Approaches to Knowledge-Brokering

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1. Introduction

The purpose of this paper is to help stimulate thinking about knowledge-brokering in advance of the Search Conference on May 15/16, 1997. Our emphasis has therefore been on introducing a set of ideas that we hope may provide a useful starting point for collective discussion. Our intention is not to advocate a particular point of view, and you may discover that some of the ideas presented are mutually inconsistent.

The paper is organized as follows:

Section 2 provides a brief overview of the context for a discussion about knowledge-brokering;

Section 3 addresses the question, "What is knowledge-brokering", and attempts to introduce a number of distinctions that may be useful in helping us describe what we each understand by the concept. It goes on to illustrate these distinctions by applying them to a number of examples of activities that could conceivably be considered as "knowledge brokering";

Section 4 identifies some practical issues that have to be addressed by organizations interested in carrying out knowledge-brokering activities;

Section 5 discusses knowledge-brokering and development, and presents a number of alternatives with respect to Canada's approach to knowledge-brokering.

2 . Context

This section provides a brief summary of some of reports, speeches, and initiatives that collectively set the context for a discussion about knowledge-brokering.

Connecting with the World, the report of a Task Force chaired by Maurice Strong, succeeded in putting the concept of 'knowledge brokering' on the Canadian public policy agenda.

The Strong Report argues that "knowledge now plays such an important part in the process of development, that development itself is being redefined in terms of the ability to generate, acquire, disseminate and employ knowledge, both modern and traditional. This redefinition has direct application to North America and Europe, as well as to developing economies. "

Given this fact, the Strong Report suggests that "Canada's strategic advantage is most likely to lie in its potential as a 'knowledge broker,' a country with particular historical advantages in international coordination, a country with an excellent stock of international goodwill, and a country with historical expertise in communications (e.g., railways, telecommunications) and a growing capacity in the most modern aspects of communication and cybernetic technologies."

The Strong Report does not provide a definition of knowledge brokering, but does suggest that 'knowledge' could be viewed "as having three dimensions:

> • The creation of substantive knowledge, in the form of both services and products, across a range of development issues;
>
> • The creation of knowledge-based networks that can multiply, disseminate, and expand knowledge; and
>
> • The building of the capacity to use, adapt, and build knowledge for sustainable development at the local level, and to build a base upon which effective and appropriate policy can be developed. "

In a speech in December 1996, Lloyd Axworthy discussed knowledge-brokering. "The strategic use of information, and the ability to influence others by presenting attractive models and ideas, have become central components of a nation's ability to exert political, economic or cultural influence." He went on to argue that "Canada is well placed to wield 'soft power' and to act as a knowledge broker", and later called for the development of an international information strategy for Canada, which would have two main aims. The first would be an integrated and comprehensive approach to projecting abroad information about Canada. The second would be to use new information technology as a tool to meet Canada's foreign policy goal.

Knowledge brokering also appears in the Liberal Party's Red Book II platform for the June 2 election: "Our government sees a role for Canada as a knowledge broker, helping developing countries to acquire the skills and means to improve their circumstances. Canada has the experience, sophistication, and capacity to gather and disseminate knowledge. It is not surprising that Canada, a large country with a widely dispersed population, has developed into a world leader in community radio, public broadcasting, satellite communications, and distance education. By adapting and transferring these technologies to the needs of developing countries, Canada can provide the means to help improve the education level of their populations. This will ultimately improve their economies and their trading capacity." Knowledge brokering does not appear in the platforms of any of the other federal parties.

An initiative which is relevant to this discussion is a pilot project on knowledge-brokering which is being jointly undertaken by IDRC and IFIAS, the International Federation of Institutes for Advanced Study. This project predates the appearance of the

Strong Report, and has been designed to test a number of specific knowledge-brokering services. The longer-term objectives of the Knowledge Brokering joint venture are:

• To contribute to enhanced application of research results in both a global and a national context;

• To test a series of knowledge brokering services that have the potential to generate new revenues to support the people and organizations involved in carrying out research; and,

• Over the longer run, to influence the evolution of the knowledge market to promote more equitable participation by developed and developing country institutions as clients and suppliers.

