

**CO-DESIGNING A UNIVERSITY-WIDE FRAMEWORK: STRUCTURE, SYSTEMS
AND SERVICES THAT SUPPORT KNOWLEDGE MOBILIZATION AT UBC**

by

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Abstract

Knowledge Mobilization or KMb aims to make university-generated knowledge more relevant and beneficial to a variety of decision makers. The topic of knowledge mobilization is central to discussions in academia, government and the general public because it is understood that effective knowledge mobilization practices have the potential to support positive social impacts. Deliberations about the opportunity and potential role for knowledge mobilization are active at The University of British Columbia, a global and highly intensive research institution that has been recently recognized as one of the world's most innovative universities.

This dissertation addresses an identified need for research: how to explore, design and develop a prospectus and framework for Knowledge Mobilization at The University of British Columbia. An overarching research question: How to co-design a university-wide framework: structure, systems and services that support Knowledge Mobilization at UBC served as a starting point and involved consultations with professors, students, staff and external stakeholders. The researcher applied the Strategic Design Method that is well suited to address multi-sectoral, complex problems such as knowledge mobilization systems. Phase one involved gathering data from UBC professors, students, and staff through studio sessions and interviews with the goal to understand the scope of several relevant KMb initiatives in UBC. This exploratory phase uncovered challenges experienced by UBC participants. They suggested that a university-wide framework that oversees and strengthens UBC's capacity to improve KMb would be an asset. Phase two involved consulting with external stakeholders ranging from public servants, industry representatives and the general public. A second round of design sessions led to the co-design of a particular framework with specific components or themes: place, people, programs and

services, and prospective research and systems. Phase three explored strengthening the co-designed framework through a planning logic model with the main components: brokering, training, leadership, research & development and support. The results of this research will support UBC and its efforts to develop the UBC Knowledge Exchange, and its overarching strategies oriented to strengthening UBC's knowledge mobilization capacity and research competitiveness.

Lay Summary

Knowledge mobilization (KMb) refers to processes and activities that make knowledge generated in universities, including scientific knowledge, accessible and relevant to non-academic stakeholders, as well as for universities to be more receptive, recognize and value various forms of non-academic knowledge. UBC has expressed its commitment to become a recognized leader in knowledge mobilization, and the need to design a knowledge mobilization framework to improve UBC's capacity to share knowledge has been identified. UBC community and partners worked on the following question: How to co-design a broader university framework to support the research and knowledge needs of non-academic groups of stakeholders? The author applied the Strategic Design Method, an integrative and interdisciplinary approach, to work with faculty, staff, graduate students and members of non-academic communities to explore this question. The results of this research will inform the continuous development of knowledge mobilization and knowledge exchange strategies at UBC.

Preface

This study integrates primary and secondary data provided by UBC community members and external stakeholders mainly through the application of the strategic design method leading to research developments and institutional recommendations. Contents from Chapter 5 and 6 served in preliminary research outputs, these were used with permission from the lead author, Professor Moura Quayle. Research protocols were approved by **UBC's Behavioural Research Ethics Board** and are identified in the ethics certificate number: **H16-03339**.

The author was responsible for the overall research design, data collection, data analysis, entire manuscript, tables, pictures, and diagrams. This dissertation is original, unpublished, and independent work by the author, Marcelo Emilio Bravo Chapa.

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List of Abbreviations

| | |
|-----------|---|
| BC: | The Province of British Columbia |
| CCEL: | UBC's Centre for Community Engaged Learning |
| CIHR: | Canadian Institutes for Health Research |
| CIRS: | UBC's Centre for Interactive Research on Sustainability |
| Conacyt: | National scientific granting agency (Mexico) |
| CTLT: | Centre for Teaching, Learning and Technology |
| CWSEI: | Carl Wieman Science Education Initiative, UBC |
| d.studio: | UBC's Sauder School of Business design studio |
| EI: | Engagement and Impact |
| ERA: | Excellence in Research for Australia |
| GHG: | Greenhouse Gas Emissions |
| IRSHDC: | Indian Residential School History and Dialogue Centre, UBC |
| KMb: | Knowledge Mobilization |
| Kx: | Knowledge Exchange |
| K*: | An acronym that seeks the integration of closely related knowledge dissemination/ mobilization/ exchange/ transfer terms |
| IRSI: | UBC Indigenous Research Support Initiative |
| MSFHR: | Michael Smith Foundation for Health Research |
| NABI: | National Alliance for Broader Impacts (USA) |
| NHS: | National Health Service (UK) |
| NSERC: | National Sciences and Engineering Research Council |
| ORICE: | Office of Regional and International Community Engagement, UBC-Arts |

| | |
|--------|---|
| RIC: | Research Impact Canada |
| REF: | UK's Research Excellence Framework |
| SDM: | Strategic Design Method |
| SSHRC: | Social Sciences and Humanities Research Council of Canada |
| SoTL: | Scholarship of Teaching and Learning |
| SPPGA: | UBC School of Public Policy and Global Affairs |
| STAR: | Sustainability Tracking, Assessment and Rating System |
| UBC: | The University of British Columbia |
| UBCLE: | The UBC Learning Exchange |
| UILO: | University-Industry Liaison Office of UBC |
| VPRI: | UBC Vice-President of Research and Innovation |

Glossary

Contribution analysis: a structured approach of understanding to what extent observed outcomes are a consequence of a particular activity, as opposed to other factors. It is not intended to prove direct causality.

Dissemination: the circulation of knowledge to academic and non-academic audiences.

End of grant KT/ KMb: post-research activities focused on the dissemination of knowledge to different audiences, academic and non-academic.

Knowledge broker: the specialized university staff dedicated to identify research needs and the prospective of cross-academic collaborations.

Hub: a center of activity or interest, a focal point around which events revolve.

Impact of Research: an effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life, beyond academia. Impact includes, but is not limited to, an effect on, change or benefit to:

- the activity, attitude, awareness, behaviour, capacity, opportunity, performance, policy, practice, process or understanding
- an audience, beneficiary, community, constituency, organisation or individuals
- any geographic location whether locally, regionally, nationally or internationally.

Network: an interconnected system of things or people.

Non-academic research stakeholder: any individual or organization located outside institutions of higher learning that has an interest in research and its impact. A stakeholder might include organizations connected to a subject matter, community or government representative, a corporate partner, donors, etc.

Policy Studio: a teaching and research unit at the UBC School of Public Policy and Global Affairs specialized in working with complex multi-sectoral problems.

Research Impact Canada (RIC): the leading Knowledge Mobilization network in Canada that supports the creation of value from knowledge by developing and sharing best practices, services and tools, and by demonstrating to relevant stakeholders and the public the positive impacts of mobilizing knowledge.

Strategic Design Method (SDM): a human-centred and participatory research process that provides both an integrative framework and a process to explore, uncover, and work on challenging problems leading to valued offerings and situated innovations.

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Dedication

To my family, with love!

Chapter 1: Introduction

This chapter undertakes a brief exploration of education including historical development and particular features of universities. Its purpose is to provide context for addressing the idea and opportunity of knowledge mobilization at The University of British Columbia. The chapter also presents the identified research need, research question, research approach, and selected research method. It will conclude by addressing the overall organization of the manuscript.

1.1 Education and Universities

The role of education as an integral way to support the wellbeing of individuals and the whole society occupies a fundamental place in the history of civilization. In the western world, Plato's Academy and Aristotle's Lyceum treated education, particularly in philosophy, as a foundation for the formation of capable citizens (Natali & Hutchinson, 2013). They did not only seek the instruction of individuals in domains of expertise, but aimed to cultivate positive character that would be conducive to society. For instance, Feibleman (1987 p. 206) argues that "in a certain sense, the entire *Republic* is an essay in education [...] Plato conceived of "wholes" rather than of parts in the cultivation of the entire man". Although at that time not all individuals had access to education, there was a consistent educational interest in the duties performed by families and social institutions in support of the transmission of knowledge (Dombrowski, Rotenberg & Bick, 2013).

The first universities in Europe were founded substantially later in the 13th and 14th century, including Bologna, Oxford, Cambridge, Siena, Salamanca, amongst others (Haskins, 2002; Palfreyman & Temple, 2017). Universities oversaw the continuation and expansion of earlier

scientific developments in the middle ages. They were also beginning to synthesize knowledge that resulted from travel, exchange, and translation across many societies through the work of early explorers and traders. According to Kennedy (1989) and Marrou (1982), knowledge, inventions, and artifacts that featured in this period of European history derived from distant places such as the Middle East, China and India. Early universities continued to experiment in mathematics, biology, medicine and physical sciences, and the expansion of knowledge domains such as philosophy, theology and law (Palfreyman & Temple, 2017).

With the subsequent expansion of universities all over Europe and the Americas, and the increased relevance of science, philosophy, medicine, theology and law, institutions of higher education gradually began to occupy a significant role in society. The nineteenth and twentieth centuries would also constitute a definitive win for the idea of the modern university as it expanded and consolidated across continents (Haskins, 2002; Anderson, 2004).

1.2 Exploring the Role of Modern Universities in Society

Universities are now recognized and deemed invaluable by most members in society. However, there are also groups and actors that have introduced suspicion of the value of higher education and research (e.g., Tobolowsky & Reynolds, 2017; Hofstadter, 2012). Nonetheless, universities in the last centuries, have been fundamental actors in public scientific and intellectual discourse with unparalleled contributions in nearly every domain of rigorous human inquiry. Universities have been and are still being developed to support education, science, and the overall betterment of humankind. There is no other institution on earth that can fulfill this unique knowledge service-oriented mission (Holland, 2014; Fallis, 2007). Universities, similar to other

institutions—for example, the government—have historically developed their own ways of achieving significant contributions while remaining relevant. In the case of universities, part of this development includes the birth of many recognized branches of knowledge, disciplines, subdisciplines, and now interdisciplinary fields (Palfreyman & Temple, 2017; Klein, 1996). Academic disciplines have developed epistemologies and methodologies to inquire and generate knowledge that in many instances have conducted to societal advances (Dombrowski, E., Rotenberg, L., & Bick, M, 2013).

Universities have acquired some singularly unique elements, for example the right to “academic freedom”. This comprises the cornerstone of academic institutional “freedom of expression” and guarantees professors free inquiry domain regardless of external forces that might try to influence in his/her knowledge pursue, results, teaching or pedagogies. (Kahn & Pavlich, 2000; Haskins, 2002). Most modern public universities are often granted the term “autonomous”—right that allows them to establish their own way to organize the professorate, ranking, promotion process, and the structure of the university (Guruz, 2015).

From a cultural vantage point, universities have also evolved to become beacons in pluralistic societies, a venue for conversation where all type of ideas can be rigorously discussed and protected from the censure of actors and interest groups. Universities and their library systems at large have become the best reservoir of knowledge for the preservation of knowledge itself and the continuous service to academia and society as a whole (Reilly, 2016). On the role of universities, UBC President, Professor Santa Ono writes:

For centuries, universities have held a special place in society. We are entrusted as guardians of the accumulated knowledge and wisdom of humanity, as trailblazers in advancing the frontiers of human knowledge and thought, and as leaders, mentors, and teachers in disseminating the fruits of this knowledge” —On Freedom of Expression, Draft statement (UBC, 2017).

However, as we approach the third decade of the twenty-first century, universities are at a crossroads. Institutions are challenged to adapt to a rapidly changing society, invigorated by complex economic times, technological innovations, environmental challenges, and societal expectations (Toohey, 2006; Rangel, 2014; Rifkin, 2011). Some of these changes, prompted by new technology such as the internet, allow for the democratization of media while opening channels for open discussion and free exchange of ideas. Although this can be seen as a major advance, at the same time it has allowed the proliferation of misguided and incorrect information (Owen, 2018; McNair, 2018).

Educational opportunities for student are also changing. Students are joining universities with a desire to acquire knowledge and competences such as critical reasoning and transferable skills; they are adept to engage in various forms of knowledge and experiences oriented to craft a unique professional development. For example; at UBC, there is a widespread interest by students to take part in in applied learning experiences such as problem-based learning and practicums; there is a wider opportunity to design their own curriculum, and to be part of networks and communities of practice. Students are also keen to develop innovative and sustainable solutions in different disciplinary and applied sectoral domains (UBC, 2018). On this, the Social Sciences and Humanities Research Council of Canada (SSHRC) also confirms this:

Central to today's teaching and learning are inquiry-based and student-centered approaches and techniques shaped by networks, collaboration, technology and design (SSHRC, 2016 - Leveraging knowledge for the 21st century teaching and learning).

Current and future technologies, such as artificial intelligence, prompt us to re-think some core elements of education, including the physical-spatial aspects of pedagogy and the built and virtual environments. From smart classrooms to interactive media that enhances learning, proper adaptations and effective innovations can lead universities' evolution to support a new generation of learners (Moeiz, 2018).

Another positive change for the role of universities is the pursuit of “evidence based” or “evidence informed” practices, especially in the health disciplines with their uppermost interest in supporting patients and making more efficient use of resources (Grayson, 1997; Ward, Smith, House & Hamer, 2012). Of particular interest is the area of public policy where the government aspires to design improved policies backed up by experts and rigorous research (Nutley, Walter, & Davies, 2007).

Policy approaches such as science diplomacy, and new interdisciplinary fields such as behavioral economics or “big data”, are deemed to exercise a significant impact on the design and improvement of modern public policy (Kiselev & Nechaeva, 2018). To be further explored in Chapter 4, governments are also investing in new models of labs and think tanks that employ novel and innovative methods such as design-centred approaches; their purpose is to better understand, design, and provide improved services who are targeted to diverse constituencies (Bellefontaine, 2013; Julier, Kimbell, Briggs, Duggan, Jungnickel, Taylor, & Tsekleves, 2016).

Some forward-looking thinkers such as Schwab (2016) or Rifkin (2011) suggest that we are currently operating in a fourth industrial revolution, defined by nanotechnology, the internet of things, access to knowledge, artificial intelligence, biotechnology, smart foods, increased globalization, and the changing future of work. It cannot be overstated that we are in changing technological, environmental and societal times that shape the way we interact with the environment, technology, and amongst ourselves. All these changes will have a profound impact on the role of institutions as we have traditionally conceived them (Rangel, 2014; Rifkin, 2011). Universities in particular, are best suited to “host” and foster discussions of these and related changes and challenges, not only for the purpose of academic consideration, but with an interest in increasing their relevance in the public space through research impact. On this, Stack (personal communication, 2018) suggests that the university role could be to expand the conversations, with the specific end of improving public reasoning about various societal challenges. As previously referenced, both the democratization of access and the production of information have sometimes led to the proliferation of inaccurate factual data and information. One of the fundamental challenges of this time, as some argue McNair, (2018), Owen (2018), is the misdirection of public reasoning by individuals and interest groups, promoting confusion about topics of public interest such as climate change, health, well-being, multi-culturalism, public policy amongst others. It can be argued that society at large is looking for “factual” sources of knowledge, and universities are best suited to be the “go-to place” to access reliable and engaging information and to participate in meaningful debates about scientific or social concerns (Sens, 2017). Universities, as will be explored in the following chapters, can contribute to fulfill this historical role while providing intellectual direction, even and especially during periods marked by knowledge uncertainties and public misinformation (McNair, 2018).

Academics and the wider societies they serve are actively inviting and sometimes demanding universities to address complex social and historical issues. For instance, in Canada, there is considerable interest for universities to be key collaborators in educating the general public in the reconciliation process with First Nations and Indigenous groups (Kesler, 2018). Another example is to work with the government on immigration policies (Murdocca, 2013). Other challenges include drug consumption and overdose, housing markets, public education funding, mental health, medical services provision, urban sustainable communities, new roles of media, challenges to democracy, to name a few (Buchanan, 2013; Stack, 2016; Owen, 2018).

Nowadays, there is a better understanding of the complexity of many of the themes explained previously; challenges that demand new types of intellectual endeavors, some of these catalyzed by the work of multi-sectoral actors requiring to partner with universities. Current times demands active and smart collaboration; this requires new ways of thinking allowing different knowledge perspectives to be applied on complex problems, both in the rigorous analysis, as well as in the application domain.

1.3 Universities and the Case for Knowledge Mobilization

Whereas the traditional roles of the university have focused heavily on research and teaching, universities have the potential to do much more. As discussed, there is a wider political and social expectation that publicly funded institutions become more accountable based on public money investments (Cooper 2015; Burns & Schuller, 2007; SSHRC, 2016). The Social Sciences and Humanities Research Council of Canada (SSHRC), recognizes this while stating “Knowledge mobilization is about ensuring that all citizens benefit from publicly funded

research” (SSHRC, 2016). In addition, there is an expectation that excellent public research-intensive universities must develop and maintain a meaningful engagement with the variety of stakeholders that support them. These expectations are also backed up by other Canadian and international granting agencies who have now dedicated sections of grant proposals for researchers to elaborate plans with the objective to enhance societal impacts (SSHRC, 2016; CIHR, 2017; NSF 2016; NABI, 2017).

Knowledge mobilization is an approach for universities to embrace and respond to the previously referred challenges. Knowledge mobilization or (KMb) is a broad term, sometimes referred to as an umbrella term which encompasses a perspective, a particular set of services usually referred to as “brokering” services, and key activities with the goal to connect universities and external stakeholders through research engagement for the purpose of impact (Lomas 2000; Ward, House & Hamer 2009; Cooper, Levin & Campbell 2009; Phipps, 2017). KMb aims to enhance collaborations and value existing relationships of universities and non-academic partners including Governments, Industry, NGOs, and the general public. Importantly, knowledge mobilization is also the term used by SSHRC – Social Sciences and Humanities Research Council of Canada defined as:

The flow of knowledge and information among multiple individuals and groups, leading to intellectual, social, and economic benefits. Knowledge mobilization aims to allow the exchange of research knowledge both between university researchers and the wider community, and across different academic disciplines (SSHRC, 2016).

The two other major granting agencies in Canada CIHR – Canadian Institutes of Health Research and NSERC – National Sciences and Engineering Research Council, use terms such as

Knowledge Translation, Knowledge Transfer or Knowledge Exchange. Despite these different labels, including international ones such as Broader Impacts (NABI, 2018) they all work under the same premise: to facilitate university-generated knowledge and work with external partners in order to enhance broader relevance, uptake, and impact on positive change performed by non-academic users. Chapter 2 describes the KMb work of these agencies in detail. It can be argued that Canada is in the pathway to become a leader in knowledge mobilization thinking and practice; this through coordinated efforts amongst agencies, universities and stakeholders.

Another element for the momentum of knowledge mobilization has been the decisive leadership that some academics, staff, and practitioners have brought to the development of novel services for the operationalization of knowledge mobilization. Many of these academics and university leaders are now part of a Canadian network called “Research Impact”. Fully explained in Chapter 2, Research Impact or RIC is the leading KMb network dedicated to develop knowledge mobilization capacities amongst its members.

The final element on the increase interest in knowledge mobilization has been the ongoing conversations on the role that modern universities could play today. As argued, university has the potential to shape culture and become a more engaged player in participating at proposing solutions to the many complex inter-sectoral programs previously described. It can be claimed that knowledge mobilization might become a response to these challenges; and this could make universities to reconsider its role in traditional approaches to engagement, science communication and dissemination. It is clear that there is room for a more articulated approach that takes advantage of the latest developments, many of these being generated in universities.

1.4 Relevance and Opportunity for UBC: the Value Proposition of Knowledge

Mobilization to Serve Non-Academic Audiences

UBC is a research-intensive public university in Canada, a recognized global university with more than 60,000 students, including 10,000 graduate students and approximately 5,000 faculty located in two campuses: Vancouver and Okanagan (UBC, 2018). UBC's research and academic excellence is well-known worldwide; it is ranked in the top 20 of best public universities in the world, and in the top 40 in respected international rankings (Times, 2017; QS, 2017). As a strong research-intensive university, UBC administers the second-largest research budget in Canada, approximately 500 million funding 8,000 projects a year, making it a global research player. UBC has also been recognized as one of the most innovative universities in Canada with scientific innovations in the areas of health, sustainability and technology being developed in UBC, many in cooperation with local and global partners (Reuters, 2018).

The topic of knowledge mobilization or knowledge exchange, as it is currently being positioned at UBC, has been addressed explicitly and implicitly at least since 1998. For instance, knowledge mobilization approaches have been considered in the last three strategic plans including the most recent in 2018. As an example, starting in 1998, under the *Trek* strategic plan, UBC mission included the following statement:

[UBC] will cooperate with Government, Business, and Industry, as well as with other educational institutions and the general community, to create new knowledge [...] and improve the quality of life through leading-edge research. (UBC *Trek* strategic plan, 1998, p. 2)

The *Trek* plan was instrumental for UBC because it was launched before year 2000: it served as a guiding point of departure for various institutional accomplishments that have since been

consolidated under a single banner. Examples of these include: the strengthening of internationalization, recruiting faculty and students from all over the world; a refreshed curriculum perspective preparing students for civil and global citizenship; an increased engagement with local and global communities; and a specific and holistic emphasis on sustainability.

The subsequent 2012 strategic plan, titled *Place and Promise*, also referred importantly to the knowledge mobilization perspective. The reference is found in the “Values” section of the document. Particularly, it states that:

[UBC] supports scholarly pursuits that contribute to the knowledge and understanding within and across disciplines, and seeks every opportunity to share them broadly. (UBC *Place and Promise* plan, 2012. p. 6)

The *Place and Promise* plan was an ambitious guide that included nine commitments.

Particularly relevant to this research is the “second commitment”:

The University creates and advances knowledge and understanding, and improves the quality of life through the discovery, dissemination and application of research across a wide range of disciplines’. (UBC *Place and Promise* plan, 2012, p. 9)

This plan helped to drive UBC’s strong emphasis on research as a means to position UBC on the global stage. For instance, the plan included continued support for sustainability, health, and technological discoveries as major themes, including a renewed orientation to new pedagogies and interdisciplinary perspectives. Importantly, the plan also stressed the relevance of “Place” and “People”, and a renewed call for a meaningful re-engagement with local and global communities. *Place and Promise* is a direct response to the needs of continuing global engagement, but also to recognize the local and national priorities and the role that Canadian

society place in highly renowned universities such as UBC. To conclude, *Place and Promise* recognized the important role of serving a broad diversity of local, national and global stakeholders.

As a complement to the perspective of knowledge mobilization, it is important to note that during the last decade UBC has been implementing and delivering relevant institutional commitments in the area of community engagement. Some examples of these are the UBC Learning Exchange, an initiative that seeks to connect UBC students to learn with and support educational and various social development needs of the Vancouver downtown east side community (see: learningexchange.ubc.ca). The UBC Faculty of Arts has also established the Office of Regional and International Community Engagement (ORICE), whose mandate is to foster meaningful engagement between students, faculty and community partners (see: orice.ubc.ca). UBC also supports the Centre for Community Engaged Learning (CCEL), which develops academic projects connecting community partners with both faculty and students in order to address complex social challenges (see: ccel.ubc.ca). UBC has also been innovating in academic programs with a stronger focus on public scholarship. The UBC Public Scholars Initiative (PSI) is an academic initiative now being recognized in Canada for its novel approach supporting PhD students to work with community partners addressing pressing societal issues through targeted research (see: grad.ubc.ca/psi). Interdisciplinary research centers such as the Liu Institute for Global Issues (see liu.arts.ubc.ca), the Peter Wall Institute (see pwias.ubc.ca), Institute for Resources, Environment and Sustainability (IRES; see ires.ubc.ca), and the Centre for Interactive Research on Sustainability (CIRS) have a clear focus on advanced research that supports identified local or global needs including a clear emphasis on knowledge mobilization

(see cirs.ubc.ca). The Liu Institute for Global Issues, for example—now part of the School of Public Policy and Global Affairs—integrates a unique area for artistic showcase of research output called the Lobby Gallery. The Gallery provides an opportunity for graduate students in areas such as sustainability, security, social justice, and global development to use different modes of expression for their research results. A broader explanation on these institutional initiatives and relevant theme accomplishments will be addressed in Chapter 3.

Finally, a message for the support of knowledge mobilization and engagement perspectives can be identified in the vision of current UBC President, Dr. Santa Ono, demonstrating UBC's continuing commitment to the underlying philosophy of this approach. At the beginning of his tenure and during his installation speech in November, 2016 he expressed:

We will identify new opportunities to connect with and strengthen our communities. Here at UBC we understand that universities have a responsibility to forge strong connections with our communities (UBC President Santa Ono – Installation address, 2016).

This brief introduction highlights the knowledge mobilization aspirations that have existed in UBC's vision for the last two decades. However, even considering that UBC has been advancing in many fronts to engage with its external communities, there is a clear need of a broader university-wide knowledge mobilization framework that could guide UBC in more articulated and targeted action to enhance impacts out of its research. As briefly illustrated, the idea and concept of knowledge mobilization has existed for long time, therefore the need for this research was timely identified as a felt need expressed by many of its community members.

1.5 The Research Question: the need for a KMb institutional framework and further development

This research opportunity began in 2016 when the author and a group of interested researchers addressed key UBC VP Research and Innovation leadership members to discuss the potential for the development of a broader UBC KMb framework or mandate to guide institutional efforts in this realm. The objective was to explore ways to strengthen UBC's institutional capacity in knowledge mobilization for research impact. This led to the development of a broad working research question defined as: *How to co-design a university-wide framework: structure, systems and services that support knowledge mobilization at UBC?* A co-developed framework that integrates the diversity of disciplinary engagement perspectives, and that serves to recognize and enhance current initiatives, would provide a common point of reference for university leadership, faculty, students, and community partners. It would also promote coherent strategies across units within UBC and its partners.

A necessary prerequisite for unpacking this question was to understand UBC's various communities and their ongoing work on knowledge mobilization. This led to the identification of academics, staff, and graduate and postdoctoral students already working on this type of scholarly activity. A key objective was to uncover the actual practice, needs and aspirations on KMb—now referred to as Knowledge Exchange, and to understand UBC's role as a local and global partner. This required the identification and exploration of current roadblocks or challenges presented by university systems and structures for both, internal actors and external actors. The next steps led to finding possible avenues for strengthening UBC's institutional

capacity in KMb through an identified need for a broader, institutional framework that will serve as a starting point for further development and operationalization.

Importantly, two parallel and ongoing developments at UBC in the last two years have provided meaningful input for this research. First, UBC embarked on a university-wide consultation for the recently released 2018 strategic plan titled “*Shaping UBC’s Next Century*”. This process involved consultations with professors, administrators, students, alumni and community leaders to think about the key themes identified as *inclusion*, *collaboration* and *innovation*. These three themes are to be embraced through four core areas referred as *people and places*, *research excellence*, *transformative learning*, and *local and global engagement*. Overall, the new strategic plan includes a group of ten goals referred as – *the UBC promise*. These goals are intended to be achieved through twenty actionable strategies that will embed the three aforementioned key themes: *collaboration*, *inclusion* and *innovation*.

Of particular interest during these strategic plan consultations was the opportunity to analyze both the process and the outputs. For instance, in many of the consultations, key actors spoke about the need for UBC to think about the future and to advance its relevance as a university considering broader societal changes and a diversity of stakeholders. Some of these comments were aligned with a proposed leadership in the knowledge mobilization- knowledge exchange domains.

Fundamental to this research is Strategic Plan Goal #10: “Lead a model public institution, fostering discourse, knowledge exchange and engagement” (UBC *Shaping* strategic plan, 2018,

p. 11) This goal is found to be directly relevant to the purpose of this dissertation and the ongoing work to institutionalize knowledge mobilization perspectives. It re-confirms and defines UBC's aspirational role to become a public institutional leader through strengthening knowledge mobilization and engagement. An analysis of this strategic plan and previous plans will be discussed in Chapter 3.

Undoubtedly, the most important contextual element for the goal of KMB at UBC is the actual leadership exercised in the portfolio of the recently re-designed area of UBC VP Research and Innovation (VPRI). The VPRI has been crafting a new portfolio known as "Innovation UBC". This portfolio is in the process of being shaped through an institutional transformation to include previously established areas such as entrepreneurship@ubc, the University Industry Liaison Office (UILO), and Innovation Development. Of particular interest to this research is the new area being developed in the portfolio – the Knowledge Exchange unit with the objective of supporting the needs of researchers and graduate students in their effort of research engagement through knowledge exchange to achieve social innovation.

Innovation UBC is an emerging broad portfolio within the UBC Vice-Presidency of Research and Innovation. It will respond to UBC's Strategic Plan to support research and best practices leading to innovation in the private and public domains. One of the key reasons to support knowledge exchange is to build a clear pathway and train researchers to accelerate social innovations and public engagement. Another reason for the Innovation UBC orientation towards Knowledge Exchange is that UBC currently operates an excellent structure for industry relations and business development processes; however, there is not yet a clear structured framework for

knowledge exchange processes leading to social impacts. The process of designing the UBC Knowledge Exchange is still underway, but preliminary data collected for the purpose of this dissertation has informed the ongoing development of the Knowledge Exchange unit. In addition, UBC has just hired the first Associate Director to support these efforts.

1.6 Research Approach and Method

The nature and potential of the research question: “Co-Designing a UBC university-wide framework for knowledge mobilization” required a method that is both structured yet flexible while working with a diversity of internal and external stakeholders. Knowledge mobilization institutional systems can be understood as complex problems since they embrace the challenge to connect diverse actors with various interests. This diversity requires an understanding of unique values, norms and incentives, and to incorporate a model that encompass a multi-stakeholder perspective.

Some particular challenges for this research included: (1) the diversity of academic disciplines represented in UBC organized through Faculties, Departments and Schools; and (2) the challenge of different UBC communities such as early career and tenured professors, graduate students in Master and PhD programs, and specialized administrative staff; and, (3) the broad diversity of external publics potentially impacted by knowledge mobilization services, e.g. public servants, industry representatives, NGO leaders, and interested citizens. Both internal and external participants in the research were found to have unique ideas on how to better engage UBC with external communities through research.

Based on the broad diversity of actors involved in the co-design of a knowledge mobilization framework, the various understandings of KMb, and the various interests reflecting different expectation of services, I decided to use the Strategic Design Method. Other methods considered included participant observation, ethnography, content analysis, case studies, focus groups and questionnaires. These methods, although very useful for specific research designs used alone, were lacking the full scope of the proposed research need and approach. The research question required a method that encompasses exploration, engagement, and design phases with the end goal of an applicable approach.

Strategic Design Method (SDM), practiced and evolved by Professor Moura Quayle, was found useful. SDM works well with problems that are ill-defined or owned by many. It is particularly effective in projects that allow various phases of work such as exploration, ideation, prototyping, and design of systems or services. It is an engaging method that allows participants to explore, interact and discuss various alternatives based on current or potential opportunities.

Developed at UBC, the Strategic Design Method has been proven to be an effective research approach when applied to complex problems defined as opportunities; SDM is human-centred, integrative, action- oriented and interdisciplinary (Quayle, 2017). It involves participatory research and design thinking tools where at its best, multidisciplinary groups work to ideate, test and develop resilient solutions to identified opportunities. SDM has been the intellectual development of more than a decade at the d.studio in the UBC Sauder School of Business and also the Policy Studio, a teaching and research unit at the Liu Institute for Global Issues forming part of the UBC School of Public Policy and Global Affairs. Strategic Design also offers a

unique pedagogy that embraces both critical thinking perspectives such as data analysis and operations research, and creative thinking perspectives such as empathy maps and service journeys.

As it will be fully explored in the following chapters, SDM proposes a unique learning and research space that is both rigorous and engaging. It is usually applied through studio learning settings where the space allows both critical thinking and creative expressions that supports innovative thinking; however, it can also be applied on one-on-one interviews or small group meetings. Current applications of Strategic Design from the work of the d.studio and the Policy Studio includes, the Creative BC Strategic Framework and Action Plan (Beausoleil, 2016), the MPPGA Policy Studio in Ottawa (Policy Studio, 2016) the Resilient Cities Policy Challenge (Policy Studio, 2017), the Re-Envisioning ISGP (Policy Studio, 2018), the UBC Design Challenge (d.studio, 2015), and the UAM Strategic Design for Complex Problems (Policy Studio, 2018), this in addition to its business oriented applications.

Strategic Design is closely related to Design Thinking. However, Quayle (2017), Beausoleil (2016), Boyer, Cook, Steinberg (2011), amongst other scholars prefer to call it Strategic Design. On this, Quayle (2017) clarifies: “Design is active. It’s a verb. Design is not just about thinking, but about constantly trying and doing” (p.75-76). Strategic Design encompasses an integrative framework and method rooted in the design disciplines, although enriched by varied academic areas such as Anthropology, Architecture, Management, Education, Philosophy, Psychology, Sociology and Applied Sciences like Engineering or Information Sciences. Overall, “Strategic

Design utilizes design thinking techniques, but it is a broader term for capturing the art and science of strategic decision making” (Quayle, 2017, p. 76).

Strategic Design was originally associated with being helpful when applied in the business realm, since the empirical application of the method has proven to accelerate innovation, usually something sought after in business and industry. This is shared by Brown & Katz (2009), Martin (2009), Quayle (2015 & 2017), Beausoleil (2018), and Liedtka & Ogilvie (2011). However, these same authors and new ones, for example, Liedtka, Salzman & Azer, (2017), Brown & Wyatt (2010), Quayle (2017), Bellefontaine (2013) and Kolko (2012), have also focused on applying design methods in the social or public domain.

