

# On Information Analysis: A Supply and Demand Approach<sup>†</sup>

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## *Abstract*

*Academics, analysts, administrators, policy makers and planners in the Asia-Pacific region often do not have adequate access to comprehensive and relevant information on who is doing what research, where, how and with what consequences vis-a-vs the broad social sciences/development objectives. The phenomenal advances in information and communications technology that we have witnessed in the recent past undoubtedly has alleviated the situation to a large extent, but still there are large gaps in our understanding of a rapidly growing need for social sciences information and how that need can be transformed into effective demand. Information is neither free nor perfect or symmetrical. Asymmetry in information can cause serious difficulties in scientific research. In this paper I make an attempt to analyse some theoretical issues on the subject and the framework used is the classical supply-demand approach to information as a differentiated product/service in a supply-led market.*

## I. Introduction

The astounding progress in the area of

information and communications technology that we have witnessed in the late 1990s and the present time has improved our understanding of the concepts for social sciences information in particular, but still there are large gaps in researchers' comprehension of a very rapidly growing market for development or social sciences information. Large areas of development and social sciences research overlap and

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hence we have used the terms interchangeably.

Two major initiatives undertaken in the Asia-Pacific region for scientifically assessing the needs (demands) for this type of information were: a) International Development Information Network (IDIN), an on going project of the global network Interregional Coordinating Committee of Development Associations (ICCDA), and b) Development Research Reference Services (DRRS) of Economic and Social Commission of Asia and the Pacific (ESCAP) and the now defunct UN Asia and Pacific Development Centre (APDC) which was based in Malaysia. Detailed surveys carried under the initiative of both (in the 1990s) resulted in the creation of databases of social science research, social science institutions and social science experts in the five region of the world covered by ICCDA-Africa, Asia-Pacific, Arab World, Europe and Latin America. The global database is located in Tilburg University of the Netherlands, coordinated by the European Association of Development Institutes (EADI), one of the five founding members of IDIN. Information professionals have been given training on information database management, and research on value added information prod-

ucts in highly differentiated information markets.

Obviously, the entire approach has been supply-led, and the researchers encountered quite a few intractable difficulties in identifying effective demand for the products and services of the databases. These initiatives were promotional and not an attempt to create a market for profits even though in early 2000s there were serious discussions and debates on commercially marketing some of these products, rather than providing them for free as had been the case in the 1990s. The drying up of generous foreign aid flows in the late '90s was a major reason for this approach. We may recall that there was a qualitative change in international aid philosophy following the collapse of Soviet Union and the Berlin Wall (1991).

The providers of these goods and services however are not profit maximisers, but development agencies and non governmental organizations (NGOs). They were providing the information with their own and donor funding which began to drop drastically following political developments of global dimensions. As a result, there was perhaps a situation of excess supply of information services. My own records show that these databases remained largely

underused for the following probable reasons:

- a) Poor dissemination of information and their availability, and modes of use.
- b) A mismatch between supply and demand.

On going reviews and evaluations by its sponsors underscored the needs for better information sharing and a more refined understanding of demand for information. The development centre of the organization for economic cooperation and development (OECD), based in Paris, acts as the technical arm of IDIN, ICCDA, and helps them finalise strategies for better access and use. Any goods or services can become useless if not used by the target clientele.

I have used the traditional supply-demand framework for analyzing information markets. Information has been clearly defined, and its supply and demand situations, as they obtain in the Asia-Pacific region at the present time, is described in the next sections. I feel that the past attempt of a development NGO, international centre for the dissemination of social sciences documents (ICSSD), based in the Netherlands, provided a better un-

derstanding of supply, demand and need for social science information in a differentiated market (i.e. where the products were not homogeneous). This can be the harbinger of better information creation and management. It may also create an awareness for market based information, which is not free and carries an appropriate price tag-an awareness whose time has come.

## II. On development/social sciences information

While trying to find a definition for the concept of information, one realizes that this can be a tricky and rather thankless job. The area of development information is vast and diverse, as well as heterogeneous. We are thus not speaking of a homogeneous product. Increasingly, producers, providers and users take different positions, interests and often work in different situational contexts and settings; many of them may not have clear links with the institutions that traditionally collect, collate and provide information, viz, the libraries and documentation centres, governments, NGOs, donors and international agencies like the world bank, asian

development bank, the international monetary fund (IMF) etc. Due to this handicap, **information has come to be viewed as a set of products and processes in which the producers, providers and users tend to assume multiple and at times overlapping roles.** From the point of view of market analysis, this means that supply and demand are not independent, thus seriously limiting the efficacy of a competitive equilibrium model, in explaining the behaviour of all market agents involved in the transactions. Producers are often the users of information, and providers become producers as they market and/or repackage already existing information. This requires a redefinition of the information domain and changes in the roles, attitudes and approaches of agents in the chain. Information, however, is critical in every domain of human life. An unemployed youth in an Indian village may need labour market information in Korea or Malaysia; the trader needs information about exports and imports, the author needs information on publishers, the capitalist in Taiwan needs information on investment opportunities in labour surplus economies of the region, and so on. In one sense, there is a global information market, with internet search engines and

all that paraphernalia. But access to that vast and burgeoning market is limited not only by economic, but social and political constraints.

