

A New Model for Increasing Information Access and Literacy in the Global South

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Abstract

Rapid advances in technology infrastructure and increasing access to constant connectivity are paving the way for more innovative methods to support knowledge sharing in Global South countries. We present a model for knowledge sharing that is open, interactive, draws on diverse expertise and experience, and builds a searchable information repository that can be used by multiple communities and organizations. In addition, we envision that this model can be an effective and low-cost stepping stone to improved information literacy across the developing world.

Keywords: Global South, education, information literacy, development, technical assistance

Citation: Tsaasan, A.M., Waite, P., Cheng, K.G. (2015). A New Model for Increasing Information Access and Literacy in the Global South. In *iConference 2015 Proceedings*.

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Research Data: In case you want to publish research data please contact the editor.

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1 Introduction

Rapid advances in technology infrastructure and increasing access to constant connectivity are paving the way for more innovative methods to support knowledge sharing in Global South countries. We present a model for knowledge sharing that is open, interactive, draws on diverse expertise and experience, and builds a searchable information repository that can be used by multiple communities and organizations. In this model, users are active collaborators, adding content, context and relevancy to new and existing information. In addition, we envision that this model can be an effective and low-cost stepping stone to improved information literacy across the developing world.

2 Technical Assistance Challenges in Development

Technical assistance (TA) in the development context is intended to be knowledge transfer from donor countries to recipient organizations in Global South nations. Ideally, technical assistance is short-term, resulting in gained skills and knowledge that lead to improvement and/or expansion in services.

Current technical assistance models have limitations. In the traditional model, the donor not only provides funding for projects but also selects and/or provides the technical assistance to guide the projects (Beaton, 2009). The donor, then, ends up choosing the focus and scope of projects by controlling access to information and expertise.

Another model is knowledge sharing hubs where technology, such as websites, are used to allow countries to share “practice-based expertise and successful solutions” (Choesni & Schulz, 2013). In knowledge sharing hubs, organizations in Global South countries can seek the help they need, rather than having to accept the help they are offered (Task Team, 2011). However, these hubs tend to be passive data repositories, requiring the user to possess particular process and information literacies to be able to find and make sense of the information they receive. Research suggests, though, that many people still struggle with information literacy (Larose, 2014; Wesleyan, 2014; Buchanan & McKay, 2011), and as such, ineffective searches occur fairly frequently [e.g., (Fang, Somasundaram, Si, Ko, & Mathur, 2011)]. Discussion forums in knowledge hubs provide another way for users to find information, but this format has limitations too, as people often struggle to clearly articulate what information they need (Treudel, Barzilay & Storey, 2011).

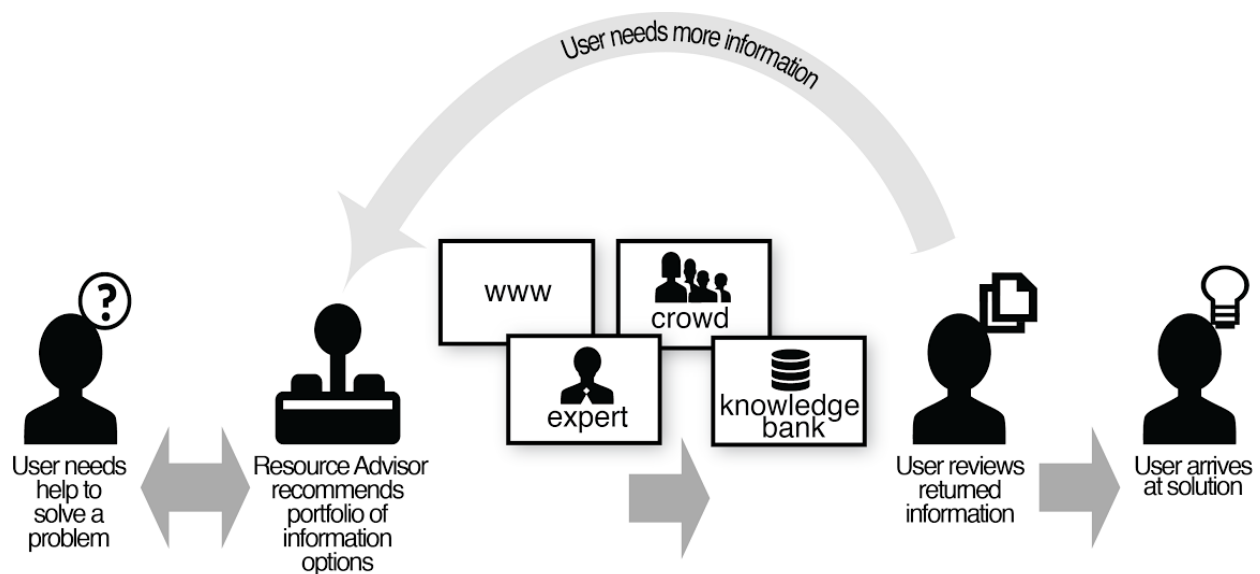
3 Information Access for Development - A New Model

In development contexts, the information that decision-makers and implementers need is often complex and not easily translated into search terms for use in a database query. Moreover, search results will

often return information that was generated in geographically distant locations and that may or may not be relevant to the user's information needs. To address this need, we are developing an information access model which helps people find reliable information quickly and supports synthesizing and applying that information to their context.