Strategic Design and Design Thinking is also being incorporated in different spaces referred as Design Labs or studios associated with universities, think tanks, or design consulting companies. The most impactful example is IDEO (www.ideo.com), founded by Stanford Professor David Kelley and his collaborator, Tom Kelley; both are recognized leaders in the expansion of design thinking as a practice and a “brand”. Similarly, in Stanford University the Hasso Plattner Institute known as the d.school was also launched by Professor David Kelley with a group of professors who are also recognized leaders in applied research design (<https://dschool.stanford.edu/>). In New York, the Parson New School of Design is also working on broader design applications and research; it is described as a global center of design and business through multi-disciplinary programs (<https://www.newschool.edu/parsons>). In Canada, University of Toronto Professor Roger Martin from the Rotman School of Management is another influential writer in the design thinking North American landscape (<http://www.rotman.utoronto.ca>). In Europe, the Helsinki Design Lab in Finland developed a

pioneer work in design lead innovations for the public sector (<http://helsinki.designlab.org/>). A similar case can be found in Denmark with the Design Lab (<http://mind-lab.dk>). It is important to note that these authors and institutions include different names and perspectives of applied design methods; however, a broad analysis of models suggest close similarities amongst them e.g. problem exploration, prototyping, iterations, evaluation, amongst others. Further analysis of design tools, principles, and broader explanation of Strategic Design will be reviewed in Chapter 4 of this manuscript.

1.7 Organization of the Manuscript

This dissertation is organized in the following chapters:

Chapter 1 briefly reviews of the importance of universities and their unique role in modern society. It explores the need and opportunity for knowledge mobilization, a succinct introduction to the University of British Columbia, the research question, the introduction to Strategic Design Method and the overall research approach.

Chapter 2 includes a literature review on the Canadian knowledge mobilization development landscape, including granting agencies, Research Impact Canada, other relevant actors, as well as discussion of selected frameworks and models as points of reference to inform knowledge mobilization thinking and practice.

Chapter 3 situates the research study site: The University of British Columbia; it offers an exploration and analysis of relevant themes, previous strategic plans, and the introduction of its new plan *Shaping* with its knowledge mobilization perspective.

Chapter 4 provides a detailed explanation of the Strategic Design Method, a discussion on user-centred design methods for complex problems, a reflection of its principles, and the explanation of the Ask, Try and Do core elements of the Strategic Design Method.

Chapter 5 introduces and analyzes the different data collection phases of the research using SDM tools such as empathy maps, service journeys and logic models. The chapter introduces the data collection and analysis of phase 1 and 2, referred as Enhancing KMb@UBC, and Co-Creating the UBC Knowledge Exchange (Kx), and interviews leading to the development of a first planning oriented Logic Model.

Chapter 6 presents findings, analysis and results as well as introducing the proposed knowledge mobilization framework, structure, services and operationalization, including a subsequent planning Logic Model with goals and strategies. The chapter ends with a reflection on the applied method.

Chapter 7 offers overall research conclusions, a discussion on findings, reflections on the author's learning process, and further proposed areas of research and development.

Chapter 2: Relevant Literature: KMb in the Canadian landscape, exploration of terms and frameworks

As is briefly explored in Chapter one, publicly-funded universities are being encouraged to take a more active role in tackling pressing societal challenges; knowledge mobilization is one of several possible responses to these demands.

The purpose of this chapter is to describe knowledge mobilization thinking and practice in Canada. It will then offer a brief review of knowledge mobilization activities including the panoply of associated terms. It will conclude with an exploration of three selected knowledge mobilization frameworks and models that supported the exploration and further design of an institutional knowledge mobilization framework for UBC.

2.1 Knowledge Mobilization (KMb) in Canada and current developments

Knowledge mobilization is an emerging interdisciplinary field of thought and action. In Canada, it has been institutionally supported in various ways: the Social Sciences and Humanities Research Council - SSHRC, and the Canadian Institutes of Health Research - CIHR (although in this case using the language of KT) mandates with specific grants; networks such as Research Impact Canada; and, the convening work of the Institute for Knowledge Mobilization. Other support has come from research undertaken at Canadian universities and centers such as OISE at the University of Toronto (particularly in the field of education), as well as funders and intermediary organizations such as the Michel Smith Foundation for Health Research, and well-established communities of practice such as Knowledge Translation Exchange Community of Practice (KTECOP).

In the Canadian landscape, knowledge mobilization has been gradually gaining traction based on the shared identification that universities could do more with the outputs of their research; for example, to inform policy and elevate the quality of debate on key societal issues. Knowledge mobilization is complementary to well established mechanisms such as knowledge commercialization and patents that some authors criticize as neo-liberal attempts to corporatize higher education or commodify knowledge (Davidson-Harden, 2014).

Knowledge mobilization is therefore well suited to occupy a role that has been largely overlooked in the university space or only addressed partially by some scholarly activities and fields such as community based research, community action research, public or community engagement, or public outreach. An important notion amongst Knowledge Mobilization community, is that KMb is an integrative approach. For instance, it seeks to encompass the broader spectrum of the often separate but important parts in the process from knowledge to impact: knowledge generation, knowledge dissemination and knowledge uptake (D. Phipps, personal communication (2017)). Nonetheless, knowledge mobilization has also been benefited from broader discussions about the role of science in the Canadian landscape. For example, in the previous years there has been an increased interest in assessing the overall role of science in Canada, in particular to understand the role of public spending in science and its impacts. According to Meyer (2012), the previous Canadian federal government (1997-2012) was highly criticized in academic circles based on the overemphasis on investment in some knowledge areas such as certain sectors of technology, largely driven by a clear return on investments. This emphasis led to the stagnation of funding or cuts in some areas such as basic research or

discovery. This situation drove many critics in Canadian scientific circles to accuse the previous government of a lack of engagement with the scientific community as a whole and for its lack of recognition of the overall value of science and its extended contributions to the country and society.

This tense relationship with the federal government based on funding cuts showed signs of improvement when the current Science Minister, Kirsty Duncan, commissioned a national review titled “Canada’s Fundamental Science Review - Investing in Canada’s future” addressing the state of basic science and scholarly inquiry. This review is commonly referred to as the Naylor report (Sheen, 2017). Dr. David Naylor, a notable Canadian scientist, was the Chair of the Panel leading to the final report, released in April 2017. The report recommended major federal reinvestments on research-related activities by an average of 9% over four years, increasing an overall budget of approximately \$3.5 billion to \$4.8 billion. (Sheen, 2017). On this, Paul Davidson, president of Universities Canada expressed that the “ [Naylor report] is an excellent diagnostic of the Canadian research ecosystem and provides a very clear road map to restore investment in research, and to address issues of long-standing concern,” (CAUBO, 2018). Overall, the scientific community in Canada has supported the recommendations of this comprehensive report, one of the most exhaustive and rigorous in four decades (Semeniuk, 2017). It is expected that recommendations from this report will guide improved federal funding on issues previously overlooked, including support for early career researchers, increased diversity in academia, enhanced cooperation amongst universities, science outreach, and the fostering of a culture of innovation and risk-taking in academia (Science Review, 2017).

Another contextual element that has favoured support for knowledge mobilization has been its people-centred approach, usually underemphasized in the innovation discourse. Traditionally the major innovation efforts have been in areas such as industry, technology, business and health, but not necessarily in public policy, education, humanities, or arts. Knowledge mobilization generally advocates a more integrated approach. On this issue, Haché & Greenwood (2017) argue “the role of universities needs to go beyond fulfilling the critical need for global scientific excellence and building world-leading technology clusters. We need to mobilize innovation through a renewed focus and investment in people-centred knowledge mobilization initiatives that put new knowledge into action for the benefit of communities, industry and government” (Haché & Greenwood 2017, para. 4)

The idea of inclusive innovation has been proposed by organizations such as the Federation for the Humanities and Social Sciences. In the 2016 document titled “Making inclusive innovation a reality: integrating the human dimension in Canada’s innovation agenda”, it affirms “expansive vision of innovation, focused on meeting human needs. Investments in skill development, knowledge production and collaborative networks will help Canada build a rich and diverse innovation ecosystem capable of supporting economic growth, and inclusive social development” (FHSC, 2016, p. 13). It can be argued that knowledge mobilization responds to this call while proposing new models for universities to connect with the broader public, and extend the benefits of research for purposes beyond economic gain.

Another contextual element in Canada is in the field of health which refers to knowledge translation (KT) rather than knowledge mobilization. This field originated in the 1990’s thanks

to the work of Dr. David Sackett from McMaster university and the launch of what is known as “evidence-based medicine (EBM)” or “evidence-based practice (EBP)” which is defined as “the conscientious, explicit, and judicious use of the best current evidence in making decisions about the care of individual patients” (Sackett, 1996). EBM acts as an important link between current scientific research and clinical practice focusing on providing patients with the best possible care (Diao, Galm & Shanin, 2009). David Sackett and his pedagogical interest in engaging teaching and life-long learning for medical students propelled these concepts with success creating the scholarship of evidence-based practice in the health professions (Sackett & Rosenberg, 1995; Picard, 2018).

Arguably, the notion of evidence-based medicine in Canada and its approach to assess evidence, evaluate results, and to focus on patient-oriented models found fertile ground to develop and to expand based on Canada’s comprehensive public health system. The system seeks to maximize the benefits of medical research to achieve both effectivity and efficiency in universal medical care. Evidence-based medicine and its relation to knowledge translation will also be treated in the forthcoming section that addresses the role of CIHR, the Canadian Institutes for Health Research.

Another trend impacting knowledge mobilization is found in the field of public policy which emphasizes the importance of an evidence-informed approach to policy. As suggested by Nutley, Walter, and Davies (2007) “evidence-based or “evidence-informed” policy-making represents a recent effort to again reform or re-structure policy processes by prioritizing evidentiary decision- making criteria”. And, as Howlet (2009 p, 154) suggests, “this is being

done in an effort to avoid or minimize policy failures caused by a mismatch between government expectations and actual, on-the-ground conditions”. Although suggested by Geddes (2012), evidence-based or evidence-informed policies are being used sometimes for purposes of backing up a specific governmental decision or to make a claim to an opposing political party, there is still a debate as to whether this new approach will be integrated into the government research culture. In my own research while interviewing policy analysts, they admitted that many of their knowledge sources were coming from trustable and curated internet sites, and regrettably could not rely on specific university databases or finding experts due to accessibility and time issues. Others admitted to include vast numbers of available evidence but confirmed that the ultimate decision-making process in the government involved additional “political” elements in addition to the gathering of evidence. This observation confirms the complexity of using evidence-based approaches in the government; nonetheless, with more awareness of the role of evidence, and the increasing professionalization of public servants, it is expected that the notion of evidence-based or evidence-informed policy could gradually become a more prominent approach and standard practice.

Another actor is the Canadian Science and Policy Conference Centre (CSPC), a not-for-profit organization that plays an active role in the Science Policy field proposing a more prominent role for Canadian science to serve different publics. Its vision states that CSPC aims for a “strong and effective science policy community that contributes to the well-being of Canadians” (CSPC, 2018). The Centre, which integrates a multi-sectoral network to discuss science and policy innovation issues has been a key player in the last decade in Canada; for instance, it has worked effectively with universities and other actors such as Research Impact Canada, Mitacs and

Genome Canada to integrate an effective platform and voice to discuss the current Canadian innovation policy agenda. Importantly, CSPC has been an important forum for the current liberal government to re-engage with the work of scientists in different applied fields. Importantly, CSPC has become an extensive and inclusive network with a broad definition of science. For instance, they state that “the centre will examine complex multidisciplinary issues from diverse points of view by embracing a broad definition of science, which includes the natural health, social, and human sciences as well as engineering” (CSPC, 2018). In terms of diversity, CSPC is an active promotor of youth engagement in science, as well as embracing equity and inclusivity, insisting that the Canadian scientific community reflect the multi-cultural diversity of the Canadian demographic landscape.

Another interesting trend has been the active promotion of “Science Diplomacy” in Canada. According to Gruosso (2018, para. 1) science diplomacy “helps elevate research at the international level; it is also a dynamic tool tapping into universal values conveyed by science such as diversity, tolerance, and sharing to help establish, maintain and strengthen good relations”. Science diplomacy has been at the centre of academic and policy discussions for two main reasons. Firstly, it resonates well with Canadian values that aim for a more inclusive and diverse society. Secondly, it has been an alternative to the current international threats that have directly or indirectly impacted international relations and scientific topics that are beyond a national scope including global migrations, climate change, sustainable development, and international conflict resolution. Currently in Canadian academic circles, there is widespread interest in the prominent role that scientists can play in helping to shape the policy agenda. There is a wealth of mechanisms available including science communication, advice to government, the

fostering of policy and scientific debates, and directly co-producing knowledge with specific actors. I will argue that all of these activities fall under the umbrella of knowledge mobilization.

An influential actor in the arena supporting broader science engagement impacting the ecosystem for KMB in Canada has been the restoration of the Chief Science Advisor position. This role, currently occupied by Dr. Mona Nemer, has been instrumental in the reconnection of the current Canadian government (as of 2019) with the broader academic and scientific community. In an interview with *University Affairs*, a leading Canadian academic magazine, Dr. Nemer addressed the need for a broader role of scientific engagement in public issues in addition to their role as researcher. As an example of this position, she expressed:

One area where we haven't been as proactive in Canada compared to some other countries is the involvement and the engagement of the scientific community in public life and in the future of the country. I realize we ask a lot from our scientists. We want them to do research, to do training, to start companies. But I think one other important role they can play is to get more involved in policy-making and in advising government more broadly (University Affairs, 2017, para. 3)

As expressed above, part of the current discourse in governmental circles is the need to work better or in more innovative ways with academia. This sentiment is reflected also in the “Naylor Report” who addressed the specific lack of connectivity that is hindering Canada’s innovative potential. To untap this potential, Dr. Nemer argues that the solution requires a multi-sectoral approach including both government and universities. Here, both Dr. Nemer and CSPP converge on the need to re-position science’s role in government and society, and to keep investing in the whole research ecosystem. This means focusing on aspects of fund investments to support discoveries, including the enhancement of commercialization and patents, as well as working

with the government at all levels to provide better advice during policy making processes. An interesting factor expressed by Dr. Nemer is the active role that the Government in conjunction with universities can play in the realm of science literacy (CSPC, 2018). There is a real need for scientific literacy to be enhanced not just in Canada but in the world, and the current scientific momentum in Canada can be an important contribution to this objective. For example, Canada is prepared and can continue the conversations on the role that citizens play in environmental efforts, challenges of global migration, multi-cultural understanding, public health systems, equity and diversity, effective governance, amongst others.

To conclude this part, the following section includes an exploration of actors that have been directly shaping the agenda and practice of knowledge mobilization in Canada.

2.1.1 Research Impact Canada

Research Impact Canada or RIC is the first and leading knowledge mobilization network in Canada. Its role has been fundamental in KMb capacity development as well and its socialization efforts. Started in 2006 by York University and University of Victoria, RIC is the fruit of institutional leadership expressed by its members. As of today, it has expanded to include 17 member universities across Canada and now has expanded internationally in the UK. RIC members are committed to maximize the impact of academic research for the social, economic, environmental and health benefits of citizens, but importantly RIC has worked on the niche of supporting knowledge mobilization capacity to impact domains such as public policy, community organizations, and public outreach, areas not usually supported by traditional knowledge transfer and commercialization strategies (Phipps, 2017). According to the RIC website “Research Impact Canada (RIC) is committed to developing institutional capacities to

support knowledge mobilization by developing and sharing knowledge mobilization best practices, services and tools” (RIC, 2018). Its mission and vision are described as:

Mission: We build Canada’s capacity to be a leader in creating value from knowledge by developing and sharing best practices, services and tools, and by demonstrating to relevant stakeholders and the public the positive impacts of mobilizing knowledge.

Vision: A globally leading network that supports researchers, students and their partners to demonstrate the contribution to and impact of research excellence.

The goals of Research Impact Canada are:

- Build on excellence and experience to become a distributed network of expertise in knowledge mobilization practice;
- Develop and share knowledge mobilization tools;
- Provide a platform for knowledge brokering across Research Impact institutions;
- For its members, to be recognized as knowledge mobilization leaders in their regions and nationally;
- Serve as a national advocacy voice for knowledge mobilization; and,
- Engage with other academic research institutions seeking to build capacity in knowledge mobilization. (Research Impact, 2018)

In the last decade, Research Impact Canada has matured after completing an initial period of conceptualization, definition and goal setting. It is now an international network organized by four fully functioning committees:

- (1) The Governance committee populated by University members usually VP Research, Directors or KMb managers whose mandate is to oversee the overall network functioning, operation, and expansion;
- (2) The Communications committee whose members are generally knowledge brokers and university communication specialists in charge of maintaining the RIC website, to develop new materials and expand RIC presence and branding amongst the network programs and services;
- (3) The Evaluation committee integrated both by knowledge brokers as well as researchers embrace the task of developing periodical network assessment, and to contribute to the development of knowledge mobilization assessment mechanisms.
- (4) The Professional Development committee which includes knowledge brokers and various professionals with a wide-range of educational expertise. This committee works to develop new tools and to pilot activities oriented to support knowledge mobilization capacities for its members.

Speaking about contributions, the impact of the RIC as a network is ongoing and promising. For instance, Research Impact Canada has been actively socializing the idea of knowledge mobilization or like terms by strengthening campus collaborations through the benefit of mobilizing research as a contributor to change or impact. Although RIC does not prescribe specific institutional approaches, it works with its members to develop knowledge mobilization capacities that are rooted in local contexts. This approach speaks about the diversity of its members, the geographies of its locations as well as institutional priorities. However, as

expressed before, the idea of expanding notions of innovation, or embracing the idea of “inclusive innovation” has been clearly supported by the network.

Another fundamental contribution by RIC and its members has been the function of highlighting the work of “Knowledge Brokers”. Knowledge brokers are defined as a particular type of “mediator professional” who works in the interstitial space between universities, organizations, and the public. Thanks to the action, reflection, and thinking by some of RIC’s members, the fundamental role and importance of knowledge brokers, or like positions is better known in terms of contributions to the work of KMB. An example of this important support is that University members are required to commit to the creation or alignment of at least 1 full-time employee who assumes the functions of dedicated knowledge brokering and related functions.

RIC is also investigating how to capture the impacts of research particularly with alternative approaches, expanding beyond the notion of bibliometrics, or monetary approaches. RIC members are carefully researching international approaches such as the REF in the UK to consider methods such as case studies, contribution analysis, network assessment, in order to contribute to the development of broader impact mechanisms (Grant, 2015).

Finally, it is important to highlight that Research Impact Canada has benefited greatly from the leadership, the energy and expertise from its founding partner York university, especially through the work of its current Executive Director Research & Innovation Services. Dr. David Phipps, a national figure in knowledge mobilization, has been awarded the best knowledge broker of the year in 2013, by Knowledge Mobilization works (Research Impact, 2013).

Currently, York university has been the leading and host institution for the RIC network, but according to its governance rules, it is expected that in 2019- 2020 there will be a change in the network leadership. Overall, the work of York University on RIC and its members can be considered a national hub for knowledge mobilization thinking, action, and institutionalization in Canada.

Further developments of RIC point towards strengthening its functioning role as a network, embracing its institutional diversity and enhancing the value provided to its members. Research Impact Canada is now expanding globally. A good signal has been the incorporation of the University of Brighton in the UK. Brighton is RIC's first international partner who is contributing with overseas dialogue to broaden the scope of knowledge mobilization perspectives. In addition, RIC is also in conversation with the US –NABI National Alliance for Broader Impacts. It is expected that this cooperation will lead to beneficial international developments on the thinking and development of broader supports to international and global knowledge mobilization capacities (Vassmer & Bravo, 2017).

2.1.2 The Institute for Knowledge Mobilization

The Institute for Knowledge Mobilization or IKMb has also been an important actor in the Canadian KMb landscape. The IKMb, under the leadership of Peter Levesque, has been providing training, consultancy and has become a convener of the now bi-annual IKMb Forum. The Institute is an incorporated non-profit organization that supports a growing community of practice of people who work on mobilizing high-quality evidence into policies and practices. It provides education and professional development opportunities while helping to develop

initiatives across communities and continents (IKMb, 2018). Its vision states: “We believe in a world where our actions are based on the best available evidence. We believe that this will improve well-being for all” (IKMb, 2018).

Two important elements highlight the Institute’s work. First, Peter Levesque has been a pioneer educator and consultant in the field of knowledge mobilization based on his own professional experience that includes working at SSHRC and supporting the development of the agency’s thinking on the first approaches to knowledge mobilization. His own experience combined with his leadership in Canada has been an asset for socialization and operationalization dimensions of knowledge mobilization.

Second, one of the Institute’s highlights is the organization of the “Canadian Forum of Knowledge Mobilization”. The forum has become the largest specialized conference for knowledge brokers, practitioners and professionals interested in learning and sharing the newest findings and applications of knowledge mobilization thinking and practice. The Forum has been grown from being a national meeting to an international one with participants from other regions and continents including Latin America and Africa.

The first annual Canadian Knowledge Mobilization Forum was held in June 2012 in Ottawa. According to Levesque (2012) the event included a first generation of 75 professionals from various sectors such as academia, federal and provincial/territorial government ministries, municipalities and non-governmental agencies working in diverse sectors, including public health and health promotion, education, natural resources and environmental research, amongst

others. Levesque (2012) also reports that one of the many key issues that came out of the Forum was the recognition of the many terms to refer to this profession. Embraced as Knowledge*, or K* for short, the profession is currently called by at least 90 terms, such as knowledge mobilization, knowledge exchange, and knowledge transfer, translation and implementation (further explored in this chapter). However, Levesque confirms that regardless of the term the importance of a K* professional is “[to] ensure that what [is] known from practice and research is actually used to make better decisions about program, policies, and practices” Levesque (2012, p. 5).

An important perspective provided by the Institute for Knowledge Mobilization board, is that they consider the work of knowledge mobilization as a type of activity that further expands personal freedom and community development, particularly connecting it to the Article 27 of the Universal Declaration of Human Rights, which speaks about the right for individuals to enjoy the benefit of scientific advancement, and the cultural life of communities (Levesque, 2012).

As it evolves, the Institute will continue participating in national and now international activities providing professional development activities, support the creation of communities of practice, and continue being connected to networks such as Research Impact Canada.

2.1.3 SSHRC – Social Sciences and Humanities Research Council of Canada: knowledge mobilization approach

The Social Sciences and Humanities Research Council of Canada (SSHRC) was founded in 1977 as the Canadian federal research funding agency that supports the development of research in the humanities and social sciences. SSHRC reports to Parliament through the Minister of Innovation,

Science and Economic Development. The agency belongs to the group referred to as “Tri-Council”, the most important publicly funded research infrastructure in the country.

SSHRC’s mandate is “to promote and support postsecondary-based research and training in the humanities and social sciences” (SSHRC, 2018). Through grants, fellowships and scholarships, the agency supports close to 24,000 university professors and over 67,000 graduate and post-doctoral researchers.

The funding opportunities are offered in three programs, *Talent*, which provides grants and fellowships to emerging and established scholars, *Insight*, which support the development of new research on new and emerging disciplinary and interdisciplinary fields and promotes the establishments of partnerships with communities, and *Connection*, which supports the exchange and knowledge mobilization activities such as knowledge synthesis grants, journals and major collaborative projects (SSHRC, 2018).

SSHRC has been without a doubt the most important institutional promotor of knowledge mobilization in Canada, and defines it as:

The reciprocal and complementary flow and uptake of research knowledge between researchers, knowledge brokers and knowledge users—both within and beyond academia—in such a way that may benefit users and create positive impacts within Canada and/or internationally (SSHRC, 2018).

Although the definition of knowledge mobilization involves a type of work within and outside academia, the major focus of application has been for researchers and institutions to mobilize the knowledge with external partners. According to SSHRC, examples of the work and goals of connecting with external collaborators could serve to:

- Inform public debate, policies and practice;

- Enhance or improve services; and/or
- Inform the decisions and or processes of people in business, government, the media, practitioner communities and civil society.

It is important to note that SSHRC has been an important promotor of a broader innovation agenda for Canada by extending the traditional notion of innovation targeted to business and economic development. For instance, the SSHRC Strategic Plan to 2020, exposes the vision of its funding approach: “ [to] train the next generation of talented, creative thinkers and doers; build knowledge and understanding about people, culture and societies; and drive the innovations that address the challenges of today and tomorrow” (SSHRC, 2018).

2.1.4 CIHR – Canadian Institutes of Health Research: knowledge translation and health approaches

CIHR, the Canadian Government’s Agency for Health Research, is the major federal unit responsible for funding health and medical research in Canada. CIHR replaced the Medical Research Council of Canada and is accountable to Parliament through the Minister of Health. Its mandate is “ to excel, according to internationally accepted standards of scientific excellence, in the creation of new knowledge and its translation into improved health for Canadians, more effective health services and products and a strengthened Canadian health care system” (CIHR, 2013). It is important to note the knowledge mobilization or more specifically the “knowledge translation” emphasis emanates from its legal mandate, therefore its supported initiatives and grants will be tied to use knowledge translation or “KT” as it is widely known.

In order to achieve its mandate, CIHR works with researchers, health professionals and policy-makers from health organizations, provincial government agencies, international research organizations, industry and patient groups from across the country with a shared interest in improving the health of Canadians. The agency is organized through 13 virtual institutes integrated by scientific directors and advisory boards. Examples of the themes that the institutes address are: genetics, human development, child and youth health, aging populations, infection and community, nutrition, neurosciences, amongst others. Currently, CIHR supports more than 13,000 researchers and trainees in health research (CIHR,2018).

It is relevant to note that part of the Canadian leadership in moving evidence into practice, policy, and service derives as a the result of the work performed by this funding agency that defines knowledge translation as:

A dynamic and iterative process that includes synthesis, dissemination, exchange and ethically-sound application of knowledge to improve the health of Canadians, provide more effective health services and products and strengthen the health care system (CIHR, 2018).

Importantly, CIHR has defined some of the common terms that are part of the definition and conceptualization of Knowledge Translation or KT. The following are terms extracted from the CIHR 2018 website:

- *Synthesis*: the contextualization and integration of research findings of individual research studies within the larger body of knowledge on the topic.
- *Dissemination*: a type of activity that involves identifying the appropriate audience and tailoring the message and medium to the audience. Dissemination activities can include such things as summaries for / briefings to stakeholders, educational sessions with

patients, practitioners and/or policy makers, engaging knowledge users in developing and executing dissemination/implementation plan, tools creation, and media engagement.

- *Exchange knowledge*: refers to the interaction between the knowledge user and the researcher, resulting in mutual learning.

- *Ethically-sound application of knowledge*: refers to knowledge translation activities to improve health that are consistent with ethical principles and norms, social values, as well as legal and other regulatory frameworks.

In addition, CIHR has produced a “Guide to Knowledge Translation Planning” that explains and provides broader KT definitions, resources and worksheets. Overall, CIHR promotes two main forms of KT: integrated knowledge translation (iKT) and end-of-grant KT. Integrated knowledge translation suggest that knowledge users become engaged with the research team and participate in many stages of the research process. End-of-grant KT requires applicants to submit a plan that details how they will translate their findings when the research is completed. (CIHR, 2012).

CIHR is a natural promotor of collaboration within and across disciplines and has dedicated knowledge management experts who support many of its innovative projects. A key feature of CIHR through the years has been its focus to promote evidence-based research in the medical sciences. It can be argued that through the leadership of CIHR, Canada has been advancing its well-extended medical and health sciences research agenda, and importantly one of the aspects of its consolidation relates to the important role and promotion of knowledge translation thinking and support.

Speaking on Canadian leadership on the KT front, Dr. Melanie Barwick stands as figure who has contributed greatly to the understanding and expansion of the KT adoption in Canada and abroad. Barwick, the current Scientific Director of Knowledge Translation at Sick Kids Hospital, has been instrumental in the development of the Knowledge Translation Professional Certificate (KTPC), as part of the annual offering of Sick Kids KT professional development series. Last year (2018) the KTPC released its first “KTPC Casebook” that integrates the KT experience of participants that took the Certificate and that have been able to develop relevant knowledge translation initiatives. It includes Canadian and international cases in various sectors such as Education, Non-Profit Organizations, Government and Universities. In this publication, Barwick reflects on the ongoing role of institutionalize knowledge translation as a profession, and affirms that “The KTPs of the future will be more highly skilled in KT practices that are rooted in supportive technologies and effective evaluation. They will lead in KT practice closely linked to KT research and evaluation” (Barwick, 2019, p. 65). Importantly, there is a big advance on the KT research and evaluation that has led to the expansion of the discipline in what it is now Implementation Sciences defined as “A discipline to bridge the research-to-practice gap; supported by implementation research, which is the scientific study of methods to improve the adoption, implementation, and sustainment of evidence-based practices in health services settings” (Implementation Science, 2018).

Another important work in the KT Canadian research landscape can be found in the research performed by the Lab for Knowledge Translation in Health supported by the works of Anita Kothari, Shannon Sibbald, and Nadine Wathen at Western University. The Lab integrates a diverse group of experts using a variety of research perspectives, quantitative, qualitative and

mixed methods according to the KT research needs. Some of the projects are direct application in the Canadian context such as the Ontario region, but also of international scope. Also, in many of its research projects, they aim to integrate the principle of iKT, explicitly recognizing this: “We strive to maintain and sustain our stakeholder partnerships in order to facilitate long-term programs of research; in this way, research findings are relevant for the decisions that have to be made in the health system. (Lab for Knowledge Translation in Health, 2018).

Another contributor to the study and practice of Knowledge Translation is a vast number of communities of practice, a well-known example is the KTECOP, the Knowledge Translation and Exchange Community of Practice. The group is defined as a network of practitioners and researchers sharing best practices and helping each other to advance on knowledge mobilization effectiveness and new developments (KTECOP, 2018)

Finally, it is important to note that the field of KT has had important developments in the last decades in Canada for several reasons. First, as explained previously, the notion and now well-established practice of evidence-based medicine was initiated in the Canadian health domain. Evidence-based medicine has been heavily promoted with considerable implementation initiatives, many of them funded. Another element of KT success has been that KT research and programs target almost exclusively health domains; this has reduced the broad multi-disciplinary complexity that prevails in other knowledge mobilization domains.

Another factor has been the resources allocated to KT programs. In Canada, the topic of public health is a governmental and societal priority. This has been reflected in the resources provided

to the health sector including KT activities, compared to money allocated to non-health domains. As an example, in addition to the funds provided by CIHR, there are also specialized foundations such as the Michael Smith Foundation for Health Research that provides specific funding for research that involves knowledge translation health initiatives.

In summary, these actors, initiatives and research agendas have contributed for Canada to have a strong position program on the research and application of KT perspectives.

2.2 Closely related terms: KM, KT, KTE, Kx and K*

One of the most explored and well-documented problems in the literature of knowledge mobilization relates to the existence of many terms that refer to some elements or the whole process of moving knowledge to non-academic domains. (Davies, Nutley & Smith, 2000; Lavis et al. 2003; Cooper, Levin & Campbell, 2009; Bennet & Bennet, 2007; Fenwick & Farrell, 2012; Ward, 2017; Graham et al., 2006). Sometimes these terms may express very similar approaches, but in other times they might confuse readers, researchers or community partners. One the problems is that some authors and practitioners have been using them interchangeable. They may be following a trend or using them based on specific funding requirements, academic journal conventions, or disciplinary reasons. Even though some of the terms might be associated or related, the distinctiveness of approaches inherently entails notions or perspectives on what knowledge is or its ontology. For instance, questions such as what is its role of knowledge both in academia and outside of it? How should we think on the idea of value or values of it? What is the public thinking on scientific knowledge? What are the demands on public funded research?

The answer of these questions might be reflected in the definitions that agencies, authors and practitioners employ (M. Griffin personal communication, 2018).

The following is a compilation of several terms related to knowledge mobilization found in recent and relevant literature, they will serve to exemplify both similarities as well as distinctiveness in the K* spectrum.

Knowledge Mobilization (KMb): the reciprocal and complementary flow and uptake of research knowledge between researchers, knowledge brokers and knowledge users—both within and beyond academia—in a way that may benefit users and yield positive impacts within Canada and/or internationally. Ultimately, this practice has the potential to enhance the profile, reach and impact of social sciences and humanities research (SSHRC, 2016).

Knowledge mobilization initiatives must address at least one of the following, depending on the area of research and project objectives, context, and target audience: 1) Within academia, KMb research must inform, advance or improve research agendas, theory and methods. 2) External to academia: public debates, policies, and practices (SSHRC, 2016, 2018).

This definition is one of the most accepted and recognized. It implies the broad spectrum of functions of knowledge both in academia and outside of it, which makes it more inclusive. It also portrays knowledge as an element that could lead to “positive impacts” although it embraces an explicit assumption. For instance, while not considering aspects of uptake or implementation where research suggests implementation might lead to positive as well as negative results. This definition is also open to push and pull approaches –universities aiming at communicating their

findings, as well as users/publics requesting certain knowledge access, knowledge generation or expertise access.

