Evaluation units as knowledge brokers: Testing and calibrating an innovative framework

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Abstract
Evaluation units, located within public institutions, are important actors responsible for the production and dissemination of evaluative knowledge in complex programming and institutional settings. The current evaluation literature does not adequately explain their role in fostering better evaluation use. The article offers an empirically tested framework for the analysis of the role of evaluation units as knowledge brokers. It is based on a systematic, interdisciplinary literature review and empirical research on evaluation units in Poland within the context of the European Union Cohesion Policy, with complementary evidence from the US federal government and international organizations. In the proposed framework, evaluation units are to perform six types of brokering activities: identifying knowledge users’ needs, acquiring credible knowledge, feeding it to users, building networks between producers and users, accumulating knowledge over time and promoting an evidence-based culture. This framework transforms evaluation units from mere buyers of expertise and producers of isolated reports into animators of reflexive social learning that steer streams of knowledge to decision makers.

Keywords
evaluation use, evidence-based policies, knowledge broker, know–do gap, organizational learning

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Introduction

One of the key functions of evaluation is to build a stronger knowledge base for policy making. In principle, evaluation results should support a decision-making process with useful insight and understanding of factors underlying public problems, possible change mechanisms and the fit between those factors and the policy context (Chelimsky, 2006; Mark et al., 2000; Stern, 2002). In practice, the conceptual and instrumental use of evaluation have been quite limited, and evaluation is often used symbolically (e.g. McNulty, 2012).

In complex policy and organizational settings the evaluation tasks are assigned to specifically designated teams of public professionals called ‘evaluation units’. For example, in the case of the Cohesion Policy – one of the most intensively evaluated European Union policies (Bachtler and Wren, 2006) – there are over 200 evaluation units across 28 EU member states. The units commission studies and convey their findings to institutions responsible for planning and implementing Cohesion Policy interventions. They tend to be small (one to seven people) and share their responsibilities between evaluation and monitoring assignments as well as, less commonly, strategic planning.

Both research and practice indicate that despite the extensive production of evaluation reports, the utilization of knowledge by decision makers remains limited, and the commitment of top management to evaluation activities remains low (De Laat and Williams, 2014; EGO, 2010; Kupiec, 2014; Olejniczak, 2013). Decision makers often bemoan that evaluation studies do not meet their information needs, which raises a practical question for evaluation units: how can they combine the inflow of single reports into streams of knowledge that in turn would address knowledge needs of decision makers and managers? This practical question is connected with the more general issue of finding effective mechanisms to ensure that evaluations are used and influential in complex institutional environments (Højlund, 2014a; Raimondo, 2015; Rist and Stame, 2011).

The current evaluation literature does not explain well the reality of evaluation use in complex program and institutional settings, such as the Cohesion Policy. First, the dominant approach is to analyse use from the perspective of single reports, underestimating that change in decision making is cumulative, triggered by evidence streams trickling down into programmes or organizations (e.g. Ferry and Olejniczak, 2008; Højlund, 2014a, 2014b; Leeuw and Furubo, 2008). Second, the evaluation literature explores relations between evaluators (producers) and direct users. It overlooks the fact that government units that contract out evaluations are usually not the final users of the reports but rather intermediaries between knowledge producers (evaluators) and actors involved in policy decisions (Johnson et al., 2009). Finally, there is little literature on the role of evaluation units in general, and a dearth of empirical evidence on their work as intermediary between producers and users in particular (Läubli Loud and Mayne, 2014).

A new conceptual framework is therefore needed to fully explain the role of evaluation units in steering knowledge flows from producers to users. This article proposes such a framework for analysing and reshaping evaluation units’ role by taking a new perspective. First, the use of evaluation is analysed from a systems perspective – as flows of information and knowledge streams (Rist and Stame, 2011). Evaluation units are in turn portrayed as knowledge brokers (KB), playing the role of intermediaries between producers and users in charge of accumulating and steering knowledge flows. Moreover, it is assumed that the current challenge faced by evaluation units in enhancing evaluation use is a particular
manifestation of a more general problem: the know–do gap, which is quite common across different disciplines and policy fields (e.g. gap between universities research vs its business applications, laboratory discoveries vs general health-care practice, scientific evidence on environmental change vs actual policy decisions). The article thus seeks to bring insight from organizational theory as well as a wide literature on knowledge transfer and management into the evaluation literature with a view to better understanding how different disciplines deal with know–do gaps through knowledge brokering. We argue that a key missing piece in the evidence-based decision-making theory is the idea that bringing credible and rigorous evidence to decision makers is not sufficient; the evidence needs to be ‘brokered’. This research sets out to define what brokering knowledge means for evaluation units and what strategic changes they need in order to be successful at promoting knowledge use. The article contributes to evaluation practice in complex institutional settings. Experts who are architects of evaluation systems will gain understanding of inter-institutional design flaws that hamper systemic knowledge use. Personnel of evaluation units and evaluators can draw lessons on effective knowledge brokerage strategies.

The structure of the article consists of four sections. In the first section research questions and methods are presented. Next, we discuss the main findings from the systematic literature review on definition, activities and roles of KB. In the third section, the article presents a framework of evaluation units as KB. Each part of the framework is explicated and illustrated with the findings emanating from empirical research. We conclude with a discussion of the main strengths and limitations of the framework, perspectives for its practical applications and directions for future research.

