constant comparison method and grounded theory qualitative data analysis technique. Grounded theory is an analysis method and is appropriate for small-scale research studies. Denscombe notes that the

grounded theory approach is important for "social research which focuses on human interaction" (p.110) and that its purpose is "to generate theories, not to test them" (pp.110-111). This approach prompted the in-depth exportation of particular topics from interviewees and allowed theories to be generated throughout the data collection phase. This approach was appropriate for this research given the small sample size and provided an opportunity to explore items brought up by participants in more detail throughout the interview conversation.

As a result of using a grounded theory and constant comparison method, the analysis was iterative and evolved based on the information gathered throughout the interviews. This allowed for space to review and understand the content provided by key informants before the completion of the next interview. The constant comparison approach allows "each interpretation and finding" to be "compared with existing findings as it emerges from the data analysis" (Lewis-Beck, Bryman, & Futing, 2004). Denscombe suggests that this approach is similar to "how a detective follows a lead" (p.108) and that it's important to go into this type of research with an open mind. By taking an open coding approach to analyzing the data, this study was able to seek connections and relationships between the codes found through the analysis and as a result "allow certain codes to be subsumed under broader headings and certain codes to be seen as more crucial than others" (Denscombe, 2010, p.115).

The steps taken to analyze the data included coding and categorizing the raw data gathered from the unstructured interviews while consistently comparing the new codes and categories. The new data was then juxtaposed against what had already been collected to develop concepts and theories grounded in the data.

## Reliability and Validity

Reliability and Validity are crucial for ensuring that the research process is defensible and credible. Validity refers to the ability to accurately measure what the study sought to discover while reliability speaks to a neutral research instrument that will produce consistent and reliable results. Given the data collection techniques and methods, the impacts of the lead researcher also acting as the interviewer, as well as the context through which the interviews were conducted, had to be considered. Any concerns in these areas can lead to concerns around the reliability of the data. To ensure that the process for this research was auditable and defendable, this study provided "as much detail as possible the lines of inquiry that led to particular conclusions" (Denscombe, 2010, p.300). Additionally, the two parts of data gathering, allowed the information gathered to be validated against other sources to ensure reliability.

To ensure the validity of the data, triangulation of information was used between the preliminary document scan, literature review and the data gathered and analyzed from the interviews. Additionally, using a grounded theory approach with the data analysis added validity to the research by constantly comparing conclusions that were made from the information gathered.

## Challenges and Limitations

Throughout this research, there were a few challenges and limitations noted. Not all of the top five participants were able to participate in this study so additional key informants had to be contacted to ensure five different perspectives were included. As participants were located in different areas within North America, there were sometimes challenges with scheduling to

coordinate time zones. Additionally, some participants referred the researcher to helpful resources instead of responding to questions which resulted in repeating questions to have the informant vocalize their perspective.

Furthermore, since there was only one researcher coding the data, the information was only interpreted from one perspective. While the information was triangulated and validated through a constant comparison approach, it was not confirmed from multiple perspectives. Additionally, because of the qualitative data analysis technique taken, the analysis was research centred and the researcher's values and experiences could be seen as factors influencing the analysis, as suggested by Denscombe (p.273).

## Summary

This chapter has summarized the overview of the research design and approach for this case study exploring the competencies of digital leadership. The research questions guiding this study include:

- RQ1: To what extent is there an emerging consensus (or not) among educators and practitioners as to the competencies required for digital leadership?
- RQ2: How do different digital leadership programs compare in terms of how they envision digital leadership and related competencies in their curriculum?

In addition to a review of the research problem and questions, an explanation of how the theoretical frameworks were applied was provided. The tools used for the data gathering and analysis were noted as well as strategies used to support the reliability and validity of the

findings. The next chapter will discuss the findings from the data gathered and discuss their implications in this research.

# Chapter 4: Findings and Discussion

## Introduction

Shifting citizen expectations regarding service delivery and accelerated technological advancements indicate a need for public services to modernize to meet changing needs. It's suggested that by using the digital tools and ways of working currently used in the private sector and attempting to embrace a platform approach to service delivery, governments can provide citizens with better services and that in turn can lead to other positive impacts. This presents opportunities to investigate what leaders, with oversight on digital transformation initiatives in the public service, need to exemplify in terms of competencies, skills, traits, and behaviours to be successful.

Using a case study approach, this research study attempted to answer the following research questions:

- RQ1: To what extent is there emerging consensus (or not) among educators and practitioners as to the competencies required for digital leadership?
- RQ2: How do different digital leadership programs compare in terms of how they envision digital leadership and related competencies in their curriculum?

The findings of this qualitative study depict data generated through five in-depth interviews with leads of digital leadership post-secondary education programs from public and

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private institutions. Four of these institutions were located in Canada and one was located in The United States. Three provided instruction that was specific to municipal, provincial / state, or federal governments while two provided more general instruction on digital leadership.

The one-hour interviews were conducted over Google Meet between April and May 2021. The video calls were recorded, transcribed, and saved onto a password-protected University of Alberta Google Drive account. From the data, four main competency themes emerged for Digital Leaders, including:

- Strategy

- Organizational Business

- Leading Others

- Personal Leadership

Additionally, the data gathered indicated insights on the topics and barriers being taught through the program curriculum, how they're providing instruction, the types of students enrolled in the training, and the evaluation and understanding of the impact of instruction. This chapter will present this information through five sections: data analysis, data presentation, and findings, key themes, a discussion of results, and a final summary.

# Data Analysis

## Method

The research design and method for this case study employed grounded theory to transcribe and analyze content from the interviews. Grounded theory is a methodology employed

in both qualitative and quantitative studies that seek to "to discover or construct theory from data, systematically obtained and analyzed using comparative analysis" (Chun Tie, Birks & Francis, 2019, p.1). Chun Tie et al (2019) suggest that grounded theory is typically carried out through techniques such as purposeful sampling, collecting data, coding and constant comparison analysis.