Knowledge Translation (KT): a dynamic and iterative process that includes synthesis, dissemination, exchange and ethically sound application of knowledge to improve the health of Canadians, to provide more effective health services and products and strengthen the health care system (CIHR, 2018). This definition and overall KT approaches recognize the multi-dynamic process of knowledge creation as well as the translation or mobilization. Traditionally KT researchers are used to integrating professional or front-line expertise –tacit knowledge, which has been a fundamental contribution of KT studies into the field. Also, it is important to note that in this definition there is an assumption that “knowledge” or “evidence” is a component that will lead to processes of “efficiency” and “strength” of health care systems. This relates to an approach that considers knowledge as “public commodity” that has to be put in service for improvements, particularly if knowledge has been created with the support of public funds in public institutions.

Knowledge Exchange (KE or Kx): a collaborative problem-solving between researchers and decision-makers that happens through linkage and exchange. Effective knowledge exchange involves interaction between decision-makers and researchers and results in mutual learning through the process of planning, producing, disseminating, and applying existing or new research in decision-making (Lomas, 2000 & CFHI-Canadian Foundation for Healthcare Improvement, 2018). Knowledge Exchange can also be used in the form of Knowledge Translation and Exchange (KTE). This definition entails a more inclusive approach to knowledge both in the

process of creation and fundamentally in the sharing or dissemination. The exchange part might represent a more open, balanced and neutral space, considering power positionality between researchers and diverse publics. This perspective is also open to the importance of tacit knowledge and technical or professional knowledge, including alternative ways of knowing. The exchange part as portrayed, is fundamental in the process of dissemination to future uptake. It is important to note that this definition also recognizes a perspective of “mutual” learning, relating KT to processes of open learning or public pedagogies.

Knowledge Utilization: the study of how individuals and teams acquire, construct, synthesize, share, and apply knowledge (Greenhalgh et al., 2004, p. 588). This approach suggests knowledge has a “utilitarian” purpose and that the goal is to develop processes to make “use” of knowledge. Although it could be the case of certain types of applied oriented knowledge, this definition undermines the value of knowledge itself, leading to discussions on the “ethos” of knowledge and the public or market pressures to favour certain types of knowledge.

Knowledge Dissemination: active process to communicate results to potential users by targeting, tailoring and packaging the message for a particular target audience. Strategies include: linkage and exchange events to share relevant research syntheses, developing a user driven dissemination strategy, media engagement, using a knowledge broker, and developing researcher/knowledge user networks (CIHR, 2018). This definition and approach implies that one of the main elements of knowledge mobilization or translation is processes of communication, which previous KMb or KT perspectives used to emphasize. Importantly, the network aspect of this definition, which

relates to previous studies of diffusion of innovations, is constantly cited in KMb and KT circles (Rogers, 2003).

Knowledge Brokering (KB): knowledge brokering links researchers and decision-makers, facilitating their interaction so that they are better able to understand each other's goals and professional culture, influence each other's work, forge new partnerships and use research-based evidence. Brokering is ultimately about supporting evidence-informed decision-making in the organization, management and delivery of [...] services. (CFHI-Canadian Foundation for Healthcare Improvement, 2018). This definition entails the particular human aspects of mediation in order to serve the purpose of KMb or KT. Knowledge brokering has been an explicit contribution of KMb and KT studies and is now becoming a professionalized area. Knowledge brokering entails the particular aspects of mediation and implementation that are bounded by local practices, priorities, culture and norms. Therefore knowledge brokering serves as a link to adapt knowledge into the right type of mediums to facilitate uptake and finally achieve change or impact.

Research Uptake: research uptake includes all the activities that facilitate and contribute to the use of research evidence by policy-makers, practitioners and other development actors. (NOW – Netherlands Organization for Scientific Research, 2018). This definition looks at the end of the spectrum of the KMb or KT processes, overseeing aspects of knowledge creation, dissemination or translation.

Knowledge Interaction: the messy engagement of multiple players with diverse sources of knowledge. (Davies, Nutley and Walter, 2008). This definition refers to the whole process of understanding both mobilization and translation approaches, and puts an emphasis on the interactive and participatory domain to achieve uptake and impact.

Knowledge Management (KM): the process of ensuring that knowledge is available to stakeholders—a suite of activities from the storage of information through its dissemination.

Knowledge management involves the collection and classification of different types of knowledge, so that they can be accessed by organization members as required (Shaxson, Bielak, et al., 2012). This perspective looks at a more traditional approach of classifying and organizing knowledge for an ultimate purpose of being accessed by a user. This suggests that users will “pull” information and through these actions the uptake and impact might follow. Although the process of organizing and classifying information is fundamental as a good practice in KMb studies, evidence suggests that scientific readership is extremely limited by non-academic users.

Knowledge Transfer (KT): term used to encompass a very broad range of activities to support mutually beneficial collaborations between universities, businesses and the public sector. It is about the transfer of tangible and intellectual property, expertise, learning and skills between academia and the non-academic community (University of Cambridge, 2018). This approach is arguably more known than knowledge mobilization and knowledge translation definitions; it has been highly popular based on the idea that knowledge represents a commodity that can be commercialized or used for economic purposes, therefore it has a money value indicator attached to it. Although KMb or KT do not rule out the perspective of involving money or resource

transaction, the idea that universities concentrate heavily in the development of patents and or commercialization approaches solely might deemphasize the potential to engage with broader publics.

As explored above, the differences in definitions and perspectives to the way knowledge is moved from and/to universities and stakeholders proposes an enormous epistemological challenge that might not be resolved in the near time. Approaches to explore this phenomena have taken place in in the past. For instance, in Ontario, Canada, a conference called the K* Expanding our Understanding of K* (KT, KE, KTT, KMb, KB, KM) was supported by United Nations University, the Overseas Development Institute, the World Bank and the Government of Canada in 2012. The motivation to use the K* was explained as: “K* is the collective term for the set of functions and processes at the various interfaces between knowledge, practice, and policy. K* improves the ways in which knowledge is shared and applied; improving processes already in place to bring about more effective and sustainable change” (Shaxon & Bielak, 2012, p.2). The outputs of the conference included a discussion paper that explores the different functions of knowledge known as 1) “Informing function” explained as: creating, collecting, codifying, storing, and communicating ideas and information, 2) “Relational function” understood as: improving relationships between the various actors around an issue; to enable co-production of knowledge and genuine dialogue, taking into account the power dynamics between all those involved, and 3) “Systems function”: working across a whole system to enable change to ensure that there is a good institutional environment for sustainable innovation (Shaxon & Bielak 2012, p.12).

Although the conference focus was on analyzing the typologies of definitions being used, its major emphasis was on exploring and sharing mechanisms for promoting evidence-based decisions in the field of development and politics. Currently, it is not foreseeable to imagine some amalgamation of terms, but hopefully a reduction of them. This will require leadership amongst institutions at the international and national levels, something deemed particularly critical for the maturity of knowledge mobilization as a field of study and practice.

2.3 Exploring knowledge mobilization frameworks / models and their approaches to knowledge mobilization

According to Canadian and international experts such as Graham et. al (2006), Ward (2009; 2017), Phipps (2017), Shaxson & Bielak (2012), and Davies, Nutley and Smith (2000), one of the current features and part of the complexity of the knowledge mobilization field is the overabundance of procedural and conceptual knowledge mobilization frameworks and models. The field of knowledge mobilization includes several dozen unique frameworks that represent part of or the whole spectrum of mobilizing knowledge to impact. For instance, Ward (2009) notes that she reviewed at least 63 theories about knowledge transfer models, and that was only in the disciplines of health care, social services and management. Graham et al. (2006) also reported that in order to build the “Knowledge to Action” framework, it was necessary to review concepts and models that included a variety of terms including knowledge translation, knowledge transfer, knowledge exchange, research implementation, dissemination and diffusion. Phipps, Cummings, Craig and Cardinal (2016) also explored several empirical models and concepts to build the co-produced pathway to impact framework. As informed by the aforementioned authors, an interesting search for frameworks led to contrasting linear models

with models that represented the complexity and multi-directional movement happening through a knowledge mobilization process. Particularly, they searched and focused on “iterative models of research use that show sustained engagement between researchers and non-academic partner organizations” (p. 32).

In the following section, I have selected a group of three frameworks/models for precedent and context on thinking about knowledge mobilization processes and activities; two of these developed in Canada and one in the UK. They were chosen to serve the following purposes: the Graham et al. is a well-known model cited more than 2,700 times in academic journals, and served as a point of reference for many interested faculty. Although this model was created within the health domains, it has been highly socialized as an option for thinking on knowledge creation and the action that leads to implementation or uptake. In addition, I found that a good number of scholars were familiar with this framework, therefore it served the purpose of having a common ground for thinking on KMb, KT or Kx. The Ward framework is useful, practical, and one that offers an inclusive perspective of different types of knowledge, scientific, technical or tacit in many directions and that allows a more equal platform for knowledge exchange practices. Oliver and Faul (2018) confirm the relational aspect of this model as a source of mobilizing evidence. The framework is a structured yet flexible approach to think about KMb or Kx based on questions and a dialogical approach, something I found to be very relevant and relatable to most disciplines. Finally, the Phipps et al. framework was explained by the leading author in various occasions at UBC presentations, therefore prompting my thinking about integrated or co-produced approaches in addition to traditional dissemination activities. It is important to mention that I also had the opportunity to interview Dr. Phipps and to understand the framework in full

and to engage in critical conversations on what works and what doesn't for effective knowledge mobilization and sustained engagement working with partners. This conversations lead me to think that what we were aspiring to achieve at UBC was designing and “institutional knowledge mobilization framework”. A broad framework that would lead to organizational development thinking; a research output oriented to integrate the vision and aspirations of many of UBC's diverse communities.

The following section includes a more detailed explanations of these conceptual frameworks, models and their contribution to the KMB, Kx or KT literature.

2.3.1 The Knowledge to Action Model – KTA

The Knowledge to Action model for knowledge translation was developed by Graham, Logan, Harrison, Strauss, Tetroe, Caswell and Robinson published in 2006 in a paper called: *Lost in Knowledge Translation: Time for a Map?* The motivation to develop this model is grounded in health research. For instance, Graham and authors include statistics and data that explores the acute lack of medical evidence translating into practice. One of these examples is: “Researchers from the United States and the Netherlands have estimated that 30% to 45% of patients are not receiving care according to scientific evidence and that 20% to 25% of the care provided is not needed or is potentially harmful. Similarly, it is estimated that cancer outcomes could be improved by 30% with optimum application of what is currently known.” (Graham et al. 2006 p. 13). The rationale is that new scientific findings are not being translated effectively and patients might be impacted in their treatment. This is in addition to mandates of health authorities and public pressure demanding evidence-based approaches as well as cost effective and patient-

centric models. One of the features of the KTA model is that it recognizes the complexity of the translation or mobilization processes. For instance, the model recognizes that the “KT process occurs in a complex social system of interactions among stakeholders” (p.16) visually described below:

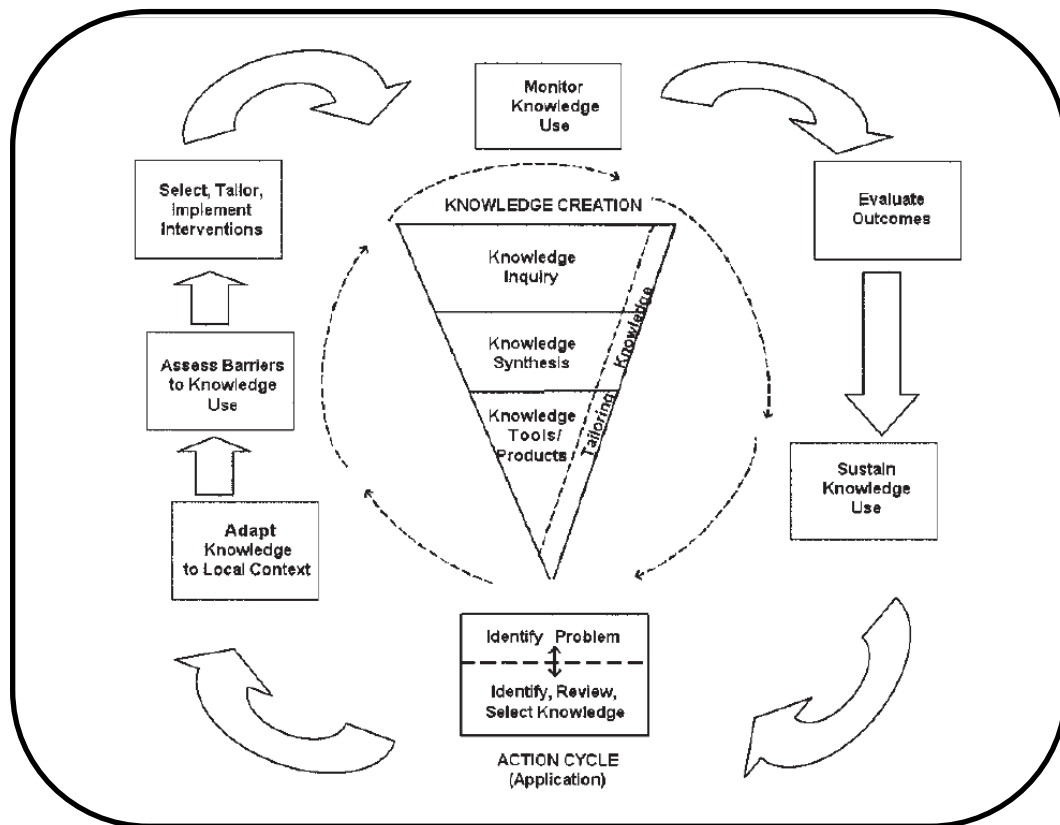


Figure 2.1 KTA Model Knowledge to Action Model

[Figure reprinted with permission from journal]

The model is based on the understanding that linear models or only push strategies and activities are not enough for uptake and utilization of evidence. “The process is complex and dynamic, and the boundaries between these two concepts and their ideal phases are fluid and permeable” (Graham et al. 2006, p.18).

The KTA model encompasses two parts: knowledge creation and knowledge action. Knowledge creation involves a series of steps that start with knowledge inquiry, knowledge synthesis and the creation of knowledge tools and products. The authors explain that these three steps correspond to a first, second and third generation of knowledge, that speaks to the availability and readability of knowledge in order to transcend the creation part.

The authors recognize knowledge action as the necessary contextualization or customization of knowledge based on the features of the stakeholders. This process involves assessing barriers for knowledge use, and tailoring interventions as part of implementation. The model also addresses the type of knowledge use at the implementation stages, “there is the conceptual use of knowledge that describes changes in levels of knowledge, understanding or attitudes; instrumental use that describes changes in behavior or practice; and strategic use [...] to attain specific power or profit goals (Graham et al. 2006, p.21).

A unique feature of this model is that it incorporates the perspectives of monitoring, evaluation, sustainability of effort and feedback from the intervention experience. This is something referred to frequently in the KMB and KT literature, but not all the models reach these steps, particularly the sustained steps. Another strength of this model is that it explicitly incorporates the opportunity for stakeholders to participate as partners in the research, or what is known as integrated KT models. The model explicitly recognizes the opportunity and relevance of experiential knowledge that is brought by practitioners and incorporates the perspectives of exchange and learning of all parties involved.

The legacy of this model has been significant; it has been widely cited and adapted for its use in the areas of medical and health sciences in Canada. This model serves as a backgrounder for CIHR initiatives, and further exploration of knowledge translation programs and activities. Finally, this model is usually connected to specialized areas of knowledge translation such as implementation sciences.

2.3.2 The Why, Whose, What and How Knowledge Mobilization Framework

The Ward model: Why, Whose, What and How knowledge mobilization framework is a useful model developed by a thorough review of extensive literature on the field of knowledge mobilization frameworks; it also integrates the factual knowledge and experiential knowledge from the author's experience being both a knowledge mobilizer and a researcher on knowledge mobilization and exchange (Ward, 2017). The model that Ward proposes according to the author is “designed to help” particularly “those involved in knowledge mobilization to reflect on their personal and/or project-related aims and objectives in a structured way” (Ward, 2017 p.478).

For the conceptual and analytical perspective, the author drew literature from diverse fields such as health sciences, information sciences and natural sciences. Importantly, the model incorporates previous findings by Ward, House and Hammer (2009) where close to 200 papers were reviewed that explained either parts or all of the knowledge transfer process as well as successful strategies (p.158). According to these authors, thematic analysis of the models explored identified five main components:

(1) Problem identification and communication, (2) Knowledge/research development and selection, (3) Analysis of context, (4), Knowledge transfer activities or interventions, and (5)

Knowledge research utilization. These components led to an early conceptual framework of the knowledge transfer process that included 5 broad categories: Knowledge or Research; Problem; Utilization; Interventions and Context Barriers; and, Supports (Ward. et al. 2009 pp. 160-163). These components of earlier knowledge transfer and translation conceptualization, served as support research for the development of the Why, Whose, What, and How? framework.

This new framework is the result of an updated revision of 47 models that led to the four guiding question being at the core of framework:

- 1) Why is knowledge being mobilized?
- 2) Whose knowledge is being mobilized?
- 3) What type of knowledge is being mobilized?
- 4) How is knowledge being mobilized?

Overall, the framework can be visually explored below; interestingly, a hive type structure allows order yet opportunities of interaction based on the four overarching questions.



Figure 2.2 Why, Whose, What and How? framework
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For each of the questions, there is a category of options for the knowledge mobilizer to reflect and prepare. For example in the question: Why is knowledge being mobilized? The author established five categories explained as:

- To develop local solutions to practice-based problems;
- To develop new policies, programs and/or recommendations;
- To adopt / implement clearly defined practices and policies;
- To change practices and behaviors; and,
- To produce useful research / scientific knowledge.

Another example of categories responding to the question: Whose Knowledge is being mobilized? results in the following categories:

- Professional knowledge producers who produce empirical and/or theoretical knowledge and evidence;
- Frontline practitioners and service providers responsible for delivering services to members of the public;
- Members of the public acting as or on behalf of their communities and people in receipt of services;
- Decision makers responsible for commissioning services and/or designing local/ regional/national policies and strategies; and,
- Product and programs developers responsible for designing, producing and/or implementing tangible products, services and programs.

In total, the model includes 16 separate categories that focus on the whole spectrum of knowledge mobilization and implementation process (Ward, 2017, p.480). As introduced earlier, these four questions and sixteen categories create a robust and configurable KMb working space. This framework is a solid compilation of knowledge mobilization and knowledge translation research in addition to applied perspectives mainly from UK empirical cases. Another highlight

of this work is that it recognizes and work through the non-linearity and multidirectional nature of knowledge mobilization (Ward et al, 2009). It also emphasizes the different cultures and group aspects of the work of knowledge mobilization. The framework explores a space where knowledge could be beneficial for both parties, producers and user and/or researchers and adopters. It can be argued that the framework allows for a more horizontal (less hierarchical) space field where different types of knowledge are valued, explored and taken into consideration. On this Ward's recalls "Aristotle's ancient distinctions between episteme, techne and phronesis" (p. 484). that also speaks to alternative ways of knowing that explicitly recognizes and values expertise and practical wisdom (Flyvberg, 2001).

A final point here is that this framework is not just an instrument for planning effective knowledge mobilization strategies. The framework is a tool for learning, reflecting, and exploring the nature of different type of knowledge and expertise that is required to successfully navigate into the KMb complex world. Although this framework is relatively new, it is expected that socialization dynamics amongst knowledge mobilizers will bring this into the center of fertile discussions in the years to come.

2.3.3 The Co-produced Pathway to Impact Framework

The framework developed by Phipps, Cummings, Pepler, Craig and Cardinal in 2016 has been a relevant theoretical piece that deliberately addresses the need and opportunity to maximize the impacts of research through engagement and collaborations. It was developed through empirical and literature findings that also speaks to the non-linearity ethos of modern knowledge mobilization thinking. According to the authors, "linear models of research use have long been

abandoned in favour of more iterative models of research use that show sustained engagement between researchers and non-academic partner organizations” (Phipps et al. 2016, p. 32).

This framework in a form of logic model is a recognized one in knowledge mobilization studies in Canada since it encapsulates some of the basics of KMb perspectives. For instance, the authors state that “Knowledge mobilization has elements of: 1) university “push” of research beyond the academy; 2) community “pull” of research from the academy; 3) “knowledge exchange” between community and the academy; but extends those to include 4) the co-production of research that has academic merit and also has relevance for community action (Phipps et al, 2016; Phipps & Shapson, 2009).

The Co-Produced Pathway to Impact is organized in distinctive yet interconnected processes with their associated benefits as the pathway evolves:

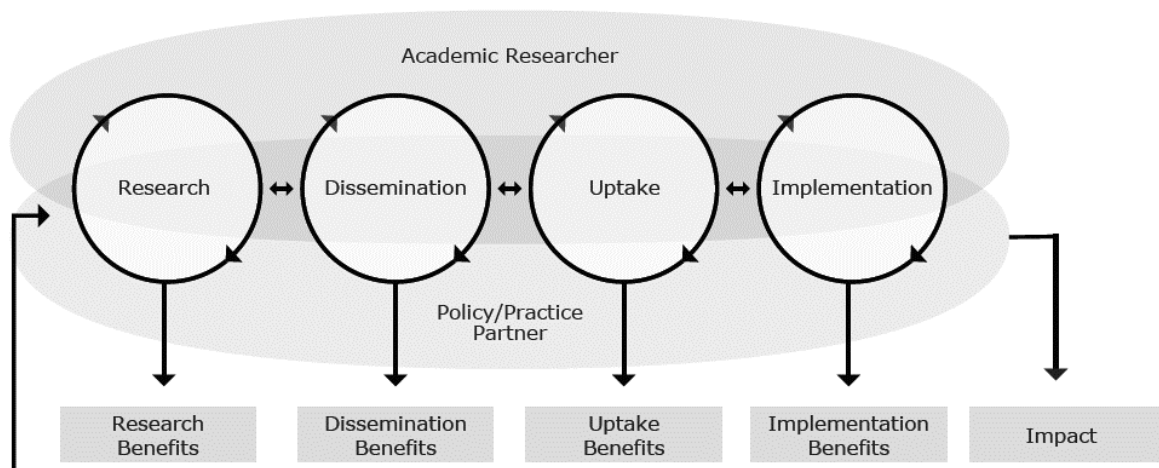


Figure 2.3 The Co-Produced Pathway to Impact Framework

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Particularly, the model portrays the processes and importantly, the research journey to impact:

| Process | Benefits |
|----------------|---|
| Research | New knowledge, deeper or new partnerships, new methods, tools and research questions. |
| Dissemination | Publications, presentations, workshops, social media strategy, media release, etc. |
| Uptake | Validation of research, policy and practice trainees, contextualization of research, technology license, best practices established. |
| Implementation | Research informed policy, practice, service for end users, new research questions, policy practice trainers, new program funding, new product development and brought to market, and changes in programs. |
| Impact | Citizens served through social, economic, environmental and health benefits; public awareness; and more research questions. |

Table 2.1 Co-produced pathway to impact framework benefits

The framework clarifies that the domain of impact, as an outcome of the outputs of research, dissemination, uptake and implementation falls into the category of activities performed by the end user. However, the continuum of researcher engagement through the whole process allows for the partner to be interested in tracking the changes and or benefits of services and policies. This continuum allows the researcher to: 1) capture research impacts through a combination of quantitative and qualitative rationales, and 2) allows the continuum of new updated research question for another cycle of research, that also might have the benefit of an engaged partner.

The framework has been grounded in empirical application. For example, it is illustrated through examples of a network. PREVNet, is “[a] multi-disciplinary and multi-sectorial network founded in 2006 on the premise that to prevent bullying, strategies are required in every setting where Canadian children and youth live, learn, work, and play” (Phipps et al. 2016 p. 33). The network involves researchers from various fields such as psychology, education, social work, law, business, criminology, policy, psychiatry, and nursing (PREVNet, 2018). The paper where the framework is introduced provides examples of projects and initiatives that serve as a

snapshot of how the different parts of the model can be explained through empirical development. Applied cases include: The Quazar Positive Behavior Recognition Program, the Girl Guides of Canada, and the Family Channel Stand UP! campaign which addresses topics of inclusion, anti-bullying initiatives and healthy relationships. Finally, the framework stresses the importance of people-centric models for knowledge mobilization (McKean, 2016), as more effective way to secure uptake and implementation. The authors explain: “Unlike the traditional process of research dissemination with research “handed” to partners, our framework supports an ongoing relationship through knowledge mobilization processes” (Phipps et al., 2016 p. 33).

Although the Phipps et al. framework can be used to think and plan any part of the knowledge to implementation process, its main contribution is to highlight an effective pathway of working effectively with a broad variety of non-academic stakeholders. Interestingly, recent updates on this framework has been produced by David Phipps in 2018 and a recent one in 2019 by Stephen MacGregor, these changes relate to the importance of stakeholder engagement, process monitoring, and brokering space understanding. For more info about these changes, please visit Research Impact Journal Club (see: <http://researchimpact.ca/knowledge-mobilization/#journal>).

In conclusion, this chapter presents an overview of the main developments of knowledge mobilization approaches in Canada, and the understanding of some of its main actors and initiatives. It then introduced the complexity of terms related to knowledge mobilization and addressed the nuanced perspectives of them in relation to knowledge and the processes of mobilization. It ended with a review of known and well-structured frameworks that inspired and prompted thinking about KMb current and future developments for UBC.

Chapter 3: Research Site: The University of British Columbia

This chapter has three objectives: (1) to introduce the University of British Columbia to the reader, and to describe some relevant institutional developments; (2) to articulate the topic of knowledge mobilization and related terms as they have emerged in previously published strategic plans and various formal documentation of the university; and (3) to analyze the topic of knowledge mobilization in the newly-minted 2018 UBC Strategic Plan.

3.1 The University of British Columbia, main features and relevant developments

The University of British Columbia is a well-positioned research and learning institution consistently ranked amongst the best public universities in the world. It is recognized as the most international university in Canada (THE, 2017), and one of the most innovative universities (Reuters, 2018). The university is home to 16 faculties, 18 schools and 2 colleges distributed in its two campuses: Vancouver and Kelowna. In total, UBC has a student population of 65,000 students and close to 16,000 faculty and staff (UBC Annual Report, 2017).

UBC also has a strong research profile measured by public and private funding. The university manages a budget of \$650 million in research funding; it is the home of 8 Nobel prize winners, and 256 Royal Society of Canada members. UBC's international presence has been growing in the last years with more than 337,000 alumni in 148 countries in the world. (UBC Annual Report 2017; UBC Alumni Report, 2018).

The following section offers the reader a snapshot of some of UBC's historical and present themes, as these have shaped institutional strategies and established the university's profile in

Canada and internationally. Its descriptive purpose is to provide a background and situate subsequent discussion of knowledge mobilization activities and perspective at UBC.

3.1.1 Sustainability

Since the 1990's, UBC's policies and research focus have played an active role in drawing attention to issues of sustainability. For instance, in 1997 UBC became the first university to adopt a sustainable development policy (UBC Sustainability, 2017). UBC was also the first university to open a Campus Sustainability office whose efforts led to an integration of research, operation and teaching strategies. This office advocated at an early stage that the University should be a signatory to the "Tailorres Declaration", a commitment to environmental sustainability in higher education. UBC also received important recognition through the research of Dr. William Rees and his former student Mathis Wackernagel, which led to the development of the "ecological footprint" concept.

Another important sustainability achievement occurred in 2006 when a wide consultation process moved UBC to become the first university in Canada to have a "campus-wide" sustainability strategy. In 2007, the university reached the Kyoto targets reducing its GHG emissions from academic buildings, which represented 6% below 1990's levels. That year, former UBC Professor Dr. John Robinson shared the Nobel prize with former US Vice-President Al Gore as a member of the Intergovernmental Panel on Climate Change (UBC Sustainability, 2017). UBC's Centre for Interactive Research on Sustainability (CIRS) opened its doors in 2011. It was designed to be the most sustainable and high performing energy building in North

America. That year, UBC received Canada's first gold rating in STARS (Sustainability Tracking, Assessment and Rating System).

Several innovative developments in sustainability include the UBC Sustainability Ambassadors Program, an education outreach set of activities to inspire UBC community to learn more and move civil society towards sustainability actions, and the Greenest City Scholars Program, a joint initiative between UBC and the City of Vancouver. The Greenest City Scholars Program sponsors graduate students working on several projects in support of the city of Vancouver 2020 Greenest City Action Plan.

3.1.2 Internationalization

Since the 1990's, internationalization has been a key theme for UBC. Arguably, it was a point of departure for the institution to evolve from being an excellent university in the regional and Canadian context, to expand its vision toward concrete international goals. UBC's international engagement efforts have been particularly visible and well-supported in Asia. Taking advantage of its geographical location on the edge of the Canadian Pacific Rim, UBC has become a major hub of Asian studies, international partnerships with this region and receptor of international students. A key actor in Asia Pacific engagement has been the Institute for Asian Research (IAR), founded in 1978 and now part of the recently created School of Public Policy and Global Affairs. The IAR is a premier Asia-focused think tank in Canada and includes the Centre for Chinese Research, the Centre for Japanese Research, the Centre for India and South Asia Research, the Centre for Korean Research and the Centre for Southeast Asia Research. This Institute and its centres seek to build knowledge and networks to support and motivate research

on a wide range of domestic, regional and global issues of importance to Asia and its relationship with North America and the world (UBC IAR, 2017). Important steps in the engagement with the Asian region have included the construction of the C. K Choi building in 1996, a facility built also on sustainable principles using recycled materials that won the Lieutenant Governor Innovation Award of Excellence in 1998. Another key step for UBC's engagement in the Asia Pacific region has been the establishment of two regional offices, one in Hong Kong and a more recent site in India. Their mandates are to advance research partnerships with the objective to strength UBC presence in the region, and to support efforts to engage particularly with alumni and regional stakeholders such as government, industry and NGOs.

Overall, UBC's efforts in international engagement have led the influential *Times Higher Education Supplement* to categorize the institution as the most international university in North America (THE, 2017). UBC is served by faculty, staff, and, students who hail from more than 140 countries. UBC partners with 10 of the top 15 top-ranked universities in the world and has more than 300 international agreements with universities and research institutions in the different continents (UBC International, 2017). Examples of these partnerships include UBC's membership in the Association of Pacific Rim Universities, the U21 Consortium, and the Association of Commonwealth Universities, amongst others.

UBC's scope of research and the engagement of its faculty have led to considerable UBC global presence as an ongoing international strategy. UBC has also introduced targeted efforts to recruit talented students from all over the world, which is clearly demonstrated in the demographic composition of graduate students; for instance 32 % of Master and 44 % PhD students are

international (UBC, 2018). Important efforts to increase the mobility of UBC students through exchange programs or internship placement has led to the internationalization of curricular options. Internationalization of the curriculum and global programs are present in programs such as the Master of Public Policy and Global Affairs, the Sauder's International MBA, Vantage College, the UBC Yale Fox International Fellowship Program, and the Faculty of Arts Double Degree programs, amongst others.

3.1.3 Community Engagement

UBC's community engagement efforts have been motivated by its role as the flagship public university of British Columbia, mandated to serve the province and Canada and historically engaging beyond the city, province and nation. Efforts to enhance educational, cultural, political and economic service have taken many forms and have expanded across UBC faculties, schools, departments, and research centres.

One landmark community engagement initiative is the UBC Learning Exchange (UBCLE), founded in 1999 under the leadership of former president Martha Piper. UBCLE is a community space in Vancouver's downtown East Side – one of the most economically underprivileged neighbourhoods in Canada. The Learning Exchange connects local residents, community organizations and UBC students and faculty in a collaborative and respectful environment to explore common educational, neighbourhood and community goals. According to the UBC Learning Exchange website, the Learning Exchange aspires to create a shared space for exploring ideas and opportunities, a learning space where members of the community and the university can exchange lived experiences and expertise (UBC Learning Exchange, 2018).

The Learning Exchange site recognizes the value of factual knowledge; it invites residents to share ideas and experiences. It fosters civic dialogue and supports community building through targeted educational programs and capacity development for local community organizations. Currently, the unit offers English conversation programs, basic computer literacy workshops and special activities promoting community development and well-being, ranging from arts & crafts to peer-facilitated dialogues.

Another key organization, the Centre for Community Engaged Learning (CCEL), connects UBC faculty and students with community organizations with a goal of improving learning, research, and community development. The CCEL supports a wide variety of projects linking development of student and faculty experience with partnerships for complex social issues. Some of its programs include “Reading Week” in which, during previous years, more than 400 UBC students have been deployed in Vancouver and the lower mainland to support Vancouver Schools and/or work with NGOs (UBC CCEL, 2018). Another example, the Community Leadership Program (CLP), works with UBC staff to prepare them for leadership positions while leading a three-day community service learning project during the university’s reading week (a midterm break in the January term of each year). The “Changemakers” program supports students working with community partners and domain experts in order to learn and discover their own path towards becoming a social changemaker. The Centre also offers a variety of funds and grants for students to engage in meaningful work with communities.