**The research approach**

The article addresses two overarching research questions:

1. What can we learn about effective ‘knowledge brokering’ from the literature across different disciplines and policy fields?
2. How can the concept of knowledge brokering be adapted to evaluation units and help them tackle the challenge of evaluation under-utilization?

In this research we followed the spirit of realist evaluation (Pawson, 2006, 2013; Pawson and Tilley, 1997) which consists of iteratively building, testing and calibrating a theory of change of an intervention, here knowledge brokering. As suitable within an under-theorized area, we aimed for breadth more than depth of understanding and we engaged in both theory-building and theory-testing. The research moved through four iterative components of theory development and testing using a mixed-methods approach:

1. Development of an initial conceptual framework, built on the basis of a literature review – later revised to a full-fledged theory of change;
2. Initial empirical test of the conceptual framework in the context of Polish evaluation units – development of an initial typology of brokering activities of evaluation units;
3. Development of a full-fledged theory of change, including: operationalization of the key term knowledge brokers, refinement of the typology of activities, identification of
causal mechanisms involved in knowledge brokering – through a systematic review of the literature;

4. Empirical calibration of the theory – via interviews with evaluation units outside of the Cohesion Policy.

First, an initial conceptual framework was built on the basis of a literature review covering multiple strands of studies, from evaluation utilization to knowledge transfer, brokering, and evidence use in policies (including 115 articles from Web of Science, 20 books on evidence use in public policies, literature on evaluation use). A content analysis was performed to provide initial characteristics and functions of KB.

Second, the activities of knowledge brokering in the context of evaluation were explored in a network of Polish evaluation units. Poland was chosen as particularly relevant due to its substantial endowment in European Union funds assistance (over 100 billion euros since 2004) and its intensive evaluation activities (57 evaluation units contracted out over 900 evaluations in the last 10 years) (Olejniczak, 2013). The empirical inquiry included a comprehensive survey (n = 57 evaluation units, response rate = 80%) and interviews with leading evaluation units (n = 6). The survey aimed at providing an initial test of the conceptual framework and at measuring the frequency of particular actions taken by evaluation units in seven areas associated with knowledge brokering (identification of knowledge needs, knowledge synthesis, production, dissemination, accumulation, building communication platforms and capacity for knowledge use). Individual interviews with members of Polish evaluation units explored the same set of topics with more depth.

The third phase of theory development aimed to refine the typology of knowledge brokering activities towards a full-fledged and more generalizable theory of change: extending the framework beyond the current practice of evaluation units within the Cohesion Policy. This was done through a systematic review of the literature in the SCOPUS database. It covered 931 articles on knowledge brokering from peer-reviewed journals across 10 disciplines. After a preliminary screening of the abstracts, 254 articles were selected for in-depth systematic content analysis. In order to categorize the different roles of KB and activities in which they are typically involved we proceeded in two rounds of structural and process coding (Saldana, 2012). First, we scanned all of the articles and coded the relevant segments with two master codes ‘definitions of KB’ and ‘KB activities’. We subsequently went through a secondary screening of the 186 coded segments on definitions and 232 identified segments on activities, and eliminated irrelevant segments; leaving us with 134 valid segments to code with a view to refining our typologies and come up with a sense of saliency of each category as represented by the literature. The theory or change was then refined based on the findings from the literature.

The final tier of the analysis aimed at further enhancing the generalizability of the framework across different cultural and institutional settings of evaluation units. This was done through additional interviews of evaluation units spanning a mix of US federal agencies and international organizations (n = 5). The interviews concentrated on the role of evaluation units within a particular department/agency, tools and activities put in place to facilitate the use of evaluation findings, successful examples of evaluations that had real impact, and challenges with introducing evaluation knowledge to decision-making process. An additional set of informal discussions with evaluation practitioners were performed during the American, European and Polish evaluation societies’ conferences.
On the basis of all the evidence collected, the model for understanding evaluation units as KB was recalibrated. It is well grounded in observation of public professionals’ hands-on experience. It is based on the theory and practice from a broad spectrum of disciplines and spanning multiple geographical areas, achieving a high level of generalizability, well beyond Polish evaluation units or EU Cohesion Policy context. We argue that this theory of change is transferable, with some adaptation, to any public or non-governmental organization that strives to base its decisions on empirical evidence and possesses a unit that has the capability of acquiring and processing knowledge.

**Knowledge brokers: Who they are and what they do. Findings from literature review**

**General definition and rationale.** KB are broadly defined as pivotal actors in networks where knowledge is transferred (Kauffeld-Monz and Fritsch, 2013). Other members of such networks are referred to as knowledge producers and users, and brokers are the nodes connecting the two and moving knowledge around (Meyer, 2010). Brokering emerges in environments where evidence-based decision making is favored (Lomas, 2007), and where a plurality of views exists (Cash et al., 2003; Holmes and Clarke, 2008; Naylor et al., 2012).

The literature consistently justifies a rationale for knowledge brokerage as a gap between knowledge producers and users and the need to bridge it (Cooper, 2013; Ferguson et al., 2013; Taylor et al., 2014; Waqa et al., 2013; Willems et al., 2013). This gap results from the fact that decision makers and researchers inhabit two separate worlds, ‘two solitudes’ (Schlierf and Meyer, 2013), each with its own professional culture, resources, imperatives, and time frames (Huusko, 2006); each based on varying beliefs, values, incentive systems and practices (Klerkx et al., 2012; Ward et al., 2009). All that hinders productive communication (Schlierf and Meyer, 2013) and requires a facilitator.