Denscombe (2010) notes that the grounded theory approach "emphasizes the importance of empirical fieldwork and the need to link any explanations very closely to what happens in practical situations in the real world" (p.107). This approach was employed as it is suited to small-scale research, is applicable and pragmatic with themes "developed with constant reference to empirical data." (Denscombe, 2010, p.121).

This study was able to apply the core principles of grounded theory through multiple means including purposive sampling to choose potential educational institutions deliberately based on their ability to contribute to the research. This research also took a cumulative approach as each interview was conducted individually and enabled the transcription and review of the data before the next interview. Additionally, an open coding approach was used, which Denscombe suggests "are open to change and refinement as research progresses" (p.115). By doing this, relationships between codes could be discovered, constantly compared and adapted as interviews progressed.

## Procedure

All interviews for this research were conducted virtually using Google Meet. The interviews were transcribed by hand and all files were kept on the researcher's University of Alberta Google Drive account. This study followed an inductive coding approach which includes

the phases of (1) reviewing the text; (2) generating codes; (3) defining themes; (4) continued

revision and refinement of categories (Thomas, 2003, p.5).

Once the participants had reviewed and validated the transcripts, they were read through

numerous times and key statements or concepts were highlighted (Figure 1).



Figure 1: Highlighting of key statements and concepts

From there notes were made on relationships between ideas or statements from other

participants before moving selected text into a new document to begin generating codes. The text

was then refined to only include the points which supported the research questions. From there,

the codes were organized into repeating themes and included relevant quotes to ensure the

relation of themes to the original comments from participants (Figure 2).

| RQ1: To What extent is there emerging consensus (or not) among educators and practitioners as to the competencies required for digital leadership? | | | | | |
|---|---|---|---|---|---|
| | | 5 | Theme | Key Quotes | Thoughts |
| Definitions: Digital Leadership / Digital | Tell me what you think digital leadership is | Digital isn't just technology, Digital is just as much the cultures, processes and practices | Culture People Process Practices | QUOTE: "I think there is this notion that digital is more than just the technology and there is a set of cultures, practices and processes that go along with it." | |
| | | Using technology to respond to citizen's raised expectations | Using technology effectively | QUOTE: "I think core to that [digital] is this notion of being user centric, about being agile, and really flipping on its head a lot of the traditional ways that the government works and operates." | |
| | | Digital is not just technology. It's one piece of an entire ecosystem (culture, practices, processes etc) | Ecosystem | | Comes back to ecosystem |
| | | User centricity and agile ways of working are contrary to many traditional government ways of working | User centricity Agile Non traditional ways of working | QUOTE: "I think that this is the starting point; if we are truly going to become a digital era organization, it requires a very different way of problem solving and approaching some of these challenges" | |
| | | It's not just technology or just culture, it's all of it together Can't be one or the other | Technology Culture | | Just like leadership styles - must look at it strategically and holistically |

Figure 2: Organization of codes with relevant quotes

The codes developed from all of the interview data were then combined into one sheet to

analyze holistically and for comparison (Figure 3).

| RQ1: To What extent is there emerging consensus (or not) among educators and practitioners as to the competencies required for digital leadership? | | | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| | | Theme | Theme | Theme | Theme | Theme |
| Definitions: Digital Leadership / Digital | Tell me what you think digital leadership is | Change Management | Authentic | Digital government = government | Boundaries | Applicable to all No matter the hierarchy |
| | | Culture | Digital Definition | Evolution Journey | Business and IT Strategy | Baseline understanding Technology advocate |
| | | Governance Ecosystem | Digital definition | Government in digital era | Challenge status quo | Context Strategic |
| | | Momentum | Empathy | Iteration Continous learning | Culture Innovation Continous improvement | Culture People Process Practices |
| | | Multi-speciality | Empowering | Not temporary | Ecosystem | Ecosystem |

Figure 3: Comparison analysis of codes across all interviews

## Reliability and Validity

According to Denscombe (2010), for research to be credible, "it needs to demonstrate that the findings are based on practices that are acknowledged to be the basis of good research" (pp. 297-298). Golafshani (2003) suggests that validity is important to understand "whether the means of measurement are accurate and whether they are actually measuring what they are intended to measure" (p. 599).

Reliability refers to the neutrality of the research instrument to ensure consistency and replicability of results (Denscombe, 2010, p.298). Golafshani cautions that while a researcher may be able to show that the research instrument created repeatable results, the instrument itself may not be valid (p.599).

Both reliability and validity are crucial for ensuring trustworthy data that is unbiased and this study undertook several steps to meet these conditions. To avoid sample bias, this study invited input from 15 different educational institutions located in Canada, the United States, the United Kingdom, and throughout Europe that met the criteria for inclusion. That said because a cumulative approach was taken to analyze the data, it could have introduced bias into the process.

While general themes were provided to the participants in advance, they were not provided with the research questions before the interview. Each interview was conducted in the same manner, with the same questions, to ensure consistency. To test for clarity, after each interview was transcribed the participants validated the data and provided input to ensure accuracy in capturing their comments.

Given that the interviews were semi-structured, the questions often elicited "more open-ended, rambling responses that often require several codes simultaneously" (Campbell, Quincy, Osserman & Pedersen, 2012, p.297). To address this, this study employed an inductive approach to determining themes and linked them back to the data. Patton (1999) suggests that a researcher should determine "patterns, linkages, and plausible explanations through inductive analysis" (p.1191) and then look for "other ways of organizing the data that might lead to different findings" (p.1191). Throughout the analysis procedures, the data was first organized alphabetically to see how often patterns occurred. It was then reorganized into categories and further refined into themes that emerged from the patterns noted. This assisted in viewing the themes and patterns from multiple perspectives and allow for validation.

# Findings

For this research, post-secondary programs that provided training in digital leadership and digital transformation (with a leadership focus) were included for review. The participants were either Program Heads or Leads of the programs and were able to speak about the curriculum, mode of delivery, type of students and other factors that made their offerings unique. The interview guide contained two main questions with three or four sub-questions exploring their understanding of the digital leadership consent and how it was exhibited in their curriculum. The following will provide an overview of the findings developed from the data gathered during this study.

