**Reviewer's report**

**Title:** A Mixed Methods Examination of Knowledge Brokers and their Use of Theoretical Frameworks and Evaluative Practices

**Version:** 0 **Date:** 02 Aug 2019

**Reviewer:** Kara Decorby-Watson

**Reviewer's report:**

Dear Dr. Newman and co-authors,

I categorized this as a major revision since my comments cross a number of areas (e.g. methods, discussion) and consideration of additional literature. I didn't see guidelines around what's minor or major but given the length of my comments I felt "minor" was an unfair statement. I can see the value to the field, and really interesting directions for future research. The idea to consider how evaluation is conceptualized, and its fit with the theories/frameworks most often used is really interesting to me as someone who has held a KB role.

* Ethics - Please mention ethics approval process earlier in the paper, even if only briefly. There's no mention of ethics until the survey info on page 9 and it's likely that ethics clearance was needed for interviews too.

* Abstract - background line 20 - knowledge brokering is described as "relatively new" but it has been written about since at least 1998 (Andrew Hargadon) and in healthcare in Canada since 2003-4 (CHSRF). Is it considered a new role after ~20 years? The literature about the role is actually pretty well-established and you probably want to argue that since you allowed KB to self-select or declare themselves KBs. It's probably best to say that the role is well-established and commonly understood in Canada; therefore, people could self-identify and you would still be getting the right participants to address your research question.

* Abstract - conclusions line 11/12 - engagement might increase if KBs made efforts...using theories or models specific to KB (is this proposition supported in your data? Do we know this helps engagement or could you add a citation for this?) also line 15/16 - is meeting needs exclusive from the use of theories or models (this statement is unclear to me).
* Background - line 35 - decision maker is not hyphenated as a compound noun, only as an adjective as in decision-making process.

* Page 5, Line 11 - "WHICH?" Is probably meant to be replaced by "This"

* Page 5, line 28, line 33 - blank lines are within these sentences and likely need to replace with the last part of the name of the theory.

* Page 5, 6 - there is a lot of discussion about frameworks and theories in paragraphs starting on lines 18 and 42 on page 5, and the evaluation portion of your question doesn't seem to be as strongly reflected in your review of literature as the theories and frameworks. Reading the last paragraph at the top of page 6 "There is much to learn" is a bit of a jarring transition from the frameworks piece although I can see how it relates to the Nilsen paragraph above. So my suggestion is just to address the imbalance between theory and evaluation in this section and ensure the transition/link is a bit more seamless.

* Page 6, study design - I think the design section needs better explanation of the fit of the qualitative with the quantitative and the relative (distinct) contributions of each type of data. The paper does not make a clear enough case for why both are there and kind of hints at the quantitative data being used to validate the qualitative data. Is the purpose to use the qualitative data (from grounded theory design) to see whether the survey can get at the same answers? Or is it that each data type makes a particular contribution to answering the research question? (examples of rationale I'm asking about are in table 3.2 on page 62, https://us.sagepub.com/sites/default/files/upm-binaries/35066_Chapter3.pdf) Suggest the quantitative design needs a label too; there's more detail on the design of the qualitative research perspective and not much about the survey other than survey being the data collection method (but survey is not a design). What do examples of Convergence Model suggest to give in level of detail on all of the designs incorporated, whether qualitative or quantitative?

* Please state clearly whether the interview guide and survey questions had any relationship to each other (how similar or distinct and whether developed one first and used that to inform the other). "Mutually exclusive sample" needs clarity in explanation. Suggest to align "knowledge brokering practices" phrase with the research question (line 40) so you're not using too many different ways of saying the same thing. It's easier to pick up the common thread if
consistent terms are used (e.g., the way you have used 'health promotion and the provision of healthcare' in your abstract and background)

* Page 6, study setting etc. - by listing participants' organizations and telling the reader their role is that of a knowledge broker, are you identifying them? Later in your paper you mention that characteristics could not be given due to the need for anonymity, but I'm wondering whether organization name does the same thing. This is only a question and not asking for change if the answer is 'no'.

* Page 7, line 23 - very minimal detail on how the "variety" of KB practitioners was set out (variety in terms of geography? Types of organizations? Gender? Level? Other?) Please add more detail about the diversity in KBs?

* Page 7, line 28 - asked to recommend "acquaintances" sounds like personal friends; please re-word to professional acquaintances in their field or something more descriptive

* Page 7, line 52 - suggest to add "identified themselves as KBs" in healthcare, so it's clear you've stuck with healthcare (since KBs self-selected and roles aren't always well-defined, if you have their field and job title similar that's good to establish)

* Page 8 - may want to state clearly if no additions were made to the interview guide during the course of the interviews. Interview guides are often amended or added to 'on the fly' and it seems like you were very consistent in your guide's use.