Brokering can be carried out by individuals (Berbegal-Mirabent et al., 2012; Blackman et al., 2011; Ward et al., 2012) – project members, experts, outside specialists (Holzmann, 2013), health care professionals (Shaw et al., 2010), international assignees (Reiche et al., 2009), or by organizations – consulting firms, research oriented organizations, think tanks (Hargadon, 2002; Holzmann, 2013; Meyer, 2010), venture capitalists (Zook, 2004), companies generating innovations (Hargadon and Sutton, 2000). It may also refer to interactive settings (Bielak et al., 2008; Turnhout et al., 2013) and structures (Sheate and Partidario, 2010).

Knowledge brokers must be eminently versatile and at ease in both the knowledge users and producers’ worlds (Dilling and Lemos, 2011). Brokers ought to be fluent in both the language of research and the language of action and decision (Schlierf and Meyer, 2013). In other words, brokers must understand both the research process and the users’ decision-making process including a solid understanding of the political, economic and other factors influencing a decision (Cooper, 2013; Jacobson et al., 2005; Naylor et al., 2012). That is only possible if brokers move back and forth between different social worlds (Meyer and Kearnes, 2013).

**Activities of knowledge brokers.** Conducting a systematic literature review allowed us to identify what KB do, irrespective of the policy domain in which they operate. As shown in Table 1 brokers commonly focus on managing networks of knowledge producers and users. Frequent areas of involvement include: knowledge translation, building capacity for evidence use and
Table 1. Activities of knowledge brokers as described in the literature.

<table>
<thead>
<tr>
<th>Type of activities</th>
<th>N = *</th>
<th>%**</th>
<th>Range of activities</th>
<th>Quotes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identifying &amp;</td>
<td>39</td>
<td>29</td>
<td>Identifying knowledge needs</td>
<td>‘Learning about resources in one context and introducing them in others, they appear and are, innovative.’ (Hargadon, 2002)</td>
</tr>
<tr>
<td>targeting</td>
<td></td>
<td></td>
<td>Scanning existing knowledge</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Knowledge repository and management</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Facilitate question phrasing</td>
<td></td>
</tr>
<tr>
<td>Assisting</td>
<td>15</td>
<td>11</td>
<td>Making the case for a particular research</td>
<td>‘The willingness of all members of the working team to conduct research with continued communication and clarification was essential for the production of “brokered knowledge” leading to the delivery of high quality academic and, ultimately, useful applied science.’ (Meyer, 2010)</td>
</tr>
<tr>
<td>knowledge</td>
<td></td>
<td></td>
<td>Identifying funding</td>
<td></td>
</tr>
<tr>
<td>creation</td>
<td></td>
<td></td>
<td>Finding the right knowledge-producer</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Feedback to producers to voice needs and concern</td>
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<td></td>
<td></td>
<td></td>
<td>Quality check</td>
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<td></td>
<td></td>
<td></td>
<td>Creation of boundary objects</td>
<td></td>
</tr>
<tr>
<td>Translating</td>
<td>44</td>
<td>33</td>
<td>Translating from one field to another</td>
<td>‘From the perspective of policy actors and everyday policy practice, the important transformation is that from expert knowledge to usable or bureaucratic knowledge. Such knowledge enables policy practice to operate on the basis of the newly embedded knowledge.’ (Rydin et al., 2007)</td>
</tr>
<tr>
<td>and adapting</td>
<td></td>
<td></td>
<td>Translating from one context to another</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>Translating past experience for current needs</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Translating scientific evidence to policy-relevant language</td>
<td></td>
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<tr>
<td>Negotiating</td>
<td>19</td>
<td>14</td>
<td>Facilitating convergence of ideas</td>
<td>‘Brokers perform mediation, catalytic, or facilitation roles exhibited in the way knowledge is managed toward effective and harmonized operations.’ (Kingiri and Hall, 2012)</td>
</tr>
<tr>
<td>and convincing</td>
<td></td>
<td></td>
<td>Facilitating participation of users in production process</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>Group consultations</td>
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<td></td>
<td></td>
<td></td>
<td>Addressing barriers to change</td>
<td></td>
</tr>
<tr>
<td>Outreach and</td>
<td>52</td>
<td>39</td>
<td>Disseminate research findings</td>
<td>‘A KB provide a link between research producers and end users by developing a mutual understanding of goals and cultures, collaborates with end users to identify issues and problems for which solutions are required.’ (Kingiri and Hall, 2012)</td>
</tr>
<tr>
<td>networking</td>
<td></td>
<td></td>
<td>Create and sustain networks of knowledge users and producers</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Create and sustain networks of KB</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Link users and producers</td>
<td></td>
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<tr>
<td>Capacity building</td>
<td>41</td>
<td>31</td>
<td>Fostering research literacy among decision-makers</td>
<td>‘KB assess end users, to identify their strengths, knowledge, and capacity for evidence informed decision making, in order to better tailor KB interventions to their specific needs.’ (Berbegal-Mirabent et al., 2012)</td>
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<td></td>
<td></td>
<td></td>
<td>Providing ‘knowledge clinics’</td>
<td></td>
</tr>
<tr>
<td>Using</td>
<td>6</td>
<td>4</td>
<td>Actively apply existing research to particular organizational context</td>
<td>‘If external knowledge is a crucial resource for organisations, and if external knowledge resides in specialised forms outside the organisation, then external knowledge integration is an essential organizational capability.’ (Blackman et al., 2011)</td>
</tr>
<tr>
<td>knowledge</td>
<td></td>
<td></td>
<td>Attempt to integrate external with internal knowledge</td>
<td></td>
</tr>
</tbody>
</table>

*Number of coded text segments referring to particular type of activity.