## Research Question 1

To what extent is there emerging consensus (or not) among educators and practitioners as to the competencies required for digital leadership?

## Definition of Digital

Two of the participants indicated that before teaching students about digital leadership, they first define what they mean when referring to digital. Both noted that they use the Tom Loosemore, the former Deputy Director of the UK's Government Digital Services, definition which states that digital is "applying the culture, practices, processes & technologies of the Internet-era to respond to people's raised expectations" (Green & Hunt, 2017).

The following quotes reflect their comments on this definition in their curriculum:

- "In all of the content that we have designed and that we deliver, we begin with that question around "what does digital mean?". And we generally leverage the Thomas Loosemore (founder of the UK Digital Office) definition." (Participant 2)
- "I think there is this notion that digital is more than just the technology and there is a set of cultures, practices, and processes that go along with it." (Participant 5)

## Definition of Digital Leaders

There were varying responses for the best way to define a digital leader with some participants expressing confidence in the definition while others suggested that it is a term with multiple meanings. One participant indicated that "digital leadership is a reimagining of what could be, given existing and emerging capabilities. And then inspiring the change, leading the change, initiating and influencing that change to gain momentum and then seeing it through."

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(Participant 1). Another participant suggested that it was more about the "behaviours required by our executives and our leaders to enable their organizations to deliver on digital government." (Participant 2).

But there was divergence in the definition with one suggesting that "being a good digital leader is not separate from being a good leader." (Participant 5). Similarly, Participant 3 indicated that the leadership component "is not understanding the technology (per se), it's about understanding what the management processes are that one can use in an era where you have those tools at your disposal - even if you don't know how to use the tools yourself." (Participant 3). Both Participants 3 and 5 suggested that competencies for business leadership were transferable to digital leadership.

## Competencies

### Strategy

All participants indicated that digital leaders needed some awareness of strategic leadership-related competencies. The ability to develop a vision and strategy then implement it, whilst balancing it with competing needs, was highlighted as important. One participant highlighted that digital leaders must be able to balance both growth and change and their impact on the organization:

- "As soon as you start making technology a part of your operation and your culture, that means you're constantly going to be evolving because technology is not static, and it is always changing" (Participant 1).

Participants also noted that digital leaders must value different perspectives and consider them as part of the decision-making process, particularly if promoting data-based decision-making. One participant summarized Strategic Leadership competencies by stating:

- "It's that strategic thinking about your existing situation, understanding that situation and understanding technology that you have, understanding the possibilities within that technology that are happening. Then thinking strategically also means that you understand that there are some larger decisions that will determine the underlying structure of that organization" (Participant 4).

## Organizational Business

Participants also noted that Strategic Leadership needed to be balanced with organizational and business outcome-related competencies. Participant 5 suggested that "as leaders, how do you need to change your organization to adapt to the digital world?". It was expressed that a basic level of business acumen, balanced with organizational awareness and information technology strategy, was important. Some participants also noted that leaders must have an understanding of data and the ability to gather and apply insights from data.

One additional point that was noted by two participants was how digital leaders in government have been developed to be solution-oriented and how a pivot to being problem-oriented (or understanding the problem) before a solution can be helpful. This links to new ways of working, such as employing user-centred design, to ensure that services being designed by the government are built with the end-user or citizen in mind. One participant summarized it as:

- "We don't actually spend a lot of time, I find in government, focusing on problems. We kind of make the assumption that we know what the problem is and

then we just want to jump to solutions. And taking a user-centered design

approach really forces you to step back and say, 'we really need to think about

what is the problem that we are actually trying to solve' instead of jumping to

solutions right away" (Participant 5).

### Leading Others

Participants also noted how important it was for digital leaders to understand how to lead

people in the organization and be able to provide influence on those they don't have direct

oversight over. Digital leaders also need to promote transparency whilst defining the boundaries

of acceptable behaviour and standards for organizational outcomes. Participants suggested that

successful digital leaders cared about their staff while inspiring and empowering them:

- "And then inspire them, encourage them, give them what they need to be
  successful and then you'll hopefully achieve what you intend to" (Participant 1).
- "You have to have empowered product owners and have to have empowered
  service designers who are able to work with users and make those decisions.
  (Participant 5).

### Personal Leadership

Multiple participants implied that there were competencies relating to a leader's

effectiveness that would determine their ability to enact digital transformation. They described

digital leaders as those that display authenticity, humility, modesty, empathy, and mindfulness.

They must be flexible and exemplify self-awareness, as one participant explained, "you've got to

be comfortable with not just sticking to a strategy but being able to move with things and that

things aren't going to work out the way you thought they were" (Participant 5).

Leadership in the Digital Era: Modernizing and Transforming the Public Service

One participant explained that "truly being proficient in these things requires years of hard work and lived experiences to go through it all" (Participant 5). Another described the importance of diversity of experiences:

- "Senior leaders (or leadership) where they have diverse experiences themselves. So, the organizations where we see executives that have spent significant time in an organization, like three years usually for a job, but then have moved so they bring the perspectives of different types of organizations that work in different ways, that have different cultures but as well, as different types of mandates in order to have those different lenses" (Participant 2).

Another recurring theme was the ability to be adaptable and nimble while simultaneously innovating and challenging the status quo. One participant described the ability to push boundaries as "insurgency - which is essentially how do you push the limits of the existing system" (Participant 5). They also noted that new ways of working require an ability to shift approaches to managing:

- "When you're trying to bring that user-centricity and agile approach in, it's a different management style that requires a lot of adaptation from people to be able to get there" (Participant 5).

## Research Question 2

How do different digital leadership programs compare in terms of how they envision digital leadership and related competencies in their curriculum?

Topics being taught

Each of the post-secondary institutions that participated in this study had differing content included in their curriculum but there were commonalities between them. Participants indicated that some subjects were more business-oriented such as change management, the ability to measure the current state of the organization and understanding the modern technology stack. One institution noted that they were able to teach leadership capabilities through the more business-oriented topics:

- "We actually interweave this [leadership] into the context of change and the context of organizational structures, the context of frameworks and governance...because the governance model will largely determine what you can and cannot do" (Participant 4).