Our model builds on previous research in several domains. First, we provide users with a human advisor, who is highly information literate. Though computer search algorithms have become more advanced, expert human searchers are still more skilled at finding the most relevant information (Fang et al., 2011; Teevan, Collins-Thompson, White, Dumais, & Kim, 2013; Daniels & Yakel, 2010; Buchanan & McKay, 2011). This is similar in concept to the role a reference librarian plays within a research environment. Second, we use a question-and-answer interactive format to allow users to seek information from experts and from other users. Research on question-and-answer websites indicates knowledge can be generated and curated within communities, ensuring that relevant and updated information is available to users. A well-studied example of this is StackOverflow (Treudel et al., 2011; Schenk & Lungu, 2013; Bosu et al., 2013; Wang, Lo & Jiang, 2013; Hanrahan, Convertino & Nelson, 2012). Third, we leverage the power of The Crowd. Crowdsourcing has been shown to be an effective method for gathering diverse and accurate information, with results rivaling that of seeking information from experts (Klein, 2011; Mollick & Nanda, 2014; Simmons, Nelson, Galak & Frederick, 2010). In development contexts, the crowd may be particularly important because of the diversity of perspectives and experiences that are represented among them (Maskell, 2014).

An overview of the model is shown in the figure below. The user enters the system through dialogue with a Resource Advisor who supports the user in gathering information to resolve her problem.



1. To begin the process of knowledge sharing, the user has a problem in her development project and needs more information to help solve the problem. For example, this could be an aid worker who is trying to find ways to increase girls' school attendance. Research suggests that it is highly likely that the average user will not phrase the question properly (De Choudhury, Morris, & White, 2014; Buchanan & McKay, 2011]. In our model, the user dialogues with a Resource Advisor to more clearly define the problem and to articulate what information it is that the user needs in order to solve the problem. To serve users across the globe, the Resource Advisor is accessible through a number of different communication mediums. The dialogue can also be synchronous (e.g., voice call, Skype call, live chat) or asynchronous (e.g., email, SMS).
2. The Resource Advisor then recommends an appropriate information portfolio for the user to find the information that she needs. The portfolio can include any of the following:

- Clearly targeted search terms for use in existing knowledge databases (e.g. PubMed Central).
 - Clearly articulated question(s) to present to domain experts.
 - Clearly articulated question(s) to present to The Crowd.
 - Search strategies to find responses to similar questions posed by other users. (e.g. within the application database, called the Knowledge Bank)
3. The user reviews the information that she has received from these multiple and diverse sources, and assesses whether she has gained sufficient knowledge to arrive at a solution to her problem. Her query, and the information resources that were returned and rated as useful, are stored in the Knowledge bank and made searchable for other users. If she needs more information or needs help interpreting information, she can iterate through the model again. In subsequent iterations, as she becomes more experienced in searching and question asking, the user may bypass the Resource Advisor and access any of the four options directly. And, as she utilizes this model, her information literacy should increase as she is guided through the search process and good search practices are contextually modeled.

4 Conclusion

In order to truly transform knowledge into power and to use information for liberation, in the words of Kofi Annan, users need to know what to search for, how to navigate potentially treacherous seas of information, and how to apply the new found knowledge in their everyday contexts. The reality, though, is that information literacy is quite low around the world (Teevan et al., 2013). We believe this model has the potential to empower people in the Global South, as information seekers decide *what* information they need, *when* they need it, and *which* information to use.

One expected outcome of this model is increased information literacy for users. We expect their participation with the Resource Advisors to help them gain the skills necessary to determine the best sources for information for their ongoing needs. The Resource Advisor will be trained to find content that was generated by people and organizations in Global South countries, and not only content that was created in Western countries. Over time, it is hoped that the users of the system will gain greater information literacy and be able to navigate the information networks themselves. Additionally, it is hoped that, as users gain more information literacy, that they will also be able to generate and contribute more information to the knowledge bank, thus allowing their perspective and ideas to be better represented.

5 Future Work

We are applying this model to the health sector in Global South countries. To better understand the specific information needs in the health sector, we have begun surveying and interviewing individuals who work for organizations that provide health services in Global South countries. We will also seek their input on how this model can be improved. We will then partner with several organizations to implement and test the model.

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