**The total number of coded segment is 134; percentages do not add up to 100% because many segment referred to more than one type of activity.
identifying information needs. Less frequently brokers engage in facilitating knowledge creation and negotiations. Finally, only a small portion of brokers are the main primary users of the knowledge they broker.

In different contexts and policy domains brokers are inclined to perform certain knowledge-brokering activities more often than others, resulting in different strategies and roles taken by KB. Table 2 presents a spectrum of brokers’ roles in different contexts (e.g. policy & practice areas, business activity, policy making). Brokers’ roles span from political coalition builder to generator of innovations, and from disseminator of knowledge to capacity-builder for evidence-informed decision making. While each of these roles implies a dedicated set of activities, a number of commonalities emerge from the literature. For example, most authors agree that brokers operate between knowledge users and producers, disconnected pools of ideas or domains, distinct teams, clusters or groups and seek to connect them. They do so to facilitate knowledge (information, ideas) transfer, which often also require some sort of translation, recombination and adaptation.

**Knowledge brokering framework for evaluation units**

Many of the descriptors of KB’s functions discussed above will surely have resonated with readers working in evaluation units. However, the evaluation literature is conspicuously silent on the role that evaluation units play in brokering knowledge between producers and end users. In this section and in Figure 1 we propose an empirically grounded theory of change that describes how evaluation units acting as KB can ultimately improve decision making. It can be succinctly stated as follows:

*Actors involved in running public policies have certain knowledge needs at different stages of the policy process. If evaluation units acting as knowledge brokers perform certain brokerage activities then they can contribute to triggering desired behaviours among knowledge users – namely better understanding and better decision making related to public interventions thereby enhancing the quality of public interventions.*

The main idea underpinning knowledge brokering thus goes beyond the underlying assumptions stemming from the evidence-based literature by emphasizing that credible knowledge from research is not sufficient for driving on-going dialogue on policy issues, it needs to be ‘brokered’ (Nutley et al., 2007; Prewitt et al., 2012; Sanderson, 2002; Shillabeer et al., 2011; Van der Knaap, 1995).

**Brokering evaluative knowledge.** Evaluation units operating as KB tend to perform six groups of activities: (1) identifying knowledge needs, (2) acquiring knowledge, (3) feeding knowledge to users, (4) building networks with producers and users, (5) accumulating knowledge over time and (6) promoting an evidence-based culture. The first three activities are sequential, tied to certain policy issues on which evaluation units currently work. The other three are horizontal, performed continuously. We discuss each grouping in more detail below.

**Identifying knowledge needs.** The starting point of KB’s activities is the identification of information gaps related to a particular public intervention and the knowledge needs of a given set of decision makers. From the perspective of evaluation units, different policy actors get involved at different stages of the policy process and express different evaluative
Table 2. Framing of knowledge broker roles in various contexts.