Each program also covered technology-specific topics at a high level, including trends such as agile, user-centred design/design thinking, blockchain, cloud, and data. For programs that were more specific to public servants, topics such as digital policy, accessibility and sustainability, security and privacy, digital service standards, public opinion, and data ethics were taught. One participant described this approach as:

- "I think about it as 3 core pillars from a content perspective of design thinking, digital technology, and data. And then that is sandwiched between the digital trends, understanding the world and change management: how do you actually change the organization?" (Participant 5).

Leadership in the Digital Era: Modernizing and Transforming the Public Service

As part of this study, a specific question was included to participants on how they are instructing digital leaders to be aware of organizational barriers. Interestingly, some participants divided barriers into two categories, organizational barriers, and personal barriers, with most referencing the former more than the latter. Many of the items noted as barriers were the antithesis of traits that were mentioned for digital leaders or organizations supporting digital transformation effectively.

Organizational barriers

It was suggested that a lack of strategic vision, including goals or iterative planning cycle, was a large barrier in digital transformation. Coupled with a general lack of awareness around options for the organization, along with a limited commitment for change, stalled organizations.

Participants also noted extreme barriers relating to structures in public services, as one participant noted the "inertia of existing systems' " (Participant 3). These included human resource systems, procurement processes, budgets, and available resources. One participant suggested that governance structures often conflict with new ways of working:

- "A big one [organizational barrier] is you're trying to bring in agile approaches, is a lot of times people are trying to do agile or user-centred design in the context of very traditional approval processes for financing, money, accountability structure - so that can be really challenging" (Participant 5).

Another key barrier that was noted included the organizational culture, silos, and a lack of attention to impacts to staff or other areas of the organization. Participants suggested that this lack of holistic, ecosystem approach often resulted in issues: "They focus on a technology as if it is a technology project without readying or engaging the rest of the company" (Participant 1).

Equally important was the lack of momentum or inertia needed to initiate change:

- "You can rely on exceptional leadership but you really, ultimately, you have to have a burning need. Someone has to really want to commit and say 'yea, this is a priority, it's a huge problem, and I'm willing to marshal our resources and provide air cover' - without that stuff, it just doesn't happen" (Participant 3).

Personal barriers

The participants that specifically noted personal barriers, explained that a lack of awareness, authority, and authenticity, coupled with general assumptions, ignorance, and naivety hinder digital leaders. It was also implied that not allowing active participation (from both staff and peers) or not seeking input or sharing success, suggests a more hierarchical approach to leading. This hierarchical approach could be seen as in alignment with a transactional leadership approach. One participant explained this as: "I talk a lot about eliminating the influence of the HPPO - the highest-paid person's opinion. Because you are democratizing and a lot of it is creating an environment and processes that are nimble and agile" (Participant 1).

Another participant described a personal barrier as "seeking permission when you don't need permission" and went on to suggest that by doing so, "there is an assumption that I can't make those decisions on my own and there is an assumption that someone else should be making those decisions" (Participant 2). This spoke to the lack of confidence and how this could hinder a leader's ability to be effective. This participant also noted that not challenging the status quo within an organization could be a personal barrier as well.

How it's being taught

All of the post-secondary instructions expressed that they were attempting to instruct students on the basics related to digital transformation, which included terminology, history, and highlighting the importance (but also harms) of technology. They expressed that the content was general enough for students to get an overview and to "strip out the buzzwords from what's real" (Participant 5). Another participant summarized it as:

- "Give them [digital leaders] the foundations so that they can understand the language and aren't baffled by the jargon. They understand the foundational building blocks and how they relate to each other so that they can go back to their organization, assess their context and start dialoguing with some of those specialists within the organization in a way that's much more meaningful now" (Participant 1).

Participants also expressed the importance of using applicable examples to understand the content. One participant noted they had a "heavy dependence on case studies or use cases" (Participant 4). Another highlighted the need to try and test things in class to better understand the content: "I got to say the hands-on stuff people (for the most part) love. And I really think it does an important job of crystallizing the conceptual stuff" (Participant 5).

Another approach expressed by participants was the importance of a cohort learning model with an emphasis on collaboration and peer learning:

- "And then they learn through case studies and by looking at these cases, doing group work, people come to understand different perspectives" (Participant 4).

Who is taking the training

All the participants indicated that their programs were open and applicable to most attendees. While they do vet students to ensure a base understanding of topics relating to business and IT, the majority suggested that many could benefit from the instruction:

- "This branding is for people that are not yet there, who are aspiring to be there, or (in a few cases) they may really be there but are now trying to (at a more structured base) learn and validate their experiences" (Participant 4).

- "It's the people that are either: within industries or organizations that are either going through the change, or they recognize that they are going to need to go through the change, and they need some help on just getting that foundation to know where to start" (Participant 1).

- "Many of them are just people who are curious or people who are "I'm in a job where I know this is going to matter in the future". Or "I oversee technical projects and I don't really know what I'm doing or questions to ask" and that feels scary" (Participant 3).

- "It's relatively open and is for, essentially, anybody that has some degree of managerial authority or is somewhat senior but it's really that middle management layer that we're targeting" (Participant 5).

As a result, students often originated from varying backgrounds and provided a diversity of experiences in the classroom:

- "The richest classes are the ones when we have people from different domains and different departments. And they realize that they're all similar: they're all experiencing the same barriers and they all need to be making the same

behaviour-based challenges. It doesn't matter where you're coming from: even if you're an HR executive, you can be iterating and you can be designing with your users - they apply across all spaces" (Participant 2).

- "The classes of all nine cohorts have more or less been about 50% people coming from IT backgrounds and IT roles and 50% from non-IT roles (like policy, service delivery, communications, internal services, etc.)" (Participant 5).

While participants spoke about how they get a range of students, they also highlighted that few established Leaders are taking their programs:

- "We get a real range of students but very few of them are very senior digital leaders" (Participant 3).

- "Once in a while, I see executives from technology spaces. I encourage more…. I chide my colleagues cause I used to be there and say "I don't see any of you guys in class!" And it's because they think that they don't need it, right?" (Participant 2).