Information is not only heterogeneous, it is also a highly differentiated product. **It is merit good and has many of the characteristics of a classic public good-like commonality, simultaneity and non exclusivity of consumption which means that there would invariably be market failures as its full social costs and benefits are not truly reflected by the market prices.** How do you exclude the free riders, for example? Once certain information is generated users would get to know about that and would like to access it, particularly in the fields of research and development. They would also know that since the information is already there, they can get it for free. Somebody ... a donor, a government agency or an NGO has already paid for it. So, why reveal your own preference for that? Why pay? Information seeking behaviour, attitudes and situations need careful and neutral analyses. Producers and providers can not do this. **In the ultimate analysis, information is an abstract, heterogeneous and differentiated service.** Its assurance, relevance, reliability and tangibility are important in selling it

at the prevailing market price. The perceptions of clients, competitors and other stake holders must be known, with some degree of accuracy and precision, for an appropriate supply response. The question that naturally arises in this connection is: should information be a supply-led service, as it seems in the areas of development and social sciences research at the present time? Or, should it be demand-following? I do not think that at the present state of our knowledge on the subject of market realities and agents' behaviour we are in a position to answer this question.

### III. Information Market

The market for information is imperfect (oligopolistic-oligopsonistic), fragmented, and is in disequilibrium, with supply far exceeding demand at the going market prices. Some of the supplies are not even priced appropriately, the suppliers being unsure about the marginal utility of their products to the consumers. **Against this reality, the market for information can clear only at very low prices.** This might not be real market clearance however in the sense that the solution is likely to be trivial, a corner solution, for example. In addition, there is considerable asymmetry

in the information hold of the different market players which militates against perfect competition. Any market worth its salt has to ensue

- **responsiveness to users' changes in tastes and preferences**
- **development of new products and processes**
- **assurances of the quality of the products on offer**
- **transparency of the usefulness of the product for its consumers.**

However hard one might try, it is not possible to ensure perfect competition in the information market for the following reasons:

- **Lack of homogeneity in the goods and services**
- **Restrictions of entry**
- **Small numbers of buyers and many sellers**
- **Administered prices/high subsidies**
- **Market powers held by some suppliers/providers of information**
- **Externality (divergence between private and social benefits and costs)**
- **Absence of proper regulatory mechanisms.**

One now tends to get a feeling that the

information market is growing almost chaotically, haphazardly. It lacks a sense of direction. Many of the transactions are tentative, and not spontaneous. For the market clearing forces to be operational and successful, better public policies and regulations are needed. **The market, however, is growing and this needs to be supported.** We feel that we need more disaggregated data for a proper understanding of this market. This would help our knowledge of the different segments of the market.

#### IV. Supply of information

Social sciences research information is supplied from a wide range of sources

a) Government agencies, b) Libraries and Documentation Centres, c) Universities, d) Independent Think Tanks, e) International Agencies, the UN, major development assistance donors (bilateral and multilateral), f) Autonomous Regional Organisations, g) Independent Networks for Specific Clientele, h) Print and Electronic Media and i) Individuals and Households.

Some information are provided for free, for some a nominal fee is charged and for

a small proportion of customized information there is a full price tag. At the present time most of the producers of information get some subsidy, either from the government or from aid agencies. Some information services, like IDIN for example, are entirely free. What sort of a supply world does this configuration represent? Competitive? Monopolistic? Mixed? I feel that there are elements of each in the total segmented market. If we take databases on development, there are at least a dozen in the region, providing bibliographic as well as non bibliographic information. The specialized UN agencies, the World Bank, the IMF, the Asian Development Bank, the Economist Intelligence Unit Ltd., and other intergovernmental organizations have one form or another of information services. But, as we have already noted, these services are not homogeneous **and there is a high degree of product differentiation which, in normal markets, would pair buyers and sellers together.** The differentiation of services can be real or fancied. Some would use more effective packaging to attract potential clients, others would make access easier, and so on. Some protectionist elements are clearly present in data provided by government and quasi government