<table>
<thead>
<tr>
<th>Context</th>
<th>Typical framing of roles</th>
<th>Exemplary authors</th>
<th>Examples of definitions</th>
</tr>
</thead>
<tbody>
<tr>
<td>General</td>
<td>Connector – connect knowledge users and knowledge producers. Intermediary – positioned at the interface between those possessing knowledge and those seeking it.</td>
<td>Holzmann, 2013; Lowell et al., 2012; Naylor et al., 2012; Schlierf and Meyer, 2013</td>
<td>Broker is an individual or organization who acts as an intermediary between at least two other parties or communities of practice (Blackman et al., 2011). Knowledge brokers are people or organizations that move knowledge around and create connections between researchers and their various audiences (Meyer, 2010). Knowledge brokering is gathering, synthesizing, processing, and disseminating information (Jinnah, 2010).</td>
</tr>
<tr>
<td>Practice &amp; Policy</td>
<td>Translator – translate knowledge from a discipline-specific lingua into plain language, understandable by end-users. Networker/facilitator – bring people together, facilitate building new relationships that help exchanging ideas, research, knowledge, shared needs and interests. Capacity builder – develop capacity for evidence-informed decision making.</td>
<td>Currie and White, 2012; Klerkx et al., 2012; Sverrisson, 2001; Yousefi-Nooraie et al., 2012</td>
<td>Someone who helps to support the implementation of evidence into policy–practice and the evaluation of policy–practice to build the evidence-base (Armstrong et al., 2007). Someone who is capable of bringing researchers and decision makers together, facilitating their interaction so that they are able to better understand each others’ goals and professional culture, influence each others work, forge new partnerships, and use research-based evidence (Russell et al., 2010).</td>
</tr>
<tr>
<td>Managerial decisions, ideas, strategies for problem solving, based on evidences</td>
<td>Diplomat and negotiators – promote ideas, gain political support, built pro-reform coalition.</td>
<td>Dobbins et al., 2009; Gerrish et al., 2011; Sheate and Partidario, 2010; Ward et al., 2009</td>
<td>A KB is a popular emerging KTE strategy to promote interaction between researchers and end users, as well as to develop capacity for evidence-informed decision making (EIDM) (Dobbins et al., 2009). ‘Brokers’ engage in the policy process, and, in interaction with policy, they communicate existing knowledge, relate this to policy questions or knowledge demands, and explore possible alternatives and their implications. Their goal is not to eliminate options, but to expand the scope of choices available to policy makers depending on their value judgments (Pesch et al., 2012).</td>
</tr>
<tr>
<td>Context</td>
<td>Typical framing of roles</td>
<td>Exemplary authors</td>
<td>Examples of definitions</td>
</tr>
<tr>
<td>-------------------------------</td>
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<td>--------------------------------------------------------</td>
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</tr>
<tr>
<td>Promoter of alternatives – clarify and expand the scope of choices available to policy makers.</td>
<td>McAllister et al., 2014; Pesch et al., 2012</td>
<td>[KB] play a more collaborative role amongst a broad set of stakeholders in the hope of clarifying the scope of policy alternatives and quite possibly increasing the number of alternatives for discussion and associated sense of uncertainty (McAllister et al., 2014). Research brokers make ideas matter and use their intellectual authority to verify certain forms of knowledge as more accurate, persuasive or objective . . . promote ideas and attempt to push them onto the public/government agenda (“soften” the climate of opinion towards particular alternatives) (Stone et al., 2001: 35) (Cooper, 2013).</td>
<td></td>
</tr>
<tr>
<td>Explorer – seeks external ideas to use them in new context.</td>
<td>Hargadon, 2002; Hargadon and Sutton, 2000; Nair et al., 2012</td>
<td>Knowledge brokering refers to the process of bridging disconnected ideas from at least two distant organizations. Simultaneously it involves some form of transformation of these ideas, into the new context (Bergenholtz, 2011). Knowledge brokers, then, are those individuals or organizations that profit by transferring ideas from where they are known to where they represent innovative new possibilities. They transfer these ideas in the forms of new products or processes to industries that had little or no previous knowledge of them (Hargadon, 1998). Third parties who connect, recombine, and transfer knowledge to companies in order to facilitate innovation (Cillo, 2005).</td>
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<tr>
<td>Knowledge seller – operates on knowledge market, buys and sells it.</td>
<td>Cooper, 2013; Rydin et al., 2007</td>
<td>Knowledge brokers, then, are those individuals or organizations that profit by transferring ideas from where they are known to where they represent innovative new possibilities. They transfer these ideas in the forms of new products or processes to industries that had little or no previous knowledge of them (Hargadon, 1998). Third parties who connect, recombine, and transfer knowledge to companies in order to facilitate innovation (Cillo, 2005).</td>
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</table>
Figure 1. Framework for knowledge brokering.
knowledge needs as presented in Table 3. These knowledge needs can be addressed by different sources: opinions, conventional wisdom, experiences, news media, internet posts, discussions and consultations, as well as research evidence. The knowledge broker should focus on ‘empirical knowledge’ (Davies et al., 2010: 201–2), that is information coming from reliable research studies, expertise, analyses and evaluations.

A third of the coded statements stemming from the systematic literature review emphasized that KB identify knowledge needs and match existing knowledge to current needs. To fulfill this role, KB tend to engage in proactive tactics of ‘scanning the horizon’ to remain current with the latest available evidence. At the same time, KB engage in facilitation activities to help knowledge users formulate specific research questions and frame various design options. These facilitation activities also help KB target precisely the knowledge that needs to be transferred by identifying the area of compatibility and relevance between existing knowledge and users’ priorities.

In the case of the Cohesion Policy, evaluation units as KB provide knowledge mainly to group of internal actors decision makers such as politicians heading ministries and regional offices, senior civil servants supervising interventions and public managers running projects. Surveyed Polish evaluation units \( n = 46 \) demonstrate a rather proactive approach to identifying knowledge needs. Ideas for research and evaluation topics come from their own observations of programme or policy field (86%), their participation in meetings with various institutions of the Cohesion Policy system (67%) and their inquiries with management units\(^5\) (63%). On the other hand, only 17 out of 46 units declared that following political and public debates mattered. Targeting of knowledge needs encompass one key activity: translating general, often vague knowledge needs into the language of research questions. All interviewed evaluation units (Polish and international) have been investing a substantial amount of time into working collaboratively with users to come up with research questions.

(2) Acquiring knowledge. About one tenth of the coded segments described KB as engaged in the knowledge creation process. Some of these activities pertain to finding resources, identifying the right knowledge-producers, or engaging in direct knowledge production by creating ‘boundary objects’ that are valued by both knowledge producers and users such as writing briefs, summaries, or reviews of the knowledge produced to synthesize findings at a more

<table>
<thead>
<tr>
<th>Type of knowledge need</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>Know-about …</td>
<td>… the policy issue, spatial and temporal distribution of the socio-economic problems, the needs, expectations and characteristics of targeted population</td>
</tr>
<tr>
<td>Know-who …</td>
<td>… should be involved: (key stakeholders) to develop and implement solutions</td>
</tr>
<tr>
<td>Know-what …</td>
<td>… works, solutions and strategies that produce desired outcomes in the past</td>
</tr>
<tr>
<td>Know-why …</td>
<td>… things work, the causal mechanisms that lead to desired outcomes</td>
</tr>
<tr>
<td>Know-how …</td>
<td>… to implement strategies and activities, operational knowledge on effective implementation</td>
</tr>
</tbody>
</table>

Source: Based on Ekblom (2002: 142); Nutley et al. (2003).
aggregated level. The literature also describes a range of activities that fall into a quality-assurance function. KB assess the relevance, credibility and usability of the knowledge before deeming it worthy of translation and transfer.