3.1.4 Teaching and Learning

UBC has been investing considerable efforts to incorporate novel approaches to teaching and learning. Traditional models that are exclusively teacher-centric are being gradually replaced by new and innovative ways to incentivize learning focusing on student engagement. The Carl Wieman Science Education Initiative is an example, situated in UBC's Faculty of Science. This initiative has been designed to achieve the most effective and evidence-based science education. Its curriculum is based on (a) assessment of targeted learning outcomes, (b) a continuous assessment of what students are actually learning, and (c) the adoption of instructional methods and curriculum incorporating effective use of technology and proven pedagogies for learning (UBC CWSEI, 2017). This model has arguably achieved student engagement because both students and instructors have access to clearly articulated educational goals and learning outcomes, which are not embedded in detached subject-specific expectations or instructor requirements; in addition, both students and educators can monitor whether the class is achieving pre-determined goals through timely and concurrent feedback. The model also has a wider social goal in view: cultivating more scientifically literate citizens who are able to understand complex problems, and appreciate and champion the role that science may potentially play in mitigate them. As of 2017, more than 180 UBC Science courses have been transformed in line with this model, more than 120 educational papers have been produced, and this pedagogy has influenced science education abroad in universities such as Stanford, Cornell, University of College London-UCL, and others (UBC CWSEI, 2017).

The UBC Centre for Teaching and Learning (CTLT) is a university-wide training and educational research unit that educates faculty, teaching assistants, and academic administrators.

Its main focus is professional development on the integration of technology into teaching and learning, course design, and the support for the Scholarship of Teaching and Learning for improved pedagogies (SoTL). CTLT offers a range of services aimed at supporting transformational educational experiences across all faculties at the university. Some of its services include training in the use of learning technologies, campus climate and inclusivity, course redesign, reflective practices, and learning skills development. It also offers strategic consultation and collaboration on development, pilot and evaluation of educational technologies. The CTLT supported the creation of the Institute for the Scholarship of Teaching and Learning, which also promotes research and reflection on teaching and learning, contributing to university-wide educational initiatives such as the Flexible Learning project. Flexible Learning aims to improve student's learning experience by combining new pedagogical methods across different faculties, ranging from experimental education to challenge-based courses, the flipped classroom (in which lecture-style content is viewed outside class time, allows in-class contact hours to focus on individual engagement between students and faculty and teaching assistants), project-based courses, and online courses.

3.1.5 Indigenous Engagement

Indigenous engagement and improved relationship with First Nations and Aboriginal Communities has been a long-established strategic priority for UBC. Recent examples can be traced back to the Trek strategic plan in the 1990s. For example, this plan established an objective to increase the total population of First Nations and Indigenous Students through specific recruitment efforts and scholarship funds. On April 19th, 1993 UBC inaugurated the First Nations Longhouse that integrated the First Nations House of Learning, offering services to First

Nations, Metis, Aboriginal, and Indigenous students and scholars in consultation with First Nations leadership. As opposed to previous times, UBC's current dialogue with indigenous communities has been marked by learning, respect, and appreciation of the important cultural legacy of First Nations and Indigenous groups in Vancouver, the province, Canada and North America. An important achievement has been UBC's recognition that both of its two main campuses are located on the "traditional, ancestral and unceded territories of the xwmə0–kwəy̓əm (Musqueam) and Syilx (Okanagan) peoples, and that UBC's activities take place on Indigenous lands throughout British Columbia and beyond" (UBC Strategic Plan, 2018). UBC's Museum of Anthropology—a research and teaching museum located on the campus—is also an active promotor of indigenous and aboriginal culture, and a recognized landmark of UBC rich cultural heritage.

In the previous years, UBC has been playing an active role in implementing the Indigenous Strategic Plan first established in 2008 and now updated in 2018. This plan is in addition to UBC's response and apology for historical grievances as brought to life by the Truth and Reconciliation Commission of Canada, and its final report and calls to action. A recent key implemented effort has been the inauguration of the Indian Residential School History and Dialogue Centre (IRSHDC). This centre is expected to play a fundamental role in educating UBC community and the public to connect with Indigenous research, learning, and to offer a space that promotes inclusion, respect and accountability (UBC Strategic Plan, 2018).

Several educational opportunities are specifically oriented to support First Nations and Indigenous Students. For example, the Faculty of Education has an Indigenous Education Office and an Indigenous Teacher Education Program (NITEP), a Bachelor of Education degree that has

been delivered at UBC campus and indigenous communities for over four decades. The Faculty of Medicine has the Centre for Excellence in Indigenous Health; this Centre offers a variety of Health Science Programs that supports current and future indigenous medical professionals. The centre, a leader in Indigenous Health, offers specialized educational and professional development in alliance with First Nations Health Authority and Aboriginal Communities. Another example is found at the Sauder School of Business through the Indigenous Business Education Program (Ch'nook). It promotes business, management and entrepreneurship opportunities for indigenous students and communities in BC and in Canada. UBC launched the Indigenous Research Support Initiative (IRSI) in 2017. It responds to an articulated need for better resources, guidance, and support for Indigenous community-based research at UBC. IRSI is committed to enabling collaborative relationships, build capacity on meaningful practices of respectful engagement, and support research excellence relevant to indigenous communities, university researchers and partners.

To conclude, this section highlighted some institutional efforts that have shaped the current course and future directions for the institutions, it served to provide context to some of the forthcoming sections and discussion of ideas.

3.2 Strategic Plans at UBC

This section explores UBC's recent strategic plans since the late 1990s, juxtaposed with formal and informal statements from the university leadership. It tracks and identifies the case for knowledge mobilization and related terms, and when available, goals and strategies as means to support them.

3.2.1 Trek 2000

On November 19th, 1998, a UBC Board of Governors motion to support Trek 2000 under the Presidency of Dr. Martha Piper was approved. The strategic plan was officially named *Trek 2000: A vision for the 21st century*. This new strategic plan was an ambitious document that pointed to a new direction for the university while strengthening its role as the leader university in British Columbia and a key player in the Canadian educational landscape.

Trek 2000 proposed a definition of UBC based on an updated vision and purpose. In addition to historical priorities, it emphasized UBC's call to impact society beyond academic boundaries.

For instance, the "Vision" section of Trek 2000 states:

The University of British Columbia, aspiring to be Canada's best University, will provide students with an outstanding education, and conduct leading research to serve the people of British Columbia, Canada, and the world.

The 1998 updated Mission statement added that:

UBC will provide its students, faculty, and staff with the best possible resources and conditions for learning and research, and create a working environment dedicated to excellence, equity, and mutual respect. It will cooperate with government, business, and industry, as well as with other educational institutions and the general community, to create new knowledge, prepare its students for fulfilling careers, and improve the quality of life through leading-edge research [...] (UBC Trek, 2000, p. 1)

As illustrated, the Trek 2000 plan stressed engagement and cooperation with stakeholders to create knowledge leading to impact at the provincial, national, and now the global stage. The plan also highlighted four traditional areas of prioritization: people, research, teaching, community, and added a fifth (discussed previously): internationalization.

Although internationalization had been an historical area of focus for the university, it can be argued that through this strategic plan, a renewed international and global focus was stressed and carried on. As explained in the previous section, the internationalization of the curriculum and the expectation to prepare UBC students to become citizens of the 20th century was a key driver with particular curricular strategies. The university leadership hoped to shape not only core teaching and learning priorities, but broader international research engagements led by faculty with the support of a growing number of international initiatives.

With respect to the core priority of “Research”, the plan established that:

UBC encourages original research and scholarship to increase knowledge and understanding for the benefit of society.... [and includes an specific goal to achieve it]

Goal: to enhance our research capacity, strengthen our research performance, promote the transfer of our research findings, and achieve the reputation of being the leading research university in Canada and one of the leading research universities in the world. (UBC Trek 2000, p. 9)

Important associated strategies under this goal included “increase support for UBC researchers aiming to communicate findings to the larger community” (UBC Trek 2000, p. 10), and the expansion of the “Research Awareness Campaign” to ensure the continuing public support for research and enhance the visibility of UBC research across Canada and internationally.

With respect to the core priority of “Community”, the plan adds that:

UBC is dedicated to furthering the social, cultural, and economic interests of greater Vancouver, British Columbia and Canada. To this end, it will cooperate with other educational institutions, as well as with industries, governments and agencies to advance learning, and research and further the transfer of knowledge.

Goal: to collaborate with our local and regional communities to foster intellectual, social, cultural, and economic development in the Vancouver region, the Province of British Columbia, and Canada. (UBC Trek 2000, p. 12)

One strategy specifically refers to community accountability:

Strengthening our accountability to the communities we serve by producing a widely circulated annual report that highlights our accomplishments and by sponsoring a public general meeting to take place annually in downtown Vancouver. (UBC Trek 2000, p. 14)

A final important element found under internationalization states that “UBC will develop international initiatives promoting the importance to society of university research” (UBC Trek 2000, p. 16). Without a doubt, the commitment of UBC’s president, Martha Piper was instrumental in establishing a vision of academic excellence, internationalization and community engagement. Dr. Piper expressed that:

We need to develop an integrated approach that relates academic study to the needs of society: that encourages in our students a stronger sense of social purpose and instills an awareness of one’s responsibilities as a citizen and a member of the global community (UBC Trek, 2000, p. 23).

Even though this plan was instrumental in starting to include the idea of knowledge mobilization, and communicate research findings to non-specialist communities, the idea did not go through its operationalization. For instance Trek 2000 “Research” theme was operationalized into 8 strategies and specific targets, and none of them included a clear knowledge mobilization strategy. Instead the “Community engagement” theme introduced notions of it while connecting UBC presence to Vancouver downtown communities and the developing of UBC Robson site. In conclusion, the topic got divided into two themes “Community Engagement” and “Research” without a clear responsible unit to oversee its implementation. I will argue that this lack of organizational clarity has been one of the reasons that explains why the topic has been so superficially treated. For instance, Community engagement has been prioritizing some activities to connect with the public and create awareness of UBC’s position as top university and engaged

partner, whereas the Research area at that time was heavily supporting Tech transfer research and commercialization initiatives. Both areas are also part of different organizational units that report to different UBC Vice-Presidents, therefore lacking an integrated strategy that incorporates both administrative portfolios.

3.2.2 Place and Promise Strategic Plan

UBC's subsequent strategic plan was named Place and Promise. It was introduced by Stephen Toope, UBC's 12th president. Like his predecessor, Dr. Toope promoted the local and international goals of the university. In his installation address he remarked that:

The University of British Columbia was founded as an expression of a local need for higher education, but from the moment of its inception, it was linked to the rest of Canada and it was linked internationally (President Toope Installation Address, 2006, p. 8)

Place and Promise was built on the legacy and achievements of the university's previous Trek 2000 plan. As with preceding plans, and as a result of thousands of community members input and feedback, the plan portrayed an updated UBC vision and its strategic priorities. Place and Promise opened with a bold aspirational statement:

Let's imagine it's 2020... UBC is known by name around the world. Leading edge teaching and learning practices prevail across the university, creating an exceptional learning environment to which students, staff, faculty, and alumni are drawn from all over the globe.

A diverse community embraces the full spectrum of Canadian society, and Aboriginal perceptions and experiences are reflected in the curriculum and on campus. UBC research is seen by British Columbians as vital to their social and economic well-being, and citizens look to the University as a place for dialogue on the issues of the day. UBC is known by its contributions: to the people of British Columbia, Canada and the world (UBC Place and Promise, 2009, p. 3)

Of relevance to the case of knowledge mobilization, “advancing and sharing knowledge” is introduced as one of UBC’s values:

Advancing and sharing Knowledge: The University supports scholarly pursuits that contribute to the knowledge and understanding within and across disciplines, and seeks every opportunity to share them broadly.

An important notion of “communities” is emphasized in the plan. This as a result of the acknowledgement that the university serves many communities inside and outside the university geographical space. As an example, on its values section, the theme of mutual respect and equity is explained as follows:

The University values and respects all members of its communities, each of whom individually and collaboratively makes a contribution to create, strengthen and enrich our learning environment (UBC Place and Promise, 2009, p. 6).

Place and Promise introduced nine commitments aspiring to recognize and deepen relationships with various key groups and communities. The plan expanded on international and global outlook in two of its commitments, intercultural understanding and international engagement. The plan also foregrounded a commitment to aboriginal engagement, a theme that would gain essential relevance on UBC based on the recognition of the history and current status of the land where its campuses are located. Finally, the topic of sustainability linked UBC with the City of Vancouver, as explained in the previous section: indeed, this plan laid the groundwork for the integration of sustainability goals within the culture and philosophy of UBC’s operations. Overall, the plan is structured around nine commitments with twenty-one goals and actions. With respect to the Research Excellence commitment (also known as “core areas” in subsequent plans), Place and Promise included the goal:

Be a world leader in knowledge exchange and mobilization (UBC Place and Promise, 2009, p. 13).

“Knowledge exchange and mobilization,” in this case, are specifically analyzed in terms of increasing the impact of UBC research through technology transfer, technology mobilization and knowledge transfer, facilitating the engagement of external communities in research and graduate training, and some principles of open access. Although this goal is clearly defined *within* the “Research Excellence” commitment, there is also some cross-theme integration that supports it, with some actions and perspectives located under the rubric of commitments to “community engagement,” “aboriginal engagement,” and “international engagement.”

A final point on this plan is its unique recognition of “Place” and recognizing the strategic role that it plays. For instance, the plan affirms that “[t]he University of British Columbia is poised at the edge of a continent looking outward, prepared to take its place as a bridge between two worlds” (p. 29). This definition of “place” continues to inform the spirit of the subsequent plans. Arguably, Place and Promise plan under the leadership of Professor Toope reinforced the path for international engagement and research excellence. And, although major efforts were put in place for Tech transfer and commercialization, the topic of knowledge mobilization kept diluted in various initiatives such as community engagement, a policy of open access of digital repositories, and a renewed interests and commitment to engage meaningfully with Indigenous and First Nations communities. Although all these elements are important in a broader knowledge mobilization strategy, the fact that there was not a clear identified champion to support a campus wide initiative and to subsequently provide direction, is one of the reasons of why a broader knowledge mobilization strategy was not put in place at this time; therefore missing important time for its thinking and operationalization.

3.2.3 The Current Strategic Plan: Shaping UBC's Next Century

UBC's newest strategic plan is the result of an extensive consultation from 2017 to 2018; it included thousands of participants from UBC and the many recognized communities it serves: locally, nationally and internationally. For instance, there was a major effort to contact many of its alumni located all over the world, and there were various ways to provide input both virtually as well as locally through "open house" events. *Shaping UBC's Next Century* is now the guiding document for UBC for the next decade. In this ambitious plan, UBC recognizes the many institutional achievements pursued previously in Vancouver and the Okanagan Campus and sets the foundation for planning and decision-making. It was consciously framed as the first strategic plan following UBC's 100th year anniversary. The plan reaffirms UBC's aspiration to excellence in all of its endeavors and commitment to its acknowledged diverse communities. As in previous plans, *Shaping UBC's Next Century* updated the "vision" and "purpose" in a concrete and direct language. This includes:

Vision: Inspiring people, ideas and actions for a better world.

Purpose: Pursuing excellence in research, learning and engagement to foster global citizenship and advance a sustainable and just society across British Columbia, Canada and the world (UBC Shaping, 2018, p. 9).

Shaping UBC's Next Century also reasserts well-established four core areas of the university: to "people and places," "research excellence," "transformative learning" and "local and global engagement." A novelty on this plan is the three cross-cutting themes that are introduced as "priorities" for the university to develop its vision and purpose. These themes or strategic priorities are deemed essential in contemporary society, explicitly suggesting UBC's

commitment to British Columbia, Canada and its global role. The themes are presented and explained as follows:

- *Inclusion*: Embedding equity and diversity across university systems and structures.
- *Collaboration*: Advancing purposeful, coordinated action across the university and with the broader community.
- *Innovation*: Cultivating creativity, resilience and shared risk-taking that catalyze new approaches within the university and beyond. (UBC Shaping, 2018, pp, 17-21)

As a result of the wide and diverse consultation process, the plan is structured in 10 goals and 20 strategies to achieve. The three strategic themes described above are expected to be integrated across the four core areas: people and places, research excellence, transformative learning and local and global engagement.

3.3 Knowledge Mobilization Approaches: Opportunities and Challenges

The new plan, *Shaping UBC's Next Century*, continues the institutional interest in adopting a knowledge mobilization or knowledge exchange approach for the university. Interestingly, it now combines a wider approach to knowledge in order to impact a vast number of stakeholders as an addition to previous plans and strategies whose focus were more heavily oriented to tech transfer and commercialization.

In *Shaping UBC's Next Century* knowledge mobilization or knowledge exchange is explicitly included in Goal #10.

Lead as a public institution, fostering discourse, knowledge exchange and engagement (UBC Shaping, 2018, p.11).

The goal is further explored in the core area of “Research Excellence,” which recognizes the need to incorporate an ecosystem approach to support knowledge mobilization or knowledge exchange to serve to diverse groups and communities.

Of relevance is to find that Strategy #9 is specifically targeted to Knowledge Exchange:

Knowledge Exchange: Improve the ecosystem that supports the translation of research into action. (UBC Shaping, 2018, p. 48)

The plan also recognizes the force of “complex” and “wicked” problems in society, the responsibility of a university to contribute to solutions to these problems, including the need to translate knowledge into action:

Addressing local and global challenges – such as climate change; the largest human migrations of the last half century; and the societal shifts associated with increased automation – required both disciplinary depth of knowledge and collaboration across disciplines and communities. It demands the creation of new knowledge and its accelerated translation into action. (UBC Shaping, 2018, p. 45)

An important point addressed under the “research excellence” theme is its recognition of the wider spectrum of research impact. For instance, the Plan expresses the view that:

Research Impact takes a variety of forms. Research might lead to spinoffs that take advantage of technological developments. But impact is also to be found in projects that lead to social innovations, change the way research in certain field is conducted, inform our understanding of history or culture, or enrich us and our world through creative works. (UBC Shaping 2018, p. 46).

Finally, the plan opens and concludes with a call to action. UBC, as the plan argues, is positioned to embrace a need for a broader knowledge mobilization and or knowledge exchange initiatives.

The plan’s framers also argued that the pursuit of these goals will generally strengthen UBC and its constituent and surrounding communities. This is reflected in the invitation posed by the current president, Santa Ono to the UBC community:

This is our moment to harness the energies and strengths of an extraordinary institution to affect sustainable and positive change, both locally and globally. Our vision of inspiring people, ideas and actions for a better world reflects our strongly held belief that, personally and collectively, we have the desire, capacity and responsibility to make this happen. This is our moment to inspire. (Ono, quoted in UBC Shaping 2018, p. 5)

It can be argued that knowledge mobilization and exchange strategies are now being supported by a considerable number of UBC researchers and communities. A prove of this is the ongoing and current theme of knowledge mobilization and or exchange to strengthen the ecosystem and services for the mobilization of knowledge. However, in light of the three themes expressed in the plan: inclusion, collaboration and innovation, UBC has a still important challenges to face in order achieve its new proposed new strategies. For example, UBC academic culture reflects a lack of high level of cross-disciplinary dialogue and functioning. Based on its size, the occupation of different geographies covering two main campus and research sites, UBC's academic culture gives space for disciplinary and departmental siloes. My opportunity to participate in one of the working groups engaging in the making of the plan, as well as the Strategic Design sessions fully explored in Chapter 4, will confirm this appreciation.

Another element that has been hindering the development of knowledge mobilization initiatives has been its highly reliance on traditional “bibliometric” factors as measures of “research excellence”. This was also voiced out in many of the plan conversations and the interviews leading to this research. The opportunity to discuss, define, and operationalize broader ways to recognize research excellence requires to be carefully addressed in the institution.

As mentioned earlier, the opportunity for knowledge mobilization operationalization has been diluted when it is situated across different operational units or portfolios; some activities are

undertaken by “community engagement”, some by “research services” and some by “internationalization”, to name a few. The phenomena of silos is not exclusively present in academic units, but it is also evident in administrative domains and particularly between academic units and administrative units. Examples of this silo-ing includes the training of faculty to engage with media, or the support of graduate students to develop “soft skills” to interact with external publics. The now identified theme of “Collaboration” is crucial in order to define or re-define the current or future structure that will become the responsible actor to integrate knowledge mobilization goals. It is important to recognize that until recently, there was not a clear UBC individual or champion in charge of knowledge mobilization or exchange goals. This is in contrast to other themes such as sustainability, internationalization, innovative teaching and learning where there has been clearer leadership or groups of leaders who have tackled this need. In the case of knowledge exchange, the opportunity is still there.

A final point regarding the challenge of operationalizing knowledge mobilization or knowledge exchange relies on the diversity of communities UBC aspires to serve, including the local, provincial, national and international domains. Future operationalization strategies must clearly articulate this need and complexity. As an institution that now aspires to embrace inclusion, collaboration and innovation, it will depend heavily on change of institutional paradigms in terms of agile systems, risk taking culture, and incentives leading to cooperation. A clear signal is needed to highlight the role of collaboration both within and outside of the institution, and the ways it be targeted, recognized and rewarded.

To conclude, this chapter addressed an introduction to UBC and some of its current developments, a review on the history of its most recent university-wide strategic plans, and an in-depth look at its new 2018 plan and its focus on knowledge mobilization. The chapter ended with an invitation to further exploration of why knowledge mobilization approaches has not been adopted fully to this date. This topic will be addressed in the chapters that follow.

Chapter 4: Research Method Approach: The Strategic Design Method

4.1 Research approach

As briefly mentioned in the Introduction and Chapter 2, knowledge mobilization authors and experts agree that there is not a unified or single way to operationalize knowledge mobilization programs and services. Knowledge mobilization is a broader spectrum of thinking and practice that requires services and tools that are locally contextualized and responds to institutional priorities. In this case, it is The University of British Columbia attempting to design, develop, and offer an integrated support for knowledge mobilization services that can lead to enhanced research impact.

As reviewed in Chapter 3, one problematic element found in knowledge mobilization/exchange approaches at UBC has been the lack of precise understanding, operationalization, dedicated leadership, and widely dispersed efforts due to a decentralized structure and siloed culture. There is considerable room to explore, design, and integrate knowledge mobilization at UBC, as will be further explained in Chapter 5. As evidenced by the lack of substantial KMb progress at UBC—which has arguably remained fairly consistent throughout the execution of two previous strategic plans, knowledge mobilization has been relatively undefined, in comparison with other Canadian and global institutions.

In preparing for this research, I considered a variety of methodological approaches that might be appropriate for a designing a KMb framework at UBC. I approached the dimension of this task with openness and intellectual humility, considering that the research continued evolving as additional institutional actors were engaged along the way. I considered applying qualitative or

mixed methods while reviewing the works of Maxwell (2013), Yin (2014), Punch (2005), Creswell (2013), and O’Leary (2014) as references. I settled on the Strategic Design Method (SDM), as explained below, on the basis of its suitability for the unique challenges of my research at UBC, my own prior experience, and a series of considerations that weighed against a single alternative such as traditional focus groups or case-study based research.

I understood that this project would involve not only identifying the gaps in knowledge mobilization at UBC, but also a constructive plan for progress. During the early stages of my research and engagement with the university, I found that some UBC leaders, professors and staff recognized the need of a university-wide approach to KMb or an “institutional framework,” and had their own ideas and interest to offer on this journey. Informed by these conversations and my own research, I also sought to engage interpretations of knowledge mobilization beyond the university with more local proposals for a UBC-wide approach or framework that could be operationalized with broad buy-in from institutional stakeholders.

In addition to early feedback from interested community members, the following questions adapted from Punch (2005) and Leedy & Ormrod (2005) helped me to navigate fundamental research design decisions:

- 1) What is it that I am trying to find out? Or to develop?
- 2) What kind of focus on my topic do I want to achieve? Do we know the phenomena in detail? Is it about understanding, causality, comparisons, or theory development?
- 3) How have other researchers addressed similar research problems?
- 4) What type of data might I be able to collect?

5) What practical considerations should I take into account? Research site(s), profile of participants, access to records, budget, timing, etc.

As I studied these questions, and knowing that this work would not be about theoretical development but of a practical application, I continued receiving input from participants who had expressed interest in the project. I recognized that my research would need to identify conceptual and methodological tools for articulating the existing research practice of research faculty and staff, with background assumptions that had not been systematized by the researchers themselves. In addition to the lack of information on knowledge mobilization in practice, another frequent problem, as reported in the literature (see Chapter 2), was the use of multiple terms and overlapping definitions of what professors and staff consider to qualify as knowledge mobilization.

With this central focus on “exploring” current knowledge mobilization practices in UBC, I oriented my research within the qualitative environment and design led approaches to find appropriate method. Some thinking in the qualitative research landscape led me to consider, for instance, *ethnography*. As Leedy & Ormrod (2005) define ethnography, it is a type of qualitative inquiry that involves an in-depth study of an intact cultural group in a natural setting. This approach was clearly not going to be completely useful for different reasons. For example, there was not an identified group to analyze. As explained previously, KMb is multi-faceted, expressed in many forms, so that a direct ethnographic effort without knowing where to look at or who to talk to, would not be the most effective research strategy. However, as the research evolved, there were also different knowledge mobilization events that informed the researcher

about other current KMb practices, and the identification of future engaged participants. Another approach considered while taking advantage of knowing some names of professors and staff interested in KMb was about organizing *in depth interviews* as main qualitative method. The strength of this method was the opportunity to obtain detailed information about participants' experiences in knowledge mobilization as well as opinions regarding KMb at UBC (Maxwell, 2013). This strategy alone, however, would have required relying on pre-selected questions, and possibly unintended biases, and importantly losing a future opportunity of group thinking and engagement –a necessary element for co-designing important phases of the research. As a practical consideration, and based on my conversations with some early interested participants, it was clear that based on the nature of the topic, they were comfortable talking in a group setting about their ideas for KMb, and then engaging in individual follow-up interviews if further details were needed. As I will further explain, professors were eager to learn and explore different knowledge mobilization perspectives and best practices.

Another approach considered was orienting the research decisions to *content analysis*. This would have provided rich data while getting into relevant documentation on research projects and reports that detailed specific activities of KMb, I actually visited UBC archives for this matter. Nonetheless, focusing solely on this research method would have limited the opportunity to engage with participants and to rely only on information that is a) reported as research outputs, and b) readily available to be further explored and analyzed.

The option to prepare *questionnaires or surveys* was also considered. A tool like this would have reached a higher number of participants, but its development might have unintentionally endorsed

some pre-conceived approaches to knowledge mobilization, and possibly impacted future engagement opportunities; for instance, this was confirmed later by participants while expressing sound opinions about the use of specific terms to refer to knowledge mobilization. As mentioned previously, part of the exploratory phase was motivated by the need to investigate without predetermined biases what professors and staff might conceptualize as knowledge mobilization in reflection on their own disciplinary or professional practice. Pre-defined accounts of specific knowledge mobilization approaches, I consider, would have been detrimental, and possibly exclusionary, in this phase of the research.

Focus groups were considered as a viable alternative—including the opportunity to bring a group of interested scholars into the room, and to navigate various themes as well as probing questions. However, as the next paragraphs will explain, given the lack of a substantial pre-existing base of self-conscious KMb practitioners at the university, there was a strong motivation to engage participants. In particular, there was an interest to facilitate the creation of an early community of self-identified knowledge mobilizers, and focus groups seemed likely to fail to recruit some of our most significant voices. For instance, when trying to engage with external partners, some identified future participants referred to the notion of “consultation fatigue” (using the language of Richard, Carter and Sherlock 2004), expressing a lack of interest to attend to “another consultation” session that might not let them achieve any gain in addition to serve to research and human connections.

Finally, the option of the *case study* as a possible method was clearly identified. Case studies have the benefit of analyzing a broad range of problems to be analyzed, from an identified

problem in one unit, to a large organization or entity (Yin, 2014). On this, Yin writes that case studies are a very adaptable research methodology that allows flexibility in framing the problem and exploring deep into a particular phenomenon. In addition, case studies allow the integration of multiple methods and data-points and are particularly helpful at descriptive, exploratory, or explanatory models. Case studies would have been a good research methodological option if the research would have “benefited from prior development of theoretical propositions to guide data collection and analysis” (Yin, 2014, p. 17) which was—for reasons sketched above—less clear in this project; or if the findings would be directed toward the development of generalizable principles or practices that could be comparable to other cases, which was also not the objective here. In addition to this, case studies were found to not to have the necessary “buy in” in some academic disciplines that I consulted, particularly among still-contentious debates concerning whether case studies are a research method or a methodological decision oriented to determine the scope of a particular problem. Yin acknowledges this and goes as far as to confirm that some researchers, admittedly lacking in-depth knowledge of case studies in application, “disdain” the method (2014, p. 19).

Given that the research was based on a design-led approach, it was necessary to find a methodology that allowed both research as well as the space to work with participants in ideating and designing the prospectus of a knowledge mobilization organizational framework. This tangible research task required to recruit interested participants and keep them engaged through the process.

Subsequently, I developed a specific set of criteria that assisted me while choosing the appropriate method considering the research needs. The appropriate methodological approach would need to include the following requirements:

- 1 - Support the exploration of a complex or ill-defined problem, facilitating a topical focus on knowledge mobilization, as well as the design of a prospective organizational framework or unit that serves different stakeholders with diverging purposes.
- 2 - Offer a method that could effectively capture diversity of thinking and sources of knowledge based on the various internal and external stakeholders' groups involved.
- 3 - Provide an integrated approach that would encompass both critical and creative perspectives (early influencers considered the need to design something different than just a framework, a traditional unit, or a department as currently exist in universities).
- 4 - Enhance participation, engagement, and allow innovative thinking both at the personal level and at the group level, a solution oriented approach.

In order to fulfill the identified research needs and to work on the previously defined research question: *How to co-design a university-wide framework: structure, systems and services that support knowledge mobilization at UBC?* I decided to apply the Strategic Design Method.

Strategic Design is defined as: “A problem solving, opportunity seeking, decision making participatory process” that allows [participants] to co-create, test, and deliver resilient solutions to big picture or systemic challenges” (Quayle, 2017, p. 73). Part of the rationale involved in the selection of Strategic Design Method (SDM), relied on its inclusive and flexible approach, since it can be easily complemented with other qualitative, quantitative or design-led approaches. In fact, and as will be explained in the next section, SDM borrows, and is complemented, by

various disciplinary methods—therefore some scholars refer to it as a methodology. It invites the participation of disciplinary methods in its generative endeavors to solve interdisciplinary complex problems or ill-defined challenges (Boyer, Cook, & Steinberg, 2011). Examples of these methods and tools are scenario planning, decision trees, participant observation, journey mapping, in-depth interviews, persona development, to name just a few. A second important element of the rationale for choosing SDM is that the author was familiar with the strengths and weaknesses of adopting this method. I have been using this method in the last three years both in class and in projects that have included a good number of converging and diverging interests. These projects required a foundation of interdisciplinary dialogue and a solution-oriented approach. A third and important element was to work “*with*” the community and not just “*for*” the community of UBC scholars and staff. This principle of engaged-scholarship seemed essential to follow and honour.

It was expected that SDM sessions would allow participants a sense of ownership, and seek to increase the acceptance or “buy in” of the project. As referenced before, early during this journey, I was able to identify interested scholars that were keen to support this research and collaborate with the university to take necessary steps toward a bolder knowledge mobilization institutional response.

In the following section, I will cover the specifics of the Strategic Design Method and some of its current applications.

4.2 The Strategic Design Method

Strategic Design Method (SDM) is human-centred, integrative, and interdisciplinary. SDM is rooted in user research where, at its best, multidisciplinary teams integrate creative and critical thinking techniques through a disciplined process commonly referred to as Ask, Try, and Do (Quayle, 2017, Helsinki Design Lab, 2011). Strategic Design's intellectual development evolved through various iterations a decade ago at the d.studio, part of the UBC Sauder School of Business and more recently in the Policy Studio, a research and teaching unit that is part of the UBC School of Public Policy and Global Affairs.

The Sauder d.studio developed and expanded Strategic Design as a core pedagogy. As of today, students of undergraduate and graduate level have worked with real partners originally in the business domain but more recently with social ventures, NGOs, academia, and governmental agencies. The d.studio is a place of exploration and a unique learning environment designed to foster creativity and innovation outside the traditional classroom. The d.studio offers a unique “*in situ*” pedagogy where knowledge and skills converge with creativity that impact thinking processes and actions leading to situated innovation (Beausoleil, 2016; Quayle, 2015).

A relevant consideration about Strategic Design is that it was originally associated with being helpful when applied in the business realm, since the empirical application of the method has proven to accelerate innovation –usually a goal sought in business and industry: Brown & Katz (2009), Martin (2009), Quayle (2015 & 2017), Beausoleil (2016), Liedtka & Ogilvie (2011), Kumar (2013), Christensen, Ball, and Halskov (2017); and Kimbell (2015). However, these same authors and new ones, for example, Liedtka, Salzman & Azer, (2017), Brown & Wyatt (2010), Quayle (2017), Beausoleil (2016), Bellefontaine (2013), Kolko (2012), and Dunne

(2018), have been exploring and researching applications in the social or public domain, the same focus area of this dissertation.

4.3 Exploring the principles of Strategic Design Method

One of the key elements that persuaded me to apply the Strategic Design Method was my familiarity with the approach based on my participation at the d.studio and the Policy Studio — both as a facilitator as well as participant observer. These opportunities provided me with a unique perspective of being fully immersed in the theory and teaching of Strategic Design. The following is a compilation of principles of Strategic Design that I have developed based on my exposition to the method. While referring to principles in this section, I defined them as a deployment of values that provides direction and marks a pathway towards an end. The purpose to address these principles here is to introduce to the reader the beneficial possibilities of using Strategic Design as a design-led participatory oriented methodology.

