Embedding Innovation

*How Large Organizations Can Succeed
at Innovation in the Long Term*

by Christine Keene & Mark Singh
OCAD University
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the requirements for the degree of Master of Design
(MDes) in Strategic Foresight and Innovation

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Dedication

True innovators always stand out in a crowd and often look like they don't belong. This work is dedicated to the ultimate Chief Innovation Officer, my mom, who taught me everything I know (that matters).

– Mark

To my parents and sister, who've taught me to keep people at the heart of everything I do.

– Christine

Authors' Declaration

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Abstract

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Making innovation stick has proven difficult to many large organizations. The challenge these organizations face is to turn innovation from a buzzword into a systemic and widely distributed competency. This study explored how to do this by asking the question "How might large organizations enable and nurture innovation over the long term?"

The study used a combination of research methods and adopted a design approach to answering the question. Research methods included literature review, case studies, surveys, semi-structured interviews, innovation canvassing and foresighting. The research identified that in order to embed innovation into an organization's DNA, that organization must have a strong innovation orientation, and must demonstrate aptitude in five critical areas: strategy, culture, process, portfolio and scalability. These findings were used to propose a roadmap to innovation for the City of Toronto's Chief Corporate Officer; one that embodies the characteristics of successful, long-term approaches to innovation that would allow the organization to transform itself into a more innovative organization.

Keywords: innovation, embedded innovation, embedding innovation, innovation orientation, research methods, innovation readiness, innovation readiness canvas, innovation roadmap, innovation DNA, drivers of innovation, organization transformation, strategy, organizational culture, critical success factors for innovation.

Collaboration Network

Throughout this project we have engaged over 200 people, each of whom has played an important role in its successful completion. We are grateful for the outstanding show of personal and professional support displayed by these wonderful people in our collaboration network.

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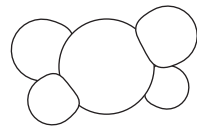*(Mayor's Office of Civic Innovation, City of San Francisco)*

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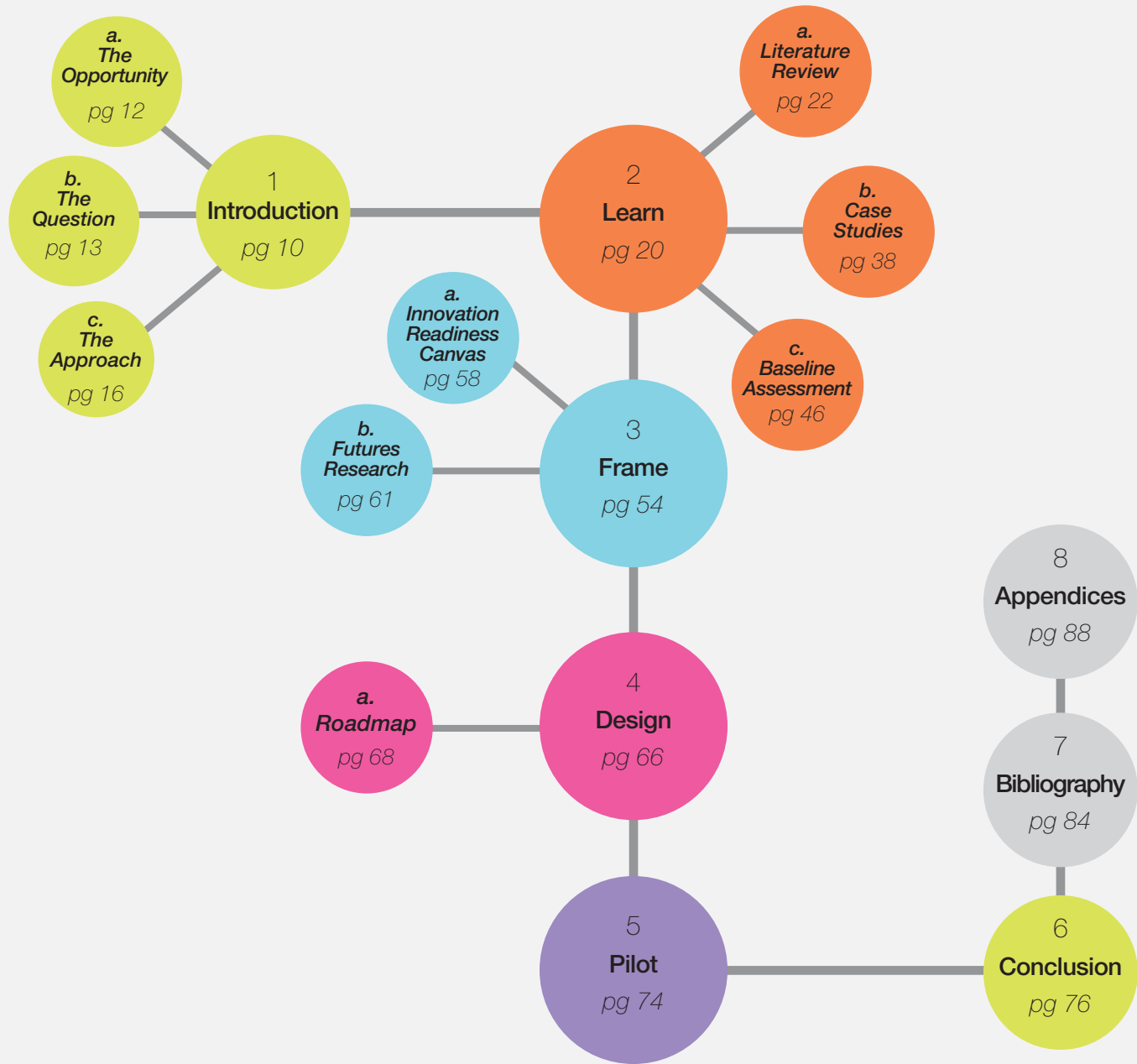**Jim Baxter**
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Alyssa Hodder
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98 CCOO survey respondents

10 CCOO interviewees

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INTRODUCTION

Collaboration is at the core of OCAD University's Strategic Foresight and Innovation (SFI) program. Each course in the program had a significant focus on team projects, demonstrating the power—and inherent challenges—of diverse viewpoints when attempting to identify and solve any problem or opportunity. It is for this reason, and with a successful history of working together throughout the program, that we decided to work collaboratively to propose a solution to the particular opportunity we faced.

[P]ublic sector innovation obviously does take place – every day. However, at this moment, 'random incrementalism' is still the rule rather than the exception. New thinking often happens by chance and against odds, and potential of a more conscious, strategic and systematic approach to innovation across public organisations and sectors are not realized.
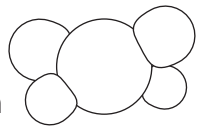
(Bason, 2011)

The Opportunity

The City of Toronto's Chief Corporate Officer Organization is a cluster of five diverse divisions reporting to the Chief Corporate Officer (CCO):

1. Facilities Management, which manages 6,000 properties that collectively account for over 17 million square feet of building space (City of Toronto, n.d.).

2. Real Estate Services, which manages a $12 billion real estate portfolio (City of Toronto, n.d.).

3. 311 Toronto, which is the largest municipal customer service contact centre in North America (City of Toronto, n.d.).

4. Fleet Services, which manages the City's fleet of over 5,000 vehicles (City of Toronto, n.d.).

5. Environment & Energy, which leads on policies and programs that help the city reduce pollutant emissions, increase energy supply and security, increase conservation and demand management and become more resilient to climate change (City of Toronto, n.d.).

These divisions represent approximately 1,400 employees.

The current CCO, Josie Scioli, joined the organization in 2012. The CCO has significant authority over most elements of the organization's management systems, while working within the frameworks set out by Human Resources, Legal Services, Purchasing, Information Technology and Finance; the CCOO's major internal service providers. The CCO has ambitious plans to bring about positive changes in each of these areas and is using her influence and authority to establish herself as an agent of change throughout the organization.

The CCO reports to the Chief Financial Officer (CFO) of the City of Toronto and is required to contribute to the success of not only the CFO's business plan but also the City of Toronto's overarching Strategic Directions. In 2013, she created a cross-functional team of six and tasked that team with developing a five-year business plan for the CCOO. Mark Singh was a member of that team, leading the stakeholder engagement research that served as a foundation for the business plan. The resulting plan identifies and addresses some of the most important issues facing the organization.

Any overview of the ever-evolving context within the organization must also include a number of major initiatives that are currently in the planning stages and will require a supportive environment in order to be truly successful. These include the following:

› Connected Workplace, an office modernization initiative;

› Talent Blueprint, a Human Resources plan with significant employee recruitment and engagement implications;

› An effort to build Centres of Excellence within the organization; and

› A CCOO-wide Business Process Review.

The risk posed by this current state is further heightened by a number of pressing external drivers, explored in the section "Drivers of innovation."

It is within this context that we proposed and received endorsement for the development of an innovation plan for the CCOO that would catalyze a cultural shift. Clearly, innovation alone is not the complete solution, but it is an important part of it and can help shift the organization in a positive direction. In our "Critique and Further Research" section, we identify other important areas of organizational management outside the scope of this work that can complement the proposals herein.

Which brings us to this project—one that is grounded in the results of previous work done in this program.

› In the summer of 2013, Christine Keene explored innovation research methods, leading to the development of the *Innovation DNA Model*: a student perspective of the innovation process espoused by the SFI program, which provided the critical structure we followed through the research process.

› That same summer, Mark Singh explored the drivers of, critical success factors for and barriers to innovation in large organizations, which informed the proposed solution to the research question. This paper also established that there were a lot of transferable lessons between private-sector and public-sector innovation efforts.

› Less than a year later, we merged the two projects during the final semester of classes to develop the Innovation Readiness Canvas (iRC), which was tested at Allergan Canada (a major pharmaceutical company) and Maritz Canada (a large consulting firm). The resulting process and outcome review helped strengthen the iRC, which has since undergone additional iteration and evolution.

The Question

We have been presented with the rare opportunity for this graduate student project to make a significant and long-term impact on the real world. The result of our work will be implemented in the fourth largest municipal government in North America, so it's critical that we are asking the right question to guide our research.

When we ask ourselves what the criteria are for a successful project, the key elements we land on are the following:

6. It must respond to the needs of the organization.

As discussed in "The Opportunity" above, the organization was in need of a cultural transformation, and it was determined that an innovation approach would help achieve this.

While we at IDEO used to spend the majority of our time in the world of product-based innovation, we have more recently come around to seeing innovation as a tool for transforming the entire culture of organizations.

Tom Kelley, IDEO

7. It must have a pervasive, long-term impact.

It must avoid "flavour of the day" innovation programs where, for any number of reasons— ranging from economic downtowns to shifting corporate priorities to the departure of champions—innovation efforts often fizzle after a period of time.

Innovation is a long-term commitment that requires a strong top-down direction as well as systems to encourage bottom-up innovation.

(Tennant Snyder and Duarte, 2008)

With these criteria in mind, we posed the following question:

How might large organizations enable and nurture innovation over the long term?

Making innovation stick has proven difficult to many of the best organizations. The challenge is to turn innovation from a buzzword into a systemic and widely distributed competency.

But before we can move on, we need to further explore the research question,

What is innovation?

In order to develop a proper understanding of the concept, it's important to explore what it is not. Despite popular belief, innovation is not the same as *creativity.* Creativity is instrumental in parts of the innovation process and, according to Sloane, is "the capability or act of conceiving something original or unusual" (2012). And while some organizations refer specifically to technology solutions when talking about innovation, innovation is hardly exclusive to this domain.

Instead, innovation is a broad topic that can encompass entire organizations, involving every facet of planning and operations—front line and back office, executive and other.

According to West & Altink, "The term innovation is used in many different ways which appear to vary systematically with the level of analysis employed. The more macro the approach (e.g., societal and cultural) the more varied and amorphous does the usage of the term become" (1996).

This lack of a common definition can be challenging for organizations wishing to enhance their ability to innovate and increase or improve innovation-related outcomes.

KEY INSIGHT 👁 For the purposes of this MRP, we have chosen to define innovation in the broadest possible terms. This is a decision based on the belief [supported by West & Altink, Snyder and Duarte (2008) and others] that as organizations develop their own mental models of innovation, they will need to define the concept in a way that is unique to their own internal culture and aligned with their management practices.

DEFINITION
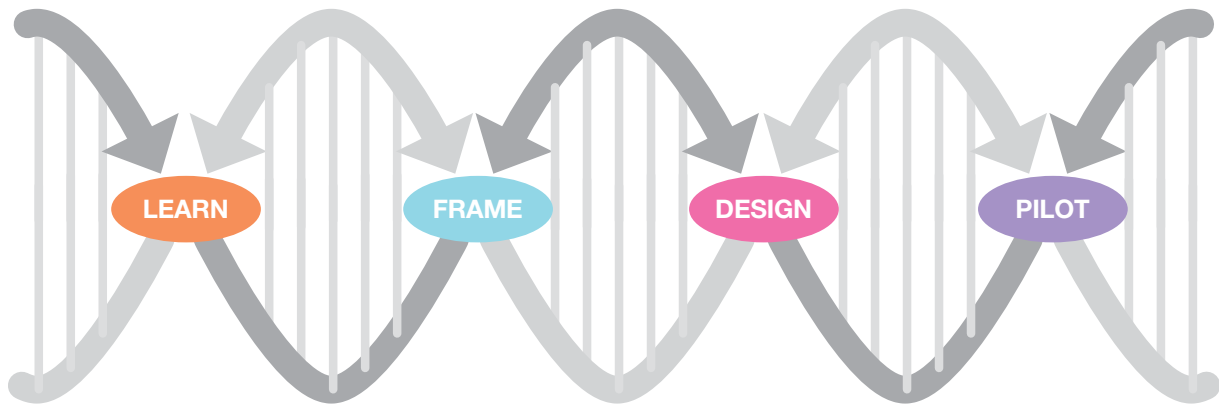*Innovation: new ideas that create meaningful change.*

Figure 1: The Innovation DNA Model

> *This is the goal of this MRP: to lay out a roadmap for embedding innovation into the DNA of the City of Toronto's CCOO.*

We will achieve this by identifying and prescribing an effective, comprehensive program of actions to create a strong foundation of innovation. While the specific elements of the roadmap will evolve over time, the foundation will enable the organization to withstand—and even thrive—in the face of challenges and disruptions.
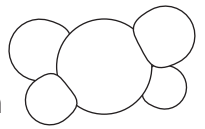
Our Research Approach

With its helical structure that embodies iteration, and base-pair connections representing the elements that create the fundamental process of innovation, DNA is an ideal metaphor for the innovation research process. Although standard base pairing occurs within DNA, variations can and do occur, mirroring the inherent flexibility of the process.

The model involves four phases.

1. LEARN

Research helps uncover data and information within a domain.

This phase of our work started with a comprehensive *literature review*. The review helped us develop a deep understanding of the body of work available in academia and elsewhere on the subject of innovation in large organizations. By exploring drivers, barriers, criteria for success, popular frameworks and best practices, we were able to develop the theoretical foundation of a successful and embedded approach to innovation. We also conducted *case studies* on innovation leaders. The case studies helped us identify the different kinds of innovation programs that large organizations—and, specifically, large municipal governments—typically engage in. With both theoretical and practical foundations in hand, we conducted a *baseline assessment* of the CCOO using semi-structured interviews and surveys.

2. FRAME

Information is shared, themes and patterns emerge, and a specific research question is constructed. At this point, researchers typically cycle through the Learn phase again to uncover specific information relating to the research question. In the second iteration, a deeper analysis into specific areas may occur, and the research question is typically refined.

This phase of our work began early with the creation of the *Innovation Readiness Canvas* ("the iRC"). The iRC proved to be an effective tool for analyzing data and then communicating the foundations of successful innovation programs, in addition to the results of the baseline assessment. It was presented to internal stakeholders, who provided feedback and helped identify additional research needs.

An important part of an embedded innovation strategy includes identifying potential future shocks and disruptions that may affect the long-term viability of the effort. This is the first step to building adaptive capacity into the strategy. It is here the application of *foresight* research methods becomes important.

Each method within this phase served as an outstanding opportunity to engage key stakeholders and staff within the CCOO in a meaningful way, setting the stage for greater success in the pilot phase.

3. DESIGN

Researchers explore and create possible solutions or interventions that could lead to the desired change.

We used the results of the two preceding phases to create a series of recommendations on how the organization could transform to better position itself for success and embed innovation into its DNA. As it was important to our team as well as to the organization that the proposed approach was action-oriented and did not become another 20-page plan that would sit on a shelf, we chose to structure it as a visual roadmap rather than a plan.
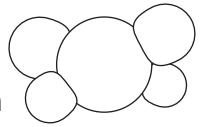
4. PILOT

Design efforts are tested in the real world for viability. During this phase, testing and measurement methods are connected to a feedback mechanism to allow for design improvements.

The pilot phase of this project is outside of the scope of this MRP. However, we have identified detailed recommendations on how to move successfully into the pilot phase and begin scaling the effort over the course of a number of years.

In addition to the four phases, two key concepts are critical to this model.

1. *In keeping with the DNA metaphor, and as discussed in the description of the Frame phase, the process should loop back to allow for revisions and refinements and/or identify additional insights.*

We frequently revisited the research question, challenging its alignment with the project. We also used a combination of research methods allowing us to observe and analyze the issues from multiple angles, with some redundancy built in to ensure the accuracy of our insights.

2. *Throughout the DNA Innovation Model, socialization is critical in order to gain alignment within the organization and buy-in from key stakeholders and/or sponsors. Strategies to accomplish this include:*

   a. *asking, challenging and clarifying, which helps remove blinders and biases that groups can have or develop over time;*

   b. *sharing information and insights with team members; and*

   c. *visualizing information and ideas to more easily create a common understanding.*

Throughout this project, we engaged our key stakeholders in collaborative activities, group meetings and one-on-one interactions, which helped establish a rich and common understanding of the context, research and results. Additionally, the key stakeholders at the CCOO have co-created many of the elements of the project, leading to greater buy-in.

LEARN

RESEARCH METHODS IN THIS SECTION:

> Literature review

> Case studies

> Baseline assessment

LITERATURE REVIEW

⟳ Method

Our literature review began with a broad, divergent search, converging on topics we thought were critical. We made specific effort to ensure we covered a range of sources—from traditional academic ones to less formal websites and blogs, and from well-known innovation thought leaders to lesser-known ones. The results of our literature review informed every other research method and outcome.

🔍 Analysis
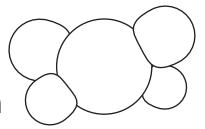
The Context for Innovation

Innovation can be internally focused (including initiatives relating to organizational structure, hierarchy and decision-making processes) or externally focused (including initiatives addressing the way an organization provides services to its "customers"—be they employees, citizens, businesses, other government agencies, etc.—and what exactly those services are).

The reality is, the majority of innovations come in the form of relatively minor changes to existing services or products and, as such, do not necessarily make headlines (Mulgan & Albury, 2003). These "improvements with a given frame of solutions" are called *incremental* innovations (Norman and Verganti, 2012) and are important to ensure organizations can continue to provide services that meet their customers' needs. *Radical* innovation, on the other hand, introduces a complete change of frame.

Internal versus external and incremental versus radical are, admittedly, broad categories for the different types of innovation. The literature proposes many ways to categorize innovation, from Doblin's *Ten Types* (2015) to Innovation Excellence's *Four Categories* (Neilson, 2014). Each of these offers unique insights, although there are areas of significant overlap. Before we explore what we think best fits an organizational transformation project, let's review the role organizational structure plays in innovation.

Tom Burns and G.M. Stalker were among the first researchers to explore innovation in large organizations and famously coined the terms "mechanistic" and "organic" to describe the broadest categories of

Transformation requires "the intention to be innovative, the infrastructure to support innovation, operational level behaviours necessary to influence a market/value orientation, and the environment to support the implementation of innovation."

(Dobni, 2010)

organizational management systems (Burns and Stalker, 1961).

Bureaucracies, such as those found in large public-sector organizations, are typically mechanistic management systems grounded in hierarchy and stability (Burns and Stalker, 1961). Dougherty and Hardy (1996) point to research showing that "long-stable organizations are especially challenged by changes in technology and global competition: they must become more innovative if they are to survive, but to do so they must fundamentally change how they organize". Therein lies one of the greatest contemporary challenges to large organizations, especially those in the public sector.

By contrast, organic management systems are more appropriate for quickly evolving conditions (Burns and Stalker, 1961). These management systems are typically found in organizations with flat structures and high levels of communication between departments and functions (West and Altink, 1996).

In today's fast-paced and ever-changing world, public-sector organizations need to consider what kind of management system will foster creativity and innovation. Some are already exploring alternative management systems. The Province of Alberta public service, for example, is making efforts toward a flatter, more organic organization as it tries to nurture a culture of innovation rooted in a systemic, design-thinking approach. (Jonathan Veale, personal conversation, July 10, 2013).

Yet according to Burns and Stalker, there is no "golden ticket"—no one management approach that will inevitably lead to success in innovation, no ideal type of management system on which organizations wishing to succeed in innovation should model themselves. Instead, a careful analysis of the organization's context—the market, related technology and the needs of users/residents/customers—and the rate of change of this context provides the information needed to design a management system appropriate to the innovation-related goals of the organization (1961).

Siguaw, Simpson and Enz (2006) take this one step further, suggesting every facet of the organization must be aligned toward innovation—that is, it must have an "innovation orientation."

[Innovation] has to be woven into the everyday fabric of the company just like any other organizational capability, such as quality, or supply chain management, or customer service.

(Gibson, 2014)

"

Innovation Orientation

Organizational transformation is a challenging process. And it certainly can't be achieved through stand-alone attempts at implementing a new product innovation initiative, expanding distribution channels or innovating through brand. When it comes to transforming organizations, innovation must be viewed as a means to an end and not the end itself.

Transformation requires "the intention to be innovative, the infrastructure to support innovation, operational level behaviours necessary to influence a market/value orientation, and the environment to support the implementation of innovation" (Dobni, 2010). These elements combine into the organization's "innovation orientation."