In 1996 and 1997, IDRC and IFIAS will develop and test market several types of knowledge-brokering services, including Internet-based information services, customized policy briefing and research services, and multi-client research projects. Overall guidance for the Knowledge-Brokering initiative is provided by a Knowledge-Brokering Advisory Council chaired by Dr. Geoffrey Oldham.

While the pilot project is still underway and results are preliminary, we can nevertheless still draw some conclusions about some aspects of knowledge-brokering from the lessons that have been learned so far. (Additional details about the IDRC-IFIAS Knowledge-Brokering Pilot Project are available from the Knowledge-Brokering website at http://www.knowledge.broker.org.)

The above references lead to a number of observations.

1. Knowledge brokering is seen by some as an appropriate response by Canada and Canadian organizations to the major changes that define the environment for development in the coming decade;

2. The term knowledge-brokering is used to refer to a very broad range of activities. The understanding of knowledge-brokering that underlies the Strong report is not necessarily the same as that envisioned by Minister Axworthy, which also appears to be different from the approach being tested in the IDRC-IFIAS pilot project.

3. One of the key opportunities presented by the May 15/16 Workshop is therefore to shape the concept of knowledge-brokering in ways that make sense for Canada and for organizations that are interested in participating in knowledge-brokering activities.

3 . What is knowledge-brokering?

The objective of this section is not to attempt to provide a definitive definition of knowledge-brokering, but rather to offer several "frameworks" for thinking about knowledge-brokering that may be useful in helping us carry on a discussion about it.

The Oxford English Dictionary defines the word 'broker' as "One employed as a middleman to transact business or negotiate bargains; often specialized as bill broker, cotton broker, pawnbroker, shipbroker, woolbroker. Formerly also 'jobber, agent, factor, commission agent'." Knowledge is defined by the O.E.D. in various ways which seem to boil down to "that which is known", which isn't all that helpful. While there are clearly conceptual distinctions between data, information, and knowledge, precise definitions are not likely to be particularly helpful in practical terms.

<u>Frameworks</u>

Knowledge-brokering can potentially be applied to a very broad range of activity. To be useful as a concept, we need to be able to distinguish between different situations. We propose three frameworks for thinking about knowledge-brokering, each of which relates to a specific context.

<u>Knowledge system framework</u>

This framework is useful for thinking about how knowledge is created, diffused, used, etc. within a country as a whole, with a view to understanding the role played by various institutions, interactions among institutions, and how the various processes can be strengthened.

U.S. National Academy developed the following 'dimensions' of knowledge:

> • Creating knowledge: The process whereby new knowledge is produced.
>
> • Acquiring knowledge: The process whereby knowledge, new or old, is identified and acquired.
>
> • Assimilating knowledge: The process whereby knowledge, once acquired, is assimilated into an individual's , or firm's, or institution's total body of knowledge.
>
> • Using knowledge: For most human activities knowledge must be used before there are economic and social returns. There is an exception to this in the creation of knowledge when the act of generating new knowledge in academic environments is deemed to be a worthwhile cultural activity, even if the knowledge is not immediately useful.
>
> • Disseminating knowledge: Societies or countries only get maximum benefit from knowledge which has been successfully applied, when that knowledge is widely disseminated. There is sometimes a conflict of interest between an

individual or firm's proprietary advantages which might be greatest when the knowledge is kept private, and the advantage to the country when it is widely disseminated.

For each of these 'knowledge' activities there may be a corresponding "brokerage" role. To know how to create, acquire, assimilate, use, or diffuse knowledge requires both explicit and tacit knowledge which is embodied in the broker. The knowledge assessment concept attempts to determine international best practice in each of the above knowledge dimensions, and then measure how the unit of analysis, whether it be an individual, an institution, or a country, compares with this international best practice. The World Bank has been conducting an initial test of a methodology for knowledge assessment which will be reported on during the Knowledge for Development Conference in June, 1997.

This systemic framework is sufficiently generic that it may be able to encompass any knowledge-brokering activity. Nevertheless, for purposes of discussion, it may be useful to highlight two specific contexts.

Transactional framework

This framework focuses on the interface between organizations that are "creators" of knowledge and organizations that are "users" of knowledge in the context of specific "transactions" - i.e., an interchange of knowledge that is relevant to specific decisions or projects. This framework is in particular relevant to the projects which are currently under development within the IDRC-IFIAS Knowledge-brokering Pilot Project, where the focus is knowledge needed to support policy decisions in the public and private sectors.

