Validation of a Framework for Evaluating Knowledge Mobilization Strategies: A Delphi Method Approach

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Abstract: *Background***.** A growing number of knowledge-oriented organizations, such as granting agencies, governments, public organizations, universities, and health authorities, are investing considerable resources to increase the use of research knowledge to improve professional practice, decision making, and public policy. The proliferation of research on knowledge mobilization (KMb) over the past two decades has deepened our understanding of the dynamics of this process and of the factors that can impede its deployment, such as knowledge users' capabilities (their beliefs, capacity to absorb knowledge, etc.), contextual conditions (resources, leadership, facilitating factors, etc.), and the availability of effective mobilization strategies (frequency, implementation, fit with context). However, as yet, few good-quality studies have evaluated the impacts of KMb, such that we still know too little about the effectiveness of the different strategies and the contextual conditions in which they may be effective. This is problematic, in that their development cannot be fully grounded in empirical evidence. In fact, their evaluation is complicated by the virtual absence of evaluation tools and validated indicators that would allow organizations to assess the impacts of their KMb strategies. Moreover, the difficulty that these organizations experience in relation to evaluation (due to lack of expertise and resources) is a concern that has been raised many times. *Aims***:** This study will address this expressed need to improve organizations' capacity to conduct KMb evaluation studies. Using a collaborative co-construction approach with key actors in KMb, our aim is to design and validate an integrative and operational framework for the evaluation of KMb strategies in the social domain. *Design/approach:* a first step in this project, we conducted a scoping review of frameworks and theories commonly used to evaluate KMb strategies. 71 articles were selected from this scoping review. Our analyses of these articles, we identified four potentially relevant dimensions for planning and evaluation: the context, implementation process, effects, and impacts of these strategies. Using the Delphi approach, a consultation has been undertaken to enrich and validate the dimensions of this framework developed after a scoping review. *Results*: This paper presents the results of the Delphi consultation with an international panel of experts working in the field of knowledge mobilization. This evaluation exercise should lead to a validation of the framework components and potential indicators to be considered when evaluating knowledge mobilization strategies.

Keywords: Knowledge mobilization, Knowledge translation, Framework, Validation, Delphi method

1. Introduction

It is well-recognized that research evidence has the potential to inform, guide and improve practices, decisions, and policies (SSHRC, 2019). Unfortunately, for different reasons, the best available evidence is still too little considered and used (Boaz et al, 2019, Straus et al., 2010). The field of research on knowledge mobilization

(KMb) has been growing rapidly since the early 2000s (Barwick et al., 2020, Strifler et al., 2018). The purpose of this field is to better understand how to effectively promote, and support evidence use.

Knowledge mobilization is one of the many terms used to qualify the processes, strategies, and actions to bridge the gap between research and practice. Other known terms often used interchangeably are translation, uptake, exchange, sharing, dissemination, and implantation science IS (Esmail et al., 2020).

We used the term knowledge mobilization as an umbrella concept. Knowledge mobilization represents all the efforts made to translate knowledge into concrete actions and beneficial impacts for populations. Moreover, KMb represents all processes from knowledge creation to action, but it also includes all strategies implemented to facilitate this process (Phipps et al., 2016).

A KMb strategy is understood as a coordinated set of activities to support evidence use such as dissemination activities to effectively reach the target audiences (e.g., educational materials, practical guides and decision support tools) or activities that aim to facilitate the application of knowledge in a specific context and support professional behaviour change (e.g., community of practice, educational meeting, audit and feedback, reminders, deliberative dialogue) (Gervais et al., 2016). A KMb process may vary in its levels of intensity, complexity, or actors' engagement depending on the nature of the research knowledge as well as the needs and preferences of evidence users (Graham et al., 2006, Straus et al., 2010).