Siguaw, Simpson and Enz propose a conceptual framework for innovation orientation that is deeply rooted in the significant body of existing research in this field. In this model, innovations resulting from an innovation orientation are simply outcomes and do not define the orientation itself. Instead, an organization's innovation orientation drives its "strategy, learning and functional interaction toward the goal of innovations" (2006).

Model of Innovation Orientation

In Figure 2, the three key elements of an innovation orientation are as follows (Siguaw, Simpson and Enz, 2006):

1. **Learning Philosophy** describes how knowledge flows, is acquired and is used;

2. **Strategic Direction** is the stated long-term beliefs, understandings and activities of the organization; and

3. **Transfunctional Acclimation** refers to the beliefs about working across functional units, commonly referred to as *silos.*

These elements play a critical role in determining which activities the organization excels at—that is, its competencies, or the *infrastructure* and *behaviours* that support innovation. Organizational competencies "derived from a strong innovation orientation
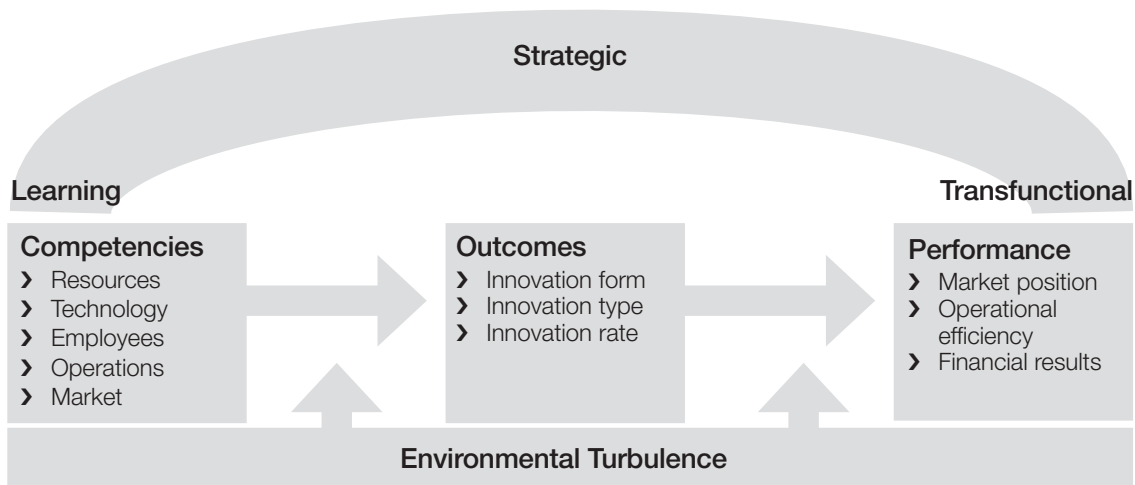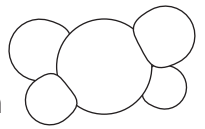
Figure 2: Model of innovation Orientation (Source: Siguaw, Simpson and Enz, 2006.)

directly determine innovation form, rate, and type, which then affect performance outcomes" (Siguaw, Simpson and Enz, 2006).

According to Hurley and Hult, Moorman and Slotegraaf and others (in Siguaw, Simpson and Enz, 2006), innovation orientation is considered an organizational system—one that can't be divided into independent parts—and the behaviour of each part affects the whole and the other parts (Gharajedaghi and Ackoff, 1984).

While much research has been done to support this systemic organizational approach to innovation, successful cases are challenging to find. In our own work with large organizations, we have observed innovation efforts fail because of non-systemic, non-strategic approaches focusing on specific areas of the system, ignoring its inherently connected nature. The results of these non-systemic approaches are typically weak, and efforts quickly flag. To be a truly successful organization, innovation can't be seen as the newest trend or "flavour of the day." Rather, it must be systematically embedded into the thinking, behaviours and habits of the organization and its employees, becoming a "way of life" within the organization, In other words, it must be *embedded into the DNA of the organization*.

Embedding innovation: Making innovation stick has proven difficult to many of the best. The challenge for organizations is to turn innovation from a buzzword into a systemic and widely distributed competency. In other words, "it has to be woven into the everyday fabric of the company just like any other organizational capability, such as quality, or supply chain management, or customer service" (Gibson, 2014).

The Siguaw, Simpson and Enz model is just one of a number innovation models or frameworks we encountered in our research. Many of the same themes and properties are evident across them. We have also found the majority to be quite esoteric, leading us to call into question their usefulness in a practical setting. Our goal is to provide the key stakeholders in the CCOO with the roadmap to a strong innovation orientation in a simple, concise and accessible format.
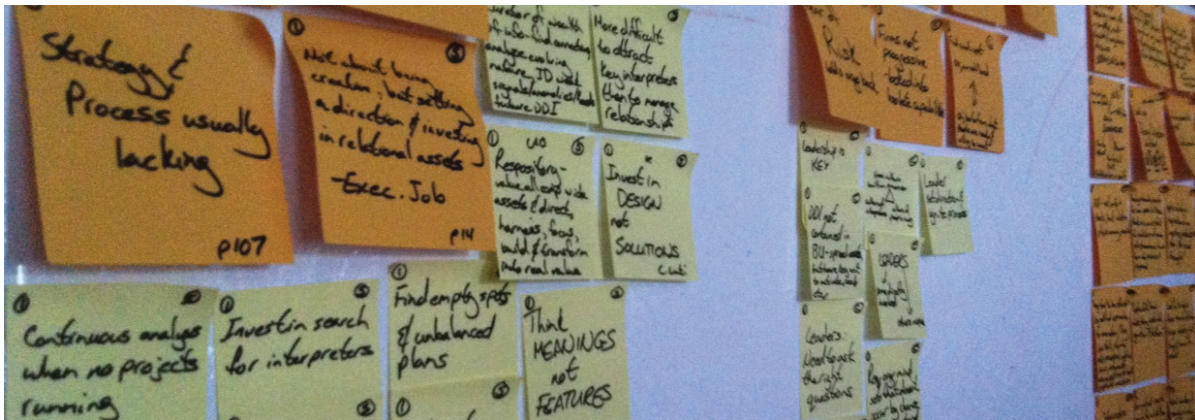
Figure 3: Coding and segmenting literature review findings by researchers and themes

Why innovate?

Awareness of the role innovation can play in transforming the relationship between public-sector agencies and its customers is on the rise. Municipalities, which provide hundreds of front-line services to residents and businesses, are ideally positioned to capitalize on the gains that can be made through implementing a strategic approach to innovation. And some of the most exciting innovations in the public sector are happening in cities. Indeed, according to Friedman, "cities and metropolitan areas are becoming the leaders in the nation: experimenting, taking risks, making hard choices" (2013).

At the same time, there are barriers to creating more innovative public-sector organizations, including the demands they face to provide services on a day-to-day basis. As Puttick, Baeck and Colligan state, "while governments can be pioneering and innovative, they can also struggle to find the space and time to invest in the future when they are responsible for delivering the services that people rely on today" (2014).

In this section, we will explore some of the theoretical and practical drivers of innovation.
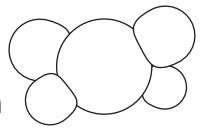
Drivers of innovation

Throughout the lifecycle of any enterprise, market or environmental changes force the organization to evaluate and reconfigure core assumptions, operational processes, product lines, and even core values

(Jones, Christakis & Flanagan, 2007)

Dramatic change and upheaval have become facts of life for governments and the constituencies they serve. The following factors, in addition to changes in technology and media, make up some of the many pressing reasons why innovation in the public sector is becoming ever more critical (Bason, 2010 except where noted):

1. Growing stakeholder expectations

In an era of 24/7 connectedness, citizens and businesses increasingly have access to information about the public-sector agencies serving them and, correspondingly, increased expectations about those services. Citizens expect public-sector organizations

Governments today are confronted by an unprecedented pace of technological, demographic and social change, combined with increasingly complex policy challenges. Innovative approaches are needed to respond to these challenges, yet governments' impetus to sustain innovation has been inconsistent. Governments have always had their share of innovators: people who care passionately about serving citizens, finding new solutions, and doing things better, more efficiently and in new ways. Today, however, a call for action is urgently needed to transform the public sector as a whole into a place that welcomes innovation and is itself more innovative.

(OECD, 2014)

to improve their productivity while, at the same time, offering services that match those being provided by the private sector.

2. Competition

We operate in a highly globalized environment where public-sector organizations, especially municipalities and provinces, are expected to compete on a national and international level. Even regular citizens recognize this: in a recent survey, U.K. citizens cited losing business to other countries and loss of jobs among "the biggest risks of failing to innovate" (Hankins, 2014).

3. Modern/mass media

Modern history has unfolded, and will continue to unfold, in real-time on our screens. This 24/7 connectedness acts as a significant driver to innovation in government as it seeks to build its capacity to respond to the growing demand for continuous access and immediate feedback on pressing issues while facing intense scrutiny.

4. The evolution of technology

The more the private sector exposes citizens to new technology solutions, the greater the demands for similar solutions

from government. A key challenge to this is, management systems in public-sector organizations are not typically able to incubate, develop and implement new technology solutions at a fast enough rate to keep up (Mulgan, 2007).

5. Changing population socio-demographics

Many developed countries face the dual challenge of an aging and shrinking population. Providing affordable healthcare for an aging population and maintaining an economic advantage in the face of a shrinking population are becoming major planning issues for government agencies. Immigration and urbanization are also changing the landscape of our cities, requiring greater attention by public-sector agencies in order to provide the right kind of services to these changing populations.

6. Shocks

We live in a period of "dramatic systemic shocks" (Bason, 2010), from pandemic outbreaks to economic and natural disasters. Innovation can help governments better prepare for—and make their economies more resistant to—these shocks.

7. Climate change

Climate change is one of the major issues facing society, not just the public sector. In fact, the insurance industry has recognized it will be one of the hardest hit by climate change and has stepped into a leadership position on the issue, working closely with government agencies around the world (pwc, n.d.).

Creating Ideal Conditions for Embedding Innovation

In 1996, West and Altink wrote, "despite an enormous amount of writing about organizational innovation there is little hard empirical evidence to support the wealth of assertions offered by researchers, practitioners, and policy makers. Thankfully, since then, the situation has changed.

In a 2013 survey of more than 450 large corporations with revenues between $100 million and $10 billion, business consulting firm Bain & Company sought to understand what factors made these companies thrive through innovation (Forbes, 2013). It became clear that the most innovative companies are outpacing and outperforming their competitors by significant margins in many areas. These innovation leaders bring more products to market more quickly than their competitors, are quicker to adapt products to consumer needs and generally have greater success. In addition, dramatic differences between innovation leaders and others were identified. Specifically, "top-quartile companies grew at an average annual rate of 13%, compared with 5% for other companies. They also enjoy far greater employee loyalty, and they are better than their peers at making and executing decisions" (Forbes, 2013).

In this study, "the leaders outperformed the laggards on all these capabilities, not just one or two—a sure indication that they are taking a systematic approach to innovation

(Forbes, 2013).
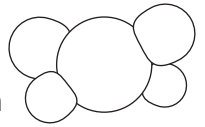
Deeper analysis of the results brought to light five critical success factors among the leading and most successful innovators (Forbes, 2013):

1. The existence of a clear, specific **strategy** for innovation;

2. A supportive **culture**;

3. A clear **process** for advancing innovative ideas;

4. The ability to successfully manage a diverse **portfolio** of innovation projects; and

5. The ability to **scale** up new ideas with the right levels of support and resources.

Importantly, the leading organizations identified in the Bain & Company study outperformed the laggards in each of the five areas listed above. This is a clear indication that if the ultimate objective is to be successful in innovation, it's necessary to establish a systemic approach targeting improvements in each success factor.

As previously discussed, there are a number of innovation frameworks that seek to provide a definitive answer to the question of how to embed innovation into an organization's DNA.

Given our desire to create an accessible and pragmatic solution, we have created a new framework based on this research. This framework forms the core of our Innovation Readiness Canvas, a tool developed from this research that can help organizations understand their current state of innovation readiness and provides guidance on how to move to a state where innovation is truly embedded into its DNA. The Canvas is discussed further in the section *Innovation Canvassing* below.

In the following sections, we explore each of the five critical success factors using a combination of literature reviews and best practices gleaned from our case studies. The Whirlpool case study is particularly rich, as there have been entire books written about the experience. This is rare, as many companies consider the successes and lessons of their efforts in innovation to be a significant competitive advantage (personal conversation, Johnson & Johnson, February 1, 2015; personal conversation, AB InBev,

Although some companies may rush into innovating, perhaps with creativity activities like brainstorming, this approach is unlikely to yield a long-term, sustainable capacity for innovation unless it is guided by a coherent strategy and supported by management systems.
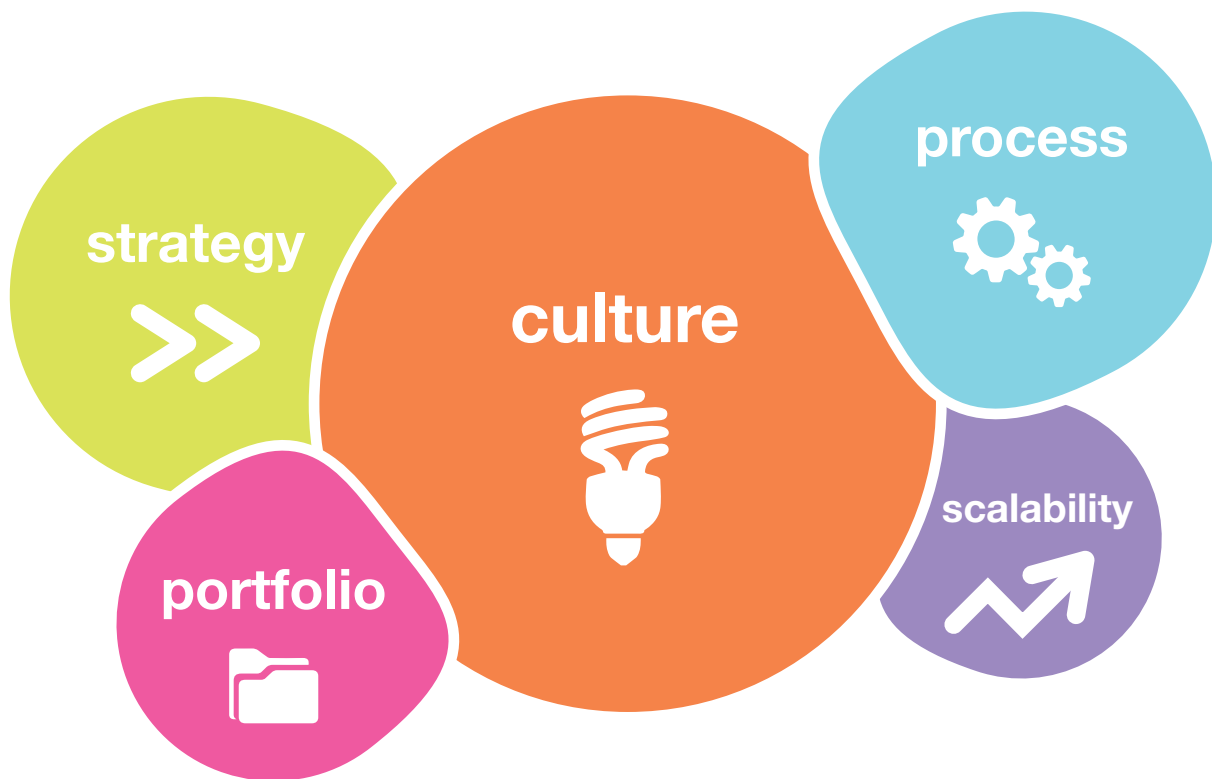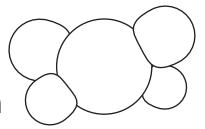
(Tennant Snyder and Duarte, 2008).

Figure 4: 5 Critical Success Factors for Innovation

[I]t is through conflict that innovation usually occurs...there is a real need for organizations to counteract their tendency to attract and retain only those who conform to the organizational norms if they are to foster innovation.

(West and Altink, 1996).

January 22, 2015). Whirlpool's experiences have led to a number of useful insights that help us extrapolate on the key elements within each success factor.

1. Strategy

The existence of a "clear, specific strategy" (Forbes, 2013) *that explicitly values innovation* was identified as the most critical success factor for innovation. Indeed, Dougherty and Hardy (2006) note many studies show a correlation between a lack of strategy and the failure of innovation.

The team at Whirlpool started with a rough high-level plan, retaining significant flexibility to adjust the plan over time. In the words of Tennant Snyder and Duarte (2008), "there was no ten-year master plan of how it would work. We knew what we did not want."

Whether it is embedded into the strategy or as a stand-alone, *a risk management approach that promotes calculated risk-taking* is also an important prerequisite (Alon, 2013). In many organizations, mixed signals about risk are common, allowing prudent risk-taking only when success is

guaranteed. "Most public organisations intuitively do not seek to be at the forefront of a change agenda. Risk-taking is typically not embraced, but discouraged. Individual [innovators] are left without resources, backing or incentives to develop, embrace and realise their good ideas" (Bason, 2011).

Once a strategy is in place, *it must be integrated at every level of the organization.* At AB InBev, one of the largest breweries in the world, strategic priorities permeate the organization. Everyone understands the strategy, the company's daily routines reinforce it and decisions are made with the strategic priorities in mind (Allen and Zook, 2012).

Finally, *explicitly acknowledged innovation champions* are critical to the success of innovation efforts (Dougherty and Hardy, 1996).

In a large organization…you cannot just ask people to innovate and expect that it is going to happen. It requires a holistic management system to define it, to make it sustainable, scalable and inescapable.

(Noreña, 2013).

2. Culture

"Innovative companies carefully craft and continually take new actions to sustain their innovative cultures" (Zien & Buckler, 1997).

Organizations that proactively develop a culture supporting innovation have greater success. Studies have shown culture not only affects the level but also the frequency of innovation (Amabile et al., 1996). One of the theories of organizational culture supporting this approach is the Componential Model of Creativity and Innovation in Organizations, first posited by T.M. Amabile in 1988. It lays out three key elements of organizational culture that are important to the creative process (Amabile et al., 1996).
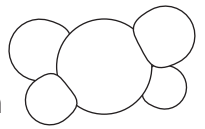
a. **Organizational motivation:** the basic or underlying position of the organization as one that *supports and rewards innovation.*

b. **Resources:** *ensuring employees are provided with sufficient resources to innovate.* According to Christensen (2011), resources include time, equipment, money, technology, information and relationships.

c. **Management practices:** ensuring employees understand and buy into the strategy, and have the autonomy to innovate. Per Dougherty and Hardy, this includes a *strong culture of employee engagement and collaboration*, ensuring senior managers are fully versed and supportive of the effort (1996).

This model is supported by the experience at Whirlpool, which contends that culture—specifically, the "emotional drivers[1]" that dictate culture—are twice as important as the "rational framework" that supports innovation (Tennant Snyder and Duarte, 2008).

Another critical contributor to success is *strong diversity in the workforce*. In this context, we refer to the full gamut of diversity categories: professional experience, left brain versus right brain, level, gender, ethnocultural and others. The key is to strike the right balance of cohesiveness and diversity to allow for easy decision-making

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[1]   Whirlpool's five emotional drivers are *Learning* to think longer-term, *Dreaming* about the impact the employees' work can have, *Creating* in a suitably supportive environment, celebrating success and *Heroes*, and the virtuous cycle of Spirit that is an outcome of the first four drivers. Its rational framework is made up of the definition, vision, goals, guiding principles and process that support innovation (Tennant Snyder and Duarte, 2008).

What usually happens is that companies focus most of their efforts on the front end of innovation – so they launch [an] ideation initiative with a lot of hoopla, and get [a lot] of ideas. But then they hit a wall because there is no back end – there is no organizational system for effectively screening ideas, aligning them with the business strategy, allocating seed funding and management resources, and guiding a mixed portfolio of opportunities through the pipeline toward commercialization. So, invariably, what we find is that the whole innovation effort eventually withers.

(Gibson, 2014)

and quick action while avoiding the pitfalls of "groupthink" (Satell, 2014). Whirlpool found its highly successful innovation program has actually led to highly talented people of diverse professional backgrounds seeking out employment in the organization (Tennant Snyder and Duarte, 2008), helping to create a positive reinforcing loop and reducing the need for specific efforts to increase diversity.

Finally, the connection between innovation excellence and change is clear. "Companies that successfully innovate in a repeatable fashion have one thing in common – *they are good at managing change*" (Kelley, 2012).

3. Process

The development of a *clear process for advancing creative ideas*, including collaborative structures and problem-solving processes, is important if innovation is to thrive. Christensen (2011) defines process as "the patterns of interaction, coordination, communication, and decision making" through which employees transform resources into products and services. Studies have shown organizations with repeatable innovation processes show success rates of up to 70% greater than to industry averages

(VHA Inc., 2006). Each organization's unique combination of processes—often called the "innovation pipeline" (Nagji and Tuff, 2012)—must help reduce or eliminate silos, building both *vertical and lateral connections* across the hierarchy (Dougherty and Hardy, 1996).

However, just setting up the pipeline is not enough. Access to adequate resources for advancing innovative ideas is clearly identified in the literature as a main barrier to innovation. In this case, resources refers to financial and human resources, the latter specifically referring to the skill set required for innovation (Thenint, 2010). Connected to the portfolio competency (below), the level of investment in the various types of innovation is also important (Nagji and Tuff, 2012).

4. Portfolio

Innovative organizations also *demonstrate skill in managing a diverse portfolio of innovations* (Forbes, 2013). This includes a balance of different types of innovation, including incremental, radical, short-term, long-term and others. According to Nagji and Tuff, "rather than a collection of ad hoc, stand-alone efforts that compete with one another for time, money, attention,

Fail quickly, learn your lessons and move forward.