- 1) The ***Interdisciplinary Principle***: SDM is an interdisciplinary inspired method; as explained by Quayle (2017, p. 74), “strategic design draws on established methodologies from traditional design practices and combines them with **creative** and **analytical** approaches from other disciplines”. SDM has been benefited from a vast array of disciplinary areas that contribute with core knowledge bringing perspectives that supports problem finding and solution finding.
- 2) The ***Integrative Thinking Principle***: SDM provides a disciplined framework and space for participants to explore and blend **thinking modes** traditionally grouped under creative and critical thinking approaches. It successfully combines knowledge domains, lived experiences, and constant feedback from participants while preferably working in studio settings.

3) The ***Reflection Principle***: SDM enhances **reflection** that serves both as principle and process element, reflection is found at the center of the method and its domain expands from asking good questions, to analyze facts and insights, to test, to implement prototypes, and to evaluate.

Reflection as principle and process element is crucial for active learning and direction finding at all stages of SDM.

4) The ***Discovery Principle***: SDM invites ongoing **discovery**; this is represented both as a mean and as end; Strategic Design embraces a culture of identifying facts, finding out meaning, and disclosing opportunities that may be obvious, but are often initially hidden from participants in the process.

5) The ***Human-Centred Principle***: SDM embraces a **human-centred** approach rooted in empathy, a distinctive feature that is executed in the actual interests, motivations, and experiences deployed by current or prospective users of a service or proposed innovation (Kumar, 2013).

6) The ***Iteration Principle***: SDM is **iterative**, based on the principle of reflection and continuous quest for discovery and insights, it demands a constant refinement of ideas, models, prototypes and delivery of options, usually fast-paced but grounded in solid reflection, SDM proposed to be open and to embrace non-linear routes and possibilities.

7) The ***Creativity Principle***: One of the most frequently referenced elements, **creativity** is a driving force of SDM: it is promoted and supported through the application of tools and techniques, which are usually found to be particularly effective within the studio setting. According to Kelly & Kelly (2013), creativity is one of the competitive advantages of the designer-practitioner.

8) The ***Visual Language Principle***: SDM embraces a **visual** language, as participants of Strategic Design benefit and are challenged by the opportunity of idea expression through different creative means. This usually involves leveraging visual and/or tactile elements, such as shapes, colors, models, and prototypes.

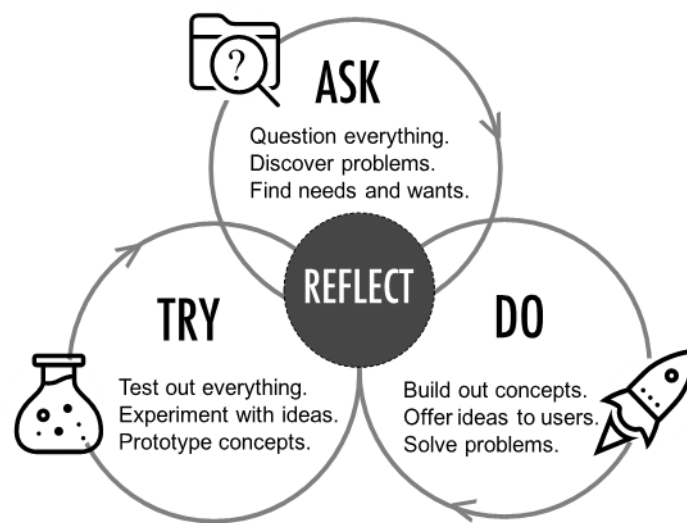
9) The ***Risk-Taking Principle***: Strategic Design is active, and action-oriented; it is an actional approach that is constantly fed by participation from stakeholders that are directly related to the problem or opportunity. It encourages in participants a culture of **risk taking**, while embracing tolerance of ambiguity, including—at times—operating without an awareness of the facts of the problem: it's rare for a preliminary proposed solution to work at the first attempt. A risk-taking perspective leads to more possibilities of finding the best solution to an identified problem or opportunity.

10) The ***Collaboration Principle***: As its best, Strategic Design is practiced in **studio** environments and it benefits from active dynamic and open spaces that are conducive to **collaboration**, convergent and divergent thinking, and that foster a culture of tests, pilots, prototyping, and co-creation.

4.4 Strategic Design: How it works?

The purpose of this section is to explore the process of Strategic Design in order to further articulate its strengths, weakness and possible criticisms, as relevant to this research program. As explained before, Strategic Design is a broader framework that encompasses a method for problem-solving or opportunity identification (“ASK”), creative and critical exploration while testing possible solutions (“TRY”), and the actual deliverables in varied means such as products, services or even policies (“DO”). Part of its uniqueness is that it is both a “thinking method” and

a “doing method”, and the method incorporates constant iteration in all of its phases. It is important to note that powerful and consistent reflection and question-asking is a core element. The following figure represents a high-level sketch of the method and its three phases or



components sketched by Quayle & Beausoleil (2015).

Figure 4.1 Strategic Design Method high level sketch

The ASK phase

During the ASK phase, participants are invited to be aware of their thinking process. According to Quayle (2015; 2017) Strategic Design incorporates seemingly unrelated cognitive processes such as convergent and divergent thinking. As referenced previously, this method is mostly applied in a team format, since it openly recognizes the need for different types of thinking and values both disciplinary backgrounds as well as practical experience. Here, authors such as De Bono (2008), Brown (2009), Florida (2012), and Burnett and Evans (2016) articulate the benefit of successfully incorporating participants or team members whose cognitive process differ and whose professional and life backgrounds might introduce diversity. Appreciating and embracing

diversity allows teams to bring alternative approaches to problem framing and understanding. For instance, very successful high-tech companies such as Google or Apple are keen to integrate highly diverse yet effective teams oriented toward fostering human and intellectual pre-conditions that might elicit breakthroughs and new discoveries. The experience of UBC's d.studio and Policy Studio confirms that one of strengths of Strategic Design is that it works particularly well with participants who come from different disciplinary backgrounds and various practical experiences, especially if participants are aware that the given challenge belongs to a cross-disciplinary or multi-disciplinary domain. Part of the *Ask* preparation is to prepare participants to be comfortable with collaboration, and this is boosted through "studio" settings. On studio work, participants are motivated to move away from well-established thinking processes associated with traditional consultations or classroom work. Studio work helps to emphasize that there will be many iterations and attempts before the problem is fully explored and ideas are selected (at least temporarily) to be further analyzed and tested.

In my own various teaching and co-teaching experiences with Strategic Design, my colleagues and I deliberately decided to spend substantial time in the *Ask* phase before proceeding further. We implemented a variation of the SWOT analysis, a classical strategic planning business tool that explores a company or organization around four axes representing internal *strengths* and *weaknesses* and external forces impacting upon it, framed as *opportunities* and *threats*. This is a tool that facilitates two objectives. First, it introduces the need and practice of "applied reflection" as a core element of the method; and second, it uncovers some personal features that in group format, might be recognized as group strengths. This apparently seamless exercise

prompts personal awareness of what particular participants might contribute to the group or project.

While it seriously embeds reflection activities, Strategic Design emphasizes that innovation is the product of team-work, and rarely a unique and solitary thought by one individual (Liedtka 2011; Christensen, Ball, and Halskov, 2017). SDM invites a humble integration of participants' talents and creates awareness of participants' unique talents and potential contributions. When taught, one of the learning outcomes of Strategic Design is a deliberate awareness of participants' knowledge and experiences based in deep reflection; this arguably in line with the emphasis on contemplation and "self-knowledge" that preoccupies early pedagogical thinkers such as Socrates and Plato, as well as modern educators such as Schon (1983), Mezirow (2013), and McIntosh (2010), who emphasize the powerful role of reflection in education.

Another relevant part of the *Ask* phase of exploration consists of asking participants to deploy their current thinking, and to unpack assumptions, and values about a problem or phenomena. The purpose of this exploration with the support of tools and techniques is to allow problem understanding from different perspectives, and to explore both personal and group thinking about a given problem or opportunity. It invites participants to think about the problem (first-order reflection), and to think about the thinking, and the thinkers (metacognitive, or second-order reflection).

A unique feature of Strategic Design in the *Ask* phase is the actual exploration, the framing and re-framing of the problem. Nurturing the art of good questioning is key in this part —this an

example of Strategic Design incorporating well-established principles from Philosophy and Education. In sessions, problems are referred to as “opportunities” that might be explored or discovered. In general, *Ask* phase is the deliberate space for participants to share and discuss their understanding of the problem, and to motivate them to inquire about findings both facts and insights.

A critical element in the *Ask* phase is the actual verbalization or phrasing of the problem being explored; after some preliminary exploration of the problem, participants are encouraged to verbalize:



“ The problem we are trying to solve is ...”

Figure 4.2 The SDM simple yet complex question

This statement and question has been used constantly in the d.studio and Policy studio groups and its application is intellectually challenging and highly productive. The question presents a twofold challenge: first it’s a key step to “problematize” the phenomena/opportunity, since it usually comes after hours of allotted time of rigorous problem exploration while considering alternative angles, latitudes, scope, and approaches of a problem/opportunity. Secondly, it represents the actual group sharing and adoption of at least a preliminary way to conceptualize and explore the problem. Another very useful tool is to invite participants to use the question *How might we...?* while embracing this question, it serves as a platform for group dialogue and preliminary consensus that will be carried on to the next phase.

The TRY phase

The second and distinctive component of the Strategic Design Method is referred as the *TRY* phase. It is an active part where participants start to integrate facts and insights that began to be collected in *Ask* phase.

In Strategic Design, there is a marked difference between facts or observations and insights. Facts or observations constitute actual data relating to a plain and clear description of what is present; for example, how many times, visits, people or services have been deployed in a particular agency. In contrast, insights are observations that are filtered through the researcher or participants' experience and thus, these include "valuable" meaning. It is expected that through the process of Strategic Design sessions, participants would be able to access first-hand users or community members through processes of rapport and empathy, this is an example of the integration of "participant observation" method that is particularly potent in exploratory stages (Gillham, 2005; Yin, 2014). Ideally participants assume the position of genuine and open curiosity and try to understand the interests, motivations and acts behind a particular activity or behaviour. When field visits are not an option, or as a complement to those, a tool called commonly known as Empathy Maps (which will be introduced in Chapter 5) offers the possibility to understand actor's interests, uncover processes and ways of doing things.

According to Kelley & Kelley (2013) and Quayle (2015; 2017), insights are powerful ideas or perspectives that can lead to an understanding of why people actually do certain things that might or not relate to their verbalization of explained rationale. This is one of the explicit intellectual contributions of the methodology, to offer a complementary space to integrate both *facts* of the problem as well as various *insights* of it – the so-called objective facts with the

richness and contextual understanding of insights (Beausoleil, 2016; Boyer, Cook & Stenberg, 2013).

In group format, *Try* sessions require participants to begin generating ideas for accelerated testing or prototyping, thus moving the “how might we” into the domain of applied testing.

There are many tools and techniques that are used in *Try*, but amongst the most relevant are brainstorming, story sharing, rapid prototyping, and service journeys.

When used in strategic design, brainstorming should be fundamentally kept non-judgmental. At its best, it is a visual exercise that offers an open space for accelerated idea generation that should come from every participant’s point of view. In studio settings, sometimes participants are required to generate X number of ideas while trying to produce as much material or food for thought even at the risk of producing seemingly unpractical, odd or “out of the box” ideas. The purpose at this point of the method is to hold back the “critical inertia” that naturally flows from minds shaped by critical thinking, and to allow some type of exploration or framing of possible solutions. It is important to mention that studio work allows participants to be open and generative, allowing them even to produce often odd, unpractical or eccentric ideas safeguarded under an umbrella of psychological safety discouraging participants from expressing early, negative comments about a proposed idea. Once a brainstorming exercise takes effect, then the group has actual material to work on further stages of the *Try* phase.

Another very important and engaging part of the *Try* phase is the fast or rapid prototyping; this technique allows participants to experience hands-on work on the actual design of collaborative solutions; and there are different tools available for prototyping such as sketching, modeling, or service journeys (further explored in Chapter 5, as it was one of the tools used). Sketching is a

technique that supports prototyping. It incorporates a simple yet complex process to apply visualization elements into a stated problem and a desired solution. The sketch should be as clear and connected with the current or future users of a product or a service (usually with information from real data or after the exercise of empathy maps or real feedback. Sketching as explained by Kimbell (2015) is a powerful tool to start landing on a specific solution and sometimes shines a spot-light on unexpected details that have not yet been previously noticed. While exercising reflection, sketching can be refined into newer and more sophisticated versions. Modeling as a type of prototype is usually a highly detailed physical application of a desired ideation; it incorporates applied thinking into a dexterity exercise. This exercise usually leads to either simple or highly complex models with the use of various materials. The advantage of modeling includes the early testing of an applied idea, and the actual group engagement as an outcome. It is important to stress that *Try* tools and techniques will sometimes prompt participants to reflect again and even go back to the *Ask* phase to re-think the problem or implied assumptions. A strength of Strategic Design is that there is space for iteration and a designed back-and-forth movement between phases.

The DO phase

The *Do* phase of the Strategic Design Method focuses on implementing, evaluating, and innovating. This is the long-awaited phase that participants have carefully waited until the appropriate time after *Ask* and *Try* phases. Alternatively, typical scenarios such as: “the answer is right” for “the wrong problem” could arise. Since Strategic Design is differentiated from other straightforward decision-making processes through working on ill-defined or complex problems, it is necessary to spend a deliberate amount of time in the previous phases. The *Do* phase,

however, has its definitive and unique components that allow implementation, refinement, reflection, new learning, and adaptation of the solution. A clear practice during *Do* phase is the use of pilots. Pilots have been used for decades mainly in business to test the roll-out of a particular campaign, product or service. This allows, in some cases, the integration of quick or “just in time” information that could lead to changes or adaptations aimed to improve and implement changes efficiently. Still, the culture of pilots is not yet easily discovered in public institutions, even in academia. It is slowly appearing, based on its time saving and economic benefits (Larson et al. 2012; Tuomela & Salonen, 2005).

The critical part in *Do* is the actual implementation of the designed-led solution; implementation of a proposed innovation might not succeed, based on several obstacles. Some of these are economic, cultural, political, organizational, or simply a lack of leadership to push a design-led innovation further. It is imperative that during the *Do* part, the process of implementation—at least the pilot stage—can be deliberately articulated. Experience suggests that an idea or innovation won’t be applicable just because it’s innovative; there has to be a real need for it, and it has to be supported by leadership and influence. For instance, Kao (2018) notes that “influence” is a key skill for leaders to learn; authors such as Covey (2002) refer to the fundamentals of well-mastered skills of leadership and people-skills. Planning for implementation must incorporate new perspectives on change management and openness to redesign organizations (Laloux, 2014). The implementation step of the *Do* component of SDM is also obliged to give careful consideration to cultural aspects of organizations or public perception, and these contextual dimensions include important elements such as norms, behaviors, leadership, policies and incentives (Hefferman, 2015; van Dierendonck & Patterson

2018). Rigorous studies of implementation or change management might serve as a key influence for this step.

A key element in implementation stage however, should be openness to future adjustments as part of the design process, and more importantly, it is expected that the application of Strategic Design could also support a culture of innovation in organizations. Studies of applied Strategic Design performed by Beausoleil (2016) refer to the development of innovation competences reflected amongst participants where the Strategic Design method has been used as main framework for a given complex task or challenge.

The *Do* process also incorporates an evaluation perspective: thus it goes hand in hand with the culture of reflection that is found at the center of the SDM Method (see figure 4.1). Evaluation can take many forms and responds to different needs, it could be about getting to know the user and her/his demographic data, or the actual experience with the product or service, or the expectations or use of the post-service; for example through follow-up programs, maintenance, services, open feedback platforms, etc. An important and complex step for this activity is the actual design of the evaluation instruments: surveys, interviews, and/or automated data capturing, amongst others. It is expected that design of a survey within the scope of work of SDM will benefit from different disciplinary backgrounds. A crucial aspect of the evaluation process in pilots is to determine who, how, and when the collected data will be analyzed for further service refinement; Service journey as a tool explored in Chapter 5 might bring light into this process. Overall, when in pilot stage, quick refinements should be not too costly and intended to take less time in implementation; finally, the notion and planning of scalability might serve to expand the proposed solution.

In drawing these threads together, it is important to emphasize that the practice of a complete process of Strategic Design might lead to the discovery of a new problem that can be treated in the future; therefore, another whole process of Strategic Design can be followed from exploration to implementation.

The above explanation of the “Ask, Try, and Do” process follows a well-established series of steps to apply the framework as a whole, usually applied to a given challenge. However, Strategic Design as pedagogy has also been used partially in courses or projects where the whole framework cannot be fully applied. Even in these cases, Strategic Design provides a useful approach that fosters creativity, interdisciplinarity, and a solid problem exploration that supports design oriented solutions. All of these elements, together with the reasons noted above, contributed to the decision to apply SDM to this research.

4.5 Critique of Strategic Design: current debates and limitations

As with any other methodology, there are many critiques of Strategic Design and Design Thinking. The majority of the critiques are found in the domain of design thinking; therefore for the purpose of the first section, the discussion will draw on critiques and discourse related to design thinking. The critiques or ongoing debates point at many aspects. One of the problems has been its excessive popularity in circles both inside and outside academia promising changes of mindsets and an almost guaranteed route to innovation—in other words a “silver bullet”. This popularity has been putting pressure on academia, particularly in experiential learning approaches where participants are required to innovate while finding solutions to a particular

problem (McCance, 2015). Broad claims—for example, that design thinking should be described as the new liberal arts (Miller, 2015), or referred as the new MFA that will replace the relevance of the MBA (Pink, 2006)—should be carefully analyzed and placed in perspective. Although it might be true that creativity is not widely taught at the University level and that it is extremely in-demand as a useful component for innovation, strategy and decision making, the assertion that challenge-based creativity might replace core courses on liberal arts, should be carefully considered. Design thinking could play an influential role for engaged learning, fostering creativity, team-based education, new ventures and prototypes, but not all education—even at business schools—for example, should only rely on this. There is still need for individual learning in addition to group learning, and the pace of design thinking might be too fast for some type of learners therefore being counterproductive. Also, many subjects or topics cannot simply be taught in a experiential based-format.

Breen (2017) points out that design thinking has become a buzz word that has captured the interest and need for innovation in different sectors. Part of this over-selling of the concept relies on the many consultants in the business world who offer training using Design Thinking. These courses or training might over-promise the development of original solutions or breakthroughs that might not happen. The problem is aggravated by an excessive focus on pursuing innovations (and associated terms) as if innovation might be the panacea for all organizational, private and public challenges. Concepts such as disruption (Christensen, Horn and Johnson, 2011; Dru, 2015) and the democratization of innovation (Hefferman, 2015) do not help with the conceptual clarity of the real space and need for innovation.

Other critiques of design thinking follow from the hybridity of the intellectual framework that provided a foundation for design thinking. For instance, Johansson-Sköldberg, Woodilla and Çetinkaya (2013) write about the two related but separate disciplinary contexts where the concept is rooted, the discipline of Design connected to the Arts or Engineering, and the Strategy part that comes from the domain of Management. This is an interesting debate: is the concept born out of the Design world (even with many of its critics and supporters based in the Design community) or is the concept and its development located within the Business world? Of course, acknowledging that some of the tools and techniques in fact belong to managerial education that have been blended with elements of creativity.

In addition to the above broader challenges of design thinking, it is important to recognize that Strategic Design as a method has its weakness or limitations. For instance, it is fair to say that there are many alternative forms of solution-oriented frameworks, both in the Business and Engineering domains, and they might work in different ways in terms of efficacy, resources invested, and feasibility of implementations, among other elements. In relation to this, there also new interdisciplinary approaches such as behavioral economics and “big data” analysis that are also influential and present themselves as effective approaches that bring light to complex, multifaceted challenges. Others argue that because design thinking is fast-paced, it might leave some pieces of the puzzle (of the problem) unexplored, or that it makes less room available for genuine “domain experts” to tackle challenges directly.

Some other critics of design thinking and strategic design refer to the complexity of developing certain “learning” competencies for the effective practice. For instance, Jen (2018) expresses

skepticism that empathy can be taught in a quick or fast paced experience. She notes that empathy is a skill that might take a longer time to develop, and recalls that some other abilities that are present both in Design Thinking and Strategic Design—such as scaling or modeling—actually belong to a formal skillset of designers. I believe this reflects a wider debate concerning whether there are skills associated with particular disciplines that may or may not translate well to other domains. Can a discipline keep the teaching of specific skillsets to a particular type of program? In this vein, one could consider whether a person could learn to code and have strong validated skills without formal training in Information Technologies or Computer Science? Or become a writer without a formal program in creative or academic or technical writing? This debate is obviously beyond the scope of this work. Still, it is also a relevant context for considering the development and legitimacy of Strategic Design or Design Thinking as methods. Part of the answer to situating Strategic Design under the umbrella of university education might be to look at assessing the broader strengths and limitations of Strategic Design. However, it is not a simple task; it requires a careful look at the cross-shared nature of its core elements: reflection, creativity, human-centred approaches, and problem-solving. Particularly problematic is that these concepts can be easily tracked in various disciplinary backgrounds, therefore the need to come up with an integrated yet specific framework to assess Strategic Design is imperative. A further academic discussion should lead to considering what conceptual elements are under scrutiny, whether these are learning objectives, outputs related to inventions, or outcomes linked to innovations, all of these terms being situated within a clearly defined and articulated theoretical framework.

Nonetheless, Strategic Design has recently occupied an important place in business, academia, and public domains. It calls for a more integrated thinking of creative and critical approaches as well as to bring different methods to enhance team-work and cooperation. For instance, Liedtka (2014) recalls that one of the benefits and strengths of strategic design is to advance and advocate for new ways for people to work together, to tackle complex challenges that require diversity of thinking, various disciplinary approaches, and more human-centred solutions.

To conclude, this chapter addressed the overall research approach, and the methodological considerations that were underpinning the nature of the research. It included an in-depth exploration of the Strategic Design Method, its principles and its distinctive process also known as Ask, Try and Do. It ends with an analysis and examination on the limits and critiques of its utilization based on its current application inside and beyond academia.

Chapter 5: Data Collection: Co-Designing KMb for UBC Tools and Data

As outlined in Chapter 4 and based on the nature of the research question and applied cases, this research focused on two dimensions: first, to explore the practice and thinking of knowledge mobilization at UBC; and second, to propose a knowledge mobilization institutional framework that could strengthen, sustain and organize KMb efforts at UBC.

The following sections will cover the specific application of the Strategic Design Method and the utilization of some of its tools. It will also include the data that was progressively generated and some methodological decisions that were taken to enhance the co-design research approach.

Strategic Design, as explained in the previous chapter, is a generative, integrative, and participatory methodology that has been tested to serve exploratory and creative endeavors that require thinking and action. Its main distinctive feature “participatory design” is a research approach that requires an active involvement from research participants and/or users.

The key element of participatory design is that research and creative activities are done with end users, where [researchers] act as facilitators or visual translators for people who might not be skilled or confident in idea expression [...] participants are prompted to use tools to create their own interfaces, products, services or systems (Kolko, 2012, p. 104).

As expressed by Kolko, participatory design might ideally gather real data from participants and users. Importantly, due to the nature of the creative approach, I needed to work closely with participants (internal and external) to build rapport and empathy allowing participants to explore problems and opportunities. Dunne (2018) supports the advantages of working with users; in the case of this research, the “users” are a variety of UBC community members and partners.

Particularly, Dunne suggests that “many design projects, especially for complex [...] services, follow a participatory design model in which users are not merely observed but are invited into the design team” (2018, p. 42).

The following sections will now introduce to the reader the participatory design approach that was applied in the three distinct design phases of the research, see figure 5.1 below. These will cover in detail the selected tools and techniques.

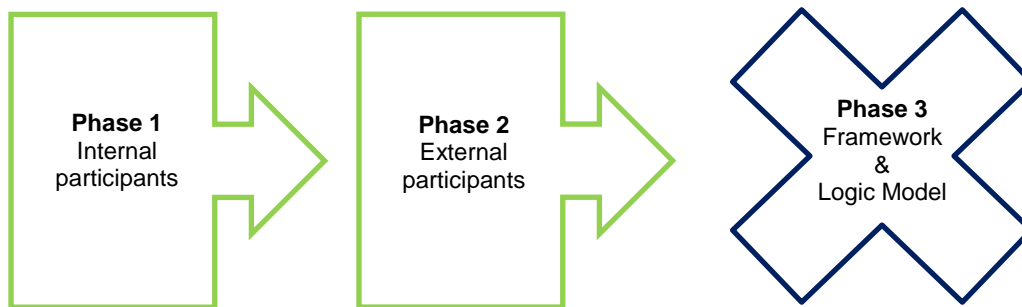


Figure 5.1 Research Phases

5.1 Studio sessions: Enhancing KMb@UBC: Phase One, and Co-Creating Knowledge Exchange@UBC: Phase Two

5.1.1 Enhancing KMb@UBC: Phase One

Phase One of the research started as an exploration of KMb activities at UBC including (1) the review of UBC strategic plans, annual reports, Faculty and Departmental documents and newsletters; and (2) identifying and interviewing “KMb-engaged professors” to understand their knowledge mobilization perspectives and trajectories. The purpose was to determine the breadth and depth of the knowledge mobilization happening at UBC as a whole, a series of Strategic Design sessions were organized with interested professors and staff.

Two sessions involving 25 UBC professors and staff were organized in January 2017. Professors were invited to a studio-type working session with the interest to know and to explore their knowledge mobilization trajectories. For this purpose, the researcher, supported by Professor Moura Quayle, Martin Kirk and Matthew MacLennan, invited both faculty and staff. It involved

a purposive sample (Lincoln & Guba, 1985; Maxwell, 2013), therefore inviting key people that were known to be involved in knowledge mobilization activities, many of them impacting policy, but not exclusively. These sessions were strategically scheduled to be part of a broader knowledge mobilization workshop organized by the Policy Studio (now part of the School of Public Policy and Global Affairs), which featured Dr. David Phipps as a keynote speaker.

These two sessions were 1.5 hours long. During each session, participants introduced themselves, after which they used a tool specifically created for this project called the Knowledge Mobilization Canvas (visualized below). Professors and staff participated in a plenary studio session debriefing their experience and ideas on knowledge mobilization.

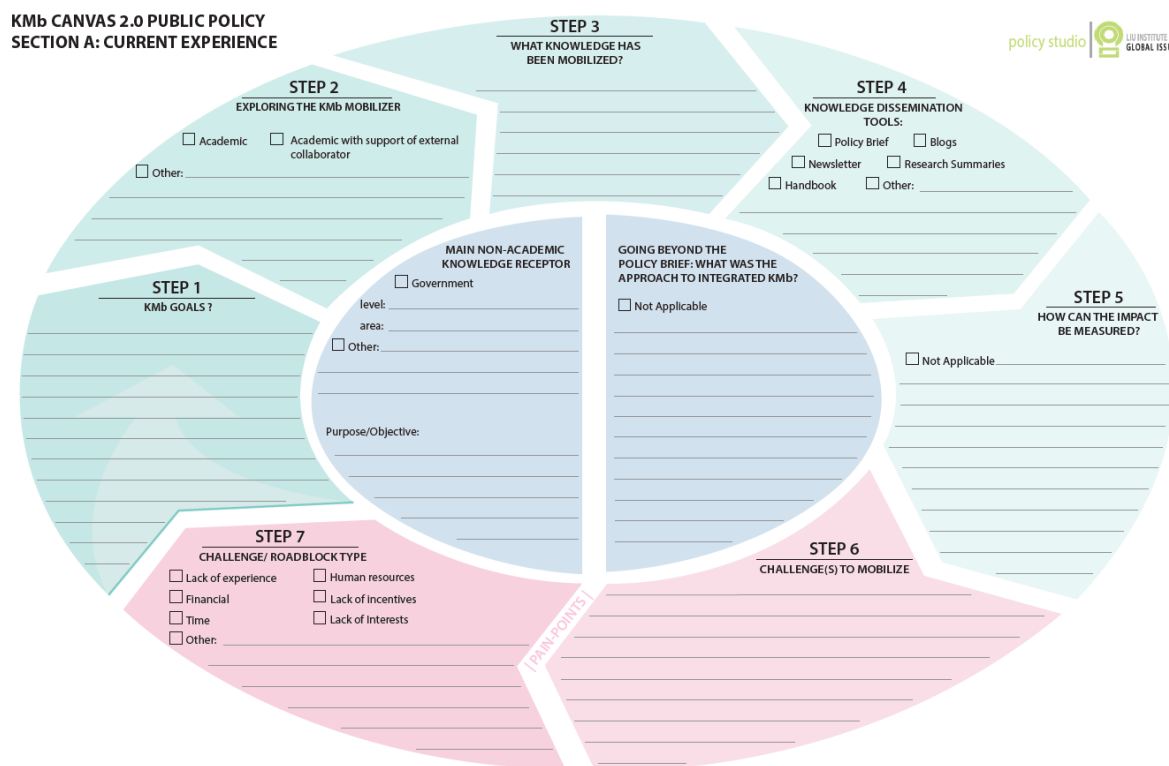


Figure 5.2 The Kmb Canvas 2.0

The Knowledge Mobilization (KMb) Canvas 2.0 is an integrated visual tool composed of seven steps designed for researchers to explore the journey of a selected current or previous knowledge mobilization experience that they deemed relevant. This tool was previously tested among a group of practitioners and knowledge brokers at the 2016 Canadian Knowledge Mobilization Forum. Based on the feedback from participants and experts in 2016, this tool included the question whether the researcher established knowledge mobilization goals as part of their research endeavor, (Step 1), and whether the researcher was aware of the impacts, and/or thought about measuring or capturing the impact of their KMb efforts (Step 5).

An important element addressed on the Canvas is whether the knowledge mobilization journey involved working with external partners and the extent of this type of work (Step 2). This step was intended to capture whether researchers were aware or have experienced working with external partners in models defined as integrated KMb approaches. A very important component of the Canvas is dedicated to the exploration of the challenges and the understanding of the type of barriers experienced when performing knowledge mobilization activities (Step 6 & 7).

As reported in the Enhancing KMb@UBC publication (preliminary output of this research) data from internal participants during the two Strategic Design Sessions and follow up interviews included the following preliminary KMb insights:

- **Timely conversations:** Participants were appreciative that UBC was actually having this conversation on KMb, KM or KT as some researchers approached it. Many of them were aware of the need to leverage KMb due to the fact that many research grants in Canada are tied to knowledge mobilization formulation and plans.

- **Diversity of KMb approaches:** Some participants, although cognizant of the important of KMb, were unfamiliar with the spectrum of knowledge mobilization approaches and activities. For instance, some were confused whether the act of teaching was an activity recognized as part of knowledge mobilization.
- **Importance of institutional support for KMb:** Participants expressed the need for deliberate guidance on knowledge mobilization, and questioned whether UBC was “going to be serious” and to allocate resources and guidance to extend knowledge mobilization activities, therefore expressing needs to support institutional capacity to support these endeavors.
- **Challenges to KMb practice:** An important part of the conversation was concentrated on exploring the current challenges to knowledge mobilization practice. For instance, some professors expressed that KMb efforts were a nice add-on to their research activities, or something off the side of their desk. They intimated that it was a personal decision to embark on knowledge mobilization efforts. They acknowledged that currently knowledge mobilization activities were not deemed as relevant as their research and teaching responsibilities.
- **Skills and competences for KMb:** Professors were also expressing the complex nature of knowledge mobilization activities and they expected that the University could provide support in developing certain skills and competencies they need in order to successfully contribute to mobilize their knowledge. Examples of these are: communication skills, how to engage with the media, how to create effective blogs, social media dissemination opportunities, as well as best practices on how to engage and/or partner with external entities.

- **How to build a culture of KMb at UBC:** Professors and staff suggested that there is not a UBC culture around knowledge mobilization. This is reflected in the lack of mechanisms for reporting knowledge mobilization activities in the CV templates provided by the university for faculty in research and educational leadership streams, or at the critical time of tenure and promotion. Some professors reported that colleagues engaged in KMb activities do this based on the fact that they already have a tenured position. Therefore, younger faculty might be equally interested but know that to engage in knowledge mobilization endeavors can be a detriment to their immediate career prospects.
- **Interest in the KMb Canvas & guides and resources:** Some participants were greatly surprised about the reach of the KMb Canvas tool and requested a copy of it to further keep practicing reflection and planning work on KMb. This confirmed the previous need expressed by professors for further guidance in planning, evaluation, and overall finding resources to sustain this work.

The data from these sessions was analyzed through detailed revision of ideas, the clustering of themes, and triangulation of information techniques amongst the research team supported by Professor Moura Quayle and Matthew MacLennan. This time was a period of openness, to keep listening, and to continue collecting ideas and suggestions from participants even after the formal studio sessions. These activities and the disposition to analyze these and subsequent results were supported the credibility of the research findings. On this, Lincoln & Guba (1985) suggest that the activities of “prolonged engagement, persistent observation and triangulation” (p.301) are a means to confirm findings and enhance credibility of the results.

A second step of Phase One involved the application of in-depth interviews with twelve participants invited. Out of this group, seven of them were present at the strategic design sessions and five were new—usually professors that were unable to attend the general sessions but expressed interest in being part of this conversation.