* Page 9 - line 25-6 - WHO? (not sure what this means here, perhaps just an extra word?)
* Page 10 - line 16-18 - "sought to confirm..." This implies your quant data was used to validate your qualitative findings as opposed to using different sources of data to paint a more complete picture. Qualitative data are not preliminary data that need quantitative data to evaluate and validate them. The second part of that sentence about increasing trustworthiness of the conclusions via use of different data sources is a better rationale to use. However, I think it sounds like the way you positioned qual and quan in this project sets a tone that the qualitative findings can't stand on their own. I'm asking to consider a more explicit explanation of the relative contribution of qual and quant (e.g., how the models in fig 7.1 on page 167, https://www.corwin.com/sites/default/files/upm-binaries/19291_Chapter_7.pdf) Not suggesting you depict it in a visual, just that these give examples of how the different options can be described. More detail on how the comparison piece was done is needed. The last sentence re: "bringing together strengths and non-overlapping weaknesses" isn't transparent as an approach.

* Page 12 - use of theories and models is discussed again. Across the paper, suggest to be consistent about how theories models and frameworks are labelled. The title says one thing (Theoretical Frameworks), the abstract calls it another ("theories-of-practice") and in the paper it is called various names at different times.

* Page 12 line 42 - use of a particular model (can you be more specific about what type of use or what "use" refers to in this context? Is this about how it is used? Conceptual use or instrumental use?)

* Page 15 Evaluative practices. This section seems like it should report on the practices to evaluate KB efforts (so HOW they evaluate). Instead it talks about indicators they used to operationalize impact (whether they see something released, reflected in policy, policy changes, rates going down). The point about satisfaction being an indicator and how that differs is well made on page 16. This section wraps up a lot stronger than it began and suggest
These two quotes appear to describe "fairly immediate and visible" and "liberal health policy changes". If that's what the data show, fantastic for those programs. Just wondering whether big, immediate changes were typical and so these quotes represent what was typical, or were there other perspectives on changes happening more over time and not being dramatic changes, as you say in the next paragraph. I'm only raising this because it's the first data you read in this section and they sound exceptional (however, as I said, great!). I'm only suggesting to consider whether these data and types of KB-reported evaluation results are representative of most of the accounts in the data. This doesn't require a change, just asking the question.

Discussion - some of what you've presented is conflicting with your summary on page 12 that "Instead they rely on knowledge users or paying clients for direction on the need for an organizing framework or model". I think this statement is really interesting because one could assume that a knowledgeable KB would bring the value of having a model/framework to their clients/partners, rather than relying on them. Regardless, to me this doesn't seem consistent with other statements that KBs are using models and frameworks and selecting them to suit the situation (if they're only using them if their client is directing them to do so). However, if that's the case, it likely explains why there's less to know about evaluation and why satisfaction would be a frequent indicator instead of actual outcome indicators! I think your findings around this are really interesting.

Page 17 line 37-40 - partners waits - should be wait

Page 18 - paragraph lines 18-33 need more incorporation of the literature on this topic. There seems to be a proliferation of relevant literature since 2007 and I'm suggesting to make it clear that lack of evaluation isn't because we have no idea how or what to evaluate. There is evaluation out there, but it may not be applied by KBs or may not be a priority piece of the frameworks they're applying. My suggestion is just to acknowledge what's out there within this section to further reinforce what you're saying about this group of Canadian healthcare KBs.
What about the fact that KBs report use of models and frameworks, but do not report covering off the 'monitor and evaluate' part that well? They can't be using them in a really comprehensive way and is that a deficit to mention? To be fully transparent, although I am not suggesting that you change this if it is supported in your data, I would argue strongly against Page 19 line 42 that KTA doesn't focus on evaluating impact, since these frameworks (PARIHS and KTA) have been widely used and have been applied with evaluation results in the published international literature. So my suggestion is to consider qualifying this statement and basing it on participants in your study not accessing the evaluation parts of those frameworks (as opposed to the frameworks not covering evaluation well enough). I would argue there's more to know about evaluation from KTA and PARIHS than from many of the others that have been less widely applied and adapted so just wanted to ask you to consider how this is framed as it is a strong statement.

Page 19 - given the proliferation of literature in recent years (based on systematic database searching) and wealth of theories models and frameworks, great value in linking these to KB work (esp instrumental use)

Page 20 - lines 23-28 - the way this is described aligned with the Convergence Model? The "mixing of two datasets" isn't fully transparent and I'm wondering if you can add more detail here so the reader has more explicit rationale for the value of this approach for answering your question around the phenomenon of knowledge brokering

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