Nadya Chinoy Dabby, U.S. Department of Education (Puttick, Baeck & Colligan, 2014)

Instead of wasting taxpayer money on programs that are obsolete or ineffective, government should be seeking out creative, results-oriented programs…and helping them replicate their efforts across America.

Barack Obama

and prestige," these organizations manage their portfolios for "total innovation" (2012). Nagji and Tuff go on to propose a model for *innovation ambition*, meaning organizations that strike a balance between core, adjacent and transformational[2] innovation show greater propensity for success.

Two supporting competencies are critical to managing a diverse and balanced portfolio of innovation. The first is *effective project management*: keeping projects running on time and on budget while keeping project teams motivated (Ideas Accelerator, n.d.). The second is an ingrained ability to *learn from previous efforts* (Almquist, 2013), including mechanisms to capture and advance lessons learned from failed projects.
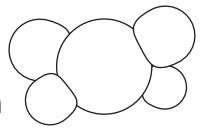
5.   *Scalability*

A demonstrated aptitude for scaling-up new ideas with the right levels of support and resources is a predictor of an organization's ability to position itself as an innovation leader (Forbes, 2013). Scaling-up means taking an

innovation that has demonstrated success in a narrow or local setting out to a wide range of settings (Dede, 2006). Scalability requires realizing the potential of an idea and fostering it through the innovation pipeline so it emerges stronger (Nagji and Tuff, 2012). It also requires avoiding the "replica trap": repeating something that worked locally on a broad scale without taking into account individual variations in context (Clarke, Dede and Ketelhut, n.d.).

Different types of innovation require different approaches for scaling. Transformational innovations, for example, often require non-linear scaling approaches and a higher level of ambiguity than core or adjacent innovations (Nagji and Tuff, 2012). Indeed, scalability in the public sector can sometimes be much more challenging than in the private sector. The diversity evident in the City of Toronto's CCOO, for example, could make it more challenging to scale some types of innovation—especially those relating to the organization's culture—because people who are not like-minded don't easily come to agreement on issues. However, when they do, the solutions tend to be more robust.

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2   In their oft-cited, study, Nagji and Tuff propose a model founded on three types of innovation: 1) core, where the organization optimizes existing products and services; 2) adjacent, which is innovation that expands the organization's product and service offerings into new territory; and 3) transformational which are breakthroughs and inventions for as-yet unstated needs (Nagji and Tuff, 2012).

Embedded Innovation

What is embedded innovation?

"[Being innovative] is not as simple as hiring a chief innovation officer and declaring innovation as your top corporate priority. To generate meaningful benefits from innovation, corporations have to change in fundamental ways. To get the benefit of innovation, companies have to embed innovation into – not append it onto – the DNA of their organizations" (Martin, 2006).

A key indicator of success is whether innovation is an "add on" or embedded into the culture. At the top of this list of companies is Whirlpool, which has made embedment the core of its innovation strategy.

What are the benefits of embedded innovation?

While other companies generally approach innovation by trying to foster more creativity, or generating or screening ideas, Whirlpool has set out to infuse innovation into the very fabric of its organization (Tennant Snyder and Duarte, 2008). In the organization's experience, the key benefit of embedded innovation is, it creates "sustainable and differentiated business results." It also builds a competency that is sustainable beyond any one person, meaning innovation efforts will easily survive the coming or going of any one champion. It is this ongoing ability to innovate and create value that distinguishes embedded innovation from other approaches (Tennant Snyder and Duarte, 2008).

How do you embed innovation into an organization?

Embedding innovation infuses it into an organization's DNA. This can only be accomplished through taking a systemic approach considering all five critical success factors. In many cases, the biggest challenge will be the readiness of the organization's culture for this kind of change. While it is certainly important to focus on the business system (the rational framework including the strategy, process, portfolio and scalability) that sustains innovation, "embedding innovation in processes and procedures— creating the innovation machine—is only half the battle. Innovation is truly embedded only when it lives in the hearts and minds of people" (Tennant Snyder and Duarte, 2008).

Transformations of this type can't be accomplished overnight: they are long-term commitments requiring a strong top-down direction as well as systems to encourage bottom-up innovation. "Embedded innovation requires changing deeply ingrained business systems to create and reengineer systems that allow everyone to innovate. It also requires the top leader's involvement, commitment, and dedication for the long haul" (Tennant Snyder and Duarte, 2008).

It is with this goal of providing the prescription for truly embedded innovation into the CCOO that we have created the Innovation Readiness Canvas. The criteria listed under each of the five success factors—also found in italics in each of the relevant critical success factor subsections above— collectively describe the ideal readiness state. An organization meeting most or all of these criteria is one that has achieved a state of truly embedded innovation.
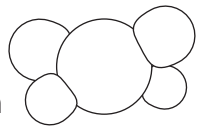
Table 1: Literature Review Summary

What we discovered	How we applied our discoveries to the project
The importance of a common mental model of innovation within an organization	Included the creation of a CCOO-specific definition of innovation as a preliminary step in the proposed Innovation Roadmap
The distinction between an innovation orientation versus innovation as an output	Confirmed the need for an organizational transformation proposal versus a proposal for how the organization could identify and advance innovative ideas
The critical success factors for innovation	Provided a framework for the Roadmap, the Innovation Readiness Canvas and the essential content for the framework
The importance of embedding innovation in an organization's DNA and its relationship to the critical success factors	Identified the long-term nature of this kind of organizational transformation project and the need for the Roadmap to include both top-down and bottom-up strategies, built on a foundation of strong executive leadership

CASE STUDIES

⟳ Method

We created case studies for four innovation programs, with the dual goals of identifying:
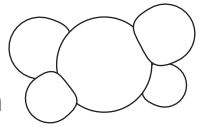
1. conceptual insights to enhance our theoretical understanding of the conditions for transforming the organization's innovation orientation; and

2. practical lessons on embedding innovation to inform the development of the Roadmap to Innovation for the CCOO.

The cases were developed using a combination of expert interviews, online articles and books in an attempt to create a comprehensive picture of each. This process was sometimes challenging, as descriptions of the innovation programs within large organizations are not readily available in sufficient detail. As

previously discussed, especially in the private sector, information about an organization's innovation orientation is often protected, as it is considered proprietary and even a competitive advantage.

Cases were selected for inclusion in this report if they met the following criteria:

❭ The organization in question qualified as a large organization (500 employees and over).

❭ Sufficient information in publicly accessible literature - or a contact within the organization who was able to provide the required level of detail - was available.

❭ The case contributed to our understanding of the diversity of approaches to innovation.

❭ The organizations in question were able to demonstrate successful innovation outcomes that validated the their chosen approach.

Our cases have helped us identify four very different approaches to innovation in practice.

1. The City of San Antonio created an internal innovation consulting group with a significant focus on efficiencies and financial savings.

2. The City of Palo Alto took a human-centred design approach to innovating its employee engagement efforts.

3. The City of San Francisco focuses its efforts outside of the municipal organization, fostering innovation within the community it serves.

4. Whirlpool is engaged in a broad-based, organizational transformation innovation project.

Our rationale for selecting Whirlpool as a case study is discussed in the section, "Creating the ideal conditions for embedded innovation." It was our intent to profile successful Canadian examples, but information on such cases is difficult to find. The focus on municipal innovation programs, even ones from the U.S., for the remaining cases is intentional. While the Government of Alberta provides an intriguing Canadian government case study, there are significant differences in the authorities, responsibilities and structures between provincial and municipal organizations to make the selection of American municipalities—especially those of similar size and scope to the City of Toronto—a better choice for this project.

We adopted a comparative case-oriented analysis approach (Khan and VanWynsberghe, 2008) to extract key themes and lessons. In this section, we present a summary of the key insights from each case study. The full case studies can be found in *Appendices A through D*.

👁 **Key insights: City of San Antonio**

❯ *Conceptual: A mix of left brain and right brain (diverse perspectives and skill sets) is key to the team's success.*

❯ *Practical: Reinforces the need for executive leadership and for building a common understanding of the rational framework among all stakeholders.*

1. City of San Antonio

Case summary

We have found that finding and hiring a diverse group of experienced professionals with great attitudes, enthusiasm, and strong work ethic has been critical to fostering the positive energy and debate that leads to the most effective outcomes.
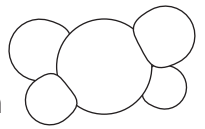
(Layton, n.d.)

Home to 1.4 million people, the City of San Antonio is the seventh most populous city in the U.S. and the second in the state of Texas. The municipal government employs 9,000 people and has an annual budget of $1.78 billion. Its mission is to deliver quality services and to achieve its vision of "prosperity for its diverse, vibrant and historic community." Its core values are teamwork, integrity, innovation and professionalism.

The Office of Innovation was launched in 2007 with a mission to "identify opportunities to improve the efficiency of City services and business processes." It is a located in the Office of Management and Budget and comprises four staff members who consult with other city departments on an as-needed basis on a diverse array of projects. Key successes include generating almost $18 million in savings across a number of departments without service reductions. Another success was an intervention with the Animal Care Services department, leading to a 60% jump in the live release rate of animals in its care.

🔍 *Analysis*

Path to success: The Office of Innovation works closely with department heads to ensure a willingness to implement change, including establishing a common vision for the future and key success indicators. The approach is largely *top-down*—executive support from the City Manager is critical.

👁 *Key insights: City of Palo Alto*

> *Conceptual: The importance of a design approach to addressing the challenge of creating an innovative organization supports the notion that co-creation and diversity of views/perspectives can lead to stronger outcomes.*

> *Practical: The approach of challenging multiple teams to come up with solutions to the same problems helps with designing a robust solution. Focusing on highly engaged employees means the "gravitational force" associated with them will pull less-engaged employees into the new culture. There was a key focus on learning/training, increasing the level of design thinking skills of employees and embedding "innovation blackbelts" throughout the organization.*

2. City of Palo Alto

Case summary

The City of Palo Alto, located in the San Francisco Bay Area of the state of California, has an estimated population of 66,642. The municipal government organization employs over 1,000 people and has an annual budget of $470 million. Its mission is to "promote and sustain a superior quality of life in Palo Alto. In partnership with our community, our goal is to deliver cost-effective services in a personal, responsive and innovative manner."

In 2009, the new City Manager hosted a series of five town halls for employees "to measure the satisfaction and engagement of the employees" and to provide platforms for ideation. As a result of these meetings, cross-functional teams were created to study and propose solutions to the key challenges identified. The City's *Engaging Excellence* program was the result of this process and led to the creation of a new employee orientation program that has made the organization more open to innovation.

🔍 *Analysis*

Path to success: The City takes a design thinking approach with a focus on human-centred design to address a very specific challenge: increasing employee engagement. Hundreds of employees helped co-create a solution that has been successful in re-shaping the organization's culture. This is a mixed *top-down/bottom-up model,* with critical leadership from the City Manager.

👁 **Key insights: City of San Francisco**

› *Conceptual: The City focuses on forming non-traditional external partnerships that bring fresh thinking to solutions. Celebrating success is important.*

› *Practical: Its approach offers the private sector a rare chance to learn how government works intimately in exchange for "free" solutions, retaining flexibility to take advantage of emerging opportunities. New focus on learning/training for municipal staff includes design thinking skills, rapid prototyping and bringing in outside expertise.*
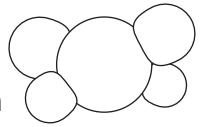
3. City of San Francisco

Case summary

The City of San Francisco is the second most densely populated large city in the U.S., with an estimated population of 837,442 in 2013. The municipal organization employs almost 29,000 employees and has an annual budget of approximately USD $8.6 billion.

The Mayor's Office of Civic Innovation (MOCI) was launch in 2012 by Mayor Ed Lee, who holds a strong belief that the government has a responsibility to innovate. MOCI operates in a similar manner to an incubator: it identifies opportunities of interest, tests out new ideas and seeks to build a Minimum Viable Product (MVP) that can be tested. The team of four is supported by a fellowship program to bring in entrepreneurs as part of the team. Two key successes so far include the City's open data legislation and the Entrepreneurship in Residence program, which has helped create useful products and services to support the City's work.

🔍 *Analysis*

Path to success: An incubator approach is used to foster innovation in the community at large. Opportunities are identified as they arise, and the incubator team determines the best approach to capitalize on these opportunities. The Entrepreneurship in Residence program pairs start-ups with government departments to help solve specific challenges the departments are facing. This is largely a *top-down* approach, with the Mayor being the driving force to success.

◉ *Key insights: Whirlpool Corporation*

> *Conceptual: The rational and emotional frameworks; the length of commitment required to truly transform the organization; the importance of executive level support to ensure "innovation from everyone and everywhere" (embedded innovation); significant focus on the needs of its customers; rewarding/ incentivizing innovation; learning from failure; starting small, using the first batch of trained employees to create bandwidth and allow for scaling of innovation efforts.*

> *Practical: Started with a high-level strategy that gave its leaders significant flexibility to evolve as the context changed. Integrated planning was done into the highest levels of the organization (through executive priority setting), with a key focus on learning/ training and cross-functional teams to solve challenges. Innovation was included as a core competency in the performance appraisal process.*

4. Whirlpool Corporation

Of the four cases built for this project, Whirlpool's is, by far, the most well-developed and longest-standing innovation program. Whirlpool began its transformation effort with the goal of catapulting it to the top of its industry class and, more specifically, to increase revenue from innovation. It did so by making its motto "innovation from everyone and everywhere."

Whirlpool was founded in 1911 and is headquartered in Benton Harbour, Michigan. It is the largest manufacturer of home appliances in the world, operating in a mature market. The company employs 70,000 employees and generates over $19 billion in annual revenues (as of 2013).

Its efforts focus on developing the rational (business) framework for innovation (i.e., vision, mission, guiding principles and processes) while nurturing the organization's emotional (cultural) framework. They achieved the latter through a comprehensive transformation effort = including training and mentorship, increasing diversity, developing

rewards and incentives and much more. The company's results speak for themselves. Hundreds of trained "innovation blackbelts" permeate the organization, and they have reported over $8 billion in revenue from "innovation products" since 1999 (figure as of 2008).

🔍 *Analysis*

Path to success: Whirlpool implemented a long-term organization transformation project with a significant focus on the emotional (cultural) and rational (business) frameworks that support innovation. Diverse staff were selected to become "innovation blackbelts" through intensive training and then returned to their posts to spread innovation through the organization. Formal pipeline and scaling processes were instituted to advance innovative ideas. This is a mixed model (*top-down and bottom-up*), in which executive support is critical to the long-term survival of the effort.

Table 2: Case studies summary

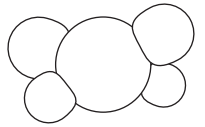| What we discovered	How we applied our discoveries to the project
The scope and manner in which employees are engaged—that is, how the emotional framework of the organization is nurtured—is critical in this process.	We incorporated the following into the Roadmap: • A scaled training program, starting with a few agents of change and ramping up over time, focusing on key elements of innovation and design thinking • A rewards and recognition system • Opportunities for building cross-functional teams in the creation of Pods (each Pod will be challenged to come up with solutions to an organization priority) • Updating the performance review system to include innovation criteria
The rational framework must align with the goal of creating an innovation orientation.	We proposed the following amendments to the organization's rational framework: • incorporate innovation into the business plan (and ensure integration into divisional plans); and • develop a risk management strategy, including the risk of doing nothing. We designed the Roadmap with significant flexibility built in to allow for changes over time.
External partnerships are a key driver of innovation. Creating strong relationships and affiliations with non-traditional partners will increase opportunities for innovation.	In Year 2 of the Roadmap, identifying and developing key external relationships will be a significant focus.

Table 2: Case studies summary (Continued)

What we discovered	How we applied our discoveries to the project
Diversity is critical. Best efforts should be made to hire the right people that fit with the goals of the organization and create conditions to encourage interaction and idea exchange.	This message is being incorporated into our overall communications with the CCOO's leadership. The proposed creation of Innovation Pods in the Roadmap will facilitate these desired interactions.
Embedded innovation takes significant effort, time and resources to develop.	Patience is key. Discussions with leadership have strongly emphasized this point. The Roadmap also communicates this through the timeline.
Strong leadership from the top is fundamental.	This message is being incorporated into our overall communications with the CCOO's leadership. Identifying champions and getting commitment from the Senior Management Team have been included on the Roadmap.

ORGANIZATIONAL BASELINE ASSESSMENT

⟳ Methods

The baseline assessment for the CCOO[1] comprised an electronic survey and semi-structured interviews.

The interview guide and survey questions were constructed on the theoretical foundation of the literature review.

The survey

The survey was distributed to all 1,400 employees in the CCOO and achieved a 7% response rate (98 respondents). It was built using a combination of open- and close-ended questions in an effort to solicit different types of information and contribute to the overall richness of the data. The survey was delivered using an online survey tool.
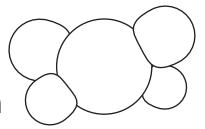
The semi-structured interviews

Invitations to participate in interviews were distributed to 20 innovation leaders in the organization, as determined by the CCO. Ten interviews were completed, each lasting approximately 60 minutes. They were conducted in person or, where face-to-face meetings were not possible, by phone. In the interviews, we asked a range of questions allowing respondents to provide a combination of facts, opinions and stories.

Data analysis

The results of each method were analyzed separately and then combined to identify key themes, opportunities and challenges. A secondary analysis of the data was also conducted to determine if we could identify *division-based* themes or trends. There were no significant differences identified through this analysis. It was our intention to analyze the data by *years of service* as well but, since that question was not mandatory, we did not receive consistent responses to make this analysis useful.

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1   We provide a short description of what the City of Toronto's Chief Corporate Officer Organization is in the section, "The Opportunity" above.

How does one open the doors to innovation without having the 'risk chip' in the back of your head impose itself with a message of 'I can't screw up because this will lead to so many problems'?

Interview participant

Innovation is built into who I am. It's difficult for me to see waste, or see things not being done well...

Interview participant

We were aware the potential for bias existed, given that a member of our team works for the organization in question. We sought to mitigate any such bias by having both members of our team coding the data, in addition to performing cross critiques, to achieve a level of inter-rater reliability.

The resulting data was used to complete the Innovation Readiness Canvas, setting the stage for the recommendations in the Roadmap.

Analysis

When asked whether they thought the organization was innovative, a strong majority of employees responded in the negative.

It became clear early on—and this became a recurring theme throughout both research methods—that there were pockets of innovation that couldn't be found consistently across the organization.

Lack of leadership and flaws in organizational structure (e.g., leading to unwieldy hierarchy or excessive red tape) were the top reasons cited when respondents were asked to elaborate on this insight.

The relationship between City Council and staff, senior/executive management and staff, and bargaining versus non-bargaining staff came up in a number of iterations and was an important theme. In addition, a number of respondents indicated the "this is how we've always done things" attitude was too prevalent for innovation to flourish. Another key barrier repeatedly identified was the organization's aversion to risk and fear of failure.

Respondents generally expressed optimism that they are seeing recent steps in the right direction.

Vision for innovation

Our culture is stuck in the past and has changed very little up to the recent past. However, there now seems to be a greater appetite to move forward with innovative ideas.

Interview participant

A number of respondents were leery of the term "innovation," concerned that labelling any attempt at change, improvement or advancement would hinder innovation efforts.

 Key insights: CCOO Strategy

> *The organization needs to ensure integration between the CCOO 5-Year Business Plan and the divisional plans currently in the works.*

> *Efforts should also be made to explicitly integrate innovation as a core value within divisional plans.*

> *While some see the CCO as an unstated innovation champion, a specific champion(s) needs to be clearly and publicly identified.*

> *The organization is very risk-averse. It should become better at encouraging calculated risk-taking through a universal risk management process supporting high-ROI projects/efforts.*

This concern arose because they perceived innovation as a fad, and efforts labelled as such short term and volatile in nature. That said, in envisioning a perfect organization, leaders spoke about greater autonomy for staff and an organizational structure more conducive to innovation (i.e., less linear, more collaborative and less hierarchical).

Leaders are acutely aware of the importance of accountability and transparency within the public service and the balancing act this requires when trying to push the envelope.

Drivers of innovation

A number of themes became apparent as staff explored drivers to innovation. These include:

> keeping pace with changing technology;

> efficiency (that is, keeping up with ever-growing demands on fewer resources);

> the need to support employees and their own desires for change and advancement;

> in some cases, the emergent nature—coupled with the magnitude—of issues that teams are dealing with (e.g., climate change); and

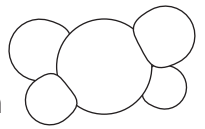> providing excellent customer service

Strategy

No overarching strategy exists explicitly mandating or promoting innovation. Indeed, some respondents point to the fact that an "innovation plan" (i.e., a formal document that will "just sit on a shelf") may not be the most appropriate way to frame the kind of change being proposed.

The organization does not have a formal risk management strategy, and there is wide agreement that the City of Toronto/CCOO is too risk-averse.

When asked about a champion, some respondents point to the CCO herself as a powerful motivator. Others indicate there is no clearly defined innovation champion.

Culture

Responses varied on whether the culture within the organization supports innovation. Where possible, leaders allocate resources to promote innovation. However, availability of resources, especially time, remains a major stumbling block, as workloads are generally too heavy to allow staff time to innovate.

> **👁 *Key insights: CCOO Culture***
>
> ❯ *While there are some elements of localized support for innovation within the organization, there is strong evidence of a general reluctance to change.*
>
> ❯ *Employee engagement and collaboration, especially across functional units, is spotty, But the perception is, this situation is improving, thanks to new leadership.*
>
> ❯ *Mirroring the City's motto, diversity is one of the organization's strengths. However, heavy workloads and lack of other resources threaten its ability to innovate.*
>
> ❯ *There is a clear institutionalized fear of failure.*

At both the CCOO and divisional levels, change management in recent years has been approached carefully with a significant focus on clear and consistent communication, including giving employees ample opportunity to provide feedback. That said, the need for clear communication was strong—a repeating message within both interviews and surveys. Communications between management and staff, and feedback on ideas put forward by employees were specifically mentioned. A significant challenge lies in the vagaries of working with City Council, which some respondents see as a barrier to innovation. A majority of respondents agreed strong and thoughtful leadership from the top is critical to the success of change management initiatives. One respondent insisted the organization needs to "create change-makers" within staff ranks.