Interface

Direct

Distributors

Integrators

Intermediaries

Brokers
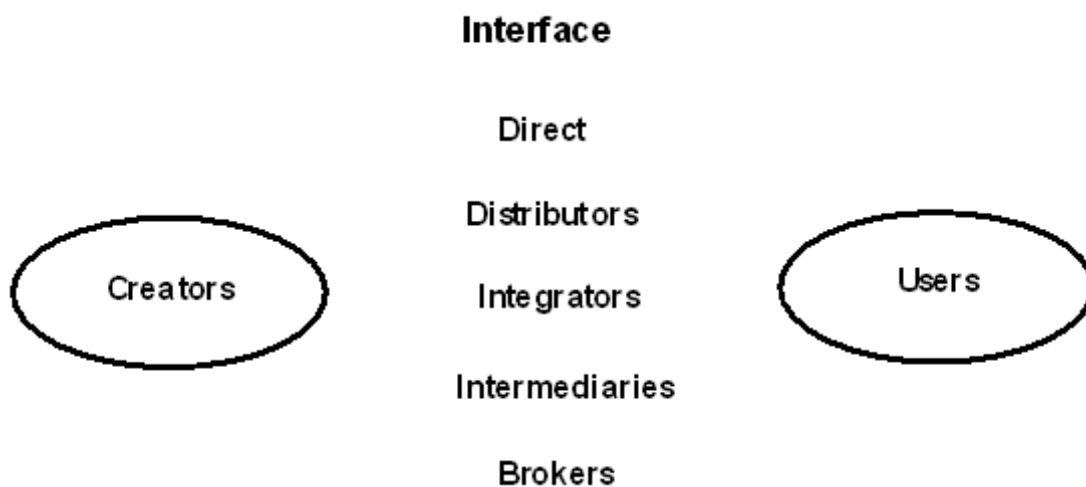
Creators

Users

In this framework:

> • "Creators" refers to institutions involved primarily in the creation of knowledge: i.e., universities, research organizations, etc.

• "Users" refers to organizations that need knowledge for decision-making purposes - governments, corporations, etc.

Linking "users" and "creators" are five types of "interface":

• "Direct" refers to the fact that in some cases there is a direct interface between the knowledge-using and knowledge-creating organizations. This tends to occur in a minority of cases.

• "Distributors" refers to organizations that broadly disseminate knowledge. The primary relationship for distributors is with the creators. Examples include publishers, on-line providers, etc.

• "Integrators" refers to organizations that take knowledge created by others and interpret it for the benefit of specific users. The integrators primary relationship is with the users. Examples include consultants, Royal Commissions, policy research organizations, etc. Many technology transfer organizations would fit into this category as well.

• "Intermediaries" refers to organizations that link users and creators. As with integrators, the primary relationship is with the users. The key difference with integrators is that intermediaries do not have their own delivery capability, but rather must link the user with creators.

• "Brokers" are similar to intermediaries. The difference is that as with real estate or stock brokers, the knowledge broker earns revenue which is a function of value exchanged in a transaction between users and creators.

Distributor, integrator, intermediary, and broker in this framework are all legitimate roles. However, the organizational capabilities required to play these different roles vary considerably.

This framework presents us with a language problem, however, since it proposes a quite specific situation in which the word "broker" is technically appropriate: i.e., where the broker is compensated on the basis of a transaction. To limit use of the term "knowledge-brokering" to this narrow context would appear to be unnecessarily restrictive. Where this distinction is important for clarity in the balance of this paper, we will use the initials (BD) to refer to instances where we are using knowledge-brokering in its broadly-defined sense, and (ND) to identify situations in which broker is narrowly defined to refer to someone who is compensated via a transaction between users and creators.

Social change framework

Neither of the frameworks above adequately addresses the situation where the "users" who need knowledge are members of the general population. There is abundant evidence in history that changes in access to knowledge on part of specific groups within a society

can have important consequences for the political system, human rights, power relationships, social roles, employment patterns, etc.

Knowledge-brokering in this context might relate to activities that enhance access to knowledge within a society. This may be accompanied by the expectation that enhanced access to knowledge may directly or indirectly lead to positive social outcomes.