One participant suggested that the group that really would benefit from the instruction is the "clay layer" or mid to upper-level government executive: "In my mind, I feel like every Executive in government should go through a program like this; it doesn't have to be ours but a program like this, in some form or another" (Participant 5). This suggests that further investigation could be warranted to understand how to provide this type of instruction to all senior leaders in public services and not just those interested in the topic.

Understanding impact of instruction

All of the participants expressed that they are not currently facilitating inquiries to understand the impact of the instruction, but many noted that they hoped to incorporate this into

future iterations of the program. That said, all participants noted that they seek post instruction feedback using surveys and shift curriculum based on feedback from students. One participant noted that in addition to a post-instruction survey, they conduct one before the program:

- "We do a pre-course survey, a fairly detailed one, to get kinda the baseline of people's digital literacy and familiarity with things. And then we do a big post-course survey to get a sense of what the delta was and whether there was a change between that" (Participant 5).

Two of the participants provide students with homework assignments to complete once the instruction is complete and are then invited back to share their successes and conduct a show and tell:

- "And then we make them do it: so, at the end of it they walk away, and they have some more videos and readings to watch, but then they have a workplace challenge where they're supposed to define something that they're going to do in their workplace as a first try of doing an actual behaviour change" (Participant 2).

One program promoted the development of alumni networks among students to network, build bonds and find allies attempting to conduct similar activities. They were also looking to implement a show and tell approach, although some cohorts have begun to implement it on their own:

- "It's actually happened with some of the cohorts and they've spontaneously organized breakfast meetings or get-togethers every few months to share back what they're doing…..And that's actually something that we're looking to structure a bit more now to actually say 'ok every few months we are going to have a show and tell session where the alumni can get together and share what they're working

on, be able to meet other alumni from other cohorts in the program and build

those bonds'" (Participant 5).

## Key Themes

There seemed to be a consensus among most of the participants regarding competencies for digital leaders. Similar words and phrases were used to describe the ideal digital leader and the organizational culture and context that must exist to promote transformation in the public sector. The post-secondary programs that displayed the most consensus on the competencies and curriculum were the three that provided instruction that was specific to municipal, provincial / state, or federal governments. This was also seen in the overlap of topics taught by those specific programs.

That said, there was a divergence of perspectives regarding the nature of digital governments and the desire to separate digital leaders from more common business leaders. While participants indicated that students were coming from all backgrounds, the phrase digital leaders continue to be used. One participant suggested that this segregates a digital leader from a business leader, and thus, could continue to exacerbate issues such as not considering technology in all parts of an organization's ecosystem:

- "I think when you talk about digital leadership, you also have to kinda acknowledge the temporary nature of that term. Because at some point if it really is a practice that becomes the norm, it will just be leadership in government - not digital leadership in government" (Participant 3).

This participant also noted the potential harm with the longevity of terms like digital government, suggesting that "there isn't a digital government, there is just government that

happens to be digital now" (Participant 3). As a result, further research could be warranted to better understand the delineation between a digital leader and business leader and how to ensure they become synonymous within organizations.

## Organizational Context

All participants stated how digital leaders must have organizational awareness and understand the current state and context of their organization. It was suggested that without this awareness, a digital leader may not have a full understanding of where to invest their resources to promote digital transformation. Additionally, existing systems and structures may prevent digital transformation in certain areas and it's the leader's responsibility to understand and consider this when making decisions:

- "The context in which we work assumes that we work in a simple environment. We have linear governance; we have people that lead that we believe understand the solutions to all our problems. When in reality, our problems are complex - our problems are wicked - and we cannot pre-determine what the solutions are going to be" (Participant 2).

One participant highlighted the importance of understanding the affordances of technology and how it can impact your organization:

- "In the same way that the way that you would run an army is very different when you have trucks than when you have horses. The speed at which you can move, the things that you can do. Even if you do not know how to build or maintain a truck, you still have to have an understanding of the affordances of that. And then have to have an understanding of what processes one would build to manage an organization that is truck driven as opposed to horse driven" (Participant 3).

Furthermore, some participants noted that once a leader understands this, they can also better determine who their allies are within the organization. Two different participants used the term "lever" and suggested that a digital leader needs to understand the levers within their organization:

- "That's the question you want to ask: what lever are you [the leader] going to get that's going to give you power? And who is behind that lever and what's helping you?" (Participant 3).

- "But it's those types of levers that I think leaders have to be willing to play with and not just accept the way that everything is done as the way it's always been" (Participant 5).

## Establishing the Culture

Many participants noted the importance of the leader's role in establishing the organizational culture for digital transformation to occur. It was suggested that by setting the organization's culture and strategy up for supporting digital transformation, it will generate trust in the processes and among staff: "that trust is built by giving opportunities, by empowering your employees but with the necessary guard rails to allow them to be successful or to pivot when they are not successful" (Participant 2).

Some participants referenced boundaries, while others referred to them as guardrails, but they spoke about the organizational rules or culture that a digital leader must create:

- "So, you need to find a way to create, rather than dictate and tell everyone "here is exactly what you need to do", you create the boundaries and rules for the game to be played and then allow it to unfold. Knowing that your job now is making sure

that everyone is aware of what that north star is, that vision, that intended future state. You're not dictating how we get there: you may be painting a picture and inspiring - this is the future we are trying to create" (Participant 1).

- "The right guardrails to ensure that instructions are clear, deliverables are clear, that things are going in the right direction" (Participant 2).

- "People need to understand these modern ways of agile, user-centred work and what that means for the government. And as a leader, there are certain responsibilities you have to set the tone and modernize government processes to make that work effectively" (Participant 5).

## Personal Abilities

All of the participants also noted that personal competencies needed to be showcased through a variety of self-driven actions. One of these is the need for digital leaders to be generalists with an interest in technology. Participant 1 stated that "They [digital leaders] really need to be generalists to be able to speak the language of many different disciplines. They don't need to be masters of the tools, but they need to understand what tools are in the toolbox and what they're capable of doing".