In terms of supporting a culture that promotes innovation, efforts are observed across the CCOO, and there are known to be localized pockets of excellence. Resource constraints play a significant role in the extent to which the organization can strengthen employee engagement. Optics is also an important factor: the public service, for example, can't incentivize employee excellence or learning in the same way as the private sector.

Lack of collaboration was identified as a significant barrier to innovation, both within and between teams.

Across the board, respondents agreed the City employs a significant diversity of people and skill sets. There was also agreement that diversity positively impacts the organization's ability to innovate. There was some discussion that this diversity sometimes leads to less cohesiveness among teams. Respondents raised concerns about the nature of the work in the group, which tends to be heavily technical across most of the divisions within the CCOO. This work tends to be more male-dominated, leading to less diversity of perspectives and reasoning/thinking styles.

Many people are afraid to change the way things are done and do not like new things…unless it is of benefit to them.

Survey respondent

> 👁 ***Key insights: CCOO Process***
> ❯ *There is no clear process for advancing innovative ideas.*
> ❯ *Recent cross-organization collaborative projects (e.g., the business plan project) show potential for success in building greater vertical and lateral connections across the organization and should be used as a model for future efforts, despite its hierarchical structure.*
> ❯ *Funding to advance innovative ideas is identified on a project basis, as innovative projects are sometimes funded through standard budget processes.*
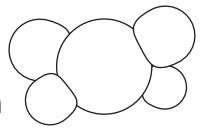
Process

Respondents agreed no formal, high-level, consistent process exists to explicitly encourage or nurture innovation within the organization.

Respondents listed a range of reasons for successful innovation projects, including:

❯ starting with an appropriate scope (many said successful projects started "small" and stayed focused.);

❯ the right kind of collaboration with both internal and external groups;

❯ providing staff with autonomy;

❯ champions, especially to help overcome obstacles; and

❯ strong leadership from management and Council.

Respondents agreed the organization is not open to failure—and, as such, it's unable to learn from failure. Reasons for this include:

❯ fear/lack of security;

❯ lack of support from senior leadership;

❯ lack of resources;

❯ lack of explicit targets;

❯ lack of accountability;

❯ poor communication between project initiators and project staff;

❯ bureaucracy and red tape; and

❯ a "this is the way we have always done it" mindset

> ### 👁 *Key insights: CCOO Portfolio*
>
> ❯ *The organization has the ability to manage a diverse portfolio of projects and innovations.*
>
> ❯ *Many program areas demonstrate a strong project management track record; however, project management rigour needs to become institutionalized across the organization.*
>
> ❯ *The organization must become comfortable with talking about failure and learning to incorporate lessons learned from previous efforts into future projects.*

> ### 👁 *Key insights: CCOO Scalability*
>
> ❯ *There are some demonstrated capabilities on scaling projects, but as with project management, this skill set is not in evidence across the entire organization.*
>
> ❯ *Similarly, the ability of the organization to pivot when needed in response to project feedback or changing market conditions is limited. While certain obstacles to changing this (such as purchasing policies) are difficult to address, the organization should move to address those within its power.*

Portfolio

Respondents noted the broad variety of projects and initiatives employees are accustomed to working on at any given time; they therefore have some skill in managing this effectively.

The ability to manage projects effectively varies based on the employee's individual skill level and their ability to collaborate with—and pull in—the appropriate expertise where required. As previously noted, training and development resources are limited, and respondents felt time for this development was limited and not necessarily supported by management.

Learning from previous projects isn't standard to the organization's *modus operandi* and needs to be formalized. We did not ask whether informal processes exist, but if they do, they are not widespread. The fear of risk/failure may exacerbate this situation. Another possible explanation is the issue of "work overload", where employees do not feel as though they have enough time to reflect on their process before moving on to the next task at hand.

Scalability

Respondents point to many examples of innovative ideas moving from concept to pilot to full-scale rollout with success. However, whether these approaches are embedded within the organization, or whether best practices for successful rollouts are shared across functional teams, is unclear.

A feedback mechanism does not appear to be in place to optimize ideas that are implemented.

Corrective action in response to project signals or market dynamics tends to come long after the end of a project—in other words, the organization does not have the ability to pivot quickly.

We must reduce the potential for complacent reasoning that defends the status quo.

Survey respondent

Success comes from the commitment and dedication within our team. Our attitude goes beyond 'this is something I do to be able to pay my rent' and speaks to a larger ideal of improving quality of life for residents of the City.

Interview participant

Barriers

Respondents suggested many barriers to innovation, including the following:

› Organizational structure
  • Red tape (particularly from IT, HR and Finance)
  • Hierarchy
  • Division between staff and the political realm (City Council and the Mayor)
  • Lack of collaboration
  • Lack of process to support/nurture innovation
› Communication
  • Lack of clear objectives and measures
  • Employee engagement
  • Lack of incentives/rewards
  • Lack of trust in staff
  • Poor morale
  • Heavy workloads
› Leadership
  • No executive leadership
  • Lack of resources
  • Risk aversion/resistance to change.

Suggestions for removing barriers to innovation flowed directly from the barriers themselves. For example, where a respondent cited silos as a barrier, they inevitably suggested changing the organization's structure to allow for greater collaboration and fewer silos.

Some additional suggestions include:

› building a workforce of "smart creatives" (i.e., employees with a more modern mindset), as staff felt these professionals would be more open to innovation;

› acknowledging the pride employees take in their work and striving to build it;

› providing curated opportunities for innovation in addition to weaving innovation throughout;

› providing a top-down mandate for innovation; and

› reporting on progress and success.

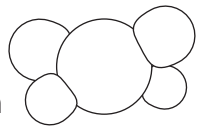**Figure 5: Baseline analysis: data coded for themes, opportunities, challenges, departments and years of service**

Table 3: Baseline Assessment Summary

What we discovered	How we applied our discoveries to the project
This baseline assessment provided important information on the organizational context, providing a picture of the organization's culture, its key challenges and the barriers to innovation.	Data from the baseline assessment was used to: ❯ complete the Innovation Readiness Canvas; and ❯ provide context for the participants in the Futures Research and serve as a foundation for the scenarios built in the workshop.

FRAME
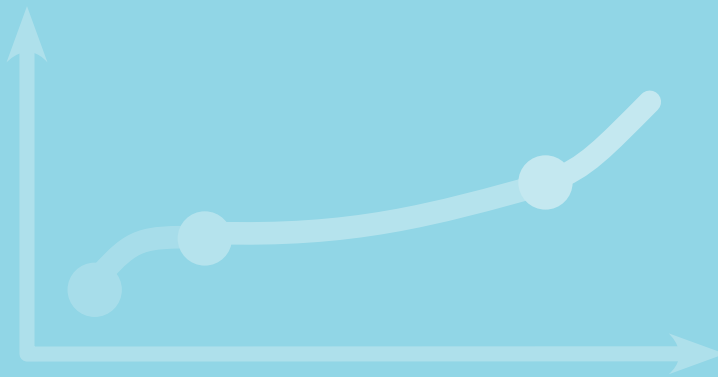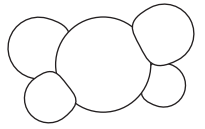
IN THIS SECTION:

> Innovation Readiness Canvas
> Futures research
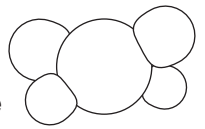
INNOVATION CANVASSING

Method

Inspired by Alex Osterwalder's "Business Model Canvas" (Osterwalder and Pigneur, 2010), we developed a tool to evaluate the current state of innovation within any given organization and assess its "innovation readiness." The five critical success factors form the foundation of this tool. Through our research, we identified the key combination of criteria that make up each critical success factor and assigned weightings to each criterion. Using the information collected from the baseline assessment, we "canvassed" the organization, rating each criterion. The process identified gaps and opportunities within each critical success factor. The outcome enables ongoing monitoring of progress over time and is an effective communication aid.

Analysis

The canvassing process resulted in a score of 40% for the CCOO. This means the organization shows some success and potential to go further, despite the lack of a system-wide innovation culture. There is significant opportunity for transformation, although any such endeavour will require significant willpower from leadership, major amendments to the organization's rational framework, a complete transformation of its emotional framework and a long-term commitment of resources (human, time and financial).

We have found the Canvas to be an effective tool for communicating the complexity around innovation readiness in a simple and easily digestible format without compromising or hiding the depth of any of the factors or criteria. We have presented the completed Canvas for the CCOO to five key leaders in the organization (including the CCO and three Directors), and each remarked on its value.

THE INNOVATION READINESS CANVAS

Grounded in a significant body of research, we moved through each phase of the Innovation DNA Model as we developed, tested and refined this tool. As mentioned earlier, we tested the tool with two organizations, performing a cross-comparative analysis of the results to determine where similarities and differences existed and to see if there were areas that specific organizations excelled at that could be applied to our current work. This testing was done prior to the start of this MRP. The resulting tool is not meant to be a scientifically accurate precision instrument but, rather, a subjective tool for assessing the current state of an organization's innovation readiness—one that can be used to guide efforts to improve innovation. That said, we took pains to avoid bias in the completion of the Canvas by seeking inter-rater reliability with our analysis.

The canvas is made up of five key components:

▶**1** The five critical success factors – As discussed in the section, Creating the ideal conditions for embedded innovation, the five critical success factors form the core of the Canvas. Scoring criteria are listed under each factor, and these criteria were selected and weighted based on our research.

▶**2** The organizational assessment – For the CCOO, we used a combination of expert interviews and data from the baseline assessment. The survey and interview data played an important role in completing the Culture section, while experts within the organization can largely (and accurately) complete the other sections.

▶**3** The score – Based on responses to the scoring criteria, the CCOO has achieved a score of 40% on this assessment.

▶**4** The scale – Provides an explanation of the score.

▶**5** Tracking Your Progress – A general description of how the Canvas can help the organization track its innovation readiness over time.

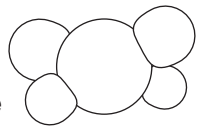A completed Canvas for the CCOO is available in Appendix E.

>> strategy	**culture**	**process**
1		
› Strategic Plan with specific focus on Innovation exists............ (1)	› Culture that supports & rewards innovation at all levels of the organization....................... (2)	› A clear process exists to identify and advance innovative ideas(1)
› Full vertical integration of strategic plan into operations (1)	› Employees provided resources to innovate (including time, training, autonomy)............. (3)	› Organization is structured with strong vertical and lateral connections .... (2)
› A balanced, articulated risk management process exists – allowing possibly risky ideas with high ROI to advance........... (1)	› Organization proven adept at managing change .... (1)	› Process to advance innovation is well-resourced................... (2)
› Innovation champions widely acknowledged................... (1)	› Strong culture of employee engagement & collaboration. (2)	
	› Strong diversity in workforce from all perspectives (reasoning/ thinking styles, skill sets, professional experience, etc.) (2)	
2		
▶ A new business plan was just completed and, while it does include many innovative ideas, does not specifically entrench innovation as a value .... (0.5)	▶ Some elements of localized support for innovation within the organization. Strong evidence of a general reluctance to change......................... (0.5)	▶ No clear, universal process exists................................ (0)
▶ Efforts to full integration of the plan through the organization have begun with a mandate that each division develop its own business plan .... (0.75)	▶ Resources for innovation are extremely limited................ (1)	▶ Organization structure is very hierarchical but very recently changing due to new leadership – cross-divisional teams being formed to work on projects, etc. .... (0.5)
▶ Organization is very risk averse, no universal risk management process in place that supports high ROI projects/efforts...... (0)	▶ Organization has been through significant change recently and has managed well .... (1)	▶ Resources to advance innovation identified on a project basis. No overall plan. That said, innovative projects are sometimes funded through standard budget process .... (0.75)
▶ Very little clarity/no consensus on innovation champions......... (0)	▶ Employee engagement & collaboration spotty but improving thanks to new leadership .... (1)	
	▶ Strong diversity exists within existing staff complement. Opportunity exists to increase skill sets and perspectives (1.5)	
3		
Score **1.25**/4	Score **5**/10	Score **1.25**/5

Figure 6: The Innovation Readiness Canvas

📁 portfolio

› Organization adept at managing a diverse portfolio of innovations – including both incremental and radical innovations .... (1)
› Effective project management(1)
› Organization adept at learning from previous efforts........... (1)

▶ Organization has the ability to manage diverse portfolios but significant workload issue is preventing full uptake of potential....................... (0.75)
▶ Many program areas demonstrate a strong project management track record(0.75)
▶ Fear of failure means the organization has a history of not taking the time needed to learn from mistakes................. (0.5)

Score **2**/4

📈 scalability

› Demonstrated aptitude for moving from concept, to prototype, to full-scale rollout in a timely manner(1)
› Feedback loops in place to allow for course correction and adaptation (pivoting) .... (1)

▶ Demonstrated aptitude to scale, however process occurs slowly .... (0.25)
▶ Organizational processes too rigid or no process in place to pivot DURING projects........... (0.25)

Score **0.5**/2

Total Score .... 10/25 = 40%

WHAT DOES THE IRC SCORE MEAN? ◀ 4

76-100% Your organization is a high-performing, innovative organization. While there is always room for improvement, your culture, systems and processes put you ahead of the game. Innovation is ingrained into the organization's DNA.

51-75% Your organization is well positioned to be a sector leader, with significant portions of the organization demonstrating innovative culture. The iRC can help identify the gaps that will advance the organization into a high-performing space.

26-50% Your organization is may show some success despite the lack of a system-wide innovative culture. There is significant opportunity for transformation, although any such endeavor will require significant willpower from leadership as well as a long-term commitment of resources (human, time and financial).

1-25% Your organization's culture, systems and processes are highly risk-averse and actively discourage innovation. Your organization is likely trailing others in your sector.

TRACKING YOUR PROGRESS ◀ 5

Tracking your iRC score on a regular basis is an effective way to keep your "finger on the pulse" as your organization evolves into an innovative organization.

40%

👁 *Key insights: Innovation Canvassing*

The research we have done up to this stage (not including the canvassing) has helped us to uncover key concepts to guide our work; elicit themes, barriers and challenges organizations that wish to innovate often encounter; and establish a baseline for the City of Toronto's CCOO. Canvassing enabled us to analyze the baseline assessment with a different lens.

Overlaying the information with the five critical success factors and the specific context of the CCOO has helped us identify key elements of the Roadmap to Innovation.

The canvas shows that while the foundations exist, there is plenty of opportunity to develop the CCOO around the five critical success factors to embed innovation in the organization's DNA.

Table 4: Innovation Canvassing Summary

| What we discovered	How we applied our discoveries to the project
The fundamental purpose of the Canvas and its process is to help identify ways to improve the innovation readiness of the organization.	Canvassing helped provide us with clarity on gaps and opportunities within the CCOO. The Roadmap to Innovation was constructed with these in mind.
The Canvas is an effective communication tool to present the state of innovation within an organization.	We met with five senior leaders (including the CCO and three Directors) to present the results of the Canvas.
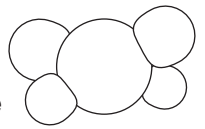
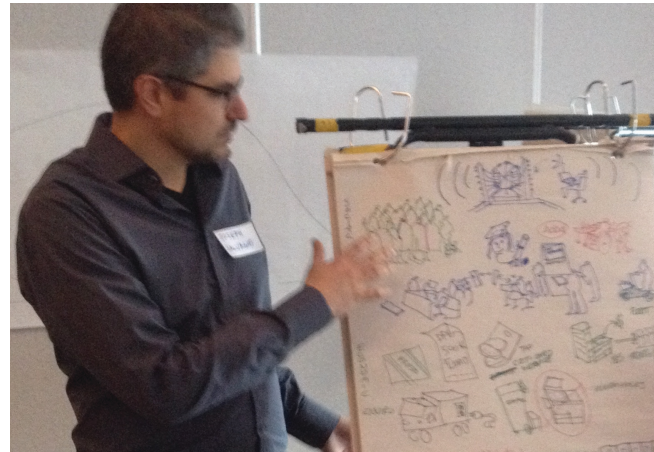**Figure 7: Participants used the STEEP-V framework to help build their scenarios**

Figure 8: The 10-year group leaders deliver their scenarios to the plenary

FUTURES RESEARCH

⟳ Method

Scenario planning allows a multi-disciplinary group to identify the relevant focal question or issues that may significantly impact the future of an organization. Small teams construct narratives about the future, incorporating the broadest imagined spectrum of uncertainties and trends.

Leaders, influencers and change-makers in the CCOO gathered for a half-day scenario planning workshop. Prior to the workshop, we provided participants with a backgrounder including the following information:

› a description of strategic foresight and the process it follows; and

› some context to help frame the work that would be done in the workshop (the material served as the horizon scan[1] to inform the development of the scenarios).

---

1   Horizon scanning is a process used to identify new trends (from individual signals), opportunities and risks (Stonebridge, 2008). While it is used regularly in the wider business world, in foresight, it serves as a foundation of the scenario-building process.

› This context included:

- at a local/hyperlocal level: the results of the most recent research (staff surveys and interviews) conducted within the CCOO;
- at a national level: The Suzuki Diaries: Future Cities - http://www.cbc.ca/player/Shows/ID/2198181840/; and
- at a global level: KPMG's report on the nine global megatrends relevant to governments, plus the seven drivers of public sector innovation from Christian Bason.

The backgrounder can be found in Appendix F.

The workshop used guided exercises and scenario development techniques. Leaders were able to develop plausible scenarios for the future in specific timeframes of three, five and 10 years. Participants were asked to self-select into groups: those who naturally tended to think near-term were asked to join the three-year group, while those who were naturally inclined to think long term were asked to join the 10-year group.

Figure 9: The 10-year horizon scenario

Figure 10: The key themes, challenges and opportunities were placed onto a large timeline as the groups narrated their scenarios to the plenary

Participants were instructed in the STEEP-V framework (see below) and asked to use this to help them develop their scenarios. Using the contextual information provided in the backgrounder as well as their own business and personal experiences, the teams created stories describing their future in the following general themes:

› Social
› Technological
› Economic
› Ecological
› Political
› Values

The groups used a combination of drawing/sketching and storytelling techniques to express the details of their timeframes.

Each group then delivered their scenario to the plenary, and a discussion followed each presentation. Participants were encouraged to critique the scenarios by:

› asking probing questions;
› challenging assumptions; and
› delving further into the details.

This process introduced rigour and helped flesh out the scenarios in a significant way. The transcribed scenarios can be found in Appendix D.

As the scenarios were delivered and discussion ensued, we extracted key themes, challenges and opportunities that may have a significant impact on the future of the CCOO and posted them on a timeline representing the three time horizons. Following the workshop, we analyzed the information on the timeline to extract the key details.

Analysis

Generally, there was widespread agreement among participants that the organization and its leaders must adopt a new approach, moving from a reactive to a proactive leadership style. In doing so, the organization would be able to increase not only the speed with which it moves but also its flexibility and ability to pivot as the organizational context evolves.
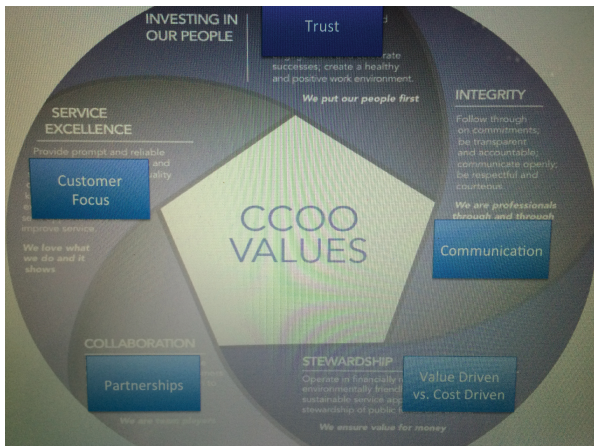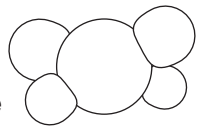
Figure 11: The key themes from workshop align perfectly with CCOO values, as outlined in the CCOO 5-Year Business Plan

Additionally, a critical opportunity was identified in the five-year time frame. Around this time, more than half of the workforce will be eligible for retirement. Participants saw this as both a potentially major disruption and an important opportunity to reshape the face of the organization: its employees. In order to do so, the CCOO's leadership must:

1. effectively manage this transition; and

2. create an environment that will attract the right people to replace those retiring. They will need to understand the following details:

   a. Who are these people?
   b. How does the organization create conditions for them to thrive?
   c. What do they want and need from their employer?

In addition to this opportunity, we identified a number of themes running through each scenario.

1. **The organization needs to adopt a *customer focus*.**

   a. Go out into the community—go to the customer.
   b. Work harder to understand the cultural shifts underway and how they affect the organization, its people and the work they do.
   c. Increase engagement with the public.