2. Background

KMb is understood as a complex process since a multitude of factors can facilitate or hinder its implementation and subsequent evidence use. During the last two decades, we gained a better understanding of these factors (Curran et al., 2011, Scarlette et al., 2020). These may be related to the knowledge mobilized (e.g., relevance, reliability, clarity, costs), the individuals involved in the KMb process (e.g., openness to change, values, time and resources), the KMB strategies (e.g., tailored to needs and preferences, regular interactions, trust relationships, timing), and the organizational and political contexts (e.g., culture of evidence use, leadership, resources) (Boaz et al., 2019; Orton et, 2011). However, more studies are needed to understand which factors are more important in which contexts and to evaluate the effects of KMb strategies (Rosella et al, 2018). On this last point, although essential, it is often very complex to empirically study KMb impacts to demonstrate the effectiveness of KMb strategie (Fazey et al., 2014, Reed et al. 2018). Partly because of this, high-quality studies that evaluate process, mechanisms, and effects of KMb strategies are still relatively rare (Nilsen, 2015; Langer et al., 2016; Scarlette et al., 2020). As a result, we still have limited knowledge about the effectiveness of different KMb strategies (Proctor et., 2011, Dagenais et al., 2013, Langer et al., 2020). Hence, the development of KMb strategies cannot be totally evidence-informed (Gervais et al., 2016) which may seem paradoxical with the core values and principles of KMb.

As a first step in this project, we conducted a scoping review of frameworks and theories commonly used to evaluate KMb strategies. 71 articles were selected from this scoping review. The analysis of the identified TMFs revealed many factors of interest relevant for the evaluation of KMb strategies. These specific components were inductively classified into four main dimensions: context, process, effects, and impacts. The context dimension refers to the assessment of the conditions in place when the KMb strategy is implemented. These include both the external (i.e., sociopolitical, economic, environmental, and cultural characteristics) and internal environments (i.e., characteristics of organizations, individuals, and stakeholder partnerships). These factors are understood to influence the selection and tailoring of a KMb strategy. The process dimension refers to the assessment of the planning, levels, and mechanisms of implementation, as well as to the characteristics of the KMb strategy implemented. The effects dimension refers to the assessment of outcomes following the KMb strategy implementation. The potential effects vary depending on the strategy's objectives and can be either the immediate results of the KMb strategy or short-, medium-, and long-term outcomes. The conceptual gradation of effects was generally represented in a similar way in the TMFs analyzed, but the temporality of effects could vary. A medium-term outcome in one study could be understood as a long-term outcome in another. Finally, the impacts dimension refers to the long-term effects of KMb products or interventions on end-users, as measured by the organization (Phipps et al, 2016: p. 34). The evaluation of these ultimate effects can be measured by the integration of a promising practice into organizational routines, by the effects on service users, by the effects on the health and wellbeing of communities and society in general (See table 1).

In the second step of this project, we plan to validate the framework by international experts in knowledge management. This article presents the results of this consultation process involving experts who gave their opinion on the relevance and coherence of the dimensions of the proposed framework.

Table 1: Dimensions, Sub-Dimensions, and Components for Evaluating KMb Strategies

DIMENSIONS	SUB-DIMENSIONS	COMPONENTS
1. CONTEXT	External context	Supportive external environment Response to needs Accessibility to knowledge Priority given to knowledge
	Internal context - Organisation	Structural characteristics Organizational culture Available resources Networks and communications Implementation climate Leadership
	Internal context – Individuals (target population)	Personal characteristics Attitudes (e.g., receptivity, motivation) Beliefs (e.g., perceived value and utility) Knowledge and skills (pre-strategy objective assessment) Perceived knowledge and skills (pre-strategy)
	Internal context – partnership and collaboration	Functioning of the partnership or collaboration Perceived quality of the partnership or collaboration Characteristics of the group of partners or collaborators
2. PROCESS	Planification	Presence of a KMb plan (intervention logic) Presence of an evaluation plan for the KMb strategy
	KMb strategy	Characteristics of the strategy (e.g., types of activities) Characteristics of the content (e.g., knowledge quality) Characteristics of those responsible for the KMb strategy
	Implementation	Level of participation Reason (motivation) for participation Participants' attitudes and commitment Implementation fidelity Adaptation of the KMb strategy Implementation and evaluation follow-up
3. EFFECTS	Immediate results	Participants' satisfaction Perceived learning Objective learning Sense of competence (self-efficacy) Change in beliefs and attitudes.