Two other participants articulated this ability to have surface-level knowledge of a variety of topics:

- "So, some understanding of the technology, the legacy, and the new technology. That is another skill, and you cannot exercise leadership unless you have some understanding of what these technologies are doing. You are not being trained to

do artificial intelligence (AI) but you must understand the capabilities of AI and the business aspects of AI" (Participant 4).

- "I don't mean they need to be SAP experts or anything like that, but they need to be comfortable to play. They have to be comfortable to try things and leverage the technology in a way that their employees recognize that they're a tester, they're a user, they're trying things just like we are asking our employees to as well" (Participant 2).

Another key point that all participants touched on was this way of thinking, or mindset, that digital leaders must-have. Participant 2 articulated it as a "technology savvy" digital leader, Participant 4 suggested that digital leaders need to have "technology sense" while Participant 5 noted it as having "technical intuition".

Both participants 5 and 3 described the need to balance this mindset with the leader's generalist knowledge of a variety of topics:

- "Leaders of government need to have the notion of technical intuition. And I describe it as having a sense of what are the limits and possibilities of technology and being really frank and having the ability to call BS on something when they have to" (Participant 5).

- "I think there is much more of a mindset: thinking hard about how do you make proportional investments to learn about a scenario and can you learn about the affordances of the technology and can you ask good questions to figure out whether it's useful or not? Even if you, yourself, don't actually understand it. And can you identify someone who is competent enough to work with you?" (Participant 3).

New Structures and Ways of Working

All the participants noted that COVID-19 had challenged them in how they provide instructions to students and suggested that these issues were also facing governments. It was noted that the current digital era requires new ways of working and governance structures to support these approaches. One participant suggested that "We ask our teams to iterate and to improve frequently - to design with users to get feedback - and yet in parallel, all organizations and jurisdictions have governance mechanisms where you're told, "plan for three years out" (Participant 2).

Some noted that these new ways of working often prevalent in the private sector, particularly agile and user-centred design, is not conducive with the current structure of government:

- "The machinery of government has multi-year cyclical processes with regards to those big "P" projects and budget submissions. And that is counterintuitive to the way we want to be working" (Participant 2).

- "I think core to that [digital] is this notion of being user-centric, about being agile, and really flipping on its head a lot of the traditional ways that the government works and operates" (Participant 5).

One participant noted that governments were unprepared for the rise of remote working, in part due to the COVID-19 pandemic, and will be challenged to create a new normal for how their staff work. They suggested that public sectors have largely ignored supporting their leaders in being effective remote managers:

- "[COVID-19] has also raised a whole other set of challenges though because one of those management competencies, which I will say very few governments at all

have spent any time on, is how do you manage remote teams? How do you be an

effective manager or leader in a distributed environment?" (Participant 5).

## Leadership Styles

One of the surprising findings from this study was the feedback from participants on

competencies and leadership styles. Most of them noted that the ideal digital leader doesn't just

employ one type of approach but rather has an awareness of all the frameworks, tools, styles, and

approaches and an ability to know when to employ each one, based on the context of the

organization:

- "If there are many unknowns then transformational leadership is probably more
  helpful but if we're in a digitized moment, and there aren't a lot of unknowns but
  there is a need to execute really well, then a transactional form of leadership
  might be more appropriate" (Participant 3).

- "The jury is out on what approach is better... you can talk about digital
  transformation and weave in the leadership that is needed to make that
  transformation possible. And whether the organizational context requires and
  permits some command-and-control style, or whether the organizational context
  and culture really requires a participatory collaborative approach where you are
  leading them by getting everyone involved at all levels" (Participant 4).

## Considerations

Given that the lead researcher for this study was employed by the BC Public Service and

works on technology modernization projects, this insider perspective may have impacted the

interpretations of the results given their familiarity, and lived experiences, with the topic.

Additionally, participants may have been more forthcoming as the researcher was able to actively engage in conversation with them on the topics and was aware of the jargon. While these research results were fulsome, there were limitations to the study. Given the small sample size of participants, the results likely cannot be generalized statistically. Particularly, given that participants highlighted the importance of organizational context in determining the best competencies and approaches for digital leadership.

That said, the information gathered has provided valuable insights and presents opportunities for future explorations relating to supporting digital leaders in transformation and modernization within governments. Further research should be pursued to fully understand the impact of the COVID-19 pandemic and its long-term implications for public service organizations. At the time of writing, many provinces within Canada are still under emergency orders and the full effect of topics mentioned by participants, such as remote work and effectively managing distributed teams, should be explored further.

## Discussion

Through a comparison of the post-secondary institutions offering instruction on digital leadership, this study revealed that there are many similarities but also differences. Participants 1 and 4 represented post-secondary institutions with a more traditional approach in that their programs required the completion of four core courses before certification. The length of the individual courses for these two programs ranged from eight days of instruction over four weeks to three days of course content spread over 12 weeks with both requiring additional hours of studying and pre-time. Both of these programs provided generic training on digital leadership not

specific to the public service context, although both noted that public servants sign up for their offerings.

Participants 2, 3, and 5 represented institutions offering training with a public service focus with participant 2 representing an institution with training restricted to current public servants. Programs 3 and 5 were shorter with a module approach, instead of courses, and covered many topics at a high level over five to seven days, one of which was five sequential days while the other was spread out over approx. two weeks.

Participants 3 and 5 appeared to promote more strategic views to their instruction with different approaches, although similar comments, around the temporary nature of the term digital leaders. Both participants suggested that it was leadership in a digital age and that the leadership competencies from more traditional lines of business were still relevant in the digital era. These comments seem to suggest a more holistic view of the role and terminology should be considered.

By suggesting that instead of digital leadership, it should be leading in the digital age, it raises questions around whether the core competencies for effective non-IT leaders are transferable to digital leaders. The data gathered seem to suggest that they are given the required awareness of aspects about strategy, business operations, finance and project management. But it also suggests that the digital aspect of a leader's skills and mindset is important given the underlying technological need. As such, it is crucial to still consider the digital element but more so as an aspect of the organization as opposed to a technical or individual skill possessed by the leader. The data gathered through this study suggested that an open mind and curiosity towards technology was more important than knowledge or proficiency in any particular technical skill.