2. **Create an environment of *trust*.**

   a. Shift to performance-based outcomes and look at the right metrics to assess employee performance.
   b. Provide more flexibility and autonomy for employees.
   c. Invest in training and learning opportunities.
   d. Rethink the workspace.
   e. Create a flatter, more collaborative work structure.
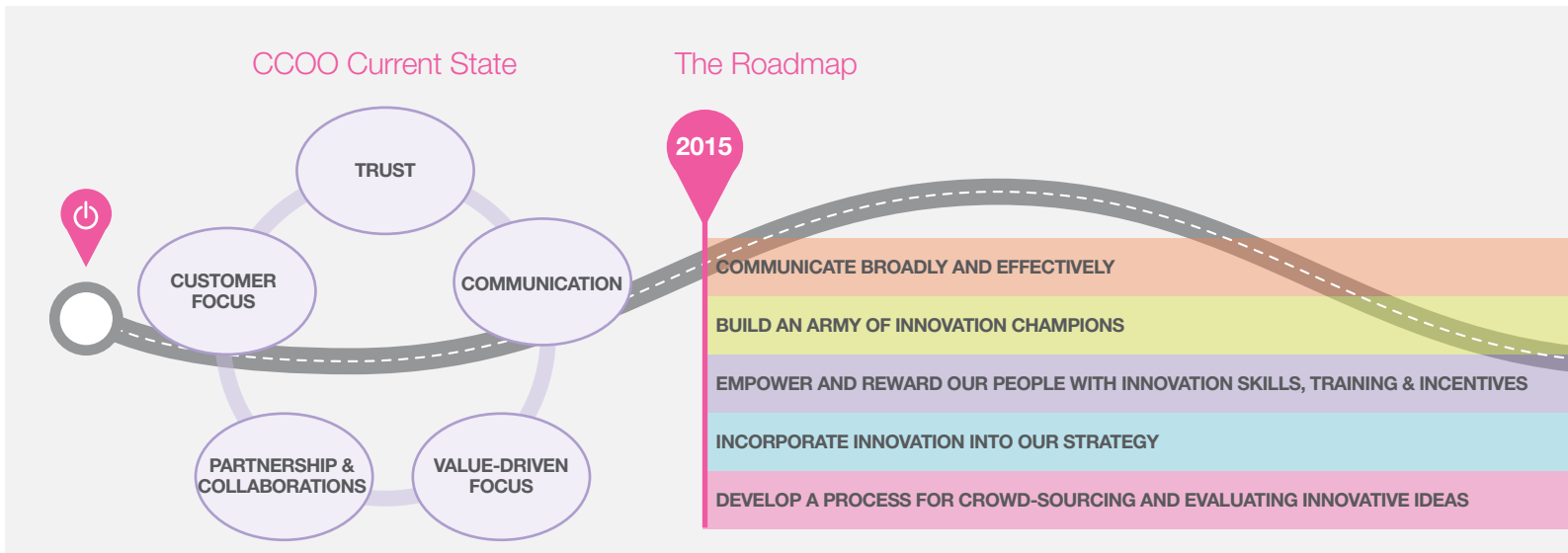   f. Be open to calculated risks.

Figure 12: Key insights from the futures workshop in the larger context of the organization's future.

3. Communication is critical.

a. The organization must lead the conversation with its partners and City Council about its work.

b. Use storytelling and other creative ways to share successes and lessons learned from failures.

c. Work hard to promote ideas and opinions known to be in the best interests of its customers.

4. Focus on value, not just budget.

a. Focus on the value of the organization's ideas and work, instead of only focusing on cost and budget implications.
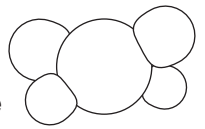
b. Evaluate the cost of doing nothing.

5. Foster partnerships and deeper collaboration.

a. Manage relationships with City Council more effectively.

b. Learn from other divisions and outside organizations.

c. Actively seek to reduce or eliminate silos.

We conducted a simple cross-analysis of the futures workshop and the CCOO 5-Year Business Plan. This analysis identified a strong alignment between the key themes that emerged from the futures workshop and the corporate values outlined in the plan.

👁 *Key insight*

While the upcoming mass retirement potentially represents a huge challenge, it's also an opportunity to create a transformational culture shift from the "old way of thinking and doing" to the desired future.
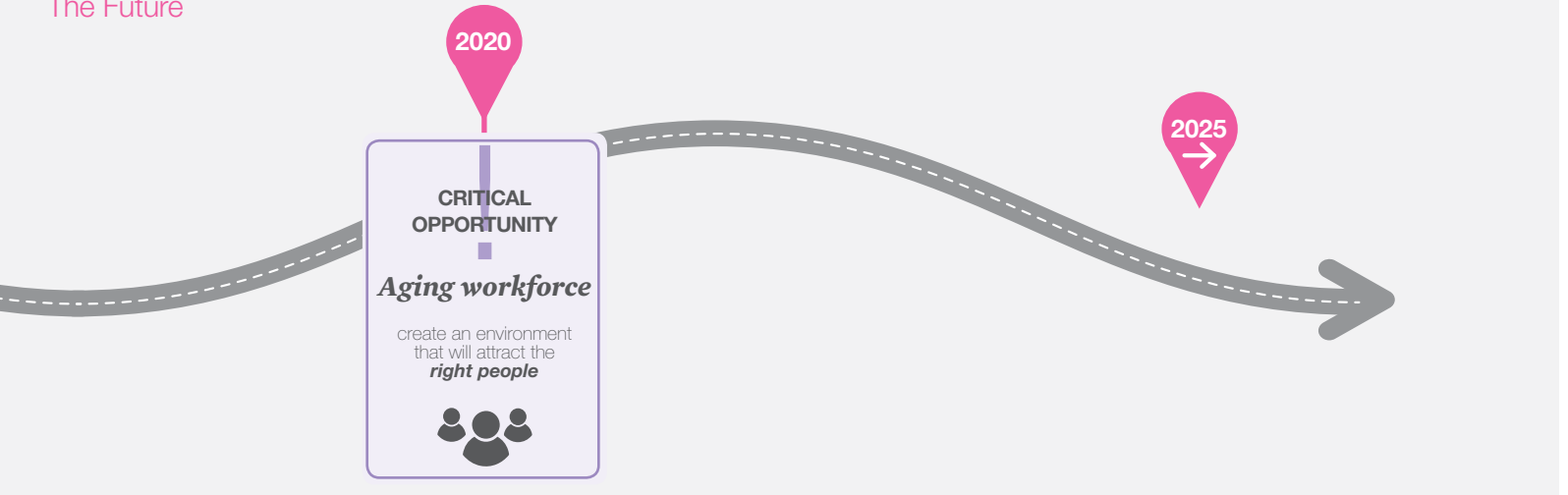
The Future

2020

CRITICAL OPPORTUNITY

Aging workforce

create an environment
that will attract the
right people

2025 →

Table 5: Futures research summary

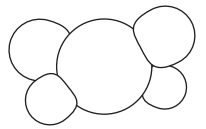| What we discovered	How we applied our discoveries to the project
While transformation is essential to future growth and survival, the CCOO has a critical opportunity that, if managed well, will help facilitate this transition.	Themes for key challenges emerged from this process. These themes have been communicated to the leadership team and will be used to form "challenge questions" for the innovation pods.

DESIGN

According to conventional wisdom, public organisations cannot innovate. Bureaucracies lack the competitive spur that drives businesses to create new products and services. Their rules squeeze out anything creative or original. Their staff are penalised for mistakes but never rewarded for taking successful risks. So while business develops new chips, iPods, airplanes and wonder drugs, the slow and stagnant public sector acts as a drag on everyone else

Mulgan, 2007

ROADMAP

In this project, we used research methods to gain a deeper understanding of innovation, examine how other large organizations innovate, assess the innovation readiness of the CCOO and explore its employees' dreams for the future. While the process so far can be applied as a template to almost any organization, the next phase of our work is organization-specific.

Every research method used in this project has helped us in creating this Roadmap to Innovation. The Roadmap is both a systemic plan and a tool kit, designed to strengthen the innovation orientation within the organization. It's important to note, though, that the Roadmap is a dynamic plan that must evolve over the long term in response to the organization's changing context. While some parts are short term, much of it will take years to develop, implement and embed before we can truly see the results we are seeking: the organization's cultural transformation.

Note: The Roadmap is designed to serve as a stand-alone communication tool for the CCOO. As such, the reader will find some of the information preceding this point in the report duplicated, in more accessible language, in the following pages.
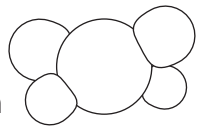
Innovation Roadmap

1
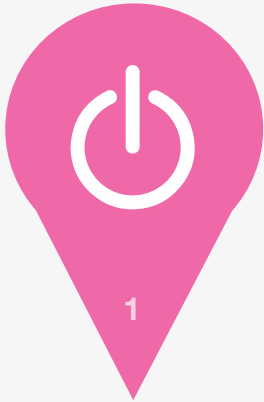
Start here.

We have a lot on the go: the City's Strategic Actions, Deputy City Manager's Strategic Plan, CCOO 5-Year Business Plan and our Divisional Business Plans lay out many ambitious goals and targets that we will be expected to achieve in the coming years. As employees, we also have our own dreams for what we will achieve - as a City, as a team and individually. We know *what* we must do, but what we may not fully understand is *how.*

Over the past 18 months, we have engaged and heard from hundreds of CCOO employees. We understand that we face some challenges, but also that each of these challenges can be an opportunity. Here's what you've told us.

3

START

2

Key challenges & opportunities

1. We have an aging workforce and must effectively plan for a major transition of retiring employees in the next five years.
2. We must keep up with changing technology.
3. We must put our "customers" at the heart of everything we do.
4. We want to build an environment of trust.
5. We need to lead the conversation about the work we are doing.
6. We must work hard to promote our ideas and opinions when we know it is in the best interest of our customers.
7. We must focus on the value of our ideas and work, instead of only focusing on cost and budget implications.
8. We need to collaborate more effectively, and explore how partnerships can help us do our jobs better.

HOW **WILL BEING AN INNOVATION ORGANIZATION HELP?**

In addition to helping us address challenges, innovation can help in other ways. It can:

1. Make us more productive and efficient.
2. Help us serve a rapidly changing public. This change is coming due to aging, immigration, urban densification, and more.
3. Help us meet match or exceed the services and service levels found in the private sector, which the public is increasingly expecting of us.
4. Position the CCOO and the City of Toronto as a leader, both nationally and internationally. We want the city at large to be an attractive place to live and do business.
5. Help us better prepare the organization and the city at large for shocks, like economic downturns or climate change.
6. Give us more room to be creative and more engaged at work.

"Innovation will make my work more interesting and exciting. It will enable me to look at work from a different perspective and allow me to think outside of the proverbial box. It will allow for a more creative workforce that embraces new ways of working together. People will be less afraid of failure and more likely to try new things. Innovation will have a positive effect on the corporation as a whole." - CCOO staff

HOW **INNOVATIVE OF AN ORGANIZATION ARE WE?**

We have conducted a baseline assessment of the CCOO and used a tool called the Innovation Readiness Canvas to help us understand where we stand right now. The data used to plug into this tool came from surveys, interviews and workshops that engaged over 150 people from the CCOO.

All staff survey 100
Interviews & consultations 30
Futures workshop 20

The results of this assessment show that we have a solid base to work from, and that there are pockets of excellence across the organization. We still have a lot of work to do, however. That is the purpose of this roadmap - to lay out the path to transforming our organization; to set us up for success as we tackle the challenges and opportunities before us.

4

5
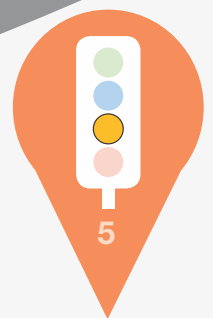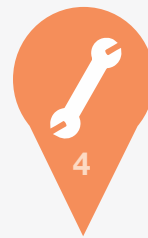
How do we address these challenges and take advantage of these opportunities? We believe that an important part of the answer is to make the CCOO into an **innovation organization**.

Our innovation readiness score is 40%.

What does this mean?

Our organization shows some innovative characteristics, despite the lack of a system-wide innovation culture. There is significant potential for transformation, although achieving this will require significant willpower from the organization's leadership and employees, as well as a long-term commitment of resources (human, time and financial).

40%   WE ARE HERE

How do we become more innovative?

The roadmap lays out a plan for making our organization more innovative; setting us up for success as we tackle the challenges discussed earlier. It does not seek to provide us with the solutions to these challenges (that is, it's not the what) but, rather, tells us how we can find those solutions. It is important that this Roadmap evolve as our needs as an organization evolve. It will be up to the Innovation Panel to ensure that this happens.

MONTHS 0-3

6
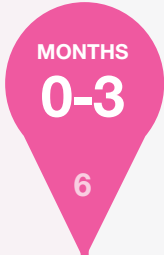
Year 1

Communicate broadly and effectively

> Socialize the innovation plan amongst the Senior Management Team (SMT)
> Develop communications plans and actions for Senior Management Team that will demonstrate support and enable innovation.

Build an army of innovation champions

> Identify innovation champions - individuals in leadership positions that will advocate for, guide and support innovation within the CCOO. Start with the CCO.
  • CCOO leadership to commit to an allocation of time
> Establish an Innovation Panel: key individuals to guide roadmap implementation
  • Panel and leadership to identify key opportunities/challenges within the CCOO using research and outcomes of futures workshop.
> Identify agents of change - these individuals will lead the innovation challenges (engage employees as volunteers, not conscripts)
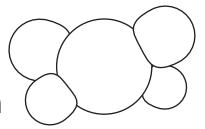
Empower and reward our people with innovation skills, training & incentives

> Identify suitable TPS Learning courses that could develop key skills that are supportive of innovation and communicate to employees

Incorporate Innovation into our strategy

> Create our own definition of innovation

Develop a process for crowd-sourcing and evaluating innovative ideas

MONTHS
3-6

7

MONTHS
6-12

8

❯ Develop communications plan to:
  • Serve as a change management tool that informs and engages employees on the overall effort regularly
  • Inform employees about specific developments and showcase successes.
  • Consider unique channels to differentiate from standard messaging.
  • Tell stories that capture the work we are doing and communicating them within the organization. Includes talking about successes, risking taking, lessons learned.

❯ Identify agents of change
  • Create a specific challenge question(s)
  • Determine time allocation for teams
  • Agents of change will work with Innovation Panel to create "Innovation Pods" made up of a diverse, cross-functional team of 3 or 5 people
  • In Pods, move through innovation process to generate proposed solutions to challenges
  • 2-3 Innovation pods simultaneously working on the same challenge will provide the organization with a richer palette of possible solutions
  • "Best" solution customized from proposals, one group tasked with moving to design

❯ Identify agents of change
  • In partnership with panel, develop metrics and measurement to define success for each solution
  • Allocate resources (people, time, budget) for process
  • Loop back to communicate process to organization

❯ Innovation Panel to develop and support training activities that fills the gaps in TPS Learning courses

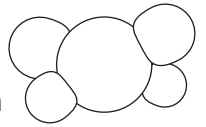❯ Lunch and learns (pilot with Pods in year 1, open up to the rest of the organization in future years). Topics could include: the innovation process, design thinking, thinking in systems, wicked problems, futures/long term thinking, learning from failure, calculated risk-taking, business case development and presentation

❯ Explore and implement incentives and rewards, including a recognition system that meets the specific needs of employees

❯ Integrate "innovation" into our strategy (CCOO Business Plan and Division plans)

Year 2

Year 3

❯ Ramp up training for agents of change
❯ Onboard a new cohort of change-makers
❯ Open up training opportunities to the larger organization
❯ Develop plans for wide-scale project management training that aligns
   with innovation goals
❯ Integrate innovation into performance management system

❯ Update the Innovation Readiness Canvas assessment; communicate results
   • Develop risk management strategy that embraces calculated risk taking
      ‣ Pilot in one unit/program
      ‣ Incorporate into communications plan

❯ Update the Innovation Readiness Canvas assessment; communicate
   results
❯ Roll-out risk management strategy

❯ Develop plans for the Innovation Pipeline (solicit ideas - evaluate -
   select - develop - pilot - feedback - scale)
   • Look for opportunities to implement these solutions in other parts the
      organization, where appropriate
❯ Develop and implement an assessment tool for solutions that come out
   of the Pods and new innovative ideas that enter the Innovation Pipeline

❯ Source and implement innovation process software

HOW DO WE KNOW THAT WE ARE MAKING PROGRESS?

As we implement the actions laid out in this Roadmap, and as other major strategic projects - like the Connected Workplace - move forward, our organization will begin to evolve more rapidly. The Innovation Readiness Canvas will help us track this transformation and make sure that we are on course. We want to see that score going up year after year. When it doesn't, we will have to explore why and make course corrections, if necessary.

11

GUIDING PRINCIPLES

FOR IMPLEMENTING THE ROADMAP

❯ Collaboration is the name of the game:
  • Work together, across silos, to create solutions to the challenges we face.

❯ Solve problems in new ways:
  • Think beyond the day-to-day, look to the future.
  • Look outside the walls of the City for inspiration.

❯ Let's talk about risk:
  • Taking calculated risks can often lead to great success. But in those times that it doesn't, we must...

❯ Learn from failure:
  • Use the lessons we learn to help increase our chances of success the next time around.

❯ And when we are successful, we must spread the good:
  • Ensure that good ideas are spread through the organization and adopted in other areas of the business, where applicable.
  • Celebrate successes, both big and small, and take the time to appreciate the efforts and the people who have helped create that success.

❯ Finally, we must recognize that this kind of change does not come quickly - this is a process that requires dedication and a commitment over years. We will start small and work our way to creating the kind of organization that we would all be proud to work for.

12

A vision for the future
THE CCOO IN 2020

This scenario of the future was developed by your colleagues at a workshop held in February 2015. It is a 5-year vision for what work in the CCOO will look like.

Marjorie comes into work on the subway, which has full wi-fi access, meaning that she can get some work done on her commute. In the nice weather she bikes in, as she does not live far from work. Marjorie works in an outcome/performance-based system, representing the trust that her manager – and thus, the City - has in her. She does not need to clock in and, indeed, can make her own hours, as long as she achieves the outcomes that her and her manager agree on.

Ali has to drive into work but, because he was able to pick a work location that is close to home, his commute is short. He works out of one of the CCOO's locations in Etobicoke. He uses his own device for work, and receives an allowance from the City. His device is fully tapped into the City's systems, enterprise apps, etc. Ali's motto is "work hard, but work smart." This means that he focuses on making his workflow efficient, which is possible given the reduced red tape throughout the system.

The physical workspace has been transformed – employees have access to more common areas, including lunchrooms, and more collaboration space exists; although there is ample private, quiet space for those who need it. This new workspace arrangement means that there are stronger social connections between the divisions – Marjorie is able to meet and connect with her colleagues on an informal basis, leading to greater productivity if and when they are required to work together – she feels comfortable calling up people she has never met before. The environment is more relaxed, yet more productive, as employees have new ways to get the business of the organization done. The organization is now largely paperless, a move enabled by the smart use of technology.
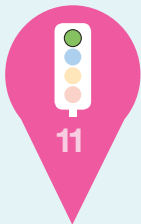
On-site gardens provide produce to the cafeteria, providing employees the opportunity to eat delicious and healthy produce grown in their "backyard." Marjorie's favourite is the zucchini muffins.

Ali and Marjorie have noticed the very significant turnover that has begun to occur. The mass retirement that was identified a few years ago has been well handled – the organization is now well placed to manage the critical transition that is occurring. The CCOO is an attractive employer to "smart creatives" – professionals with innovation at their core, who are not afraid to embrace (and push) new ideas. This changing face of the organization is apparent to employees, who have received regular updates and engagement from the organization's leadership through the transition. They have also noticed a change in the hiring system where there is a greater focus on hiring replacement staff in time to transition from the departing staff.

A lot of the inspiration for how to grow the organization's desirability amongst the smart creative demographic came from learning from the successes of other City divisions as well as from external partners. The leadership of the Mayor, who fosters positive cultural change in the organization, is also seen as critical to this and has set the tone amongst the senior executives of the City.

The overarching focus of the organization has begun to transition away from a rigid focus on the budget and towards a focus on value-driven outcomes. This has been supported by an increased investment in the City of Toronto by the senior orders of governments.

One of the key differences that Marjorie feels is that the organization now encourages controlled risk taking and embraces learning from failure. Marjorie was recently contacted by Human Resources and very gladly gave a testimonial on why she loves working for the CCOO. This testimonial was posted on the website and used to help attract people to work here.
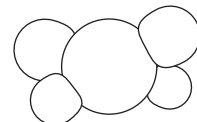
PILOT

Despite the fact that the Pilot phase is outside the scope of this project, we have started to work with the organization to implement some of the actions in the Roadmap. This work has focused on two specific actions that are important prerequisites for the rest of the plan.

Roadmap action:

"Create our own definition of innovation."

Our effort:

We believe that opening the dialogue with employees on the Roadmap without first creating a common understanding of why the organization needs to innovate would be detrimental to its success. As such, we worked with the planning committee for the 2015 CCOO kick-off event to help design and implement an agenda that would help achieve establish a common understanding of the need. 250 employees from across the organization participated in this event where we led activities that, in combination with a carefully chosen keynote speaker and panel discussion, set the stage for the launch of the roadmap. The keynote was the President of George Brown College, who has lead her organization through a very public transformation since 2005. She spoke of her vision for the organization when she was hired and how this helped guide the organizational transformation. Our first activity immediately followed the keynote. Participants discussed and came to consensus on 2, five-year aspirational goals for the CCOO. The panel was composed of three City of

Toronto executives and moderated by the CCO, who led an interactive discussion about their experiences serving as agents of change, identifying outcomes and lessons learned. During the second group activity, participants discussed and suggested how they could serve as agents of change for the CCOO.

Throughout the event, speakers and delegates alike repeatedly identified the need for the CCOO to become a more innovative organization. Once the Roadmap has been introduced, socialized and has received endorsement from the Senior Management Team (SMT), conditions will ripe for the launch of the Roadmap.

Roadmap action:

"Socialize the innovation plan among the SMT."
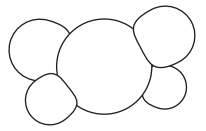
Our effort:

We have met with the CCO and two key stakeholders to strategize how to best approach the socialization effort. The key insight from these discussions is the need to approach each director with a customized message that will resonate with their specific needs and priorities.

CONCLUSION

OUR PARTNERSHIP

The SFI program is built on a foundation of collaboration. Throughout the program, it was our mutual experience that effective group work advanced projects in ways solitary work could not. In particular, we valued the diversity of thinking and perspectives, harnessing of unique skill sets and challenging of biases that came from effective collaboration.