DIMENSIONS	SUB-DIMENSIONS	COMPONENTS
		Intention to use knowledge
	First-level of evidence use	Knowledge adoption Knowledge appropriation Knowledge application Decision-making support using acquired knowledge. Intent to maintain knowledge use Collaboration development
	Second-level of evidence use	Effectiveness of knowledge use Development of competence Individual behavior change Collective behavior change Organizational change Sustain knowledge use Updating (adaptation) of knowledge through practice Improved practices and services Sharing of acquired expertise. Maintaining the collaboration
4. IMPACTS	Impacts of evidence use	Impacts on people receiving services. Impacts on professionals. Impacts on organizations, policy, or systems. Impacts on the community or population

3. Design/Methodology/Approach

Using the Delphi approach, a consultation has been undertaken to enrich and validate the framework developed after a scoping review (McMillan, et al., 2016; Paquette-Warren et al., 2017). This consultation method is designed to collect, in successive waves, the informed opinions of experts, who are consulted remotely using a questionnaire containing both closed and open questions. Besides preserving anonymity, this method offers the advantage of providing feedback after each stage of the consultation to show areas of consensus and divergent opinions, and, in that process, to give participants the opportunity to revise their opinions. Participants in the Delphi process were selected based on their expertise in KMb and evaluation, as well as on their willingness to be involved in the various steps required for this method. We initially selected 132 experts. The majority were academics (66%); a smaller proportion were professionals (20%) or managers (9%). Of the selected experts, the majority (71%) had expertise in knowledge mobilization, 24% had combined expertise in evaluation and knowledge mobilization, and 5% had expertise in evaluation only. In terms of geographical provenance, the majority came from Canada (53%), while others, in smaller proportions, came from Australia (15%), the United Kingdom (13%), and the United States (10%). A marginal number came from France, Mexico, Brazil, Chile, Switzerland, Belgium, the Netherlands, Burkina-Faso, and South Africa (1% for each of these countries).

In the first round, a total of 28 participants responded to the questionnaire, of which 22 responded to the French version and 6 to the English version. the participants are invited to consult the framework developed and to comment (using a Likert-type scale) on the relevance and clarity of each component and the proposed definitions. After assessing each component of the framework, they can suggest improvements or additions to the basic structure in the box provided for open-ended questions. In subsequent rounds, the proposed changes are included. Once consensus, set at 80%, is reached, the new enriched version of the framework was produced by the research team. Of the 28 participants in the first round, 24 indicated their interest in participating in the second round of validation. Thus, following the first wave, the framework was improved, and the 24 voluntary participants were solicited for the second round.

4. Findings or Expected Outcomes

This paper presents the results of the Delphi consultation with an international panel of experts working in the field of knowledge mobilization. This evaluation exercise should lead to a validation of the framework components and potential indicators to be considered when evaluating knowledge mobilization strategies.

The first round of consultation tested the relevance and clarity of the framework elements. This first round resulted in the full validation of 12 elements and partial validation of 24 others. A second round of Delphi was launched to validate those elements of the framework that did not achieve more than 80% consensus (scores of 6 and 7) for relevance and clarity.

5. Practical/Social Implications

This study will contribute greatly to the field of KMb research and practice. It will make it possible to use a common methodology based on an evaluation framework validated by a rigorous scientific approach. Our project is in line with initiatives aimed at better evaluating the benefits of research in terms of the health and well-being of individuals and of society in general. Thus, our framework will focus on the intermediate (short- and medium-term) effects that are produced during the implementation of KMb and that help explain the long-term impacts. The added value of this framework is, unquestionably, the validation process proposed.

Moreover, the framework will be tested in a real-world context, with two organizations dedicated to KMb in the third step of this project. This will ensure the acceptability and applicability of the proposed dimensions and indicators of the framework. It will be useful for all knowledge-oriented organizations that need or want to demonstrate the difference they make through the knowledge they produce or use. In the long term, the use of the framework in different settings will better document the effectiveness of KMb strategies as well as the mechanisms for facilitating research use. Ultimately, this will provide KMb strategies with more empirically sound foundations.

6. Directions for Further Research/Limitations

In future research, it would be advisable to test the framework for evaluating KMb strategies in different settings and to refine the measurement tools, an element that has been neglected by KMb researchers to date.

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