Additionally, the ability to infuse this similar way of thinking into the organization to promote a similar mindset among staff was imperative.

While the literature seemed to suggest that a transformational leadership style was more effective in successful digital transformation, this study revealed that the context should determine the leadership style used. Additionally, given that transactional leadership is more aligned with an organization's culture that is traditional, hierarchical, bureaucratic, it suggests that transactional leadership should be used more for specific projects for digital transformation when required. This suggests the need for digital leaders to understand how to measure the context of their organization to understand when to use which leadership style. It could be suggested that failed digital transformation initiatives in public services were a result of a lack of understanding of the current contextual state resulting in the wrong styles, approaches and traits being used to lead the transformation.

The data gathered through this research suggests that a transformational leadership style is more conducive to creating the organizational culture to support the people aspect of digital transformation, but that individual projects or digital initiatives may require a transactional approach. As such, the digital leader must have an awareness of a variety of tools (styles, approaches, traits, and behaviours) to be able to measure and understand the organization to make data-driven decisions on which tools to use to ensure the success of transformation and modernization initiatives.

## Summary

This study sought to compare a range of digital leadership training programs to better understand how the concept is taken up and what various competencies and approaches are being

offered. Regarding RQ1, there was consensus on the competencies required for Digital Leaders but there was divergence on the term digital leaders and the potential concern with the temporary nature of the term. Many of the competencies noted under the broad themes of Strategy, Organizational Business, Leading Others and Personal Leadership are synonymous with any effective business leader.

Concerning RQ2, there was consistency among the topics included in the curriculum, particularly among programs that were tailored for public servants. Each program sought to provide students with a base understanding of digital leadership-related topics with cohorts of students and an emphasis on applicable learning models. It was noted that while participants are coming from a variety of backgrounds including human resources, business, finance, health, etc, the instruction continues to be framed as digital leadership.

The interpretations of this study indicate that a continuous improvement mindset coupled with a drive to enact change for the greater good was more important than knowledge of specific technical skills and abilities. The ability to collaborate and work effectively by using a variety of tools, techniques, and competencies was more effective than any single approach on its own. This extends to leadership approaches as well with participants suggesting that the context and organizational structure should indicate whether transformational or transactional is required. This is particularly significant given the assumption that a transformational leadership approach may be more aligned with the digital transformation of an organization. The next chapter will identify areas for further research and conclude this case study.

# Chapter 5: Conclusion

## Introduction

Rising citizen expectations and various socio, economic and political factors are pressuring governments around the world to modernize and transform to meet changing needs. To understand how leaders overseeing these types of digital transformation projects can be successful, this study explored the following questions:

- RQ1: To what extent is there emerging consensus (or not) among educators and practitioners as to the competencies required for digital leadership?

- RQ2: How do different digital leadership programs compare in terms of how they envision digital leadership and related competencies in their curriculum?

This chapter will summarize the findings, place the findings in context for what the results may mean for future research and comment on the limitations of the study.

## Summary

There were several key findings identified that were relevant to the research questions guiding this study. Educators interviewed for this study seemed to agree that the organizational context should dictate which leadership style, skill, trait, or approach is taken and the organizational culture plays an instrumental role in establishing the norms which make up the context. Educators suggested that while leaders need to have an awareness of, and interest in, technology, they should be generalists that consider their staff in their actions and democratize decision-making relating to investments in technology through the use of data-driven decisions.

The most important findings related to the leadership approaches and whether one was better than the other in support of digital transformation. The results of the study show that educators believe leaders need to exhibit a transformational approach by exhibiting a mindset that encourages being open to new ideas, new ways of working, a willingness to try new things and encourages growth and development in their staff. This way of thinking needs to be infused into the culture of the organization to create an environment that supports innovation, creativity, and the ability to try things without fear of failure. That said, educators agreed that when implementing digital transformation initiatives there may be a requirement for a transactional form of leadership that is likely best used as a short-term measure to achieve a specific goal given when there is a contractual agreement required to motivate those involved. That said, those interviewed for this study indicated that the ability to measure and understand the contextual state of the organization should determine which leadership style is employed and when.

These findings were significant because the research questions guiding this study sought to understand whether there was consensus among educators regarding the competencies for digital leaders and it was determined that there is consensus among the majority of the competencies. Those listed as key findings were the most relevant, repeat items listed by practitioners but there was divergence on the terminology and nature of the term digital leaders. Some participants felt that the term digital leaders continues to silo the practice of leadership over technology and suggests that it will be a temporary term, soon to be replaced by another form of leadership.

Additionally, the programs that participants represented each had differing modes of instruction with some taking a multiple course-based approach to instruction while others instructing in short, cohort-based formats. Participants indicated that students are coming from

all backgrounds with a general mix of those from traditional IT and non-traditional (health, finance, business etc.) backgrounds. This continues to support the idea that digital transformation is a multidisciplinary discipline that draws on all aspects of an organization and that the leader needs to be able to understand and work with these various areas - not just with technology. This is significant because it validates the need to have multiple tools to employ but also understand when and where to employ them, with an open mindset towards challenging the status quo.

## Findings in Context

The findings from this study contribute to the literature by providing insights into the current state of digital leadership training. It has also revealed the knowledge, skills, and competencies that educators believe public service leaders need to have to be successful in a technology-enabled environment. These findings could be developed into a framework to assist in the instruction of staff within the public service through the development of courses and instruction. As a result, this research adds to existing knowledge around digital leadership in the context of public services as they attempt to navigate a transition to GaaP or platform ecosystem environments.

These findings suggest that digital leadership is a variation of existing leadership training but is also an emerging area with specialized competencies related to digital technology and transformation processes. Decisions about training programs for public servants will require careful consideration of the type of skills and mix of competencies that are required in any given setting. They also necessitate the need for more consideration of the term digital leadership overall and present opportunities to explore how leading in the digital era has, and could, change as technology and business practices continue to evolve.