One of the first exercises we conducted in the SFI program was the Basadur Creative Problem Solving assessment. This tool helped us discover we have diverse, yet complementary approaches to problem solving. This is an important part of the reason we worked effectively together on this project, and the many other projects we partnered on during the program.

In terms of deliverables, while one of us may have initiated or led the work in specific sections, none of it was done in isolation. That said, Christine led on the literature review, the canvassing and the design of the Roadmap. Mark led on the case studies, baseline assessment, futures research and work done in the Pilot phase. In each case, the lead team member devoted time and effort to creating a rough draft of the work, which the team then collaborated on to advance and refine. Where one person needed support and assistance or faced the occasional "writers block," the other was always there to assist.

Our partnership throughout this initiative was a truly rewarding experience. Our work is stronger and we were able to conduct a more comprehensive exploration of our research domain. We were also able to iterate our innovation outcomes to a greater level of complexity and depth, leading to better, more useful outcomes.
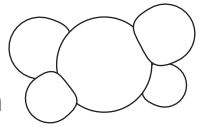
CRITIQUE & FURTHER RESEARCH

Research Methods

Iteration and triangulation are important elements of the Innovation DNA Model. They have proven their strength in this project, where we have been able to identify:

a. the same key challenges/ opportunities emerging from a variety of data sources; and

b. clear alignment between the results of this project and other important strategy documents at the CCOO, especially its 5-Year Business Plan.

There were two notable instances where the implementation of a particular method did not go as planned. First, it was our intent to conduct a systems mapping exercise and, to this end, we met with staff at the CCOO to collect the required data. Unfortunately, despite our attempts to extract systems information from CCOO staff, we were unsuccessful and, as such, were not able to use the data we collected to create a formal systems outcome

(i.e., a systems map). This may be because we insufficiently prepared the participants for the workshop. However, the data we did collect corroborates the outcomes of the futures workshop and can be used in the pilot phase to support the implementation of the Roadmap. Second, our initial intent was to use a Three Horizons framework[1] for our futures research. However, we determined that the full framework was too advanced for our needs and, thus, did not perform the implications or backcasting steps involved in Three Horizons. We were able to extract the data we needed by simply plotting the key challenges, opportunities and insights from the scenarios onto a timeline.

The Roadmap

As stated earlier, we recognize this effort and the resulting Roadmap to Innovation for the CCOO is not the entire solution for the organization. That said, it's an important part of the solution.

The effective implementation of the Roadmap will likely position the CCOO well moving forward and support the success of other strategic initiatives. Over time, new behaviours and habits will form as innovation becomes embedded into the organization. However, this alone will not be enough for true transformational change. Other important business fundamentals, such as change management processes and knowledge management systems, must be in place and will complement the innovation effort, but these areas are beyond the scope of this project.
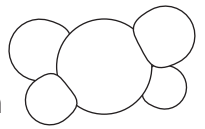
According to Jones (2000), some organizational processes can create barriers to innovation. We designed the Roadmap to avoid this problem. We also explored which areas were well developed or currently in development so as not to create redundancies. For example, we have identified that there are significant efforts under way in the field of organizational learning, which is an important influencer of innovation, so we have designed the Roadmap to achieve key learning objectives that will work in synergy with existing efforts.

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1   The Three Horizons framework is a popular foresight method. More details on this framework can be found here: http://www.internationalfuturesforum.com/three-horizons.

NEXT STEPS

As mentioned in the "Pilot" section, many stakeholders in the CCOO are ready to move forward with implementation of the Roadmap. The immediate next steps from this perspective are threefold:

1. We must present our final results to the CCO for her endorsement. She has been involved in this process and has provided feedback at every stage before the Roadmap itself. Some of her senior direct reports have helped co-create the Roadmap. We must now get her endorsement to move forward.

2. We must continue to socialize the Roadmap with the Senior Management Team. The CCO has provided suggestions on how to successfully achieve this in order to get as much buy-in as possible.

3. Once we have completed the actions above, we must launch the Roadmap publicly to the employees of the organization.

In terms of the broader project, it is our plan to disseminate our work widely; from participation in OCAD University's GradEx to presentations at conferences, and more. The plan for this aspect of our work will unfold over the coming months. We will most certainly continue to advance this work in a professional capacity. While this project focussed on the public sector, we established in earlier work outside this MRP that, from the perspective of innovation as an organizational transformation tool, there is indeed significant commonality between the public and private sectors. In fact, the IRC was tested and refined using two private sector firms. While some of the fundamental drivers of innovation may be different - particularly the profit motivation in the private sector - the approaches and outcomes are very similar.

IN CONCLUSION…

In this project, we had the opportunity to begin the process of guiding the City of Toronto's CCOO's transformation into a more innovative organization—that is, to develop an innovation orientation. We used a combination of research methods in a proven model of iteration to advance through phases of learning (establish a solid theoretical foundation, and explore and learn from best practices) and framing (assess the current state of the organization in question and explore its future). We then used the data collected from these methods to design a solution (the Roadmap to Innovation). Despite being outside the scope of this project, we have also initiated efforts to pilot the outcomes.

INNOVATION OUTCOMES

The key innovation outcomes of this project are the Innovation Readiness Canvas and the Roadmap to Innovation.

The Canvas is unique, in that it combines a strong foundation in innovation theory with a practical and simple assessment process to create a tool that provides a snapshot of where an organization stands, an idea of what it needs to do to become more innovative and a tracking tool that can be used year-over-year to determine the organization's evolution. All CCOO employees will feel its impact as the Roadmap is implemented—and, eventually, so will the larger City of Toronto organization as innovation spreads outside the walls of the CCOO.

The Roadmap is more of an innovation outcome for the CCOO. It's not an outcome that is entirely new; there are likely other organizations, both private and public, that have used research to create innovation strategies or plans. However, we have found limited publicly available information about a similar process, and this has certainly never been done at the City of Toronto or the CCOO. The format of the Roadmap is also innovative. While many of the models we encountered in our research might be difficult for someone not immersed in this topic or project to understand, our design approach was user-centred and focused on accessibility. It was created as a communication tool for the CCOO, highlighting relevant information and providing practical steps to embedding innovation into the organization's DNA.

And this process of *embedding innovation* into the organization's DNA is where the real work (and fun) begins.

According to Klein and Knight, "the decision to adopt and implement an innovation is typically made by those higher in the hierarchy than the innovation's targeted users. Targeted users, however, often have great comfort in the status quo and great skepticism regarding the merits of the innovation" (2005).

If we assume Klein and Knight's insight about a specific innovation can be applied broadly to an organizational transformation project as well, then we land on the fact that the "target users" of this proposed innovation—the CCOO employees—lie at the *emotional* heart and *rational* core of this effort. Those higher up in the hierarchy (the organization's leadership) must demonstrate a true commitment to this change. According to Lagrand and Weiss, "a leader's failure to walk the talk is, arguably, especially conspicuous if that leader fails to make good on his or her talk about innovation" (2011). This may be one of the greatest challenges this organization will face as it works to implement these recommendations.

With over 150 people engaging in the process of designing the Roadmap, CCOO employees have proven through sheer numbers that they are engaged and interested. It is now up to the leaders to set the stage for what is undoubtedly going to be an awesome transformation: to walk the talk.

The level of engagement in this project makes is clear that ownership of the Roadmap is not ours—it belongs to the CCOO's employees and leaders. The Roadmap gives the organization a guide to forge their unique innovation journey, grounded in collaboration and teamwork.
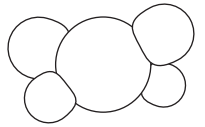
We have so much going on – so many major, strategic initiatives that seek to have far-reaching impacts in the organization. I see this work, and the resulting Roadmap, as the mortar that binds the bricks together.

Robbie Grewal,
Manager Strategic Planning, CCOO

Bibliography

Allen, J. & Zook, C. (2012). The strategic principles of repeatability: how non-negotiables fuel growth. In *Bain and Company, Inc*. Retrieved from http://www.bain.com/Images/BAIN_BRIEF_The_strategic_principles_of_repeatability.pdf

Alon, A. (2013). Fostering innovation through effective risk management. In *Innovation Management.* Retrieved from http://www.innovationmanagement.se/2013/01/03/fostering-innovation-through-effective-risk-management/

Albury D. & Mulgan G. J. (2003). *Innovation in the public sector*. Cabinet Office, London.

Almquist, E. (2013). Taking the measure of your innovation performance. In *Bain & Company*. Retrieved from http://www.bain.com/publications/articles/taking-the-measure-of-your-innovation-performance.aspx

Amabile, T. M., Conti, R., Coon, H., Lazenby, J., & Herron, M. (1996). Assessing the work environment for creativity. *Academy of Management Journal*, 5 (39), 1154-1184.

Australian National Audit Office. (2009). *Innovation in the public sector: enabling better performance, driving new directions*. Retrieved from http://www.anao.gov.au/bpg-innovation/pdf/BPG-Innovation.pdf

Bason, C. (2010). *Leading public sector innovation: co-creating for a better society*. Bristol, UK: The Policy Press.

Bason, C. (2011). *Public sector innovation: driving forces and barriers*. Retrieved from http://aliainstitute.org/blog/2011/06/02/public-sector-innovation-driving-forces-and-barriers/

Bradach, J. (2010). Scaling impact: How to get 100x the results with 2x the organization. In *Stanford Social Innovation Review.* Retrieved from http://www.ssireview.org/articles/entry/scaling_impact

Burns, T., & Stalker, G.M. (1961). *The management of innovation*. London, UK: Tavistock.

Christensen, C. M. (2001). Assessing your organization's innovation capabilities. In *Leader to Leader*, *21*: 27–37.

City of Toronto. (n.d.). *City divisions.* Retrieved from: http://www1.toronto.ca/wps/portal/contentonly?vgnextoid=2e8732d0b6d1e310VgnVCM10000071d60f89RCRD

Clarke, J., Dede, C., Ketelhut, D.J. (n.d.). *A design-based research strategy to promote scalability for educational innovations.* Retrieved from http://muve.gse.harvard.edu/rivercityproject/documents/final_scale_article_Clarke.pdf

Dede, C. (2006). Scaling up: evolving innovations beyond ideal settings to challenging contexts of practice. In *Cambridge Handbook of the Learning Sciences.* Cambridge, England: Cambridge University Press.

Doblin. (2015). *Ten types of innovation: the discipline of building breakthroughs.* Retrieved from https://www.doblin.com/tentypes/
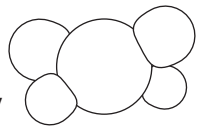
Dobni, C. B. (2010). The relationship between an innovation orientation and competitive strategy. *International Journal of Innovation Management, 14(2)*, 331-357.

Dougherty, D., & Hardy, C. (1996). Sustained product innovation in large, mature organizations: overcoming innovation-to-organization problems. *Academy of Management Journal*, 5 (39), 1120-1153.

Forbes. (2013). *Cracking the code of innovation.* Retrieved from http://www.forbes.com/sites/baininsights/2013/08/19/cracking-the-code-of-innovation

Friedman, T. L. (2013). I Want to Be a Mayor. In *New York Times*. Retrieved from http://www.nytimes.com/2013/07/28/opinion/sunday/friedman-i-want-to-be-a-mayor.html

GE. (2014). *Global innovation barometer 2014—insight on disruption, collaboration and the future of work.* Retrieved from http://www.ideaslaboratory.com/projects/innovation-barometer-2014

Gharajedaghi, J. & Ackoff, R.L. (1984). Mechanisms, organisms and social systems. *Strategic Management Journal*, 5(3), 117-27.

Gibson, R. (2014). The no. 1 challenge to innovation. In *Innovation Excellence*. Retrieved November 2, 2014 from http://www.innovationexcellence.com/blog/2014/09/14/the-no-1-challenge-to-innovation/

Hankins, J. (2014). U.K. public view on innovation. In *Innovation Excellence*. Retrieved from http://www.innovationexcellence.com/blog/2014/06/26/uk-public-view-on-innovation

Horne, J. F. III., & Orr, J. E. (1998). Assessing behaviors that create resilient organizations. *Employment Relations Today*, 24 (4), 29-39.

Ideas Accelerator. (n.d.) *Innovation & project management*. Retrieved from http://www.ideasaccelerator.com/innovation-project-management

Jones, P. H. (2000). *Emergent values conflicts in formal process for managing innovation: Organizational obstacles and affordances for practice.* Retrieved from http://ojs.ruc.dk/index.php/pdc/article/viewFile/224/216

Jones, P. H., Christakis, A. N. & Flanagan, T. R. (2007). *Dialogic design for the intelligent enterprise: Collaborative strategy, process, and action.* Retrieved online http://redesignresearch.com/docs/Jones%20INCOSE07.pdf

Kelley, B. (2012). Managing innovation is about managing change. In *Innovation Excellence.* Retrieved from http://www.innovationexcellence.com/blog/2012/02/13/managing-innovation-is-about-managing-change-2

Khan, S. & VanWynsberghe, R. (2008). Cultivating the under-mind: cross-case analysis as knowledge mobilization. *Forum: Qualitative Social Research*, (9)1, Art. 34. Retrieved from http://www.qualitative-research.net/index.php/fqs/article/view/334/729

Klein, K. J. & Knight, A. P. (2005). Innovation implementation overcoming the challenge. *American Psychological Society*, 14(5), 243-246.

KPMG. (2014). *Future state 2030: the global megatrends shaping governments.* Retrieved from http://www.kpmg.com/Global/en/IssuesAndInsights/ArticlesPublications/future-state-government/Documents/future-state-2030-v3.pdf.

Lagrand, C. & Weiss, Dr. D.S. (2011). How leaders can close the innovation gap. In *Ivey Business Journal*. Retrieved from http://iveybusinessjournal.com/publication/how-leaders-can-close-the-innovation-gap/

Lawson, B. & Samson, D. (2001). Developing innovation capability in organizations: A dynamic capabilities approach. *International Journal of Innovation Management*, *5(3)*, 377-400.

Martin, R. (2006). Embedding innovation into your business. *Canadian Business, 79*, 35. Retrieved from http://ezproxy-library.ocad.ca/login?url=http://search.proquest.com/docview/221360754?accountid=12991

Mulgan G. (2007). *Ready or not? Taking innovation in the public sector seriously.* London, UK: Nesta.

Nagji, B. & Tuff, G. (2012). Managing your innovation portfolio. *Harvard Business Review*. Retrieved from https://hbr.org/2012/05/managing-your-innovation-portfolio

Neilson, J. (2014). Four types of innovation and the strategic choices each one represents. *Innovation Excellence*. Retrieved from http://www.innovationexcellence.com/blog/2014/01/12/four-types-of-innovation-and-the-strategic-choices-each-one-represents/

Norman, D. & Verganti, R. (2012). *Incremental and radical innovation: design research vs. Technology and meaning change.* Retrieved September 7, 2014 from http://jnd.org/dn.mss/Norman%20%26%20Verganti.%20Design%20Research%20%26%20Innovation-18%20Mar%202012.pdf

OECD. (2014). *The innovation imperative: a call to action.* Retrieved from http://www.oecd.org/innovating-the-public-sector/innovation-imperative-call-to-action.pdf

Osterwalder, A. & Pigneur, Y. (2010). *Business model generation*. Hoboken, NJ: John Wiley & Sons.

Puttick, R., Baeck, P. & Colligan, P. (2014). *i-teams: The teams and funds making innovation happen in governments around the world.* London, UK: Nesta.

pwc. (n.d.). *Insurance leaders respond to climate change.* Retrieved from http://www.pwc.co.uk/sustainability-climate-change/issues/insurance-leaders-respond-to-climate-change.jhtml
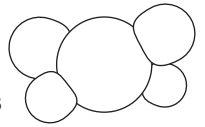
Resilience Alliance. (n.d.). *Adaptive capacity.* Retrieved from http://www.resalliance.org/index.php/resilience
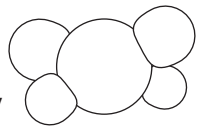
Satell, G. (2014). The new science of effective organizations. In *Innovation Excellence*. Retrieved from http://www. innovationexcellence.com/blog/2014/06/24/the-new-science-of-effective-organizations

Scheffer, M, Carpenter, S., Foley J.A.; Folke, C. & Walker B. (2000). Catastrophic shifts in ecosystems, *Nature, 413*, 591-596.

Siguaw, J. A., Simpson, P. M., & Enz, C. A. (2006). Conceptualizing innovation orientation: a framework for study and integration of innovation research. *Journal of Product Innovation Management, 23*, 556-74.

Skarzynski, P. & Gibson, R. (2008). *Innovation to the core: a blueprint for transforming the way your company innovates.* Harvard Business.

Sloane, P. (2012). What's the difference between creativity and innovation? In *Innovation Excellence*. Retrieved from http://www.innovationexcellence.com/blog/2012/08/04/whats-the-difference-between-creativity-and-innovation/

Stock, R. M. & Zacharias, N. A. (2011). Patterns and performance outcomes of innovation orientation. *Journal of the Academy of Marketing Science, 39(6),* 870

Stonebridge, C. (2008). Horizon scanning: gathering research evidence to inform decision making. In *Conference Board of Canada*. Retrieved from http://www.conferenceboard.ca/e-library/abstract.aspx?did=2491

Tennant Snyder, N., & Duarte, D. L. (2008). *Unleashing innovation: How Whirlpool transformed an industry.* San Francisco, CA: Jossey-Bass.

Thenint, H. (2010). *Mini study 10: Innovation in the public sector.* N.p.: Pro Inno Europe. Retrieved from http://ec.europa.eu/enterprise/policies/innovation/files/proinno/inno-grips-mini-study-10_en.pdf

Verganti, R. (2009). *Design-driven innovation*. Boston, MA: Harvard Business School Publishing Corporation.

VHA, Inc. (2006). *The power of innovation*. Retrieved from http://www.doblin.com/articles/2006_VHA_Research_Series_The_Power_of_Innovation.pdf

West, M. A. & Altink, W. M. (1996). Innovation at work: individual, group, organizational and socio-historical perspectives. *European Journal of Work and Organizational Psychology. 5(1)*, 3-11.

Zien, K. & Buckler, S. (1997). From experience dreams to market: crafting a culture of innovation. *Journal of Product Innovation Management.* Retrieved from http://onlinelibrary.wiley.com.ezproxy-library.ocad.ca/journal/10.1111/(ISSN)1540-5885

Appendices

Appendix A: Palo Alto Case Study

CONTEXT

The City of Palo Alto is a charter city in the San Francisco Bay Area of the US state of California (Wikipedia, n.d.(a)). Enabled by California law, charter cities are able to adopt their own form of governance – Palo Alto is "council-manager" government (Alaee, 2015), where the duly elected City Council appoints a professional manager to manage the administrative duties of the City. The role of the Mayor is largely ceremonial (Wikipedia, n.d.(b)). It's population is estimated at 66,642 (Wikipedia, n.d.(a)).

The City government employs over 1,000 people (Wikipedia, n.d.(a)) and has a total annual budget of $470 million, of which $171 million is directed to the operating budget, not including utility services (City of Palo Alto, 2015). Its mission is to "promote and sustain a superior quality of life in Palo Alto. In partnership with our community, our goal is to deliver cost-effective services in a personal, responsive and innovative manner" (City of Palo Alto, 2015.)

While the City does not have a formal innovation program, its recent efforts in employee engagement have begun to transform the organizational culture and lead to positive innovation outcomes.

APPROACH

The impetus for change came from City Manager James Keene. While his predecessor focused on creating a learning culture, Keene brought the design thinking perspective into the organization (Alaee, 2015). Keene began by engaging his senior executives with simple aspects of design thinking – introducing a list of design literature that executives were required to read and encouraging the use of "The Five Whys" in planning (Alaee, 2015).

To advance the uptake of the design approach in the organization, Keene engaged Tim Brown, the CEO of IDEA, a world-renowned design firm headquartered in Palo Alto. In 2009, the City hosted a series of five town halls for employees that served "to measure the satisfaction and engagement of the employees" (Keene, 2012) and to provide platforms for ideation. The outcome of these town halls was the creation of five interdepartmental teams, comprised of 150 employees from across the organization, each addressing a particular theme that arose during the town halls (Alaee, 2015). Each team presented the results of their initial work and two were selected to advance in the process - Project Speed, focusing on procurement, and Project Culture Shock, focusing on cultural change (Keene, 2012).

The design process for Project Culture Shock, later renamed "Engaging Excellence," led to the development of two key initiatives: New Employee Orientation and the E^2 Forum. The New Employee Orientation project replaced what was a half-day orientation on administrative matters like employee benefits with a two-day learning event that all new employees must participate in before they start (Alaee, 2015). The E^2 Forum "exposes mid-level managers and professional employees to new ideas, perspectives and thoughts" (Keene, 2012).

ENGAGING EXCELLENCE

New Employee Orientation

New Employee Orientation has dual goals of welcoming employees to the organization in addition to introducing the new employee to the organization's culture from the very get-go. New employees cannot begin work until they go through the orientation. This has resulted in the unexpected benefit of a smoother, more streamlined on-boarding process for employees, leading to greater employee satisfaction (Keene, 2012).

The orientation program includes a tour of the City, presentations from key departments, a meeting with an engaged citizen, time with veteran employees, discussions about the organization's priorities, the standard Human Resources engagement on benefits and a welcome ceremony with the Mayor (Keene, 2012).

Continued: Appendix A

According to Alaee, "the focus of orientation is not on teaching new employees the mission of the organization – but rather engraining the values and encouraging employees to use their gifts to the fullest extent" (2015).

Space design and enabling technology

The City has made a concerted effort to redesign the physical workspace. Every office space has been redesigned with a focus on greater openness, more natural lighting and formal and informal opportunities to meet and interact. Meeting rooms are all technology enabled. Technology and open data are important elements of this plan. By 2016, all employees will have a laptop and a move to Voice Over Internet Protocol (VOIP) telephones will allow employees to be fully mobile.