The in-depth interviews were designed to meet and follow up with participants with three specific intentions: 1) to engage with professors who have had current or previous experiences while engaging in knowledge mobilization activities; 2) to meet with professors who in addition to having experience with knowledge mobilization activities, expressed interest for UBC to strengthen mechanisms to support institutional work on knowledge mobilization; and, 3) to include a broader range of diverse voices, to engage with professors from different faculties, backgrounds and gender diversity.

The following list of questions served as a guide for approximately 1 hour of conversation with UBC Professors.

| | |
|----|--|
| 1- | What research work has been mobilized? |
| 2- | How your research work was/has been mobilized? |
| 3- | What prompted you to perform KMb activities? And what motivates you to perform KMb activities? |
| 4- | Where you aware that you were performing KMb activities? In what extent? Where there any objectives related to it? |
| 5- | Who did you work with in order to perform KMb activities? |

| | |
|-----|---|
| 6- | What barriers did you experience? / What type of barriers are these? |
| 7- | How did you overcome these barriers? |
| 8- | Are you aware of the impact of your mobilized knowledge? |
| 9- | Have you been able to capture / measure it? And who should capture / measure it? |
| 10- | What impact has KMb had in your discipline? What impact has KMb had on you as a professional? |
| 11- | Would you engage in KMb again? And what would you do it differently? |
| 12- | How do you think KMb efforts can be replicated? |
| 13- | What is the potential for UBC to sustain KMb? |

Table 5.1 Interview questions prepared for the brief case studies

In total, there were 12 interviews that led to further exploration of the knowledge mobilization experience and suggested ideas and strategies on how to support UBC KMb work. Three of them are presented in the following pages as examples. The full compilation of KMb cases can be further found at the Enhancing KMb@ UBC publication produced in parallel with this research.

Rashid Sumaila:

Dr. Rashid Sumaila specializes in Fisheries Economics at the Institute for Oceans and Fisheries - UBC School of Public Policy and Global Affairs. His current KMb project is the *OceanCanada* Partnership. It is an innovative, interdisciplinary initiative started in 2014 that includes academic and non-academic partners such as NGOs, businesses and government representatives. The project involves measuring Canada's stock in the three coastal regions, planning for the future and a KMb-specific component, aiming at the implementation of research knowledge to create change in industries, government agencies, and among the general public.

Concerning the complexities of integrated KMb projects (where Professors perform research activities while engaging non-academic stakeholders), he remarks, "It is challenging but not impossible to engage with policy makers and practitioners, but it requires time and effort like managing your course schedule and traveling nationally or internationally." However, KMb serves the competitive advantage of the university. "You improve your research while bringing novel and relevant ideas to the university. It also helps with obtaining research awards – nowadays the KMb component of funding proposals is very important, connects you with potential funders [...] stakeholders also support dissemination efforts through non-academic channels, it is very beneficial".

Figure 5.3 Examples of KMb Snapshots

Stephen Sheppard:

Dr. Sheppard is a Professor in the Faculty of Forestry and his research focuses on forest resource management, landscape planning, and public awareness around climate change issues. His current KMb project involves engaging youth on climate friendly solutions. This includes using latest digital tools, visualization maps, student co-designed video games, and community visioning gatherings. For his KMb projects, investing time in community engagement has been crucial. He adds, "You have to work with partners in communities: you're bound to miss a lot of important things if you are not working with partners." KMb gives you opportunities to understand that "established tools can be applied in a wider way. [We] also need more social science evaluation that can capture the wider impact," including inputs into decision-making, change of perception, and the broad work of policy making. Dr. Sheppard asserts, "Academics have an enormous privilege and opportunity, [Professors] have privileged knowledge that ordinary people or decision-makers will never go through... how can we [better] share this with the public?"

Jannette Bulkan:

Dr. Bulkan is an Associate Professor in the Department of Forestry. Her research encompasses forest fragility and good forest management practices. She has spent a considerable amount of time with the people of Guyana in South America helping to “build nationhood, community organization and understanding of a really complex environmental subject.” Through her research and engagement with people and NGOs, she supports the protection of Guyana’s forest. Which, as she mentions, “is very fragile and globally unique.” While maintaining sustained, long-term work, she has been able to connect her research into action, impacting the public debate around deforestation and forest sustainability in this country. In particular, her work has served to promote a stricter adherence to responsible forest management practices by the government, international logging companies and the public.

Figure 5.4 Example of KMb Snapshots

In total Phase One of this research involved engaging with 37 participants, 25 of them in studio sessions and 12 of them in the form of in-depth interviews. Phase One was an ongoing and iterative process that brought a very in-depth understanding of knowledge mobilization phenomena and challenges currently present at UBC. As reported in the Enhancing KMb@UBC output, the following integrates a more detailed compilation of ideas and suggestions presented by participants organized in themes using the language of participants.

1. Lack of incentives for KMb

- a. Currently KMb is something professors do as a peripheral activity.
- b. KMb is not yet part of tenure and promotion discussions. It is not yet recognized in most faculties.
- c. Professors are already doing many activities as part of their academic endeavors. Why add another thing to an already busy workload?
- d. UBC could provide mechanisms whereby Professors are acknowledged and rewarded while doing this work.

- e. Some KMb activities can be considered negative—not neutral, but negative, since you are not devoting time to your own research.

2. Capacity for KMb needs to be built

- a. KMb could involve team-work with colleagues from other departments. And we need more contacts across departments.
- b. Universities say they care about KMb but there are no current structures to actually support it.
- c. Professors are not trained to speak with media and journalists.

3. Lack of resources to maintain KMb

- a. Lack of money to do effective KMb is the biggest challenge.
- b. Having a KMb unit at UBC is not sustainable without adequate resources.
- c. Budgetary and physical constraints exist. There are no proper institutional grant allocations to perform KMb activities.

4. KMb is usually viewed too narrowly

- a. We tend to conflate KMb and publicity, but they are not the same.
- b. A university that professes to engage in KMb and doesn't have a local as well as a global focus, will be missing a big opportunity.
- c. Academics must unlearn. Why do we qualify some forms of knowledge as “traditional,” whereas we called what we produce just “knowledge”?
- d. The difficulty of putting social science into a natural science-derived framework for KMb is sometimes an exacerbating factor. There is a particular emphasis on natural and engineering science.
- e. It is important to recognize the Professor's role as a researcher, they are usually limited in terms of where they can have impact.

5. KMb takes time

- a. UBC needs to recognize that serious KMb implies time, sometimes more than the timeline expressed on paper.
- b. To do quality KMb research with the community (co-production or integrated models), requires time, and it cannot be done quickly. Time needs to be taken to build relationships.
- c. KMb activities require time, e.g. the amount of work that goes into preparing to meet with a Minister is significant and it gets recorded nowhere.

6. Ideally there will be a culture of KMb

- a. Some traditional departments are not interested in KMb; recently created departments are more open.
- b. University culture still rewards solo -minded mentality as opposed to collaborative approaches.
- c. We should be allowed to hire applied researchers or professionals with excellent communication/engagement skills; however, there are administrative barriers to it.
- d. Some departments think that KMb activities destroy research productivity.

7. KMb is an area that needs research

- a. We must assess the impact of KMb activities. UBC needs to have the conversation about impact.
- b. KMb might sometimes not work. You might not get a result. It involves not getting discouraged and go back and try again. (Need to incorporate a risk taking mentality).

- c. Some types of impact do not have permanence, like “progress” that might not be consistent.
- d. Funding agencies ask Professors to predict what very specific outcomes will be and Professors might not be able to predict all of these.
- e. UBC should conduct a systematic study to determine the indicators to measure impact and the role that professors play in it.
- f. Sometimes if your goals do not align with political agendas, politicians might not be willing to listen.

Again, participant’s ideas, comments and insights were analyzed by the researcher with the support of Professor Quayle and Matthew MacLennan who were involved in many of the data collection sessions. Overall, qualitative data coding techniques were applied for in-depth analysis of multi-point data such as audio, written materials, social media, and institutional reports. Exercises of triangulation were used in order to enhance validity of the presented findings, and its publication in the Enhancing KMB@ UBC preliminary output of this research.

It is important to note that at this point of the research, preliminary thinking on the notion of a broader institutional framework for UBC was being developed.. Professors and staff expressed a vision that knowledge mobilization efforts could constitute an opportunity for a UBC to send a clear message that engaging in this type of work will also be a priority, and that UBC is taking the necessary steps in order to achieve this goal. Another important result of this phase was to explore in detail the type of challenges expressed by professors and staff. This analysis served as a starting point to build an institutional framework that would tackle the issues presented by internal actors. On this, there were early discussions on some of the forms that this

organizational framework or unit might take. For instance, at this phase of the research, the idea of a unit that works as a “hub + spoke” was conceived; an idea that will become instrumental to further phases of this research.

5.1.2 Co-Creating the UBC Knowledge Exchange (Kx): Phase Two

Phase Two of data collection was intended to build on the ideas presented by the 37 consulted professors and staff from Phase One, and to extend the research while engaging UBC partners or external stakeholders. These efforts involved working with participants from both Vancouver and the Okanagan campus.

In order to tackle the objective to meet UBC partners, it was important to create a small working group that might serve as preliminary advisory group with different tasks:

Task 1: Provide external partner suggestions on who to contact, providing a rationale of current or previous involvement with UBC.

Task 2: Discuss the findings of the Enhancing KMb@UBC report and complement these results with further thoughts and insights. Serve as an advisory board in thinking and decision-making around the integration of data coming from the external actors/organizations.

Task 3: Advise on the final conclusions of the subsequent report known as Co-Creating the UBC Knowledge Exchange.

The creation of the UBC Kx Circle took place in July 2017 while inviting a diverse group from faculties and units reflecting the diversity of UBC community. For instance, in addition to measures to achieve gender diversity, there were particular efforts to include Health Sciences experts, faculty from UBC Okanagan, and graduate students views.

The following is the list of the UBC Kx Circle members organized by last name:

| | Name | Last Name | Affiliation |
|----|-------------|------------------|---|
| 1 | Lerato | Chondoma | VPRI - Indigenous Research Support Network |
| 2 | Keith | Culver | UBC Okanagan Faculty of Management |
| 3 | Michael | Griffin | Department of Philosophy |
| 4 | Paul | Kershaw | SPPH - School of Population and Public Health |
| 5 | Linda | Li | Faculty of Medicine |
| 6 | Karon | MacLean | Department of Computer Science |
| 7 | Nicholas | McGregor | Graduate Student |
| 8 | Stephen | Sheppard | Faculty of Forestry |
| 9 | Michelle | Stack | Faculty of Education |
| 10 | Po On | Yeung | VPRI-Business and Innovation Development |

Table 5.2 The UBC Kx Circle members

During the first meeting of the Kx Circle, members were informed about the interest from UBC to continue exploring the idea of investing in a UBC Knowledge Mobilization / Knowledge Exchange structure, keeping in mind the previously generated insights and feedback. The next important task was to identify external partners as well as faculty members that the researcher should also engage in Vancouver, Kelowna and other settings—this decision was oriented to try to include both campus perspectives and a more inclusive (disciplinary) approach, reflecting a diversity of partners and geographical contexts.

A clear methodological consideration while engaging with external partners was the objective of achieving a diverse balance of representatives from different domains. Therefore outreach efforts by necessity included participants from government, industry, NGOs, and civil society.

After the initial meeting with the Kx Circle and obtaining names from current or previous stakeholders that could provide good insights, it was decided to contact UBC partners for an opportunity to meet and to engage through a studio work session while continuing to use participatory design research tools.

Two sessions were planned for August 2017. In order to respond to the geographical challenges of distance from off-campus partners at the Point Grey campus of UBC Vancouver, it was decided to conduct the sessions at UBC Robson Square (a UBC facility located at the heart of Vancouver downtown, easy to reach by people working or living closer to Vancouver downtown). Two similar sessions were conducted by the researcher with supervision from Professor Moura Quayle and Matthew MacLennan for research support. Two-hour sessions were planned in order to work with Strategic Design tools and receive as much possible feedback on various perspectives of a forthcoming institutional framework.

The sessions (more information on these sessions can be further found on Appendix A) opened with an explanation of the purpose and possible impact of the input being received. It also addressed the importance of participants situating themselves in a creative mindset while working with others in the creation of ideas and elements that could support UBC becoming a better research partner. Participants were informed about the expectations of a Strategic Design session held through studio work, explaining that: (1) collaboration is expected; (2) open ideas can be freely expressed and taken into full consideration; and, (3) there are no right or wrong answers. Indeed, the facilitator encouraged them to think creatively, acknowledging that the relationship of academia and different sectors can involve great potential as well as challenges. It was stated and reiterated throughout the session that every participant contributes with a unique approach and activities were designed deliberately to be open to a very diverse set of ideas and perspectives.

Following this explanation, the facilitator opened the session with a two-part warm-up: a personal reflection on experiences, both positive and negative, working with UBC research or engaging directly with UBC researchers followed by a request to select three thoughts or comments and share them with the group using post-it notes.

The output of this exercise was over 50 ideas or comments about their experiences as UBC partners.

A visual representation of this exercise is showed below:



Photo 5.1 Warm up Exercise Likes and Dislikes while Engaging with UBC research; photo by Marcelo Bravo

Some of the main ideas collected through this warm up / participatory exercise were clustered and presented below and using the language of participants:

+ Positive / Likes or Love

| |
|--|
| 1. Engaging with UBC serves us by pushing the boundaries of ideas |
| 2. It's imaginative and sparks new areas of research / investigation |
| 3. It serves to develop a full understanding of a problem |
| 4. It is good to know that someone has spent a lot of time exploring a specific question |
| 5. It provides different sides to an argument |
| 6. It challenges assumptions and helps better understand complex issues |
| 7. Brings credibility and attention to an issue (if there is relevant research that is connected to the research need) |

- Negative / Dislike or Hate

| |
|--|
| 1. Closed culture of data sharing and engagement with policymakers |
| 2. Research can be disconnected from end-user or social research |
| 3. There is still a culture of one-way approach: "we give you knowledge" |
| 4. UBC is hard to navigate |
| 5. Academic language and jargon is extremely hard to decipher |
| 6. Academic research moves at a slower pace than industry or other sectors |
| 7. Things can get complex quickly |

Overall, this exercise was helpful in preparing the group for further thinking about the opportunities and challenges of engaging with UBC research and researchers. A collective effort was dedicated to the clustering of ideas into themes which included the **challenges**:

- Difficulty of accessing knowledge and or experts,
- Problem of jargon,

- Type of outputs (lengthy specialized manuscripts or papers),
- Pre-established cultures of UBC researchers with a particular “way of doing things” that doesn’t adapt well to the partners’ tangible research needs,
- Issue of UBC researchers performing solo work and not connecting with other researchers who could contribute,
- Timing – pressure of time to get results, different that academia time; and,
- Overall communication and engagement culture.

On the other hand, participants were expressing hopes and potential for better engagement with UBC research and researchers, in terms of **opportunities** to:

- Explore the benefit of having access to world-class experts,
- Be open to new ideas and perspectives based on interacting with experts and or having access to leading research,
- Benefits of backing up decisions with the credibility that UBC research offers,
- Orient towards new avenues of thinking and with this, to be able to develop new initiatives programs and services,
- Being supportive of Masters and PhD students—and witnessing their passion on certain topics; and,
- Feeling included as a partner of UBC and supporting world class research.

After the described participatory warm-up, the first tool used to engage participants was the “Empathy Map”. Empathy maps are a well-known strategic design or design thinking tool; an empathy map is a design-centred exploratory visual tool that serves to uncover and bring to analysis reported and unreported features about a current or potential user of a service, product, process, or policy experience (Kumar, 2013; Martin & Hanington, 2012). Empathy maps are used by designers or design centred teams to explore diverse mindsets based on known facts as well as digging into aspects of likeness or not based on actual interaction with a service or product. Empathy maps are about immersing oneself into the life of a given person or persona while trying to recreate her/his experience involving positive and negative feedback based on their particular journey based on experience. The four main foci of an Empathy map are guided by describing what a user might “Think”, “Do”, “See”, and “Hear” on a particular experience service or product experience. Usually Empathy Maps attempt to synthesize the user experience with the topics of user “Pain” and “Gains”. The “Gains” describe an expected ideal result of the experience, in other words, what does success look like? And the “Pains” are challenges or problems, barriers or obstacles that might appear along the way and have the potential to dis-engage participants and or hindrance a positive experience.

The facilitator explained the purpose of this activity asking participants to reflect on their own personal experience or use a created persona in case they were more comfortable expressing opinions and deploying journeys and experiences coming from a colleague or an alternative user.

Consequently, participants were given the Empathy Map adapted to “Actors / Users of Knowledge” and were asked to write and develop four main quadrants based from the following overarching questions:

- 1-What are your research needs?
- 2-What different roles does research play in your work life?
- 3-What is the process for accessing research at your organization?
- 4-What do you hear about accessing research at UBC?

Pains:

What frustrates you about accessing research?

Gains:

What are the measures of success in using knowledge or research?

The following is an example of Empathy Maps filled out by the participants:

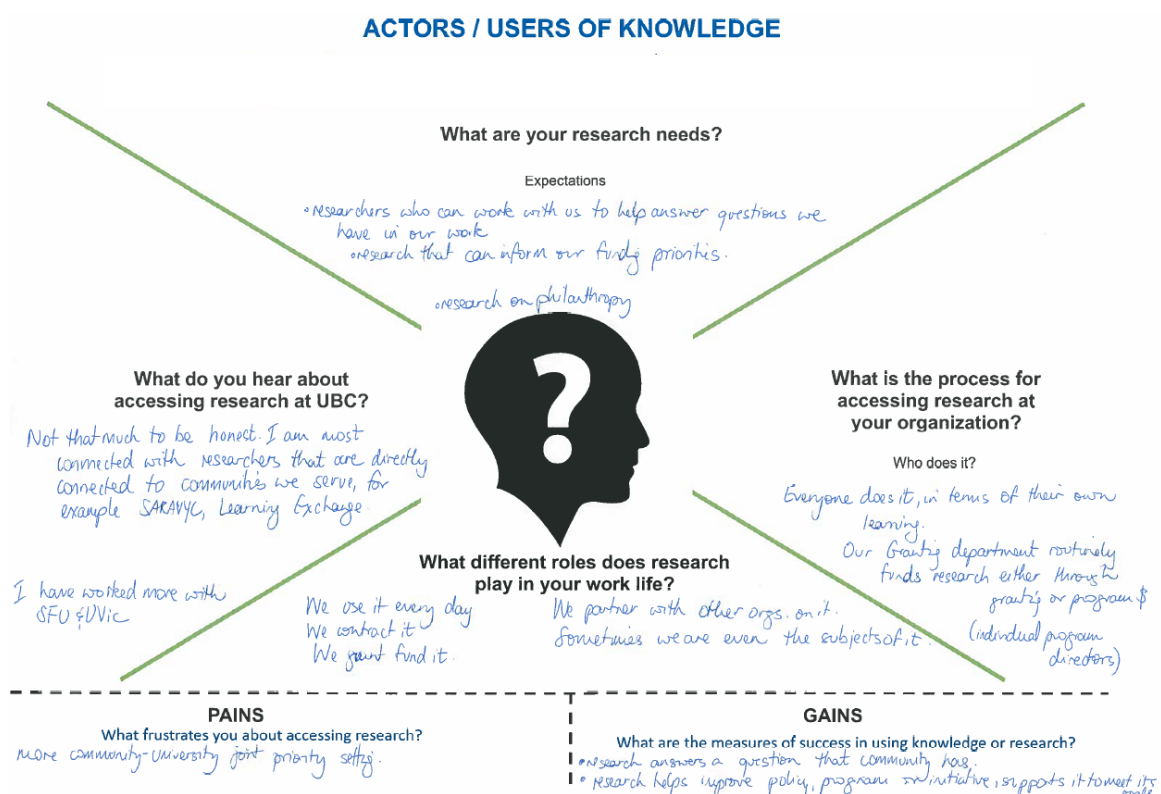


Figure 5.5 Example of Empathy Maps

While participants were elaborating on the Empathy Maps both the facilitator as well as the research team were interacting with the participants to explain or clarify the use of some terms. When workshop participants work on Empathy Maps, there is sometimes a tendency to provide the answers in an expected “correct” way. To counteract this behavior, the facilitator and research team needed to stress the importance of capturing true experiences, insights and vision, emphasizing that the process seeks a diversity of opinions.

On completion of the Empathy Maps, participants were invited to share with the full group. An expression common to participants was: “I understood this question from my perspective as user, or as a manager or as a public servant, etc.—In my own experience using these tools, I have found that there is a natural tendency to justify their own opinions as if a lived experience might be judged as subjective data, something that might represent a particular view but that have to be taken “within perspective”. As explained in Chapter 4, the richness of using participatory design approaches is that they aim to integrate a breadth of possible facts and insights. Diversity is important, particularly with current and future expectations on design and adaptability of services.

The following is a representation of the data derived from this exercise, clustered as positive or successful experiences (Gains) and problems (Pains) or areas of opportunity for UBC research and researchers.

“Gains”

- ✓ Research helps improve policy, program or initiative supports it to meet its goals,
- ✓ Decisions are evidence-based,

- ✓ To access talent (students, faculty), co-funding, grant applications, speakers, public lectures, equipment,
- ✓ To stay informed on what is happening at UBC, and to better serve the university community,
- ✓ Work with UBC. It is an important partner,
- ✓ I know that CiRCLE* exists and UBC encourages submitting research to it,
- ✓ Neutrality and comprehension on a given topic,
- ✓ Our clients enjoy having a professor walk through the research with them,
- ✓ Involved in the production of knowledge; and,
- ✓ Change of our understanding and change of our actions.

*CiRCLE is the UBC official electronic repository of dissertations and selected academic works. It can be accessed online here: <https://circle.ubc.ca/>

“Pains” reported by participants:

- ☒ There is a lack of collaborative environment within department, faculty, campus,
- ☒ Not guidance knowing where to go, who is doing what? and what is the relevance to me?,
- ☒ Not sure where to start,
- ☒ There is a lack of open access,
- ☒ Don't know where you can find all access channels,
- ☒ It takes knowledge of a particular department, as well as developing one-on-one relationships and frequent communication to stay up to speed on research; and,
- ☒ Entry point, not knowing who do I talk to?,

- ☒ I personally don't know much if anything about how someone accesses research at UBC,
- ☒ Clients would rather listen to a twenty-minute presentation than read a fifty page report; and,
- ☒ Different UBC units don't seem to talk to each other.

Overall, this exercise was useful in (1) portraying specific user needs while identifying converging and diverging types of use, (2) exploring current as well as potential value of incorporating research to back up existing services, products and policies, and, (3) exploring external communities expectations of UBC and research.

The main purpose of this exercise was to elaborate on the potential of alternative ways for UBC to engage with partners.

The second Strategic Design tool applied during the session with external partners was the “Service Journey”. A Service journey, User journey or Experience Map as it is also called, is a tool used in service design research that allows teams to think, design, and visualize a current or future service through steps, main activities, and timelines (Kumar, 2013; Martin & Hanington, 2012). A service journey includes mandatory elements or “*must haves*” as well as elements referred as “*nice to have*”, which relate to desirable processes or activities to enhance the experience or value provided to the user. A service journey could also integrate elements classified as pre-service, service and post-service, these time configurations allow the research team the ability to analyze the necessary conditions and the sequence of possible events.

A Service Journey invites the mapping of certain specific elements within a broader set of services, a hierarchy of process within a broader field of action. Further exploration of service journeys or experience maps can also lead to diagram flows as well as developing types of indicators to include a perspective of improvement and organizational learning.

The following is a representation of several Service Journeys created by participants; it is relevant to note that in the first example, participants started to visualize the role that Universities play in a broader set of services to industries, government and the public. Various elements such as statistics, GIS services, solution-oriented research, planning city infrastructure, as well as entrepreneurship opportunities are reflected on it.

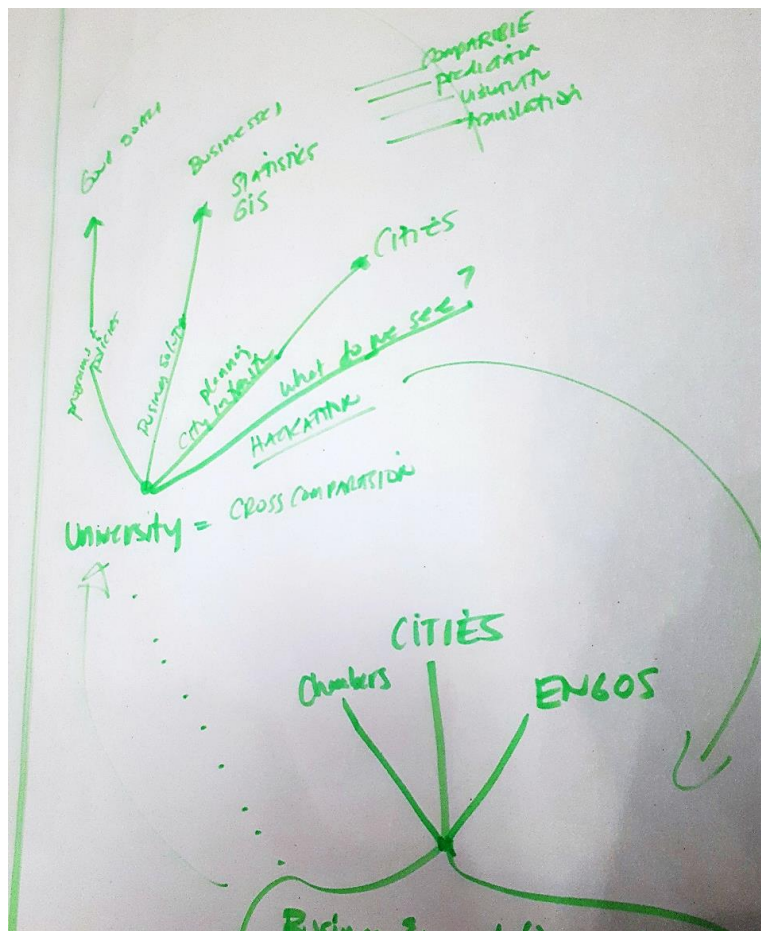


Photo 5.2 Example of Service Journey 1. Photo by Marcelo Bravo

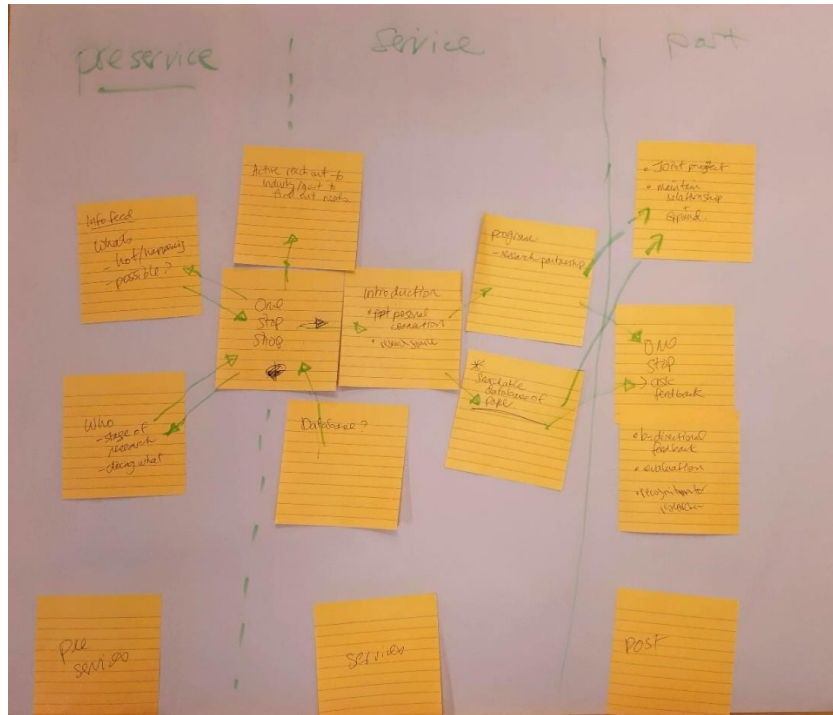


Photo 5.3 Example of Service Journey 2. Photo by Marcelo Bravo

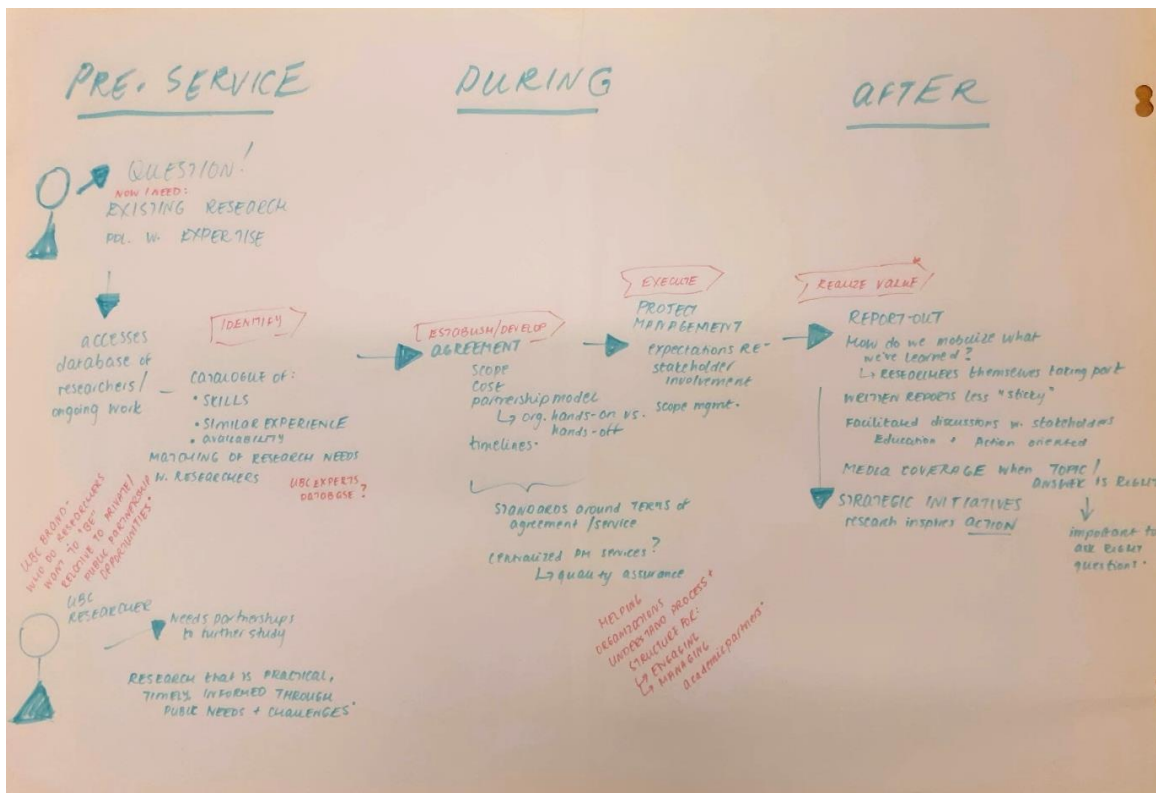


Photo 5.4 Example of Service Journey 3. Photo by Marcelo Bravo

The sessions ended with an open plenary session discussing expectations for UBC on the topic of knowledge mobilization.

Overall participants mentioned that they found it encouraging that UBC was genuinely interested in developing the idea of KMb; some were particularly keen to work with UBC on co-developing these services based on current experiences, as well as comparing UBC research culture in contrast with other local and regional universities. For instance, some participants were keen to recognize that although UBC is BC's premier university, its level of engagement with local or provincial partners was found to be less intensive compared to other players.

The topic of accessibility also was raised: in addition to access to research, participants expressed that the actual travelling and logistics to go to UBC to engage in activities and with researchers was burdensome, and thus encouraged the consideration of increasing UBC's physical presence in downtown Vancouver. Participants are apparently expecting that research engagement can work both ways, partners visiting universities, as well as partners receiving colleagues from universities.

The idea of working with researchers including interns and graduate students as well as working with professors on shared research agendas were ideas that resonated well with participants. This confirmed the need for student talent as well as expertise. Importantly, mere access to journals and or publications was not enough, the human component was mentioned several times as something that UBC has to work on, including mechanisms that can enhance a culture of collaboration through research partnerships.

The idea of a Knowledge Mobilization / Exchange Unit under the umbrella of innovation services got considerable traction. Participants indicated the value of a research culture –however they are also aware that UBC can do more in terms of improving the broad spectrum of ways to better connect with partners and stakeholders. It was positive that participants confirmed the potential to connect through research services in a scheme of relationship-oriented partnerships. An early notion of the role that knowledge brokering can play in these service got traction too. There was considerable buy-in around the idea of professionals in charge of facilitating these connections, especially people who are both knowledgeable about certain research domains as well as knowing the wider spectrum of UBC endeavors.

Finally, the idea of research that could increase impacts through the active participation of stakeholders was shared supported by participants. They found it appealing to work in a more coordinated and engaged way with UBC. A time of strengthened relationships that leads to co-define research needs, research agendas and tackle together acute and applicable research needs was widely accepted.