## Future Direction

While this study provided beneficial insights into the state of digital leadership and how it is currently being taught by public and private post-secondary institutions, there were limitations in that it was a small case study that only provided insights from five participants. As such, future research may be required to understand this concept at a larger scale and with input from organizations outside North America. Given the lead researcher's involvement in modernization initiatives and as a public servant, it could have introduced some bias into the interpretation of the findings given the familiarity of the topic.

That said, the study has provided opportunities for future research around the concept of digital leadership. It also provides opportunities to explore how some new ways of working in the private sector are transferring to the public sector, particularly in the wake of remote working brought on by the COVID-19 pandemic. Alternatively, research into the government of a country that is currently employing GaaP with a platform ecosystem approach to technology may lead to different conclusions regarding the competencies required for digital leaders. More investigation should be completed to compare public services on the spectrum of transformation to understand which leadership styles were, and are, being used.

## Conclusion

Governments around the world are having to adapt to shifting needs from their citizens, rising expectations set by platform companies in the private sector and various other socio, economic, and political factors. This is resulting in the need to transform and modernize services and allow the co-creation of products by citizens. This research sought to understand the

competencies, skills, traits, and behaviours required for digital leaders that are supporting their organization during digital transformation. This study sought to answer the following questions:

- RQ1: To what extent is there emerging consensus (or not) among educators and practitioners as to the competencies required for digital leadership?

- RQ2: How do different digital leadership programs compare in terms of how they envision digital leadership and related competencies in their curriculum?

The key findings have revealed that there is consensus to the core competencies required for digital leaders but that there was divergence on the term digital leadership and the segregation that it can create between traditional and non-traditional leaders. Additionally, while both transformational and transactional leadership styles were found to be useful, it was stated that the organizational context should determine when each is used with a preference towards the former to assist in the development of the ideal transformational culture and the latter being employed at specific occasions as and when required. This research has added to the literature around digital transformation, digital leadership in public services and the role of the leader in creating innovation environments to support the modernization of governments.

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# Appendices

## Appendix A: Systematic Review of Digital Leadership Programs

This image depicts a roll up of the digital leadership programs included as part of the systematic review.

| Number | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| Program Name | Digital Leadership | Digital Leadership | Digital Executive Leadership Program | Digital Transformation in Government | Digital Transformation Leadership Certificate | Stanford Digital Transformation Certificate | Strategic Leadership in the Digital Enterprise (SLiDE) |
| Location | eCornell | UBC Sauder School of Business: Executive Education | Institute on Governance | Harvard Kennedy School | Athabasca University | Stanford University | University of Toronto |
| Total Length | 2 months | To earn this certificate, you must complete four required programs within two years. | one-week bootcamp with five consecutive day-long sessions | One week | 3-6 months | 8-12 months | N/A |
| Course Length | 2 weeks | 4 weeks | 5 x 8 hour days | 5 x 8 hour days | 2 weeks | 30-60 days (self paced) | N/A |
| Total Hours of Instruction | 40 hours | | | | | 8 courses | 4 courses |
| Certification | Digital Leadership Certificate | Certificate in Digital Leadership (Certificate of Completion) | Certificate of Completion | Certificate of Completion | Digital Transformation Leadership Certificate | Stanford Certificate in Digital Transformation | Strategic Leadership in the Digital Enterprise (SLiDE) Certificate |
| URL | https://www.ecornell.com/certificates/technology/digital-leadership/ | https://www.sauder.ubc.ca/programs/executive-education/programs-certificates/certificates/digital-leadership | https://iog.ca/leadership-learning/digital/ | https://www.hks.harvard.edu/educational-programs/executive-education/digital-transformation-government | https://powered.athabascau.ca/product?catalog=Digital-Transformation-Leadership-Certificate | https://online.stanford.edu/programs/stanford-digital-transformation-certificate | https://learn.utoronto.ca/programs-courses/certificates/strategic-leadership-digital-enterprise-slide |

## Appendix B: Interview Guide

The following is a copy of the interview guide that was used for the in-depth interviews.

| Pre-Interview Questions |
| --- |
| General Primer: How did you get involved with this school and/or program? |
| General Primer: Why did you decide to pursue a career in education? |

| Concepts | Identifiable indicators/ characteristics | Main Question | Sub Question |
| --- | --- | --- | --- |
| Definitions | Digital Leadership, digital | ● Tell me what you think digital leadership is? | ● How do you define digital? <br><br> ● How do you define digital leaders <br><br> ● What does it mean to be a leader in the digital era? |
| Competencies | Skills, knowledge, abilities and competencies | ● Tell me a bit about what digital leaders need to have as core competencies | ● What are the technical competencies required for digital leaders? <br><br> ● What areas of knowledge are digital |

| | | | leaders expected to have awareness of? <br> ● What skills and abilities are digital leaders required to have? |
|---|---|---|---|
| | Leadership styles and traits | ● What leadership styles do you think are valuable for digital leaders | ● What leadership traits do you think are valuable for digital leaders? |
| | | | |

**RQ2: How do different digital leadership programs compare in terms of how they envision digital leadership and related competencies in their curriculum?**

| | | | |
|---|---|---|---|
| Materials | Course content, curriculum, instruction | ● How do you determine the course content you include in the program? | ● Are the decisions rooted in data gathered? <br> ● What are the leadership capabilities taught through the program? <br> ● What are the digital capabilities taught through the program? |

| | | | |
|---|---|---|---|
| | | ● What types of organizational barriers are you instructing digital leaders to be aware of? | ● How do you address the differing context in which these challenges exist? |
| Evaluation | Participant and application evaluation | ● How do you evaluate the participants that apply? | ● What type of backgrounds are these digital leaders coming from? <br><br> ● How many of the participants are already in organizational roles with oversight of digital initiatives? <br><br> ● What is your split of applicants from public and private organizations? |
| | Program, content and instruction evaluation | ● How do you understand the impact | ● How do you know you are giving training to |

| | | and benefit of this instruction to the individual and their organization? | the people needing it? |
|---|---|---|---|
| | | | |