E^2 Forum

The goal of the E2 Forum is to provide a continuous learning opportunity for the organization's managers. It takes the format of a monthly, 1-hour "TED-style talk." Speakers are selected to challenge "employees to evaluate their capacity for leadership and encouraged them to seize opportunities to be leaders in their own way" (Keene, 2012). Following each talk, the Managers hear from the City Manager and other senior executives on the organization's culture change efforts (Keene, 2012).

INSIGHTS

One of the key insights that has guided this effort is a fundamental acceptance that one-third of employees are always going to be highly engaged while one-third will be disengaged. Those disengaged employees will continue to see and benefit from the impacts of change processes, although they may never fully engage with said processes. The City has noticed that the highly engaged employees often pull those in the middle along with them (Alaee, 2015).

Other insights include:

- The organization has placed special significance on the welcome to new employees as an important point of impact in establishing and advancing the kind of culture they strive towards.
- Over time, the organization has moved away from the formal structure of the design teams that initially created the Engaging Excellence project – they have, to some extent, transformed the culture towards design thinking and now have 40 employees with key design experience embedded throughout the organization.
- As much as I'm painting a rosy picture, a lot of people roll their eyes when they hear about this stuff. People are tired of doing new things. There is a ton of work and no people to do it. People are getting burnt out.
- You've got to be cautious of people getting tired and burnt out. Change is change and takes a lot of energy. It's a lot easier to do the status quo.

REFERENCES

Alaee, K. (2015, January 25). Telephone interview.

City of Palo Alto. 2015. *Budget in Brief*. Retrieved from http://www.cityofpaloalto.org/civicax/filebank/documents/44333.

Keene, J. (2013). Engaging Excellence. In *Transforming Local Government: Alliance for Innovation Conference*. Retrieved from http://www.tlgconference.org/index.aspx?page=6

Wikipedia. (n.d.(a)). *Palo Alto, California*. Retrieved from http://en.wikipedia.org/wiki/Palo_Alto,_California#Local_government.

Wikipedia. (n.d.(b)). Council-manager government. Retrieved from http://en.wikipedia.org/wiki/Council%E2%80%93manager_government.
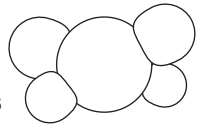
Appendix B: San Antonio Case Study

CONTEXT

The City of San Antonio is the seventh most populous city in the United States of America and the second in the state of Texas. Its population is approximately 1.4 million with almost 2.3 million in the metropolitan area (Wikipedia, n.d.)

The City's mission is to deliver quality City services and to achieve its vision of "prosperity for its diverse, vibrant and historic community." Its core values are teamwork, integrity, innovation and professionalism. The City's annual operating budget in 2015 was US$1.78 billion (CDN$2.24 billion) (City of San Antonio, 2015). The City is made up of over 9,000 employees (San Antonio Economic Development Foundation, 2014). In addition to this mission, vision and core values; each year City Council debates and establishes its priorities that provide further strategic guidance to departments (Layton, 2015).

In 2007 the City of San Antonio's City Manager, Sheryl Sculley, launched the Office of Innovation & Reform ("Innovation" or "the office") as a 4-person independent office. Its mission was to "identify opportunities to improve the efficiency of City services and business processes" (Layton, n.d.).

APPROACH

Innovation functions as a "consulting service" provided to departments across the City's structure, with a focus on efficiency and cost savings. Innovation not only helps with reviews of existing projects or functions but also with new initiatives (Layton, 2015). When the office becomes involved with a project, their focus is to improve the customer experience and increase customer satisfaction while reducing cost (Layton, 2015). This approach means that Innovation is accessible to all departments.

In 2008, Innovation was transitioned into a division of the Human Resources department. During this time, it focused its efforts on the human resources portfolio, including "staffing studies, organization structure assessments and performance assessments" (Layton, 2015). It was during this year that the global economic crisis hit.

In 2009, and in response to the pressures of the economic downturn, Innovation was mandated to work closely with the Budget Office to do a comprehensive review of the budget. The team spent six weeks identifying $5.3 million in savings with no impact on service delivery (Layton, n.d). Layton believes that the City Manager would agree "the Office of Innovation has been an important complement to the City's strong financial management during the economic downtown" (2015).

Since 2009, the office has had a greater budget and financial focus to its work. However, as the economic situation began to improve, the focus of Innovation once again evolved to helping the City "strengthen and improve service delivery to meet growing demand." Its success has meant that the City has innovation champions at all levels of the organization, the most important of whom is the City Manager (Layton, 2015).

In 2015, Innovation plans to roll out a new employee recognition program that will recognize good ideas and nurture the willingness amongst staff to put forth a new idea. "Innovation is one of the City's core values, and we will have a formalized process to publicly recognize employees" (Layton, 2015). The program will include both recognition (call-out cards, pins, etc.) as well as celebration (awards) elements. (Layton, 2015)

Diversity of skill sets and professional experience are critical to the success of the office (Layton, 2015). Hiring practices play an important role in nurturing the right combination of academic and professional backgrounds on the team, with some staff, for example, selected for their competencies in data and analytics while others have strong communication backgrounds. This enables the team to present complicated messages in a manner that is easily understood by their "client" departments (Layton, n.d.).

"We have found that finding and hiring a diverse group of experienced professionals with great attitudes, enthusiasm, and strong work ethic has been critical to fostering the positive energy and debate that leads to the most effective outcomes." (Layton, n.d.)

ENGAGEMENT PROCESS

The following represents the first stages of engagement for Innovation (Layton, n.d.):

1. A department or business unit identifies a problem identified and engages Innovation.
2. Innovation works with that department's leadership and other stakeholders to come to a common vision of the future. This vision of the future must be linked to the department's mission.
3. Innovation and the department leadership come to an agreement on key success indicators.
4. There is a significant focus on working with the department head to ensure that a willingness to implement change exists.
5. Once goals are agreed upon, Innovation begins working with stakeholders to assess and eventually implement changes that help achieve said goals (Layton, 2015).

RESULTS

Perhaps one of the most significant, if least tangible, results of seven years of history and success is that a change in the organization's culture and mindsets of senior leaders is beginning to manifest. The true impact of this may not be immediately apparent, but it will certainly be felt as the organization continues to evolve (Layton, 2015).

More tangibly, the total budget savings achieved through the efforts of the office have totaled almost $18 million, $5.3 million during the 2009 economic downtown alone (Layton, n.d.). But the benefits of their work are not solely relegated to the City's finances. One of Innovation's proudest successes came in the form of its engagement with the Animal Care Services department, which resulted in an incredible 60% increase in the departments live release rate, from 30% to 90% (Layton, 2015).

According to Layton, much of the low-hanging fruit – that is, the opportunities for innovations that lead to significant cost savings – have been reaped. As such, and seven years into its mandate, the Innovation Office has identified the need to evolve its modus operandi. It is developing a plan to lead the further entrenchment of the City's core value of innovation. Elements of this plan include:

• Kick-off meetings with department directors to explain how Innovation can help.
• The establishment of innovation liaisons embedded in each department. These liaisons will be provided with training and mentoring. Their role will be to nurture employees with ideas, helping them to conduct a preliminary analysis to determine feasibility and escalating to Innovation if it is determined that the idea has value.
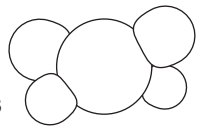
INSIGHTS

- Being embedded in the Budget Office means that you "carry more weight."
- Know that each City of organization will require a different approach and that said approach will need to evolve over times.
- Innovation leaders must be able to demonstrate success and real improvements that have been achieved. This creates buy-in and support for the next project.
- Celebrate successes; tell a compelling story.
- Innovation efforts must be grounded in strong analysis.
- Preparing department heads for change is critical to the success of any transformation project.
- The group - and consequently the City - learned that efficiencies and savings could be realized while also complementing and enhancing the department's overall mission of serving the community. The Innovation team worked side-by-side with departments, helping to create a collaborative environment. Project results began to speak for the group's reputation and buy-in from senior level executives increased, which helped establish credibility and more successful projects.

REFERENCES

City of San Antonio. (2015). *Adopted FY 2015 Budget*. Retrieved online from http://www.sanantonio.gov/Portals/0/Files/budget/FY2015/Budget2015.pdf.

Layton, B. (n.d.). *Innovation Revolution: Creating an innovation team, one step at a time. Transforming Local Government*. Retrieved online from http://www.tlgconference.org/index.aspx?page=6.

Layton, B. (2015, January 25). Telephone interview.

San Antonio Economic Development Foundation. 2014. *Major Employers.* Retrieved from http://www.sanantonioedf.com/business-profile/major-employers/.
Wikipedia. (n.d.). *San Antonio*. Retrieved online from http://en.wikipedia.org/wiki/San_Antonio.

Appendix C: San Francisco Case Study

CONTEXT

The City of San Francisco is the second most densely populated large city in the United States and has an estimated 2013 population of 837,442. It is the centre of a metropolitan area that is home to 4.5 million people ((Wikipedia, n.d.(a)).

The City employs almost 29,000 employees and has an annual budget of approximately USD $8.6 billion (Lee, 2014). San Francisco is the self-billed "Innovation Capital of the World" (Grant, 2012) and was named as #7 of the 10 most innovative cities in the United States in 2014 (CNN Money, 2014).

The Mayor's Office of Civic Innovation (MOCI) was launch in 2012 by Mayor Ed Lee, who subsequently appointed Jay Nath as country's first municipal Chief Innovation Officer. It is the Mayor's belief is that the government has a responsibility to innovate (Canellakis, 2015). The MOCI team is small with, on average, about four people at a time, and is supported by a Fellowship program. The Fellowship program has played an important role in bringing in new talent. It is meant to encourage entrepreneurs and others from the private sector to bring fresh thinking into government about what government can and should be.

APPROACH

While MOCI does some internal capacity building on innovation, including experts speakers and workshops on design thinking, rapid prototyping etc., it is largely focused on catalyzing and incubating innovation outside of the City's organization. Indeed, MOCI operates in a very similar fashion to an incubator – it identifies opportunities of interest, tests out new ideas, and seeks to build a Minimum Viable Product (MVP) that can be tested. The key question that guides their work is "How can government do its job better?"
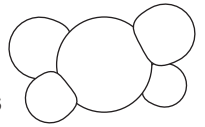
MOCI's priorities are determined in collaboration with the Mayor, department heads and, often, in response to emerging opportunities. The team regularly interfaces with innovators, both internal and external to government – it is this process that helps emerging opportunities.

The first major opportunity that MOCI identified was in the open data field. As a result of its work, San Francisco was the first city in the United States to pass open data legislation. The goal of the legislation is to make government more accessible by opening up public data sets.

While they do not see themselves as the holders of the "innovation holy grail", on every project the MOCI partners with the department in question and leverage the city's expertise to make projects impactful.

ENTREPRENEURSHIP IN RESIDENCE

The *Entrepreneurship in Residence* program was MOCI's answer to question of "how can we solve critical technology challenges by working with startups?" In this program, six start-ups were selected to work with six different city departments. Stakeholders were challenged to propose a new solution to an exciting, "sticky problem." City employees who were selected to work on these projects were given a space to be creative and to think about the problem in a different way. They used problem solving methodologies and given the opportunity to experiment. The program did not include funding for the start-ups – rather, each was required to commit to dedicating 16 weeks to building a product for the City. They were all companies that either had a product that they wanted to adapt or created new product lines. The opportunity also helped them develop new markets, thanks to partnerships with neighbouring municipalities. The start-ups benefited from insights into how government works, including its procurement processes. The departments involved each had very different experiences but MOCI considers the project to be very

successful. The project is re-launching in summer 2015 with three additional cities (Oakland, West Sacramento & San Leandro) partnering.

A key question for MOCI staff is how to scale the program so it's both manageable and continue to provide useful incentives for the start-ups. The decision to move to a regional approach helps with incentive for start-ups, as they will have access to larger markets. This also addresses the fact that many of the solutions they proposed addressed problems that were regional in nature.

Indoors/SFO project

One successful project that resulted from the Entrepreneurship in Residence program is the partnership between the San Francisco International Airport (SFO) and the software company Indoors. Indoors is an Austrian company with expertise in building indoor navigation mobile applications for public facilities in Europe. MOCI challenged the Indoors/SFO team to make it easier for the blind/visually impaired to navigate the airport. Typical navigation apps don't work in this kind of setting, as GPS is not available indoors. The team brought in Lighthouse for the Blind, a 150 year old non-profit that serves the blind and visually impaired communities, to do user testing. The result was a highly rated software product that is now being tested and refined before a full public release.

RESULTS

- Many of the best ideas for improving government come from outside government. There is great opportunity to collaborate with others to help explore the future of government. MOCI is positioning themselves as catalysts and a bridge between government and "the outside world."
- The models of engagement that have been demonstrated through MOCI's various programs have offered valuable lessons for future programming.
- The office is working to develop an internal network of innovators and exploring how to formalize the network. This can help break down the silos between departments and support change makers who may be isolated.

RESOURCES

IBM – Report on government innovation office
(http://www.businessofgovernment.org/reportindex.html)

REFERENCES

Canellakis, K. (February 18, 2015). Telephone interview.

CNN Money. (2014). *The most innovative cities in America*. Retrieved from
http://money.cnn.com/gallery/technology/2014/10/07/most-innovative-cities/7.html

Grant, R. (2012). Mayor Ed Lee and Ron Conway plot to keep S.F. the innovation capital of the world. In *VentureBeat*. Retrieved from http://venturebeat.com/2012/09/11/mayor-ed-lee-and-ron-conway-plot-to-keep-sf-the-innovation-capital-of-the-world/.

Lee, E. (2014). *Mayor's 2014-2015 & 2015-2016 Proposed Budget*. Retrieved from
http://sfmayor.org/Modules/ShowDocument.aspx?documentID=399.

Wikipedia. (n.d.(a)). *San Francisco*. Retrieved from http://en.wikipedia.org/wiki/San_Francisco.

Appendix D: Whirlpool Case Study

Innovation at Whirlpool: Embedded Innovation from Everyone and Everywhere

CONTEXT

Whirlpool is a 103 year-old corporation, headquartered in Benton Harbour, Michigan. It is the largest manufacturer of home appliances in the world (Whirlpool Corporation, n.d.), operating in a mature market (Noreña, 2013). The company employs 70,000 employees and generates over $19 billion in annual revenues (Noreña, 2013).

Despite its demonstrated success and inherently innovative nature, in 1999 the company embarked upon comprehensive effort to boost innovation-related revenues. Their approach to this was to *embed innovation* throughout the organization. According to Tennant Snyder and Duarte, current innovation leads at Whirlpool and authors of a comprehensive book on the innovation strategy at the company, "the transformation started with the reengineering of the company to create a slow but sustainable pattern of innovation that grew over a decade" (2008).

Indeed, instilling innovation as a core competence at Whirlpool is ongoing and continues to be a very significant effort, involving major changes to the organization's leadership, "cultural values, resource allocation, knowledge management, rewards and recognitions systems, traditional hierarchies, measurement and reporting systems and a whole host of other management practices and policies" (Skarzynski and Gibson, 2008).

Fundamentally, the goal of this effort was to achieve a state of embedded innovation, from everyone and everywhere (Noreña, 2013).

APPROACH

The team at Whirlpool started with a rough, high-level plan; retaining significant flexibility to adjust the plan over time. In the words of Tennant Snyder and Duarte, "there was no ten-year master plan of how it would work. We knew what we did not want" (2008). This flexibility played an important role in being able to change course as their changing context demanded – from acquisitions to recessions and evolution in the market, they were able to continue their efforts to embed innovation into the company's DNA (Noreña, 2013).

They focused on developing innovation from within, working under the assumption that innovation programs created by third parties were often rejected. They chose to centre their evolving efforts on the "articulated and unarticulated customer needs" (Tennant Snyder and Duarte, 2008).
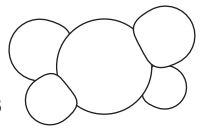
Their path to embedded innovation is highlighted in the infographic below and followed these timelines:

1999 - Launch phase, including plan to build "rational framework"
2000 – Launch of embedment plan
  Proof-of-concept efforts
   o   75 staff assigned to innovation team to learn tools and process of innovation
2004 - Scaling mechanisms deployed. Measurement via inputs (# of people trained, etc)
    o   I-mentors
    o   I-boards
    o   I-pipe
2005 - Breakthrough (measurement through direct result of innovations in market – revenue/financials)
2010 – "Up a notch" – taking the innovation effort to the next level.

Image Source: Noreña, 2013
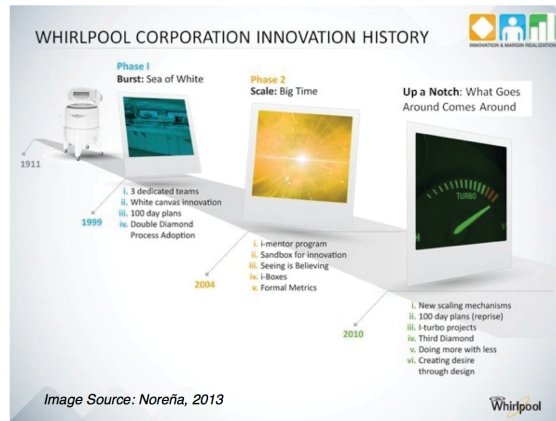
(Timeline source: Tennant Snyder and Duarte, 2008; Noreña, 2013).

Strategy

"In a large organization…you cannot just ask people to innovate and expect that it is going to happen. It requires a holistic management system to define it, to make it sustainable, scalable and inescapable" (Noreña, 2013).

Whirlpool's leadership firmly believed that innovation had to be integrated and aligned with the larger organizational strategy. They started by developing a "rational framework" to guide and inform the effort, which included (Tennant Snyder and Duarte, 2008):

• Vision and strategy: The overarching business direction that compels innovation.
• Definition: The meaning of innovation
• Goals: Measurable results of innovation
• Guiding principles: The values that guide the innovation approach
• Process: The series of actions and functions that create innovations

A few key elements of this rational framework are expounded upon in the subsections below.

Vision

"Innovation will come from everywhere, from everyone and in everything that we do. Our heroes will be the people who seize opportunities, not just the people who solve internal problems. We will rid ourselves of processes and practices that hamper risk taking and innovation. We will view falling short of risk taking goals as learning, not failure. All of this will allow us to win consumer loyalty. We will value the diversity of our people and their ideas, as only significant diversity at our company will lead to great innovation." – Tennant Snyder and Duarte, 2008

Definition of innovation (Noreña, 2013)

Continued: Appendix D

1. Unique and compelling consumer solutions
2. Creates sustainable competitive advantage
3. Creates superior shareholder value

Guiding principles

They also sought to establish key innovation principles, which guided their efforts and helped to achieve the vision (Tennant Snyder and Duarte, 2008):

1. Focus on embedment and realize that innovation is not a quick fix, but a commitment of years
2. Make the approach inclusive and accessible to all functions
3. Engage employees as volunteers, not conscripts
4. Leverage technology

TRANSFORMING THE CULTURE

The company's own research has found that *emotional drivers* "are twice as important for creating customer loyalty as rational drivers," and, as such, they play an important role in its innovation efforts.

The 5 emotional drivers of innovation include:

1. Learn: learning to think longer-term and beyond the day-to-day pressures (i.e. to think strategically and from an innovation perspective)
2. Dream: about the work you do and how that work can impact you and your career path.
3. Create: using the basis that all their people are innately creative, the company strives to create an environment where creativity can be expressed.
4. Heroes: which is focused on acknowledging and celebrating success
5. Spirit: an outcome of the previous four emotional drivers, spirit creates a virtuous cycle – one where, the more innovation is successful, the more people want to be a part of it.

The emotional drivers became the core of the company's employee engagement and culture change efforts, which included (Skarzynski and Gibson, 2008, except where noted):

- Creating large, cross-functional innovation teams.
- Creating a company-wide innovation training program that started with taking 75 employees out of their jobs and immersing them in innovation training prior to rolling out innovation to other employees. These people would act as catalysts and create "bandwidth" to allow innovation to succeed.
- Appointing hundreds of "innovation mentors" (*I-mentors* are "innovation blackbelts" trained to facilitate innovation teams (Tennant Snyder and Duarte, 2008)), consultants and advisors.
- Organizing "innovation days" – communication events that showcased ideas and celebrated successes.
- Integrating innovation into performance appraisal process – employees are recognized for innovating as part of or outside of his or her normal job.
- Introducing both extrinsic rewards (compensation tied to innovation and fully integrated into compensation program) and intrinsic rewards (getting excited about the work the employee does and their achievements, the ability to work on exciting projects, the recognition received, doing

something compelling, the opportunity to work with other creative people) (Tennant Snyder and Duarte, 2008)
- Creating a recognition system, including peer-to-peer recognition.

Diversity

In large, complex organizations, it is nearly impossible for one person to ideate, scale, and launch an innovation. According to Tennant Snyder and Duarte, the greater the diversity of team members, the better the team's chance of success. Diversity dimensions include background, functional area, geographic area, level, gender, thought process, and more (2008). Indeed, the company strived to ensure that it considered diversity in all its dimensions through every aspect of its innovation program, even in selecting participants for its training programs (Tennant Snyder and Duarte, 2008). Specifically, the organization's efforts on diversity included (Tennant Snyder and Duarte, 2008):

- Corporate value on diversity
- Diversity councils and groups
- Training on diversity and inclusion

Whirlpool has found that its highly successful innovation program has actually lead to highly talented people of diverse professional backgrounds seeking out employment in the organization (Tennant Snyder and Duarte, 2008), helping to create a positive reinforcing loop and reducing the need for specific efforts to increase diversity.

"There is no better business case for diversity than innovation."
– Tennant Snyder and Duarte, 2008

THE I-PIPE

Whirlpool's process (the I-pipe) is based on the belief that having a transparent and well-understood process for innovation will allow ideas to emerge from across all areas of the organization.

The company also created its own "criteria for innovation" which, in effect, served as its definition of innovation (Tennant Snyder and Duarte, 2008):

Screen capture of Whirlpool's Ibox (Noreña, 2013)

To meet the criteria of innovation at Whirlpool, a product, service, or business must
1. Create a unique and compelling solution valued by our customers (end users) and aligned to its brands.
2. Create competitive advantage, be part of a sustainable migration path (successive generations of a product, service, or idea that deploys over many years), or both.
3. Create differentiated shareholder value.