Some of the elements within this framework might include:

  • Educational system, access to education, educational attainment

  • Communications infrastructure, accessibility to the general population

  • The role of media within a society and within communities, how it is structured and controlled;

  • Information technology and the interment, accessibility of hardware, software, skills, etc.

  • Interactions between knowledge-intensive institutions (i.e., universities, public policy research organizations) and the political system

  • Other cultural and social factors affecting access to knowledge

  • Maintenance and communication of indigenous knowledge

<u>Brokering Canadian versus internationally-sourced knowledge</u>

Another important distinction relates to the emphasis on brokering Canadian versus international knowledge.

One can imagine projects that would be largely based on knowledge from Canadian sources. (See below for some examples.) There are many aspects of the Canadian experience that could usefully be shared with other societies, and Minister Axworthy's December 6 speech identifies a number of benefits to Canada of exporting our culture, knowledge, and technology.

In certain situations, however, a knowledge broker's credibility will depend on linking users with the best available knowledge without regard to its source. On many issues of importance to developing countries, Canada is not necessarily the best source of expertise.

While both approaches are equally legitimate, it is clearly important to understand the circumstances under which it would be appropriate to focus on Canadian knowledge, versus projects that should be organized on an international basis.

Knowledge-brokering matrix

The above distinctions can be combined in the following matrix:

	Canadian-sourced knowedge	Internationally-sourced knowedge
Knowledge System	A	D
Social change	B	E
Transactional	C	F

Knowledge brokering examples

Existing projects

The following are some examples of existing projects that illustrate different knowledge-brokering approaches.

   • **Interhealth** is a Canadian coalition of organizations in the field of health, which exists primarily to identify opportunities to apply Canadian-based health expertise internationally. (Box C)

   • The World Bank has developed a framework for **Knowledge Assessment** and is testing this framework in a number of countries. (Box D)

   • The IFIAS-IDRC Knowledge-brokering project is currently developing two multi-client projects. One is attempting to bring together a group of major **Coastal Cities** to work on common problems. (Box F) A second project on **Strengthening Innovation Systems** will link a number of developed and developing countries that wish to collaborate in developing practical policies to strengthen their innovation systems. This project is transactional (Box F), but also operates at the knowledge system level. (Box D). Several other project ideas are under consideration.

   • IDRC is currently involved in developing **Acacia**, a major project to enhance access to information and communications technologies in Africa, and will operate at all three levels. (Boxes D, E, and F).

Potential projects

The following are three examples of knowledge-brokering projects that could be based largely on Canadian expertise:

> • **Health policy:** Canada has one of the most efficient health insurance systems in the world, has a health care system whose efficiency has increased substantially in the past 10 years, and is a leader in research on the determinants of health. Many countries could benefit from a close examination of health policy in Canada, learning both from what we have done well and issues that still need to be resolved. (Box C)

> • **Strategic implications of fuel-cell based energy systems:** Canada is a leader in fuel cell research. Fuel cells are expected to become important in transportation, but their most important long-term application may be stationary power. Canada could take the lead in organizing an examination of the long-term implications for energy infrastructure and sustainable development of fuel cells. (Boxes B and C)

> • **Role of learnware in human development:** Canada has the potential to be a major international supplier of multimedia educational software. Some believe developing countries could use these technologies to accelerate the pace of education and training. Canada could organize a project designed to identify best practices in the application of these technologies in developing countries. (Boxes A, B, and C.)

> **4. Practical issues and questions regarding knowledge-brokering**

The following are some observations and questions about knowledge-brokering based on our experience to date in the Knowledge-brokering initiative, which has so far operated mainly at the transactional level.

> • We observe that there are significant difference in organizational capabilities required to play different roles in the knowledge-brokering process. Traditionally, both IDRC and IFIAS have had strong relationships with institutions at the "creator" end of the spectrum. To be effective in knowledge-brokering, however, it is essential to develop strong relationships with "users", and to develop the marketing skills that previously were not required. This is particularly important where users are expected to pay for knowledge-brokering services (ND).

> • Given the need for different sets of organizational capabilities, we do not yet know if it is possible to carry out both traditional development activities and knowledge-brokering activities from the same organization. Our current thinking is that it would be necessary to spin-off a separate organization to focus on knowledge-brokering.