In the Cohesion Policy the dominant practice of evaluation units is to contract out evaluation studies to external experts (consultancies, research institutions or experts’ teams) and then play an active role in the supervision of the evaluation studies. Interviewed evaluation units also increasingly engage in the production of internal syntheses that summarize the findings from different studies. It can take the form of synthesis papers (US Environmental Protection Agency evaluation unit), systematic reviews (Independent Evaluation Group of the World Bank Group), peer reviews (Millennium Challenge Corporation monitoring and evaluation unit) or rapid-fire reviews.

Most interviewees emphasized that a key challenge is ensuring the timeliness of knowledge production, which means matching the type of knowledge to the appropriate stage of an intervention (e.g. delivering information on the performance of a pilot project to the designers of the full-fledge programme). Of course some situations will require quicker feedback loops (e.g. ‘know-how’ needs of managers during implementation) while others will allow more time but may require advanced planning (e.g. answering ‘know-what’ questions through experimental designs). Another challenge lies in acquiring knowledge that is credible. Several interviewees attempt to pre-empt poor quality product by being quite specific in the evaluations’ Terms of Reference, in particular with regards to methodology. However, this approach is not fully effective, especially because rigor in evaluation does not reside in a particular methodological design but rather in matching an evaluation design to a particular question (the so called ‘platinum standard’) (Donaldson et al., 2008; Petticrew and Roberts, 2003; Sanjeev and Craig, 2010; Stern et al., 2012).

(3) Feeding knowledge to users. The literature commonly describes KB as engaging in knowledge translation, adaptation and interpretation activities. About one-third (33%) of the coded segments pertained to this type of activities, which include tailoring knowledge to a particular audience, packaging knowledge in an attractive manner, interpreting a body of evidence to focus on what Weiss (1998) called ‘key ideas’, that is, actionable messages. Feeding knowledge may also involve negotiating and convincing. About 15 per cent of the coded segments described KB as negotiators in charge of bringing opposite sides to a common ground. KB thus routinely engage in forums bringing multiple groups of stakeholders together to enable the convergence of interests, ideas, and disciplinary languages. KB facilitate the participation of decision makers in the research process, as this increases their likelihood of adopting the research findings.

For evaluation units, the challenge lies in finding the most effective knowledge forms and delivery channels, and the most appropriate process to engage ultimate users in a particular institutional context. When it comes to knowledge delivery channels, a useful heuristic is to distinguish between diffusion (passive and largely unplanned, uncontrolled, and primarily horizontal efforts or mediated by peers), dissemination (communicating research results by targeting and tailoring the findings and the message to a particular target audience) and implementation (involves systematic efforts to encourage adoption of the research findings by identifying and overcoming barriers to their use) (Gagnon, 2011; Lomas, 1993). The Cohesion Policy procedures create a number of opportunities for official ‘diffusion’ in monitoring committees. Using academics, experts or policy
advisors, as channels for ‘dissemination’ of findings is less common in Poland. Also quite rare are examples of ‘implementation’ – when evaluation units take an active role in assisting users in their decision-making process, especially in organizational contexts where a high premium is put on the functional independence of the unit.

(4) Building networks with evaluation producers and users. The most common type of activities described in the literature pertains to outreach and networking. About 40 per cent of the coded segments referred to KB as engaging in active linking and communication at every step of the knowledge creation and dissemination cycle. Facilitating the collaboration between users and producers, requires a sustained effort from KB who need to leverage personal contacts and build larger networks. KB are typically involved in multiple networks, including: (i) experts with particular competencies; (ii) other KB, with whom they exchange strategies, discuss experiences, access resources; (iii) networks of users.

Recently, the institutionalization of evaluation professional associations has played a particularly important role in connecting various actors of the larger policy process network. Networks such as the European Evaluation Society, the American Evaluation Association, the United Nations Evaluation Group, etc. and their associated conferences tend to bring together knowledge producers, user and brokers. Our interviewees have mentioned these forums as a major source of dissemination, capacity building, and networking. Another way for evaluation units of connecting knowledge producers and users is to bring in public institutions individuals with scientific background, research experience, preferably employed simultaneously at university or research institution.

(5) Accumulating evaluative knowledge over time. There is ample evidence that a single evaluation report is rarely a game changer. What influences a particular course of action is the accumulation of evidence stemming from multiple heterogeneous studies (Leviton, 2003; Rich, 1977; Weiss et al., 2005), a phenomenon described by Weiss (1980) as ‘knowledge creeping into policymaking’. Therefore, building the institutional capability of evaluation units to accumulate evidence is crucial. While most evaluation units surveyed and interviewed engage in simple accumulation strategies, such as compiling, organizing and storing their own organization’s reports, only a few collect relevant knowledge produced by others and provide a ‘clearing house’ with advanced search options to extract a particular body of evidence. The most advanced practice of knowledge accumulation covers explicit knowledge (in codified forms, e.g. reports) and tacit knowledge (e.g. know-how and individual experience of the personnel; Polanyi, 1966). In order to elicit the existing tacit knowledge, evaluation units can work on creating and sustaining communities of practice (such as the World Bank’s Results, Measurement & Evidence Stream) and organizing team reflection (e.g. after action reviews, data driven reviews).