Key to the success of this process was the I-Box, a relatively simple tool based on the three criteria listed above, by which each project idea was assessed (Noreña, 2013).

The company also defined roles for its innovation leaders, as follows (Noreña, 2013):

- Innovation *architects*: recommend innovation strategy, set resources in motion to deploy innovation, oversee tracking and reporting, help business leaders embed innovation
- Innovation *boards* - senior leaders who meet for ½-day each month to review new project ideas, set goals, etc*
- Innovation *mentors* – staff from across every element of the organization who underwent specific innovation training.

It also created a comprehensive set of metrics to continually measure performance and measure embedding of innovation into culture. Finally, it developed a supporting IT infrastructure – the "Innovation E-space" – that provided tools and resources that all employees could access (Skarzynski and Gibson, 2008).

Scalability

Whirlpool has built a scalable innovation infrastructure within an embedded innovation ecosystem – transforming innovation from a privilege to a right. This ecosystem is represented in the diagram below (Noreña, 2013).
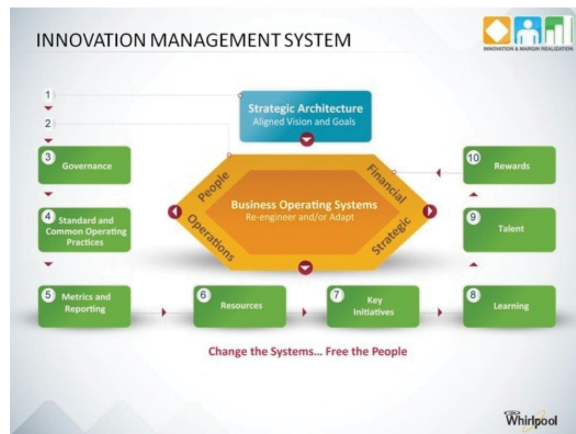
The effort to embed innovation into the organization means that every element of the innovation management system must innovate. That said, as the common thread through all of these systems, not all employees innovate. At this fundamental level, the organization scales up its innovation efforts by providing "equal access to resources, knowledge and tools" (Tennant Snyder and Duarte, 2008).

Learning from failure is an important part of the innovation experience at Whirlpool, where not all innovations can be expected to make it to market. Instead, the lessons learned, and the experiences gained, are invaluable (Tennant Snyder and Duarte, 2008).

RESULTS

Innovation at Whirlpool does not end with product launch. Rather, it continues through the lifespan of the product or project. Results play an important role in shaping the continued existence of the project or product and future innovation (Tennant Snyder and Duarte, 2008).

Key high-level results (Tennant Snyder and Duarte, 2008; except where noted):
- Unparalleled efficiency and productivity "in any industry" (Whirlpool Corporation, n.d.).
- Hundreds of innovators in all levels and types of jobs — sometimes where you might least expect them — are working to innovate across all customer touchpoints: the purchasing experience, service,
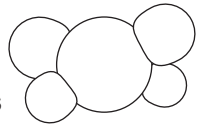
communication, relationship building, and the product itself. Whirlpool is, in short, a company in an ongoing transformation.

- Trained over 1,100 I-mentors since 1999
- Has seen an increase in confidence amongst its people to innovate and produce results
- Have sold over $8 billion of innovative products
- Have experienced a 100% compounded annual growth rate of innovation revenue in six years (effectively doubling revenue from innovation every six years)

"Whereas other companies approach innovation by trying to foster more creativity, generate ideas, or screen ideas as though these were specific techniques, at Whirlpool we sought to infuse innovation into the very fabric of the organization. Innovation is not " added on " at Whirlpool, but embedded" (Tennant Snyder and Duarte, 2008).

References

Noreña, M. (2013, January 23). Whirlpool's Innovation Journey: An on-going quest for a rock-solid and inescapable innovation capability. *Management Exchange.* Retrieved from http://www.managementexchange.com/story/whirlpools-innovation-journey.

Skarzynski, P. and Gibson, R. (2008). *Innovation to the core: A blueprint for transforming the way your company innovates.* Harvard Business.

Tennant Snyder, N., & Duarte, D. L. (2008). *Unleashing innovation: How Whirlpool transformed an industry.* San Francisco, CA: Jossey-Bass.

Whirlpool Corporation. (n.d). *Our Company.* Retrieved from: http://www.whirlpoolcorp.com/our-company/.

Whirlpool Corporation. (2007). *Whirlpool Corporation 2006 Annual Report.* Retrieved from http://investors.whirlpoolcorp.com/annuals.cfm
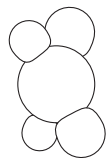
Appendix E: Innovation Readiness Canvas

Innovation Readiness Canvas (IRC)
an innovation assessment tool for large organizations

SCORING THE IRC: *The IRC is a tool to help leaders gain a better understanding of innovation in their organizations. The canvas answers the questions "How innovative is my organization?" and "What areas do I need to improve upon to become even more innovative?" Grounded in research and best practices, the Canvas is a subjective tool assessing the current state of an organization's innovation readiness. Scoring criteria are listed in italics under each section heading.*

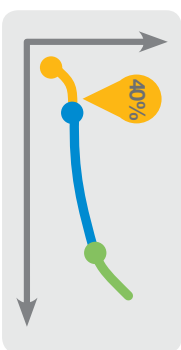| strategy	culture	process	portfolio	scalability
› Strategic Plan with specific focus on Innovation exists…(1)	› Culture that supports & rewards innovation at all levels of the organization………(2)	› A clear process exists to identify and advance innovative ideas …………(1)	› Organization adept at managing a diverse portfolio of innovations – including both incremental and radical innovations …………(1)	› Demonstrated aptitude for moving from concept, to prototype, to full-scale rollout in a timely manner………(1)
› Full vertical integration of strategic plan into operations……………(1)	› Employees provided resources to innovate (including time, training, autonomy)……(3)	› Organization is structured with strong vertical and lateral connections …………(2)	› Effective project management…………(1)	› Feedback loops in place to allow for course correction and adaptation (pivoting)………(1)
› A balanced, articulated risk management process exists – allowing possibly risky ideas with high ROI to advance…(1)	› Organization proven adept at managing change ………(1)	› Process to advance innovation is well-resourced………(2)	› Organization adept at learning from previous efforts ………(1)	
› Innovation champions widely acknowledged……………(1)	› Strong culture of employee engagement & collaboration………(2)			
	› Strong diversity in workforce (reasoning/thinking styles, skill sets, professional experience, etc.)………(2)			
▼ A new business plan was just completed and, while it does include many innovative ideas, does not specifically entrench innovation as a value…(0.5)	▼ Some elements of localized support for innovation within the organization. Strong evidence of a general reluctance to change……(0.5)	▼ No clear, universal process exists………………(0)	▼ Organization has the ability to manage diverse portfolios but significant workload issue is preventing full uptake of potential ……………(0.75)	▼ Demonstrated aptitude to scale, however process occurs slowly………………(0.25)
▼ Efforts to full integration of the plan through the organization have begun with a mandate that each division develop its own business plan ……(0.75)	▼ Resources for innovation are extremely limited…………(1)	▼ Organization structure is very hierarchical but very recently changing due to new leadership – cross-divisional teams being formed to work on projects, etc. ………(0.5)	▼ Many program areas demonstrate a strong project management track record………………(0.75)	▼ Organizational processes too rigid or no process in place to pivot DURING projects …(0.25)
▼ Organization is very risk averse, no universal risk management process in place that supports high ROI projects/efforts………(0)	▼ Organization has been through significant change recently and has managed well……(1)	▼ Resources to advance innovation identified on a project basis. No overall plan. That said, innovative projects are sometimes funded through standard budget process …………(0.75)	▼ Fear of failure means the organization has a history of not taking the time needed to learn from mistakes……(0.5)	
▼ Very little clarity/no consensus on innovation champions……(0)	▼ Employee engagement & collaboration spotty but improving thanks to new leadership…………(1)			
	▼ Strong diversity exists within existing staff complement. Opportunity exists to increase skill sets and perspectives …………(1.5)			
Score …………… **1.25**/4	Score …………… **5**/10	Score …………… **1.25**/5	Score …………… **2**/4	Score …………… **0.5**/2

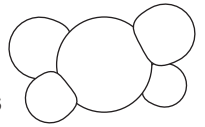**Total Score……… 10/25 = 40%**

WHAT DOES THE IRC SCORE MEAN?

76-100%
Your organization is a high-performing, innovative organization. While there is always room for improvement, your culture, systems and processes put you ahead of the game. Innovation is ingrained into the organization's DNA.

51-75%
Your organization is well positioned to be a sector leader, with significant portions of the organization demonstrating innovative culture. The IRC can help identify the gaps that will advance the organization into a high-performing space.

26-50%
Your organization is may show some success despite the lack of a system-wide innovative culture. There is significant opportunity for leadership as well as a long-term commitment of resources (human, time and financial), will require significant willpower from leadership to advance.

1-25%
Your organization's culture, systems and processes are highly risk-averse and actively discourage innovation. Your organization is likely trailing others in your sector.

TRACKING YOUR PROGRESS
Tracking your IRC score on a regular basis is an effective way to keep your "finger on the pulse" as your organization evolves into an innovative organization.

40%

Prepared for: **City of Toronto's Chief Corporate Officer Organization**

Date: Feb 21, 2015

Appendix F: Backgrounder for City Staff

BACKGROUND

What is "strategic foresight"?

Strategic foresight is a systematic approach to gathering information about possible futures and building a shared vision. It's objective is to guide and enable present-day decisions by imagining the long-term future and working your way back to the present.

Good foresight starts with good research. Thankfully, there is a lot of useful information available to help us with our current project (see "Context").

The Strategic Foresight Process

In the strategic foresight process, we identify *trends,* and the *drivers* that impact how these trends evolve. We combine the trends with our knowledge of the current "state of the world" to develop *scenarios,* stories of what the world might look like in the particular timeframe that we exploring. From our stories, we will determine what the *implications* are for our work in the present, identifying *risks*, *challenges* and possible *solutions*. For the purposes of this exercise, we will plot these implications and identify risks, challenges and solutions over three time horizons: near-term (2-3 years), mid-term (10 years) and long-term (20 years).
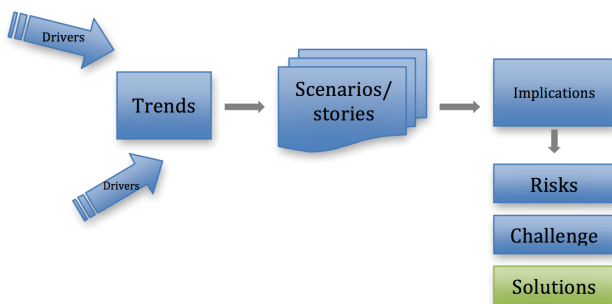
CONTEXT

The information on the pages that follow is meant to provide you with context that will help in the scenario creation process. There is no need to memorize this information – it will be available at the workshop. You will be asked to draw on your professional experience & expertise as well as the information below.

- Local/hyperlocal: the results of the most recent research (staff surveys and interviews) conducted within the CCOO. See below.
- National: The Suzuki Diaries: Future Cities (45 minutes) - http://www.cbc.ca/player/Shows/ID/2198181840/
- Global: KPMG's report of the 9 Global Megatrends that are relevant to governments, plus the seven drivers of public sector innovation. See pages 2 & 3.

Results of recent research conducted in the CCOO

Challenges Affecting our Work
- People development – Making sure that we plan for the appropriate development of our employees.
- Aging workforce – A significant percentage of our employee population will be retiring in the coming 5 years.
- Resource constraints – Key constraints include heavy workloads, less time, less money, physical layout of space, and technology.
- Customer service – Aiming for customer service excellence.
- Employee engagement – In many parts of the organization engagement is low.
- Corporate services – The relationship with Purchasing, HR, Legal & IT is one of the key issues facing staff.
- Lack of communication – both vertical (throughout the hierarchy) and laterally (across teams/business units/divisions).
- Leadership – enabling effective leadership to ensure a common vision is shared throughout the organization.
- Collaboration – Hierarchy and business silos limit progress within the organization.
- Culture of risk aversion – The current environment hinders innovative development, creating a "reactive" vs. a "proactive" organization

Global: the 9 Global Megatrends

1. Demographics
Higher life expectancy and falling birth rates are increasing the proportion of elderly people across the world, challenging the solvency of social welfare systems, including pensions and healthcare. Some regions are also facing the challenge of integrating large youth populations into saturated labor markets.

2. Rise of the individual
Advances in global education, health and technology have helped empower individuals like never before, leading to increased demands for transparency and participation in government and public decision-making. These changes will continue, and are ushering in a new era in human history in which, by 2022, more people will be middle class than poor.[1]

3. Enabling technology
Information and communications technology (ICT) has transformed society over the last 30 years. A new wave of technological advances is now creating novel opportunities, while testing governments' ability to harness their benefits and provide prudent oversight.

4. Economic interconnectedness
The interconnected global economy will see a continued increase in the levels of international trade and capital flows, but unless international conventions can be strengthened, progress and optimum economic benefits may not be realized.

5. Public debt
Public debt is expected to operate as a significant constraint on fiscal and policy options through to 2030 and beyond. Governments' ability to bring debt under control and find new ways of delivering public services will affect their capacity to respond to major social, economic and environmental challenges.

6. Economic power shift
Emerging economies are lifting millions out of poverty while also exerting more influence in the global economy. With a rebalancing of global power, both international institutions and national governments will need a greater focus on maintaining their transparency and inclusiveness.

7. Climate change
Rising greenhouse gas emissions (GHGs) are causing climate change and driving a complex mix of unpredictable changes to the environment while further taxing the resilience of natural and built systems. Achieving the right combination of adaptation and mitigation policies will be difficult for most governments.
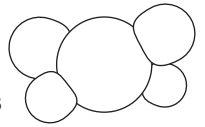
8. Resource stress
The combined pressures of population growth, economic growth and climate change will place increased stress on essential natural resources (including water, food, arable land and energy). These issues will place sustainable resource management at the center of government agendas.

9. Urbanization
Almost two-thirds of the world's population will reside in cities by 2030.[2] Urbanization is creating significant opportunities for social and economic development and more sustainable living, but is also exerting pressure on infrastructure and resources, particularly energy.

Ref: KPMG International Cooperative. (February, 2012). Expect the Unexpected: Building business value in a changing world.

The 7 Drivers of Public Sector Innovation

1. Growing stakeholder expectations
In an era of 24/7 connectedness, citizens and businesses have increasing access to information about the public sector agencies that serve them, and correspondingly increasing expectations about those services. Citizens expect public sector organizations to improve their productivity while, at the same time, offer services that match those being provided by the public sector.

2. Competition
We operate in a highly globalized environment where public sector organizations, especially municipalities and provinces, are expected to compete on an international level. According to Bason, "how can government work to harvest the benefits of globalization while minimizing the risks and pitfalls" (2010)?

3. Modern/mass media
Modern history has unfolded, and will continue to unfold, in real-time – on television, the internet and social media. This 24/7 connectedness acts as a significant driver to innovation in government, as government seeks to build its capacity to respond to the growing demand for continuous access and immediate feedback on pressing issues.

4. The evolution of technology
The pace of the evolution of technology is mindboggling. The more the private sector exposes citizens to new technology solutions, the greater the demands for similar solutions from government. A key challenge to this is that management systems in public sector organizations are not typically able incubate, develop and implement new technology solutions at a fast enough rate to keep up. How can government agencies make use of innovation methodologies to help address these concerns?

5. Changing population demographics
Many developed countries face the dual challenge of an aging and shrinking population. Providing affordable health care for an aging population and maintaining economic advantage in the face of a shrinking population are becoming major planning issues for government agencies.

6. Shocks
We live in a period of "dramatic systemic shocks" – from pandemic outbreaks to economic and natural disasters. How can governments innovate to better prepare and make their economies more resistant to these shocks?

7. Climate change
Climate change is rapidly becoming recognized as one of the major issues facing society – and not just the public sector. In fact, the insurance industry has recognized that it will be one of the hardest hit by climate change that has stepped into a leadership position on the issue, working closely with government agencies around the world. This type of cross-sector collaboration is the kind of innovation needed to ensure a swift and effective response to climate change.

Ref: Bason,C. (October, 2010). *Leading Public Sector Innovation: Co-creating for a Better Society.* Bristol, UK: Policy Press.

Appendix G: CCOO 3, 5 and 10-year Scenarios

Scenarios

3 Year forecast - 2018

Karl and Megan are having a conversation about how things have changed in the working world. Karl travels to work from Woodbridge to the Fleet Service Eastern Avenue location in a gas guzzling truck. Megan was assigned a work place that was close to home so she could bike to work. Karl starts his days by jumping in a shower. Megan starts her day by checking her smart phone so she is ready to go once she gets into the office, representing a new way of working that blurs the line between work and home somewhat.

The process to get something fixed on a vehicle was manual but Megan can use her smartphone to its fullest potential – including video calls with the manufacturers to figure out what might be wrong and what the solution might be. Our technology also allows us to access a "global knowledgebase" or community to help identify common solutions to fleet related issues. Karl on the other hand, has to go through a series of layers to get assistance, as he has not fully adopted the available technology.

Megan can decide what time she wants to get to work – she works her required 8 hours but sets her own hours.
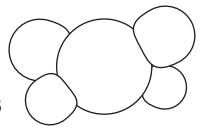
Every garage at the COT can do training at the same time thanks to technology – using tablets and smart phones to bring training to the locations rather than scheduled training at one location. The City's technology infrastructure has also caught up, allowing full and engaged participation in meetings via video conferencing.

The CCOO's emergence as an increasingly desirable workplace to work in, including good wages, adoption of technology etc means that Fleet Services continues to attract young talent. The focus of the organization, in the absence of the ability to offer additional incentives that are typical in the private sector, in on the quality of the workplace, easy access to technology, appropriate work life balance, and professional development opportunities.

5 year - 2020

Marjorie comes into work on the subway, which has full Wi-Fi access, meaning she can get some work done on her commute. In nice weather, she bikes in, as she does not live far from work. Marjorie works in an outcome/performance-based system, representing the trust her manager—and, thus, the City—has in her. She does not need to clock in and can set her own hours, as long as she achieves the outcomes she and her manager agree on.

Ali has to drive into work, but because he was able to pick a work location close to home, his commute is short. He works out of one of the CCOO's locations in Etobicoke. He uses his own device for work and receives an allowance from the City. His device is fully tapped into the City's systems, enterprise apps, etc. Ali's motto is "work hard, but work smart." This means he focuses on making his workflow efficient, which is possible given the reduced red tape throughout the system.

The physical workspace has been transformed: employees have access to more common areas, including lunchrooms, and more collaboration space exists, although there is ample private, quiet space for those who need it. This new workspace arrangement means there are stronger social connections between the divisions. Marjorie is able to meet and connect with her colleagues on an informal basis, leading to greater productivity if and when they are required to work together—she feels comfortable calling up people she has never met before. The environment is more relaxed yet more productive, as employees have new ways to get the organization's business done. The organization is now largely paperless, a move enabled by the smart use of technology.

On-site gardens provide produce to the cafeteria, giving employees the opportunity to eat delicious and healthy produce grown in their "backyard." Marjorie's favourite is the zucchini muffins.

Ali and Marjorie have noticed the significant turnover that has begun to occur. The mass retirement identified a few years ago has been well handled, and the organization is now well placed to manage the critical transition that is occurring. The CCOO is an attractive employer to "smart creatives"—professionals with innovation at their core who are not afraid to embrace (and push) new ideas. This changing face of the organization is apparent to employees, who have received regular updates and engagement from the organization's leadership throughout the transition. They have also noticed a change in the hiring system, with greater focus on hiring replacement staff in time to transition from the departing staff.

A lot of the inspiration for how to grow the organization's desirability among the smart creative demographic came from learning from the successes of other City divisions, as well as from external partners. The leadership of the Mayor, who fosters positive cultural change in the organization, is also seen as critical to this and has set the tone among the senior executives of the City.

The overarching focus of the organization has begun to transition away from a rigid focus on budget toward a focus on value-driven outcomes. This is supported by an increased investment in the City of Toronto by the senior orders of governments.

One of the key differences Marjorie feels is that the organization now encourages controlled risk-taking and embraces learning from failure. Marjorie was recently contacted by Human Resources and very gladly gave a testimonial on why she loves working for the CCOO. This testimonial was posted on the website and used to help attract people to work here.

10 year - 2025

Social:
- Workforce is more diverse, and younger
- Aging population within the workforce will be a minority
- City Hall will be more accessible to the public – from a connectivity perspective, no physical barriers

Continued: Appendix G

- City Hall generates its own renewable energy
- City brings in a lot more talent from the outside.
- City is viewed as a great place to work. Many workers live close to their work locations.

Technology:
- Virtual meetings
- Smaller workstations, virtual workstations, hoteling
- Technology enabled
- Telework and proximate commuting
- Full service kiosks for the residents
- Agile and flexible service offerings for the public – enabled by technology and the internet
- Green fleet – 100% green

Economic:
- Higher trust in public sector leads to higher DPO limits
- City of Toronto Act has given the organization greater authority and better relationship with Federal and Provincial governments
- A City services smart card, e.g. Presto
- Strategized real estate assets – selling off surplus and consolidating through work solutions listed in social above.
- Greater coordination amongst full City agencies on how to strategic real estate for all agencies, corporations and divisions.

Environmental:
- City leading the way on getting its own house in order: 100% internal waste diversion, CCOO is paperless.

Political:
- Extend Council term to 6 years
- Recall
- Shorten election cycle
- Break down silos within the City but also between the orders of government

Values:
- Common management framework – pillars: employee engagement, customer service, process & project management, financial sustainability
- A positive image of the public service
- Integrated service and service excellence as part of the culture