• There is significant capacity on the part of developed and developing country clients to pay at least part of the costs of the kinds of knowledge-brokering services we have been developing. However, the ability of many developing country clients to cover the full costs of participation in knowledge-brokering activities is limited – both because of absolute levels of financial resources available to them, and because of constraints on foreign currency expenditures. Some form of complementary financing mechanism will be essential to ensuring broad participation of developing country clients, and funding strategies may have to be altered somewhat (e.g., allowing clients to pay directly for in-country costs, rather than contributing to a common pool of funds).

• Accessing knowledge is a more active, dynamic process than simply accessing information. Therefore, it is likely that knowledge-brokering must be an active process, involving exchanges between people. It is unlikely that knowledge-brokering could be successful if it were seen as simply a process of packaging information on the Internet. Rather, it requires active interaction with "clients" and putting them in touch with people/organizations who have what they need.

• Knowledge-brokering is an innovation in the nature of the relationship between donors and developing country clients. As an innovation, it will take time to work through its implications, and for everyone to understand and be comfortable with what it involves. Marketing messages have to be crafted carefully to avoid confusion over roles and objectives – particularly for a donor agency like IDRC.

Some questions for continuing exploration

• What capabilities are required to be effective in doing knowledge-brokering at the system vs. social change vs. transactional levels?

• How does this fit with mandates of IDRC, IISD, the North-South Institute, IFIAS, CIDA, and other Canadian-based organizations involved in development?

• Is it likely that the same organization can effectively perform more than one role? For example, could the same organization simultaneously focus on:

  - distributing Canadian-sourced knowledge, and

  - acting as a knowledge-broker (ND) through a relationship with specific users.

5. Implementing knowledge-brokering for development in Canada

The Strong Report advocated that Canada focus its development efforts on knowledge-brokering, and the present government seems to agree.

What does this mean for Canadian-based organizations that are active in development? Here are some alternatives to consider.

- Some will argue that "knowledge-brokering" is just another fad, and will wait this one out expecting that it, like many other buzz-words in the past, will fade away.

- Another approach is to suggest that knowledge-brokering is what we have been doing all along, re-label existing activities accordingly, and carry on as before.

- Organizations that have begun to experiment with various approaches to knowledge-brokering recognize that it has the potential to reconstitute traditional donor-recipient relationships. However, it also requires new organizational capabilities. The IDRC-IFIAS pilot project is a case in point, and there are no doubt other experiments underway that should be tracked and learned from.

- Canadian-based organizations involved in knowledge-brokering activities could set up processes to enable them to share approaches and learn from each other's experience. The May 15/16 Search Conference is a step in this direction.

Beyond these approaches, participants in the May 15/16 Search Conference may wish to consider two types of formal collaboration on knowledge-brokering.

1. The first is to work to identify a number of specific knowledge-brokering projects that could be best undertaken through collaboration of several organizations. It is likely that we will make the most progress in knowledge-brokering through collective rather than individual efforts. Some of the projects suggested in Section 3 might be candidates for a collaborative approach (e.g., health policy, fuel-cell based energy, learnware).

A conscious effort should be to develop and test approaches:

- at the systemic, social change and transactional levels;

- that experiment with different roles at the transaction level;

- that utilize both Canadian-sourced knowledge and internationally-sourced knowledge.

2. In addition to project-level collaboration, a second alternative is to explore the potential value of creating a new organization to serve as focus for Canadian collaboration on Knowledge-brokering activities. Such an organization should probably adapt the Canadian Institute for Advanced Research model, which was developed as an "organization without walls", and made it possible for many people to participate in its activities without having to leave their existing organizational affiliations. Another organizational model that may have some

relevant is Interhealth, in which a large number of organizations have an ownership stake. The main point is that any new Canadian knowledge-brokering organization should be established through a collaboration among a number of Canadian-based organizations interested in knowledge-brokering, and its method of operation should be largely "virtual" and network-based.

A Canadian focal point on Knowledge-brokering could help to establish Canadian leadership both domestically and internationally; help diffuse knowledge, experience and best practice; help to conceive and develop new collaborative knowledge-brokering activities; and help attract new financial resources to augment the existing resources available to the participating organizations.

We encourage the participants in the May 15/16 Search Conference to consider these and other forms of collaboration as a way of implementing the Strong Commission's recommendations regarding knowledge-brokering.