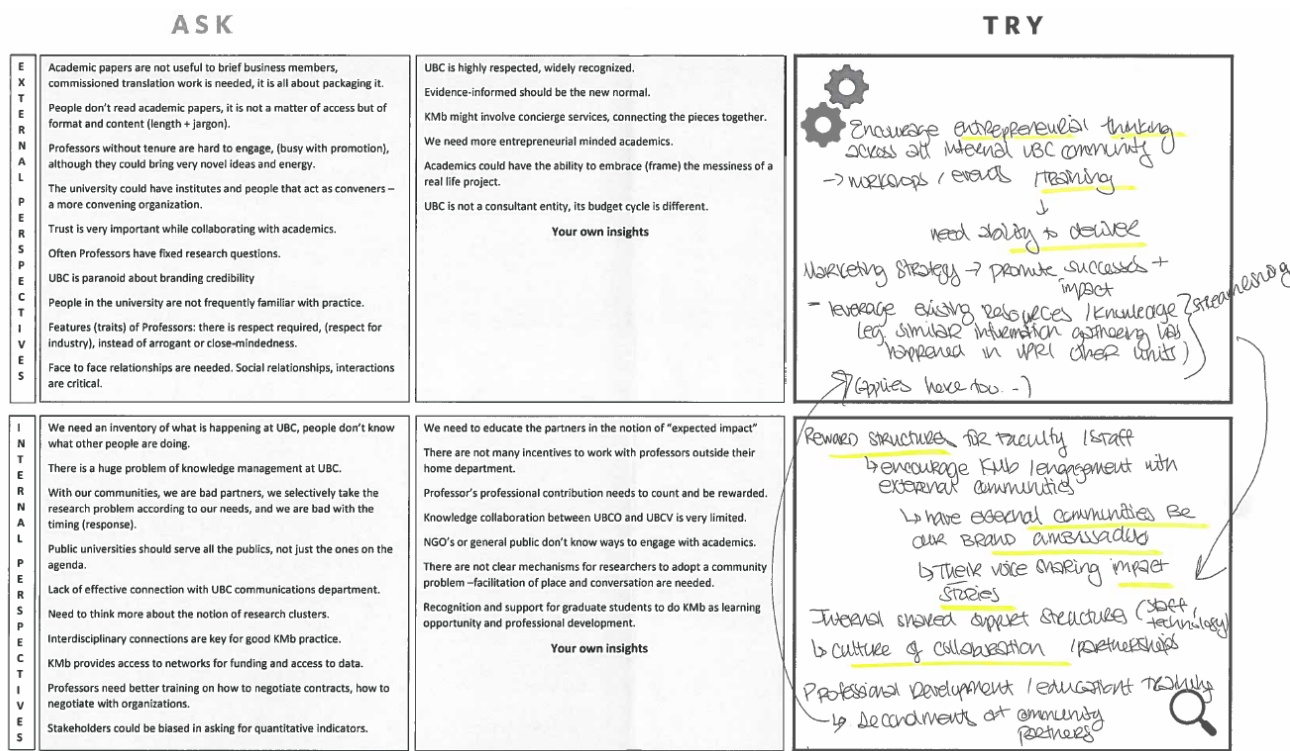
To conclude, the purpose of this chapter was to offer the reader the applied research methodology, tools chosen, and samples of data generated of Phase One and Phase Two of this work. Data and insights of this part can be considered foundational for the development of the proposed framework explained in detail in Chapter 6.

Chapter 6: Findings / Results / Developments

This chapter will address the process of the Co-designed UBC Knowledge Exchange institutional framework and a subsequent proposed organizational structure. It will introduce to the reader its core themes, main functions and key activities. Finally, it presents a planning Logic Model with the purpose of providing guidance and direction for developing further goals, strategies and activities to strengthen knowledge mobilization / exchange capacities at UBC.

6.1 Development of a UBC-wide Knowledge Exchange institutional framework

After the external consultations at UBC Robson Square site and UBC Okanagan, and based on the Kx Circle recommendations (Phases One and Two), I requested a follow up meeting with the Kx Circle to continue the research agenda. The following is an example of the Kx Circle decision-making canvas prepared for the October 2017 meetings.



Picture 6.1 The Kx Circle decision-making canvas. Design and Photo by Marcelo Bravo

The goal was to review the data and main themes that emerged through the eight-month process, from January 2017 to October 2017. As the canvas illustrates (Figure 6.1), the top row reflects a clustered yet at that time a “work-in progress” version of main insights presented by external participants, and the second row reflects the main insights expressed by the internal perspectives. During the October review meeting and the subsequent weeks, the Kx Circle participants were invited to provide critiques and to question some of these insights based on their own experience, as well as to challenge and to complement them through their disciplinary perspective. In addition, Kx Circle members got invited to also propose fresh ideas, and to allow themselves to think “outside the box” both in the session and through virtual means. It was the opportunity to start instilling an innovative culture of thinking that could shape the spirit and operationalization of KMb/ Kx. Finally, the task given was to integrate all of ideas and suggestions into now a more organizational shaped Kx framework. (As referred in the introduction, the VPRI considered relevant to use an inclusive language that could better resonate with the diversity of internal and external audiences; therefore during the course of this research, the term knowledge mobilization got gradually changed to knowledge exchange; consequently, this term is more explicitly used in this last part of this research).

Several points were discussed during this critical time in the UBC Knowledge Exchange development process (there were constraints of time and priorities proposed by UBC senior leadership, as the concept of the UBC Innovation Hub was underway). Interesting discussions and complexity were revealed in attempts to ensure an inclusive perspective; here the Kx Circle was keen to include a broad of KMb/Kx thinking coming from both the internal and external communities. Importantly, this was a pivotal point of discussions on the suggested organizational

form that a Kx framework would take —during this time, the idea of a highly collaborative “unit” that could work as a “hub+spoke” started to fully get traction amongst the Kx Circle and interested communities.

The idea of “**4 P’s**” framework integrating four core elements emerged as a way to conceptualize and integrate the data and summary of the diverse findings. The *4 P’s* are:

- *People*,
- *Place*,
- *Programs and Services*; and,
- *Prospective Research and Systems*.

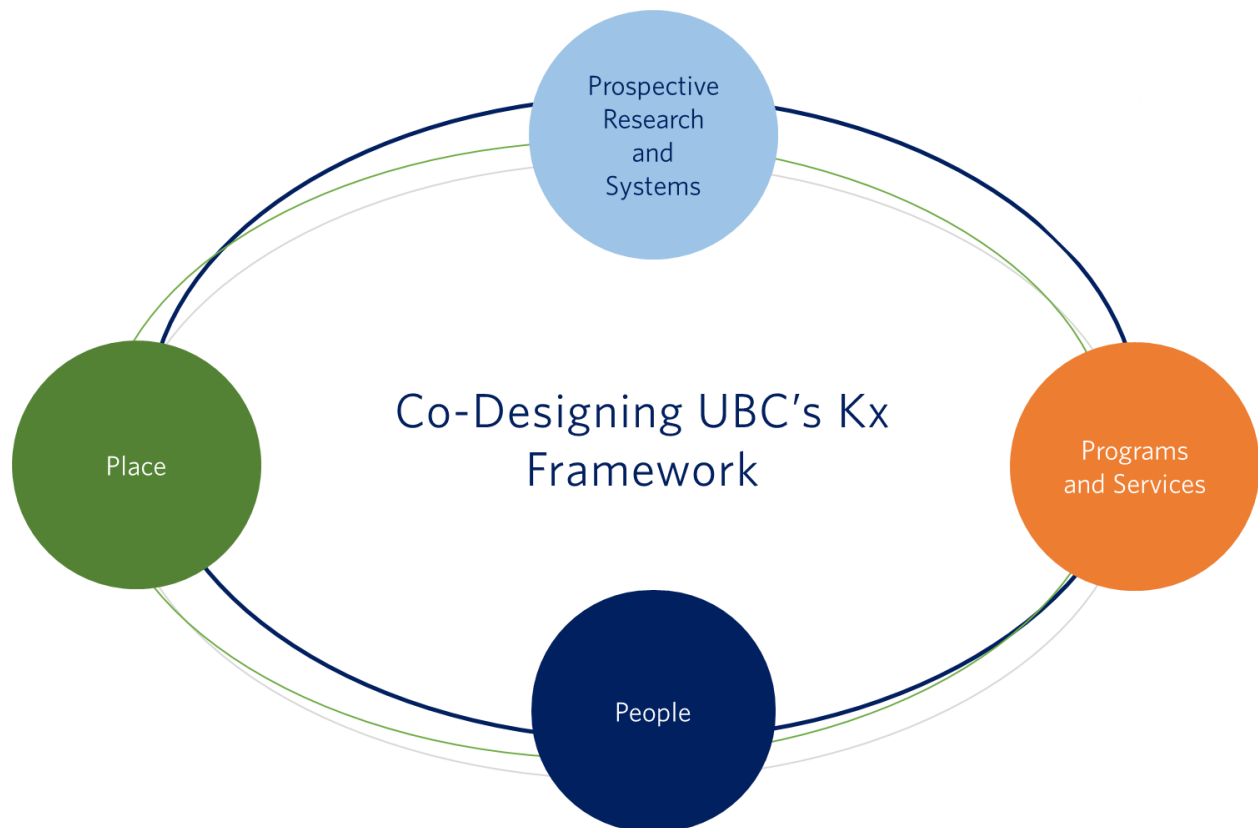


Figure 6.1 The proposed 4 P’s Integrated Framework

Figure 6.1 represents the interconnectedness, open and collaborative spectrum of the 4 P's. It starts with ***People***, that includes both UBC internal actors and UBC partners. Knowledge Mobilization has been described as a “team sport”, where people assume the roles of producers or co-producers of knowledge. On this theme, it is useful to think about the image of “Exchange” where people or actors meet and share knowledge for learning, growth, and exchanging both parties' expertise.

The second element, ***Place***, was a unique finding. Aspects of engagement, relationships, and eventually trust have the potential to improve knowledge exchange and mobilization dynamics. Participants, both internal and external, reflected on the need for “conducive spaces” that promote basic aspects of formal and informal socialization, discussions and learning.

The third component, summarized as ***Programs and Services***, speaks to the need to operationalize ways of enhancing operational programs and services, such as training, cluster and network support, and the allocation of funds for knowledge exchange activities in order to increase the Kx capacity development in UBC and its partners.

The fourth element integrated as ***Prospective Research and Systems***, includes both the current and future state of knowledge mobilization and exchange. The theme points to a practice level and culture that aims to be embedded within UBC research activities, current and future. Much has yet to be operationalized and further research must look at better ways to enhance change through research impacts. New models could look also at ways to capture change, and to develop systems that integrate these dynamics into what a research-intensive university must aspire to research impact excellence.

6.2 Exploring the insights that developed the four key themes.

This section portrays the findings and ideas that converged into the four themes named as: *People, Place, Programs and Services*; and, *Prospective Research and Systems*, developed by internal and external participants, and reported in Co-Creating the UBC Knowledge Exchange, second output of this research. These insights serve as a background to the proposed knowledge exchange framework and subsequent logic model.

In total there were 13 findings that reflected the integration from the internal and external insights and suggestions; it was interesting to capture high level aspects such as strategy or research, as well as practical needs such as guidelines and checklist for Kx oriented events.

- Knowledge Brokers

A distinctive feature of a knowledge exchange organization in a university is the presence of highly skilled professionals who work as knowledge brokers. The key role for these specialists is to foster and broker relationships that have the potential to create significant research impact. This aligns with the principle of having research partners outside of academia to increase the chance of uptake and use of knowledge.

- Training

Professors and graduate students expressed the need for education in KMb/Kx, looking for core skills and competencies. This includes training in aspects of knowledge exchange such as planning for impact, end-of-grant reports, consultations around the KMb/KE/KT/KTE components of research proposals, legal aspects of research, innovative ways to communicate research, as well as various professional skills. KMb/Kx training can also extend to partners or

users of research, oriented toward supporting capacity development, meeting information/knowledge demands, updates, and providing facilitation services.

- One-stop shop

One of the main opportunities for knowledge exchange lies in the need to have a centralized location, mainly physical but also virtual. Currently, there is no such recognized location at UBC. In addition, there is confusion on how to find experts and services through website searching. UBC external partners and stakeholders express their lack of understanding on how to find the right information, the right specialist, and the right program/discipline.

- Physical proximity

The idea of having more UBC activities located outside university premises got significant traction amongst many of the stakeholders, particularly with the downtown Vancouver community. According to participants, UBC's main Point Grey campus in Vancouver seems far away and logistically complicated as a destination. Having a more central convening space that can forge relationships and connections seems to have great potential.

- A convening place

A commonly expressed theme among the external communities consulted was consistent reference to the social aspect of knowledge exchange. There were many references to the need to foster the social side of research relationships, and one of the ways was to create a convening place. A central, hospitable location was suggested where knowledge partners and interested members of the public can meet with researchers or knowledge experts and discuss ways to

engage with UBC through consultation/use of research. A recent positive and ongoing development is that the UBC Innovation Hub already has a space at UBC Robson site.

- Knowledge translation services

A need was identified to develop services for published research to be translated into formats appropriate for external audiences. Knowledge translation services might integrate well-developed tools such as plain-language summaries, research snapshots, infographics, video, and digital applications. The UBC Knowledge Exchange must have the capacity to offer effective mechanisms and incentives to facilitate services. The unit will offer novel resources and approaches by reflecting on new distribution channels and creative ways of sharing knowledge.

- Support event organization & basic administration

A recurring theme expressed by the UBC internal groups was the administrative complexity involved in organizing events where Kx activities might take place. This challenge revolves around basic but key activities (that often reduce the participation costs of external partners) such as reserving physical space, dealing with parking permits, quick and easy reimbursements, etc.

- Faculty recognition and awards

One of the main barriers to Kx reported by faculty members is the lack of internal recognition of Kx activities. The UBC Knowledge Exchange might liaise with the Vice President Academic's office and the Faculty Association in order to develop ways to establish a recognized "knowledge exchange path" that could provide a recognized record of scholarly activity. The UBC Knowledge Exchange might also develop innovative ways to continue socializing the importance of knowledge exchange by providing a place on faculty CV's to record Kx activities.

- Liaison with UBC units and external organizations

There is an important opportunity for improving “knowledge management” from an organizational standpoint, to know “who is doing what,” and to develop mechanisms to partner with different UBC units/organizations, including UBC Vancouver and UBC Okanagan.

The UBC Knowledge Exchange should also maintain its close connections with Research Impact Canada, and other national and international organizations that inform best practices in knowledge mobilization and exchange.

- Measure impacts

One of the distinctive features of the UBC Knowledge Exchange might be to contribute to the scholarly work on determining appropriate metrics for capturing external research impact. This might be the result of national and international research and strategic internal consultations.

- Expand research of Kx

Multiple consultations with faculty and staff reflect the need to continue research into the field of knowledge exchange (e.g. study of organizational constructs, impact measurement, science policy, interdisciplinary research models, as well as new mechanisms to better serve the diverse and distinct audiences).

- Interdisciplinary and multidisciplinary clusters

Many external contacts reported interest in working with diverse groups of academics from various disciplines. The current disciplinary division of knowledge branches often represents a barrier to fully addressing complex problems proposed by stakeholders. Knowledge Exchange

could and should foster clusters of researchers by theme, discipline, geographies, types of research, and propose incentives that allow interdisciplinary work.

- Supports an innovative culture

UBC Knowledge Exchange should embrace a whole culture of innovation. It must have the flexibility to start pilot programs and to propose new ways to achieve impact, and to adapt to the needs of stakeholders.

Finally, the image below represents a visualization of the vision expressed in the UBC knowledge exchange framework, now operationalized in the form of a unit, or the Kx unit. It speaks of a highly collaborative space that might serve both physical as well as virtual space for knowledge exchange, the colors and shapes indicate the interconnectedness nature as well as diversity of the Kx dynamics.

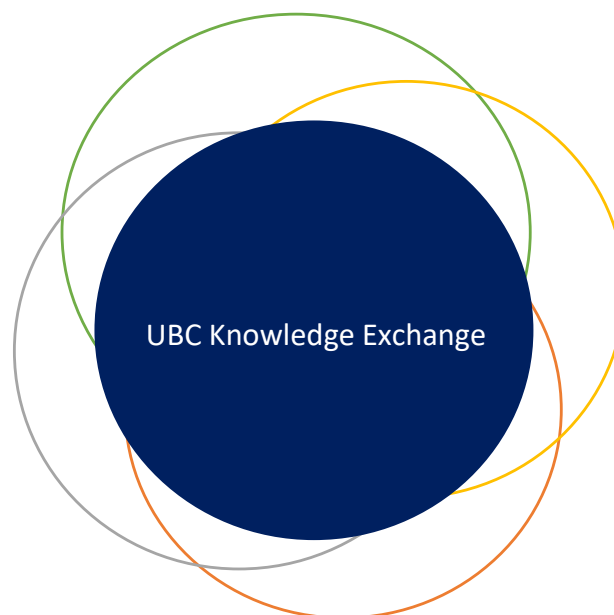


Figure 6.2 UBC Knowledge Exchange Visual Prototype

6.3 A proposed UBC Knowledge Exchange (Kx) Structure, Service and features

This section is the product of the integrated insights described in the previous section. As a result of input from this research and engagement in the co-creative process, a structure was proposed for a UBC Kx unit that will benefit from the 4 co-developed pillars or 4 P's. The operational structure is composed of specific as well as cross-shared functions. The structure should allow and be benefited by intense collaboration with other positions at the Innovation Hub, in addition to other UBC departments and centres.

| Positions | Overview of roles |
|-----------------------------|--|
| Kx Director | <ul style="list-style-type: none">• Oversees the overall strategies and management of Kx at UBC;• Works to develop synergies, and programs to enhance Kx services;• Maintains close communication with the VP Academic; Deans and School Directors, as well as leaders of external communities; and• Represents UBC in Research Impact Canada and supports the ongoing operationalization and internationalization of knowledge exchange; and,• Supports brokering services. |
| Kx Broker | <ul style="list-style-type: none">• Finds faculty and graduate students to perform research on a specific topic/problem;• Finds external partners that could support ongoing or future research;• Works with the external stakeholders to reframe knowledge needs into research opportunities, defines roles, functions, and commitments;• Assist faculty and graduate students in Kx planning, grant seeking and impact case studies reporting; and,• Supports the organization of Kx events. |
| Kx Communication specialist | <ul style="list-style-type: none">• Oversees and supports varied knowledge translation services;• Develops and maintains the Kx website and plain language summaries;• Coordinates with UBC Communications and Marketing and |

| | |
|---|---|
| | other related departments with regards to external and public affairs for institutional campaigns and branding efforts; and supports brokering services. |
| Scholarship of Knowledge Mobilization Research Lead + Research assistant | <ul style="list-style-type: none"> • Researches metrics development in consultation with experts, and Kx brokers; • Conducts systematic assessments of reported evidence such as impact case studies; and, • Develops protocols for Kx evaluation in new mediums (big data, digital opportunities, etc). |
| Front desk | <ul style="list-style-type: none"> • Welcomes visitors to the UBC Knowledge Exchange; and; • Receives and classifies request of Kx support (telephone and email). |
| Administrative assistant | <ul style="list-style-type: none"> • Assists Kx coordinators and Kx brokers with logistics and administrative tasks; and, • Supports organizations of events. |

Table 6.1 Knowledge Exchange proposed positions and roles

Note: The initial operation of the UBC Kx unit is expected to reflect a synergistic culture and continue to evolve progressively based on its internal positioning and expected growth in demand for services.

6.4 Distinctive features and Value Proposition of the Knowledge Exchange (Kx) unit:

The UBC Knowledge Exchange Unit has been conceived within an innovative and forward looking mindset, it is expected to be a solution of the current Kx expressed needs but importantly, it positions Kx as one of the desirable futures for UBC and other universities. Participants expressed the need for universities to adapt to new trends of collaboration, specialized services, and increased engagement with a vast array of partners, both inside and outside of university.

The following represents the distinctive features for the UBC Knowledge Exchange:

- The Knowledge Exchange (Kx) unit is a place for community inquiry that supports knowledge access and expert consultation,
- It integrates a unique body of knowledge brokers, including specialized staff members working closely with faculty and other UBC staff,
- It trains faculty and graduate students in Kx planning, preparation and reporting,
- It provides knowledge translation services,
- It measures and researches the non-academic impact of academic research to different audiences; and,
- It liaises with UBC units, departments and other organizations, promoting synergies and collaborative efforts.

The UBC Kx Unit value proposition:

- UBC Knowledge Exchange is the result of a Co-Designed approach: it integrates diverse perspectives from different communities of UBC and its stakeholders,
- The UBC Knowledge Exchange is proposed as a “hub + spoke” model, maintaining a centralized innovative body (“UBC Knowledge Exchange”) and “spokes” which would be the people/groups dedicated to Kx, located in UBC faculties, that might be organized as clusters; and,
- The UBC Knowledge Exchange will be a highly innovative space oriented to the brokerage of relations and creation of new initiatives and programs to maximize the value of research impact; and it will be a unique collaborator in the UBC Innovation Hub. The UBC Knowledge Exchange will benefit from the current expertise of the UBC Innovation Hub units.

6.5 A Logic Model for the UBC Knowledge Exchange: Phase Three of Research

The main purpose of embarking on a logic model as Phase Three of the research was to support the design and planning purposes of the proposed the UBC Knowledge Exchange. According to Knowlton and Phillips (2013), logic models may be used for different purposes such as design, planning, communication, evaluation and organizational learning. A proposed first attempt of a logic model is a deliverable that responds to expressed comments from the Co-Designing the UBC Knowledge Exchange study participants. For instance, participants argued that further design steps should be structured and operationalized, taking into consideration that new UBC Kx unit might need a strong rationale to demonstrate and socialize its emerging role both inside and outside of UBC.

Undoubtably, the strongest case can be made by “targeting research impacts” and “leveraging the importance” of knowledge exchange in UBC since it supports both the research competitiveness and the institution’s public responsibility. Consequently, the proposed planning logic model represents an extended theory of change indicating the main areas, goals and strategies that the unit could embrace incorporating its embedded action oriented framework or “theory of change”. As argued by Funnel and Rogers (2011), a program theory or theory of change must demonstrate a clear pathway to a desired impact. To develop a logic model, participants need to understand the nature of activities and its subsequent results, and the importance of their direct link to outcomes. Outcomes are traditionally associated within the “ impact” domain which must clearly articulate the type of change and the groups or beneficiaries that are expected to be impacted by these impacts. Participant therefore, are required to complete a thorough analysis of

activities, results, short term and, long term outcomes, and throughout this process, to support the identification of “value creation” of an organization or program.

According to Quinn Patton’s classification of program theories, the UBC Kx unit logic model incorporates a user-focused approach. “User focused approach [refers to] working with intended users to extract and specify their implicit theory of action” (1997, p. 223). This involves exploring assumptions, as well as current institutional constraints and opportunities to justify investments and the global “role and value proposition” of the new knowledge exchange unit. Critiques of logic models argue of its excessive and constrained linearity that the model represents, as well as its lack of explicit dependability sequence, therefore one activity might be depending on the other in order to facilitate specific results or outcomes. Another limitation of logic models rely on the captured “contextuality” therefore being a planning instrument based on current internal and external forces, hence this instrument needs to be seen as an evolving and adaptable model that might receive adaptations particularly at the incipient stages of an organization. Nonetheless, Logic Models offer the advantage and encourage participants to understand opportunities and threats that could either enhance or become a hindrance on the organization’s goals, therefore being a useful instrument for thinking and team planning.


In order to develop the UBC Kx logic model, a preliminary vision and mission were created. These respond to the expectations expressed by participants while embracing a positive outlook for the future of the unit. This outlook also reflects the current timing and opportunity for the knowledge exchange unit while being created in a time of important institutional advances such as the UBC Innovation Hub developments and its collaborative opportunities.




Vision:

A globally recognized leader in knowledge exchange that enhances research impacts and drives social innovation.




Mission statement:



The UBC Knowledge Exchange advances knowledge mobilization initiatives and supports social innovation programs through excellence in brokering, training, leadership, and research & development enhancing UBC’s public responsibility and research competitiveness.

| STREAMS & GOALS | | STRATEGIES | ACTIVITIES | OUTPUT | | SHORT TERM OUTCOME | LONG TERM OUTCOME | VISION |
|--|-----|--|---|--|---|---|--|---|
| | | | WHAT? | RESULTS | | IMPACT | IMPACT | |
| <div>Component 1</div> <div>BROKERING</div> <div>Goal: Identify and develop research partnerships through excellence in “brokering services” for research impact.</div> | I&E | To identify and facilitate connections between researchers and partners to foster research partnerships. | Perform an environmental scan, identify current and potential Kx partners. | A database and report of potential partners is completed. |  | Kx administrators have aggregated data on current and potential Kx projects. | The UBC Knowledge Exchange is positioned as a leader in evidence-based brokering practices. | The UBC Knowledge Exchange is a globally recognized leader in knowledge exchange that enhances research impacts and drives social innovation. |
| | I&E | To develop a diverse network of strategic partners | Contact current and potential partners to introduce UBC Knowledge Exchange. | A report that captures current and potential interest of partners is elaborated. | | External publics start to recognize UBC Knowledge Exchange as partner in brokering and Kx services. | | |
| | E | To identify research needs by sectors and key capacity development requirements. | Apply a protocol for brokering and data collection. | A protocol for partnership and services management is applied, it informs and extends current brokerage potential and needs. | | External partners work with UBC on Kx partnerships. | A diverse and engaged network of partners benefit from the UBC Knowledge exchange programs and services/ | |

| | | | | | | | | |
|---|-----|--|---|---|---|--|---|---|
| <p>Component 2 TRAINING</p> <p>Goal: Support KMb/Kx training needs serving faculty, graduate students and partners.</p> | I | Identify “impact literacy” needs and incentives for UBC faculty and graduate students to participate in KMb initiatives. | Identify “impact literacy” needs by publics: graduate students and faculty. | A report that identifies and analyzes the types of educational KMb/ Kx needs is elaborated and presented to Kx Associate Director. |  | Kx administrators and relevant UBC stakeholders develop strategies to enhance “impact literacy”. | A culture of knowledge mobilization and exchange is present in UBC and its research partners. | |
| | I&E | Work with partners to develop materials and resources for KMb training purposes. | Develop a first impact literacy and planning workshop. | A first generation of training materials is elaborated and tested in collaboration with UBC & partners such as UBC CTLT, RIC Canada, MSFHR, and others. | | New UBC training materials are regularly developed and scheduled in Kx training series. | | |
| | I | Offer state of the art training services to support knowledge mobilization capacity building. | Kx & partners to offer a suite of knowledge mobilization workshops and consultations for grant proposals. | Knowledge mobilization workshops are implemented by Kx and partners, these serve faculty, graduate students and partners. | | Knowledge mobilization and impact literacy capacities are identifiable and observable amongst trained participants. UBC is recognized a leader in Kx training. | | |
| <p>Component 3 STRATEGIC LEADERSHIP</p> <p>Goal: To lead and position the UBC Knowledge Exchange as key player in achieving social innovation and research impact.</p> | I | Identify, study and develop KMb/Kx merit recognition criteria towards Tenure and Promotion (T&P) | Perform an environmental scan (national and international) of current practices of Tenure & Promotion that includes a knowledge mobilization perspective. | An environmental scan report that includes current systems of academic T&P is generated. |  | Knowledge mobilization/exchange scholarly activities are identified, valued and recognized. | Knowledge mobilization practice and merit recognition is present and valued at UBC. |  |

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| | I | Socialize the idea and potential of Kx for research competitiveness and public responsibility | Kx leader to work in coordination with the VP Academic, Deans and Heads of Schools to develop criteria for Promotion & Tenure recognizing and incorporating knowledge mobilization outputs. | Action plan to discuss P&T and the role that knowledge mobilization perspective could play on it is elaborated. | | Knowledge mobilization activities performed by faculty are considered for merit and promotion. | Knowledge mobilization activities and scholarship is engrained in UBC's research culture. | |
| | I&E | | Represent the UBC Knowledge Exchange among different groups of stakeholders and strategic events. | Presentations and meetings (potential for collaborative engagement) that supports new and continuous engagement from strategic partners are performed. | ➤ | A new generation of interdisciplinary research groups are supported through Knowledge Exchange mechanisms | A cross-disciplinary and interdisciplinary culture of research in UBC is identifiable, tracked and valued. | |
| | I | Enhance the culture of interdisciplinary Kx oriented groups and community practices. | Support the development of cross-disciplinary groups of research. Lead the development of communities of practice. | Problem oriented cross-disciplinary teams are supported by the UBC Kx. First Kx community of practice is in place. | ➤ | | | |
| <p>Component 4*</p> <p>RESEARCH & DEVELOPMENT</p> <p>Goal: Capture the impact of research, develop new programs and expand the</p> | I | Develop research methodologies and systems to effectively capture research impacts. | Design, test and experiment protocols to capture & assess research impacts. | A first generation of protocols for capturing and assess the impact of research is implemented. | | Research Impact data is collected and analyzed for Kx program development and institutional reporting. | UBC systematically captures research impact while strengthening its international leadership in Knowledge Exchange and Mobilization. | |
| | I | Serve as a platform for program design, prototypes and pilots for research | Design and develop a protocol for brokering and data collection. | A first Kx protocol for brokering and data collection is developed, it includes both | ➤ | UBC Knowledge Exchange experiments and designs a new | | |

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| scholarship of knowledge mobilization. | | impact initiatives locally and digitally. | | UBC guidelines on effective partner engagement and external “best practices” in data collection / engagement. | | generation of programs and applications for knowledge mobilization. | UBC Knowledge Exchange is recognized globally for its innovative culture and the value added to its initiatives and programs. |  |
| | I&E | Work with Canadian and global experts to expand Kx tool developments and the Scholarship of Knowledge Mobilization. | <p>Develop a survey + interview protocol to identify “impact literacy” needs.</p> <p>Design a series of mechanisms to capture the nature of “research needs” in UBC non-academic partners.</p> <p>Work with Research Impact Canada and other collaborators for new programs being designed and tested.</p> | <p>A report that includes “impact literacy” needs is developed.</p> <p>A report that includes a first exploration of knowledge needs in partners is generated.</p> <p>New opportunities for projects with Canadian and internarial partners are in place.</p> |  | <p>Increased collaboration with the Research Impact Canada members leading to position the UBC Knowledge Exchange as leader in KMb research and services.</p> | <p>A culture of collaboration and shared innovation is in place benefiting UBC and its global partners.</p> | |
| <p>Component 5*</p> <p>SUPPORT SERVICES</p> <p>Goal: Provide outstanding consulting support services that adds value to Kx activities in collaboration with other UBC units.</p> | I | Support administrative guidance for quality Kx oriented events. | <p>Provide consultations and guidance on the planning of Kx oriented events.</p> <p>Articulate, provide input and liaise to appropriate UBC resources.</p> | <p>Number of consultations and feedback from users is systematically captured and analyzed.</p> <p>The KX units offers and integrated guidance with the support of various UBC units and departments</p> |  | Users benefit from consultation and best practices that elevates the Kx profile of their events. | A culture of quality organized events is fostered through the collaborative work of UBC Knowledge Exchange and its partners. | |

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| | I&E | Provide scientific knowledge translation consulting services to members of UBC community and partners. | Work with UBC partners to facilitate specialized communication services. | Knowledge translation materials and communication assistance is supported by Kx and communication partners. |  | UBC translated knowledge is available and understood by key audiences. | UBC knowledge is deemed relevant and serves as a driver for social innovation. |  |
| | <p>Notes:</p> <p>(1) The * mark represents components that might be developed and operated in close synergy with other units within the Innovation Hub; the UBC Kx is positioned to build on current resources and embed a culture of effective collaborations.</p> <p>(2) The proposed strategies and activities per component are not meant to be prescriptive, these are indicative based on the feedback from internal and external participants through the consultation phases. This proposed Logic Model was developed with a planning emphasis purpose, not for evaluation purposes. A further development with monitoring and evaluation (M&P) purposes is recommended to follow.</p> <p>I : UBC internal audiences E: External audiences, including a diversity of stakeholders.</p> <p><u>I gratefully acknowledge the contribution of Karine Souffez, UBC Associate Director, Knowledge Exchange for her insightful input towards the evolution of the Logic Model.</u></p> | | | | | | | |

As explored in the previous pages, the logic model is integrated by 5 components, these were a subsequent operationalization of the 4 P's framework composed by the themes of People, Place, Program and Services, and Prospective Research and Systems. This further operationalization was conceived to showcase the strategic areas that the unit could invest therefore position the unit and its expected value creation.

Importantly, the strategies included in the 5 components described as Brokering, Training, Strategic Leadership, Research & Development and Support Services are not meant to be prescriptive in the sense that these are the specific strategies to pursue, or to indicate that all of the deployed strategies need to be started at the same time. Here it is important to bring the notion of incremental steps based on the actual context of the organization, and the original support to be received from UBC and VPRI.

This Phase Three of the research or its Logic provides a glimpse into the systems and programmatic part of the proposed knowledge exchange framework, it offers examples of proposed strategies and activities that the unit could pursue for its internal positioning, as well as to indicate the synergy opportunities to envision with other UBC Innovation groups and other institutional actors. It is expected to be continued and updated based on ongoing institutional developments, but its purpose is to serve as a point of departure and future focused discussions.