(6) Promoting evidence-based culture. The last set of activities that knowledge-brokers tend to carry out pertains to the domain of training, capacity-building and culture change. About one-third (31%) of the coded segments fell into this category. A key task consists of building research literacy among decision makers through the organization of interactive workshops to create appetite among policy makers for a particular type of research. KB also provide ongoing support, such as knowledge clinics, where evaluation units can provide answers to boiling operational questions in a short time span.
While some evaluation units who primarily serve an oversight function have historically been reluctant to engage in capacity-building efforts, for fear of compromising their independence, instigating an evaluation culture within a particular organizational setting is increasingly seen as paramount to the success of an evaluation unit. Polish evaluation units are quite active in that field with the following undertakings:

- organizing ad hoc and systematic trainings (since 2008 the core instrument has been the Academy of Evaluation – a post-graduate elite study programme for senior civil servants run jointly by Ministry of Development and University of Warsaw);
- running annual national and regional conferences that promote evaluation results and creates forum for discussion on successful public policies (engaging regional, national and international decision makers, academics and experts);
- publishing books and manuals on knowledge use in public policies (e.g. series on advances in evaluation run by Polish Agency for Enterprise Development);
- arranging national contests for best evaluators and best evaluation study.

Mechanisms and expected change. A theory of change is not complete without laying out the assumptions underlying the change process. In this section we review the change mechanisms that need to be ‘fired up’ for knowledge brokering to make a difference. Brokers should trigger certain behaviours among knowledge users. As shown in Figure 1, in an ideal situation users correctly understand the evidence provided by KB, internalize that knowledge by modifying their individual mental models (that is their assumptions about how interventions work) (Levitt and March, 1988; Senge, 1990) and then act upon that gained knowledge by making improvements in an intervention. They could make simple adjustments to procedures and routines (single loop learning), substantial changes in underlying premises of interventions and strategic orientation (double loop learning) or they could even change the way they analyse interventions (deutero learning) (Argyris and Schon, 1995; Fiol and Lyles, 1985).

KB have to be aware of four types of mechanisms that determine their influence on decision makers: mental models, bounded rationality, organizational learning dynamics and regime-specific biases. The first two sets lie in the way individual decision makers make sense and act on information. The literature stemming from cognitive psychology provides good insight into the boundaries of human cognition, such as short-term memory and the need to relate new information to their existing mental models (Johnson-Laird, 2009; Lupia, 2013). Moreover, empirical findings of behavioural psychology reveal that context matter in decision making, especially on complex issues, and under uncertainty. In such context, people heavily rely on heuristics and ‘rules of thumb’ that can lead to systematic errors and biases (Kahneman, 2011; Tversky and Kahneman, 1974). Effective KB have to be aware of the so-called ‘bounded rationality’ of knowledge users (Simon, 1991) and apply appropriate communication strategies (Evergreen, 2013; Torres et al., 2005).

The third set of mechanisms relate to the dynamics of organizational learning that shapes how evaluation findings are integrated in a collective mental model at the level of a particular institution. Again, effective brokers have to understand the inherent factors determining learning in organizations such as trust level, incentives, organizational routines that support collective reflection, as well as the role of leaders in that process (Lipshitz et al., 2007; Olejniczak and Mazur, 2014; Preskill and Torres, 1999).
Finally, KB must watch for mechanisms inherent in the policy process. Different decision regimes operate within public policies, often depending on the topic and the stage of the policy cycle (Lindquist, 2001). Those regimes assign different value to research evidence and expertise. For example, political negotiators value group interests, feasibility of projects or media opinions rather than research results (Bots et al., 2010; Davies et al., 2010). Thus KB should be realistic: research evidence is at best only one of the many considerations that decision makers take into account.

Conclusions

The article raised two questions: (1) what can be learnt about effective ‘Knowledge Brokering’ from the literature across different disciplines? and (2) how can the concept of knowledge brokering be adapted to evaluation units and help them tackle the challenge of evaluation underutilization? Those two questions have been addressed by laying out a framework built on a systematic review of the literature and tested empirically. This framework is positioned at the intersection between the domain of evaluation utilization, the growing field of evidence-based policy, knowledge use in decision-making processes, and a large untapped literature on organizational learning. Cross-fertilization between these fields can go a long way in deepening our understanding of the phenomenon of evaluation units’ role in decision-making processes.

The theory of change underlying the framework of evaluation units as KB transforms evaluation units from mere buyers of expertise and producers of isolated reports into animators of ‘reflexive social learning’ that steer streams of knowledge towards decision makers.

We found that evaluation units de facto already engage in many brokering activities. However, framing evaluation units as KB substantially rearranges the current perspective on the role of evaluation units in at least five ways. First, the framework puts policy issues and public interventions at the centre of attention of KB. The accent is on understanding the mechanisms that help socio-economic change. Therefore, the subjects of brokers’ activities are not single reports but the body of evidence on certain types of interventions that contribute to solving socio-economic issues.