6.6 Recommendation

The proposed Knowledge Exchange institutional framework and its subsequent operationalization into the Kx unit respond to the needs and interests expressed by both internal and external communities. Although the proposed structure and functions might represent an organizational investment, it is expected that the unit and “value of Kx” will be progressively

incorporated in the UBC research culture. Once this happens, many of its activities will be in demand among researchers and partners. For example, providing guidance for researchers to help them develop effective plans for knowledge mobilization, the brokering work while finding and mediating effective partnerships, the training on specific aspects of science communication, plain language support, and case studies impact reporting. All of these services can be offered by the UBC Knowledge Exchange.

Although broad and specific objectives have been co-designed by participants, it is imperative that the origins of the Kx unit be backed up by strong leadership from UBC senior administration. It is expected that the opportunity to be located in the new UBC Innovation Hub will represent a visionary opportunity for the embodiment of a unique innovative culture and services oriented to transform research culture in the university. This “innovative” culture perspective is also expected to add value to current and potential partners of research.

Finally, the proposed framework and its Logic Model represents a first attempt to conceptualize the expressed needs by participants. However, goals, strategies, and specific services will need to be evaluated based on demand and the results of activities conducive to research competitiveness and impact. An appropriate evaluation mechanism for Kx services is recommended since the beginning. A future task will be to develop a comprehensive set of key performance indicators for the Kx unit that should support a first strategic planning process that highlights the strengths and areas of opportunity.

6.7 Research method considerations for future developments

The opportunity to apply Strategic Design in the research project has been both challenging and inspiring. As with any other research method, Strategic Design requires careful preparation and planning in advance, particularly around the design of the working sessions. The process includes recruitment of participants, session facilitation and follow-up analysis of multi-point data that might come in various forms. For instance, the data might be words expressed directly by participants or visualizations, diagrams and charts. As explained in Chapter 5 and 6, a follow up process with interested participants was meant to engage participants in meaningful one-on-one conversations leading to enriched data. Considering that in the interview sessions there was not too much opportunity for the use of visual tools, I always tried to incorporate the possibility of productive input from visualization by inviting participants to picture an idea or an experience. I equipped myself with the support of the KMb canvas or occasionally a small, mobile whiteboard; the purpose was to allow different channels for the communication of ideas. The human-centred principle of Strategic Design was always in my mind. It was a constant reminder that Strategic Design is about people, and effectively working with people, to try come up with ideas and solutions mostly for people. This human-centred approach invites the application of empathy with participants and their lived experiences. I can truly say that I was fortunate in getting to know a vast array of talented and committed faculty, staff members, and passionate stakeholders.

I always tried to offer a humble yet inquisitive mind. A philosophical premise of asking basic questions, such as the what, how, how, when and why while being applied in the right moment can be a powerful instrument that invites participants to explore an idea, example or proposal. As a researcher one cannot underestimate the power of a good question. In addition to employing

questions as tools, I paid attention to the exercise of good and active listening practices. It has been fascinating, yet discouraging, to hear that many academics identify a lack of good listening skills in Kx activities and in certain research endeavors. My practice in Strategic Design confirms the fundamental requirement to be a skilled listener, but a type of listener that in addition to register spoken words, is able of capturing subtle behaviors and expressions of participants. This situates myself as a tool of research with a natural biased based on motivations, assumptions, roles, and positionality (Lincoln & Guba 1985); this in line to what Maxwell (2013) affirms “you are the research instrument in a qualitative study, and your eyes and ears are the tools you use to gather information and make sense of what is going on” (p. 88). This also relates to the role and responsibility of being immersed in a research site as “participant observer” having access to events and sometimes being part of these as a presenter or organizer, made me part of the community of learners (Gillham, 2005; Yin, 2013). For instance, I realize that having produced this research with the real opportunity of concrete application in UBC, eased to open doors and prompted community expectations.

In reflecting on the Strategic Design sessions, it was clear that we have the capacity to provide a highly engaging experiences or just a basic participatory experience. The goal of having a group of participants from diverse backgrounds facilitates an element of discovery, exchange and learning.

Usually, when working with diverse teams one of the most useful learning experiences is the alternative analysis that participants bring, based on their personal lived trajectories. A crucial aspect of the facilitation of Strategic Design sessions is an active guidance that encourages

participants to propose creative ideas, even the ones considered out-of-the-box. As briefly explored in Chapter 4, a traditional challenge found in many of these sessions is that participants follow an ingrained habit of trying to have the right answer to a given problem. It is good practice to propose types of problems where immediate answers might not be conceptualized into right or wrong answers. It is also interesting to witness the degree of tolerance in relation to ambiguity, while participants are trying to get a good grasp of the problem.

A final reflection on the application of Strategic Design as a method refers to its intrinsic collaborative and pedagogical nature. As a researcher trained under new perspectives of reciprocity with participants, it is inspiring to find that the method allows participants to explore and learn in different ways, sometimes ways not fully applied in university learning environments. The space and opportunity to think and apply tools for the understanding of a problem and development of ideas and solutions is a valuable experience for many of the participants.

To conclude, the application of Strategic Design as a method for the development of the Kx framework and unit was instrumental for gaining unique insights and valuable ideas. The method, of course, has its strengths and weakness addressed in Chapter 4. As explained in the final chapter, there might be new research opportunities where Strategic Design could be again helpful.

Chapter 7: Conclusions

This dissertation integrates the participatory and iterative work oriented to explore and answer the research question: How to co-design a university-wide framework: structure, systems and services that support knowledge mobilization at UBC? As introduced in Chapter 1, this generative research question guided me to include an interdisciplinary and design-led research approach, Strategic Design. The research to develop a university-wide knowledge mobilization framework that has now materialized into the Knowledge Exchange unit was the product of extensive consultations with internal and external partners from January 2017 to September 2018.

During this period, Phase One of the research was focused on improving our understanding of knowledge mobilization or exchange through investigating the work of engaged faculty. This research phase brought to light the extent of, and yet not captured, efforts by dedicated faculty, as well as staff members who support knowledge mobilization and knowledge exchange at UBC. As explained in Chapter 5, this phase included both strategic design sessions as well as in-depth interviews to uncover a broad range of the knowledge mobilization phenomena. These include, for example, the motivation of faculty, the type of research findings being mobilized, the challenges and roadblocks faced through these efforts, as well as the intended impact of knowledge mobilization activities. Phase One of the research concluded by reporting these preliminary results and brief case studies in a UBC institutional report titled: Enhancing KMb@UBC (Quayle, 2017). The focus of Phase One was to develop an initial understanding of: Who is doing what?; Why?; What are their motivations?; What are the challenges?; and How UBC can support this work. Importantly, it was also intended to reveal internal insights for the

development of the subsequent research to help create the proposed knowledge mobilization, now knowledge exchange framework.

Phase Two of the research focused on connecting with a wide spectrum of external partners who have worked with UBC faculty, either on current or past projects. These consultations took place both in the Vancouver campus and in Kelowna at UBC's Okanagan campus. During Phase Two, participants were also asked to participate in Strategic Design sessions and in-depth interviews.

The overall themes of these sessions were clarifying the nature of their research needs as well as the research related services they could expect from UBC. Findings from Phase 1 and 2 were reported to UBC in the document titled Co-Creating the UBC Knowledge Exchange Kx (Quayle, 2018). Phase 3 of the research involved working with UBC community members, knowledge mobilization experts, and experienced professionals in evaluation and logic models. The purpose of this final stage was to create a final output from the proposed framework, which is now materialized into the UBC Knowledge Exchange.

In summary, the co-designed framework, developed from participants' insights, was structured into four main themes or pillars. These are: *People, Place, Programs and Services*; and *Prospective Research and Systems*. These pillars or 4P's integrate elements that were the results of incorporating internal and external insights and suggestions from a total of 92 participants (see appendix B for a complete list of participants). The proposed framework that embraces these four pillars has been operationalized into a Logic Model for the UBC Knowledge Exchange. Discussions with Kx Circle members and faculty at UBC recommended the need for an

“institutional champion” with the task of embracing the proposed framework, operationalizing its four pillars, and enhancing knowledge mobilization/exchange capacities at UBC. Importantly, as discussed in Chapter 5 & 6, the decision to name the unit “UBC Kx” was made in order to signal a strongly integrative name that would resonate with a wider public inside and outside of UBC. This rationale also avoided being directly associated and attached to any particular KMb definitions promoted by various granting agencies, as mentioned in Chapter 2. It is expected that UBC Knowledge Exchange or Kx unit will now work with these findings and continue the design and development of a structure and services using the framework and the logic model as a useful starting point.

UBC still has a long way to go in order to implement the proposed framework and support services for the objective of strengthening research impacts. As chapter 5 and 6 explain, in order to be successful in this endeavor, UBC must demonstrate steady commitment, further development of operational plans and fundamentally, the human leadership capacity to embrace this challenge.

UBC has taken important steps towards implementation of these plans. The most recent are the conclusion of its new Strategic Plan 2018 (“Shaping”), with its specific goal #10 tackling knowledge exchange and public relevance, as well strategy #9 that links research excellence with the work of knowledge exchange and mobilization. As explored in Chapter 1 and 3, UBC has a wealth of human capital and institutional resources to deliver on these strategic commitments. However, a challenge is presented by its complex decentralized structure, with two campuses including 16 faculties, 18 schools, and two colleges. In the near future, it will benefit UBC to

take concrete steps to realize its 3 overarching themes or strategic priorities: *collaboration, inclusion and innovation*. As briefly explored in Chapter 3 and 6, the cause of knowledge mobilization fits well with these strategic themes. Knowledge mobilization / exchange, in a sense, is about “collaboration” between academia and external sectors. As mentioned in Chapter 2, evidence suggests that the models involving academia working with external partners increases the chance of research uptake and impact (Phipps, 2012). This speaks to the need to support collaborations, both for the cause of knowledge mobilization as well as for mutual learning, discovery and overall social responsibility. The second strategic theme “Inclusion”, is also reflected in knowledge mobilization, particularly in knowledge exchange. This definition reveals the opportunity to have a space where university-generated knowledge, sometimes in the form of scientific knowledge, meets valuable factual knowledge and expertise (Ward, 2017). It is important that universities recognize the intrinsic value of these types of knowledge and “ways of knowing” as seeds for further thinking, in the development of research agendas, and to foster inclusive practices. As expressed by participants, the future role of a research-intensive public university must allow the inclusion of diverse intellectual traditions and various ways of knowing. Finally, the third point defined as innovation is also imprinted in the framework and the operationalization of the Kx unit. It is expected that the Kx unit could become a beacon of innovative practices that designs and plans improved methods and resources for knowledge sharing and exchange.

7.1 Contribution of this dissertation

On the topic of innovation, this dissertation reflects a legacy of consultations performed with the Strategic Design Method through studio work. Strategic Design has been instrumental in

working with projects that require in-depth exploration, a human-centred approach, and a facility to “un-pack” complex or “wicked” problems (Boyer, Cook & Steinberg, M. 2011; Kolko, 2012). The application of Strategic Design to knowledge mobilization design processes has disclosed the natural fit of this method for understanding and representing the complexity of KMb. The development and application of the KMb Canvas confirm this insight. Another important point in the application of Strategic Design relates to findings about knowledge mobilization processes by KMb scholars. For instance, empirical evidence confirms the multidirectional dynamics of knowledge mobilization frameworks (Ward, 2017, Phipps, 2013; Tetroe et al, 2012), leaving behind earlier conceptualized linear models that portrayed mono-directional trajectories from knowledge creation to dissemination and uptake.

Currently, the field of knowledge mobilization includes interdisciplinary approaches to determine the best KMb tools, programs and activities for given projects and goals. In this respect, Strategic Design can help with exploration and scenario-making to determine the right type of tools for a particular type of audience, and for particular expected impact objectives. A deep understanding of the Strategic Design method and its integration into the thinking and practice of knowledge mobilization is a reminder of the importance of human-centred approaches. This is particularly evident when dealing with multisectoral collaborations that require work toward creative solutions for actionable problems (Quayle, 2017).

On the specific field of knowledge mobilization, this distention provides an in deep understanding of the application of design-led approaches to the co-design of a university-wide knowledge exchange framework that has been operationalized into the UBC Knowledge

Exchange. It contributes the body of studies that promote change within universities in order to enhance its public roles and the needs to better serve its different constituents; it also demonstrates a unique application of interdisciplinary and cross-disciplinary thinking in the birth of a new institutional structure aimed to be a proponent of change that will support social innovations.

Finally, this dissertation also contributes to a local knowledge mobilization / knowledge exchange research that must be pursued in further stages with two objectives (1) to keep contributing to the positioning and institutionalization of the new UBC Kx unit , and (2) to work in partnership with other institutions to enhance the field of knowledge mobilization and knowledge exchange scholarship. More on the specific research agenda that has been identified will be explained in the following section.

7.2 Further research

As with any design-oriented research method, the contribution of the Kx framework and the ideation process for the Kx unit is still a first step towards the institutionalization of knowledge mobilization / exchange practices, I call it simply “Kx 1.0”. Therefore, further refinement of the framework with more research is suggested in the following months and years. A good approach that is embedded in the framework is the incorporation of evidence-based approaches to further the design and operationalization of specific programs and services. Here, the connection with Research Impact Canada (RIC) partners and the benefit of working with knowledge mobilization experts in Canada and abroad will shed light on adopting best practices in brokerage, impact tracking and Kx services.

In addition to the further development of the areas that the framework suggests, it is expected that the UBC Kx unit might become an important player in the landscape of Kx/ KMb / KT communities in Canada. Part of its strength might become by the adoption of a robust mechanism of research into its mobilization services and the brokerage services that the unit provides to internal and external partners.

The topic of impact as research, which fell outside the scope of this dissertation, also deserves its own attention. UBC and Canada could learn from international approaches to the definition and the process of capturing the external impacts of research. As expressed by participants, UBC, working with national and international partners, could embark on this interdisciplinary and complex domain; an example of this is ongoing developments in the field of contribution analysis. Research into rigorous, transparent, and reliable methods for capturing impact will inform UBC policies and orient the type of current and future services required to support these impacts.

The process of co-designing the framework favoured thinking about the challenges of knowledge mobilization and exchange approaches. For instance, one of this challenges that requires further research is the incorporation of KMb/Kx approaches into tenure and promotion. Currently, UBC and other universities members of the RIC network are still in the process of developing and discussing mechanisms for its adoption.

Consultations also brought the topic of exploration into the similarities and differences between knowledge mobilization, community engagement, engaged scholarship, and outreach

approaches. Although some literature suggests similarities in ways of working with community, it might be useful to launch a more formal study of historical developments and similarities of these approaches.

Another very relevant area of research involves connecting the nature of external impacts of research with elements that can count towards international university rankings, which are viewed as significant quantitative metrics informing decision-making at UBC and other institutions. Merging types of impact indicators into rankings indicators will make knowledge mobilization and exchange approaches more likely to be viewed as central initiatives to increase university competitiveness. This is in addition to the approach of university social responsibility that should always remain a priority.

An additional area of research mentioned in the consultations was the designing of mechanisms for professors and university staff to inform granting agencies and help to shape and update knowledge mobilization policies. Although it is clear that Canadian granting agencies have been evolving their own mechanisms and policies to enhance impact, further research on the effectiveness on these approaches and the establishment of processes that can help to inform program and funding policies could further developed.

The incorporation of technological approaches into the practice of knowledge exchange and mobilization could be further studied. As expressed by participants, the notion of place is fundamental in order to enhance exchange. However, the idea of virtual knowledge exchange spaces should also be carefully studied and considered. Knowledge mobilization and exchange

can benefit from emerging advances in virtual reality, the tracking of impact through big data approaches, and even the development of online concierges through configuration of algorithms that support collaborations, make tools available, and facilitate partners interactions.

Knowledge mobilization as an interdisciplinary field could benefit from a collaborative integration of disciplines into some of its constitutive elements. It can be proposed that knowledge mobilization serves as a unique space and platform, a place to launch and propose a new integration of interdisciplinary and transdisciplinary studies. Thus knowledge mobilization can play a fundamental role in becoming a gateway for knowledge to meet broader action, a space usually not explicitly integrated into high intensive research universities. As argued in Chapter 2, universities could benefit from alternative approaches that come from external sectors and domains. This constitutes an opportunity for service, and at the same time, a possibility to benefit from an enhanced exchange of ideas, knowledge, and public support for the role of universities in the 21st century.

7.3 Final thoughts

The opportunity to engage in this research at the University of British Columbia has been life-changing for me. I have always been interested in the life and processes of organizations, but the opportunity to be embedded in the subject of the research has been an enormous privilege and responsibility. The University of British Columbia is an outstanding living and learning organization; of course, the university also faces the challenges and needs of every major organization. However, it has been clear to me through conversations with its members and stakeholders, that individual faculty and staff view the university as a vehicle for achieving the best of human aspirations to better serve our communities.

As a researcher trained in Interdisciplinary Studies with considerable field experience, the opportunity to co-design and craft this research has exceeded any expectations that I could have articulated in advance. Nonetheless, like any other human endeavor—particularly involving research—it has been a challenging process. The nature of design-led research involving various busy and sometimes over-committed groups made the research susceptible to delays, and required the research to be adaptable to ongoing contextual circumstances.

The conditions around this research are unique in the history of the institution; it has been conducted during a period of intense and authentic reflection and change in UBC. As previously described, new institutional leadership and the highly anticipated new strategic plan with its knowledge exchange orientation has been an exceptional background that I hope will facilitate the implementation of the proposed framework and ideas described. With respect to momentum, UBC is becoming now a player in the arena of universities actively pursuing knowledge mobilization and knowledge exchange efforts. In the future months, UBC leadership might take decisive steps toward the operationalization of the ideas outlined in this document. For instance, the opportunity to meet the new Kx Associate Director and to discuss some of the findings of this work has been a key moment as a researcher. It is my hope that the UBC Knowledge Exchange will build on the legacy of many institutional champions—including several who, in my view, have dedicated decades of patient work toward making UBC an excellent university with a commitment to the wider society that it serves.

Knowledge mobilization and/or Exchange is a good cause for the future of education as well as for the continuous improvement of our society and organizations. Whether or not this is new terminology for a previously existing approach, as some critics might say, what is important is making these collaborations happen in practice. Truly excellent organizations are more than the aggregate of talent, they are active bodies where systems and incentives for healthy cooperation are in place. This appears to be a critical time for making knowledge mobilization take an important place in our institutions. As with any new changes, there is anticipated learning on the way: this is the nature that innovative challenges present.

However, as this dissertation argues, it is essential to concentrate on knowledge mobilization and exchange approaches *now*—to take bold steps to make UBC more responsible and accountable to the public it serves.

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Appendices

Appendix A Working with external stakeholders studio sessions



Co-Creating KMb@UBC

Studio Session

August 23rd, 2017



Policy Studio | UBC
Liu Institute for Global Issues

About the Policy Studio

- The Policy Studio is a UBC-wide endeavor located at the Liu Institute for Global Issues and part of UBC's School of Public Policy and Global Affairs.
- The Policy Studio uses the strategic design method, which is a participatory process, rooted in user research, in which participants are guided to discuss, co-create, test, and propose resilient solutions to big-picture or systemic challenges.

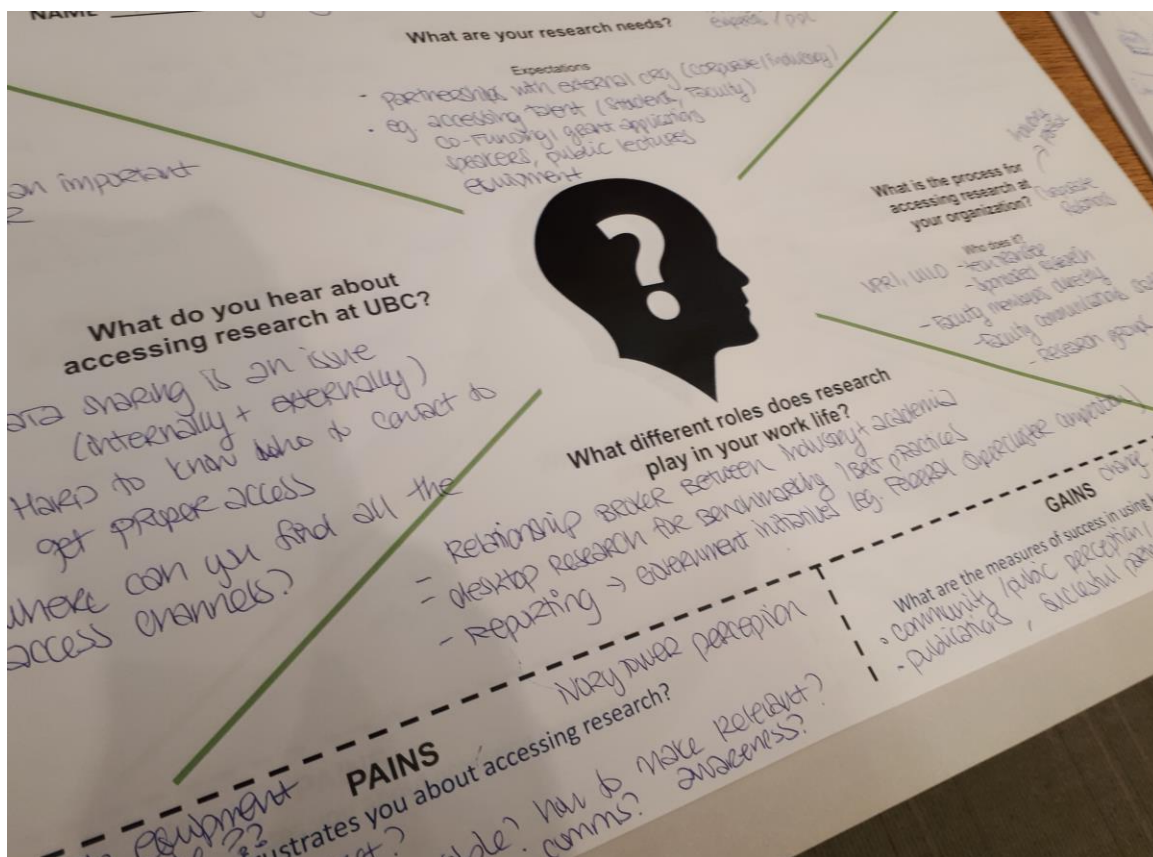
Studio work

- Participants are encouraged to apply creative and critical perspectives
- Innovation is encouraged
- Plurality of approaches and perspectives enriches the discussion.



Outline of the session

1. Introductions
2. Warm up
3. Empathy map (individual)
4. Debrief / share
5. Service journeys (in pairs)
6. Suggested solutions / plenary
7. End of the session



Appendix B List of participants

Phase 1) Enhancing KMb@UBC participants

* Organized by Last name

| | Name | Last Name | Affiliation |
|----|------------|------------|---|
| 1 | Karen | Bakker | Department of Geography |
| 2 | Jorg | Bohlmann | Michael Smith Labs / Faculty of Science |
| 3 | Janette | Bulkan | Faculty of Forestry |
| 4 | Maxwell | Cameron | Department of Political Science |
| 5 | Patrick | Condon | SALA - School of Architecture and Landscape Architecture |
| 6 | Thomas | Davidoff | Sauder School of Business |
| 7 | Qiang | Fu | Department of Sociology |
| 8 | Benjamin | Goold | Allard School of Law |
| 9 | David | Green | Vancouver School of Economics |
| 10 | Sumeet | Gulati | Faculty of Land and Food Systems |
| 11 | Penny | Gurstein | SCARP - School of Community and Regional Planning |
| 12 | George | Hoberg | School of Public Policy and Global Affairs |
| 13 | Paul | Kershaw | SPPH - School of Population and Public Health |
| 14 | Linc | Kesler | First Nations and Indigenous Studies |
| 15 | Martin | Kirk | ORS - Office of Research Services |
| 16 | Peter | Klein | School of Journalism |
| 17 | Nadja | Kunz | School of Public Policy and Global Affairs / Keevil Mining School |
| 18 | Bernadette | Mah | PWAS - Peter Wall Institute for Advanced Studies |
| 19 | Joanna | Mendell | BC Centre for Excellence in HIV/AIDS |
| 20 | Walter | Mérida | Department of Mechanical Engineering |
| 21 | Navin | Ramankutty | School of Public Policy and Global Affairs & IRES Institute of Resources, Environment, and Sustainability |
| 22 | Lindsey | Richardson | Department of Sociology |
| 23 | Maged | Senbel | SCARP - School of Community and Regional Planning |
| 24 | Allen | Sens | Department of Political Science |
| 25 | Stephen | Sheppard | Faculty of Forestry |
| 26 | Sean | Smukler | Faculty of Land and Food Systems |
| 27 | Michelle | Stack | Faculty of Education |
| 28 | Rashid | Sumaila | Institute for the Oceans and Fisheries |
| 29 | James | Vercammen | Faculty of Land and Food Systems |
| 30 | Kelsey | Wrightson | Department of Geography |

* Some participants contributed in two or more occasions.

Appendix B List of Participants (Continuation)

Phase 2 & 3) Co-Creating the UBC Knowledge Exchange and Logic Model

| | | | |
|----|-------------|---------------|--|
| 1 | Kelly | Best | BC Province Ministry of Jobs, Trade and Technology |
| 2 | Joan | Bottorff | UBC Okanagan Nursing |
| 3 | Caitlin | Brownrigg | BC Province Government Digital Experience Division |
| 4 | Bryan | Buggey | Vancouver Economic Commission |
| 5 | Stefanie | Cepeda | BC Province Ministry of Jobs, Trade and Technology |
| 6 | Genevieve | Creighton | Michael Smith Foundation for Health Research |
| 7 | Keith | Culver | UBC Okanagan Faculty of Management |
| 8 | Duttatreya | Das | Mitacs, Globalink Researcher |
| 9 | David | Drohan | BC Province Ministry of Jobs, Trade and Technology |
| 10 | Marie-Luise | Ermisch | Canadian International Resources and Development Institute |
| 11 | Jock | Finlayson | Business Council of British Columbia |
| 12 | Prem | Gill | Creative BC |
| 13 | Mark | Holland | Holland Planning |
| 14 | Nancy | Holmes | UBC Okanagan Faculty of Creative and Critical Studies |
| 15 | Julienne | Jagdeo | UBC Postdoctoral fellow |
| 16 | Michael | Johnny | KMb York Unit |
| 17 | John | Krige | Georgia Tech / Visiting professor |
| 18 | Cecile | Lacombe | BC Province Ministry of Jobs, Trade and Technology |
| 19 | Bruno | Lam | UBC Sauder S3i Impact investing |
| 20 | Conny | Lin | Women in Tech |
| 21 | Bill | MacKenzie | New Brunswick Social Policy Research Network |
| 22 | Karon | MacLean | UBC Computer Science |
| 23 | Colleen | McCormick | BC Province Ministry of Jobs, Trade and Technology |
| 24 | Rafael | Pacheco | City of Kelowna |
| 25 | David | Phipps | York Research and Innovation Services & KMb Unit |
| 26 | Martha | Piper | UBC former President and Vice-Chancellor |
| 27 | M.V. | Ramana | UBC School of Public Policy and Global Affairs |
| 28 | Pierre | Rondier | UBC Okanagan Office of Research Services |
| 29 | Gerry | Salembier | Western Economic Diversification |
| 30 | Gayle | Scarrow | Michael Smith Foundation for Health Research |
| 31 | Alan | Shapiro | Water Consultant & Science Communicator |
| 32 | Elizabeth | Sheehan | Climate Smart |
| 33 | Trilby | Smith | Vancouver Foundation |
| 34 | Karen | Snyder | MPPGA Teaching Faculty |
| 35 | Michelle | Stack | UBC Faculty of Education |
| 36 | John | Steen | UQ Business School / Visiting Professor |
| 37 | Jennifer | Tedman-Jones | Mitacs Okanagan |
| 38 | Marni | Turek | Okanagan Watershed Management |
| 39 | Anna | Warwick Sears | Okanagan Basin Water Board |
| 40 | Adam | Wei | UBC Okanagan School of Arts and Sciences |

| | | | |
|----|-----------|-----------|---------------------|
| 41 | Stephanie | Whittaker | Deloitte consulting |
| 42 | Sherry | Zhao | Mitacs Vancouver |

* Some participants contributed in two or more occasions.

Appendix C Consent form for participants



The University of British Columbia

“Consent Form for Participants” Version 2.0 Spring 2018

[Study name: Co-Designing a strategic knowledge mobilization (KMb) framework for university – external communities knowledge partnerships]

I. STUDY TEAM

Principal Investigator: Professor Moura Quayle (PI), Director *pro tem* of the UBC School of Public Policy and Global Affairs, and Professor of Strategic Design-Sauder School of Business. Phone: xxx xxx xxxx, Email: xxxxxx @ubc.ca

Co-investigator: Marcelo Bravo, PhD Candidate UBC–Interdisciplinary Studies Graduate Program. Phone: xxx xxx xxxx, Email: xxxxxx @ubc.ca

II. STUDY PURPOSE AND INVITATION

Knowledge mobilization is a set of mechanisms that facilitates the flow and uptake of evidence based research produced in universities, as well as knowledge being produced in collaboration with external partners. Knowledge mobilization is about maximizing the impact of academic knowledge. For our study, we explore, and co-design a framework for knowledge mobilization with an applied focus on supporting the variety of UBC’s stakeholders community.

In particular, the study is guided by the following questions:

1. How do knowledge mobilization processes maintain and support university and stakeholders partnerships? What are their scope, opportunity, strengths and weaknesses?
2. What are the necessary elements and processes of an effective knowledge mobilization framework?

3. How can we co-design an effective knowledge mobilization framework and strategy for university-stakeholders partnerships?

You have been invited to participate in this research as a member of the UBC community with extensive academic and/or professional experience that could contribute to UBC's efforts on knowledge mobilization / exchange.

III. STUDY RESULTS

This study is part of the graduate research project of Marcelo Bravo, PhD Candidate in Interdisciplinary Studies (Policy and Social Innovation), and supported by the Policy Studio – Liu Institute for Global Issues, a unit of the UBC School of Public Policy and Global Affairs. Research outcomes will also serve to inform UBC's forthcoming plans and strategies oriented to developing UBC's knowledge mobilization mechanisms and services to enhance research impact, outreach and innovation.

IV. STUDY PROCEDURES AND PROTOCOLS.

During this phase of the study, the researchers are interested in personal interviews and/or conducting studio sessions with a variety of participants aiming to explore and co-design creative and critical solutions that will be used as input for knowledge mobilization strategies and systems at UBC. With your permission, the researcher will be also taking notes to capture the most important ideas and comments.

V. POTENTIAL RISKS OF THE STUDY

We do not think there is anything in this study that could harm you. Please let one of the investigators know if you have any concerns.

VI. EXPECTED BENEFITS OF THE STUDY

We anticipate that the results of this study will have a positive impact on the UBC scholarly and external community. The results of this research will continue to expand the importance of

knowledge mobilization, its practices and advantages for research impact. The outcomes of this research will also help improve the relationship between UBC and its community of stakeholders.

VII. PROTECTION OF COLLECTED DATA AND CONFIDENTIALITY

All electronic files will be encrypted and stored in a password-protected computer. Hard copies of notes will be stored in a locked filing cabinet in the office of the principal investigator.

Research data (transcripts, diaries and field notes), consent forms and audio recording of interviews will be kept in password protected local drive only accessible by the principal investigator or co-investigator.

We request that personal attribution (name, last name and faculty affiliation) be released for the purposes of methodological validation, but no comments will be linked to a specific person. If you require anonymity, please contact the principal investigator and co-investigator and appropriate measures will be taken.

VIII. CONTACT FOR INFORMATION ABOUT THE STUDY

If you have any questions or concerns, please contact the principal investigator or the co-investigator with the contact information provided on page 1 of this consent form.

IX. CONTACT FOR COMPLAINTS

For any concerns or complaints about your rights as a research participant and/or your experiences while participating in this study, contact the Research Participant Complaint Line in the UBC Office of Research Ethics at 604-822-8598 or if long distance e-mail RSIL@ors.ubc.ca or call toll free 1-877-822-8598.

X. PARTICIPANT CONSENT AND SIGNATURE PAGE

Taking part in this study is entirely personal and voluntary. You have the right to refuse to participate in this study. If you decide to take part, you may choose to pull out of the study at any time without giving a reason. If this occurs, researchers will proceed to eliminate any record of your participation. You may also request to have access to studio notes in the following two months after the studio session takes place.

- Your signature indicates that you gave informed consent to participate in this study.
- Your signature indicates that you allow the researchers to disclose your name, last name and affiliation, therefore receiving attribution of the information provided.
- Your signature indicates you “opt in” to allowing the researchers to proceed with an audio record of the session with the only purpose to support the note taking efforts and keep the fidelity (accuracy) of your comments. If you decide to “opt out” please indicate this to the researcher to allow the appropriate protocol adjustment.
- Your signature below indicates that you have received a copy or an electronic copy of this consent form for your own records.

Printed name of the participant

Participant signature

Date

Appendix D UBC Vancouver Campus – West Point Grey Area: a historical place of Exchange



This photo corresponds to a unique finding in UBC Vancouver campus. As a researcher, it supported the idea and vision to continue this historical activity of “exchange” now for the benefit of UBC and the publics it aims to serve.