Second, knowledge needs are always related to actors – politicians, senior civil servants or managers. There is a clearly defined group of knowledge users that needs to be identified and engaged in the knowledge production process. This user-oriented perspective requires evaluation units to follow the dynamic of the policy cycle, understand the needs of users, their constraints, preferable forms of communication, and sometimes even raise their awareness of particular information gaps. Responding to users’ specific needs would generate commitment from users, especially top management.

Third, the framework clearly focuses on evaluation’s learning function (underdeveloped in the Cohesion Policy’s evaluation system), rather than the more traditional accountability function that is already well covered by the numerous reporting, monitoring, audit and controls tools. Brokers are change agents that incrementally contribute to behavioural and organizational adaptation to changing contexts at the levels of individual decision makers, organizations and policy arenas.

Fourth, the framework portrays complex knowledge brokering activities in terms of game dynamics that insists on matching the right configuration of elements – such as, the type of knowledge needs, with the right timing and the right users, as well as, research designs with
research questions, type of users with knowledge forms and means of communication – to increase the chances of uptake.

Fifth, the framework does not downplay the degree of uncertainty that underlies the link between brokers’ actions and their impact on the quality of interventions. Many factors, beyond evaluation findings, influence decision-making processes, including political rationality, organizational dynamics, characteristics and sense making of the knowledge users. However the better the quality of brokers’ activities and the stronger the evidence base they present, the higher the chances of positive influence.

Although the framework substantially reshapes the role of evaluation units, it does not demand any major increase in their current volume of activities. It has been built on existing experiences and it only requires some reorganization of thinking. Since evaluation units can be found across all European Union countries, in US federal agencies and in international organizations (UN, World Bank), the framework has a high potential for reaching diverse evaluation practitioners and range of organizations, including government bureaus and international organizations.

The proposed framework is a starting point for further exploration on evaluation units through the lens of knowledge brokering. It raises at least three issues for future research. The first aspect is an application of the framework in different institutional contexts, outside of development policy, to further test its generalizability. Promising examples that have already been documented in the recent literature are Scottish national public health centres (Wimbush, 2014) or Health Evidence Network in Canada (Porteous and Montague, 2014). While, the framework provides a wide spectrum of brokers’ activities, the reviewed literature shows that in different contexts some brokers may engage in some activities more often than in others, resulting in slightly different roles played by brokers. These relations are worth further exploration in the context of evaluation units.

The second is a more practical question. What does it take in practice to turn evaluation units into fully equipped KB, which can make a difference in complex decision-making settings? Answering this question involves considering such practical aspects as: (1) integrating new activities with the existing roles of evaluation units (2) finding the effective balance between different brokerage activities, (3) coming up with capacity building activities that would allow this organizational transformation and (4) securing human resources to perform KB tasks – an especially challenging task in a time of financial austerity. Some practical solutions, worth further exploration come from the Polish public sector. Evaluation units started to build their capacity for knowledge brokering by using game-enabled simulations specifically designed for this purpose. This allows them to learn some of the key skills of knowledge brokering in a safe environment, such as testing different strategies to allocate their financial resources, times and energy on various brokering activities.6

A final issue for future research is the position of evaluation units in relation to other entities within public organizations that provide research-based knowledge – analytical units, regional development observatories (new entities established at the regional level for integrated Cohesion Policy activities), strategic management units or regulatory impact assessment teams. Should evaluation units be integrated into a wider unit of ‘evidence providers’? This question takes us back to the issue of the role of evaluative studies in a crowded landscape of evidence targeting policy-making. It is worth remembering, that from the perspective of decision makers who are the primary knowledge users, evaluation results are only a single drop in a wider stream of useful knowledge.
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Notes

1. This is a rough estimate as there is no official list of evaluation units and each country has a different system. The Cohesion Policy aims at socio-economic development and uses a third of the whole EU budget (around 351.8 billions for 2014–20). It is co-financed by the EU and implemented by national and regional administrations in the form of operational programmes, priorities and activities that range from investment in heavy infrastructure, through R&D, to human resources.

2. Organizational arrangements and number of units differ across countries. In some countries – for example, Poland – each Operational Programme has a separate evaluation unit, while the National Unit plays the role of coordinator and initiator of horizontal studies. In Hungary there is only one National Evaluation Unit and a network of staff from each Operational Programme, assigned to evaluation responsibilities. In some countries evaluation units are very active in terms of producing studies (e.g. the Polish units have contracted over 900 studies since 2005) while in others the number of produced studies are very low in comparison to the size of the programmes (e.g. Spain). Despite those differences, all the evaluation units across the EU Cohesion Policy system work in line with the general EU regulation and execute similar tasks.


4. In the majority of cases ‘knowledge producers’ refers to ‘researchers/scientists’ and ‘knowledge users’ refers to ‘practitioners/decision makers’ (Berbegal-Mirabent et al., 2012; Cooper, 2013; Dilling and Lemos, 2011; Meyer, 2010; Partidario and Sheate, 2013; Taylor et al., 2014; Willems et al., 2013).

5. These are units that design, manage or implement programmes.

6. For more information on the game design and its educational application see Olejniczak et al. (in press) or visit the web page: www.knowledgebrokers.edu.pl.

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