bodies. Entry and access are made difficult by design, or for strategic reasons. **Few governments, if any, would want all their information sources to be openly accessible to all-like goods and services with unrestricted marketability.** Aid donors tend to provide selected and distilled information, more to suit their own agenda and objectives, rather than to serve research and development needs of the social scientists! Private think tanks and grassroots organizations depend heavily on donor funding, and this obviously restrict their autonomy and scope of service provisions. Information provided by computer companies and vendors are like any other free market transactions, and easily fits into the competitive equilibrium model. But, here also there are imperfections inasmuch as few firms can control the market for both hard and softwares. In addition, there are patents, trademarks, trade names, franchise, etc., which make the market imperfect, and non competing in those segments. On the dominant supply side, we have product differentiations and monopolistic competition of sorts. **Market share here is not for profits, or even revenue maximization, but protection, control and command over certain types of information, depending upon the suppli-**

**ers' long term objectives and market powers.** This phase that we witness now is transitional and one of demand creation. The underlying thesis of course is the famous **Say's Law of the Markets: supply will create its own demand.** It remains to be seen, however, how far and how soon this will materialize. We can observe two conflicting views on the subject:

1. Each supplier is interested in helping others in a highly harmonious environment, to shun competition and strive for market sharing.
2. Like machinery or any other goods, information is provided by a group of people, workforce, and this becomes capital when employed for earning profits. Those who own/manage information, like owners of capital, have powers over others and would like to use it for maximizing returns on investments.

## V. Demand for information

Social sciences research information is a merit good and hence its demand can not be widespread in a region of mixed stages of economic development, represented by the Asia-Pacific (Korea, India,

Vietnam, Fiji, Australia, Japan, Myanmar, for example). Demand for social sciences information is income elastic and hence high income countries in the region like Australia, Japan, Korea, New Zealand and Singapore will have greater demand. The main consumers or clients of information are the academics, analysts/researchers, governments, donors, the NGOs, the media and regional organisations, networks and groups active in development research. There is a large area of overlap between the suppliers and the users. Limited resources do not allow many to be market players in the sense of possessing the means to buy the needed information in the open market. However, limited access can be had to subsidized, budget supported products and services. Few in south Asia for instance can afford to access global information networks which charge fees for access. But if these countries have memberships in networks and associations or even a medium term project, they can access some parts of the information superhighway.

We know that demand, among other things, is a function of income, tastes, price of related products, expectations, and the price of the product itself. Even though some information services are pro-

vided for free or a token fee, the other determinants of demand will have to be considered. Many do not feel comfortable with computerized information and would like to stick to the paper based information. In a few countries, the R&D activity levels are quite low and this restricts demand. Some governments (military ones in particular) strictly regulate information demand. But this is not a major demand constraint in our opinion. Relative poverty and external dependence are the real ones. There is much larger need for information than the existing market demand would tend to show. Hence the focus on subsidies and promotions, aggressive/creative marketing. IDIN for example used to relentlessly advertise in all channels to sell its databases on development research. Other networks of the region have done the same. But, what are the **real forces of demand?** One large intergovernmental organization, based in the Netherlands, International Council of Social Sciences Documentation (ICSSD) conducted a survey, but did not get much response in the 1990s. I feel that the following could be considered as the major determinants of demand for information goods and services:

- a) Purchasing Power
- b) Culture of information use

- c) Value for money considerations
- d) A Free Rider mindset
- e) Subsidies
- f) Facilities for personal computing
- g) Quality of the product/service

Some of these constraints can be handled in the short run, but others can be resolved only after their long run solutions have been found. Suppliers of information services have to recognize that they would not survive in an information intensive environment unless they become market oriented providers. I feel that the state of underdevelopment of the concerned country is the overarching demand constraint. When an economy is growing, all demands tend to grow concurrently. Hence, it would be unrealistic to expect a strong demand for development information in poor and stagnant countries, like Myanmar or Rwanda for instance. We have seen big push by suppliers for creating a market in such environments with little success. **Demand is a real constraint in the information markets.** Information professionals, government functionaries, donors and market developers must realize this. It would be a long time before the famous dictum that supply will create its own demand starts to really work in

the Asia-Pacific region. This of course does not apply to the developed countries where the information superhighway is well laid and working at full capacity.

## VI. Conclusions

Social sciences information market is evolving and is transitional at the moment. There are examples of reasonably well developed markets in a few countries of the region (Japan, Korea, Singapore, India, Malaysia, Sri Lanka, Taiwan etc.). But this market is not competitive in the classical sense. There is a high degree of product differentiation, without visible impact on effective demand. This suggests that there might be scope for further refinements of the techniques of differentiation used by the sellers. Since a fully developed information market is not yet in place, it is necessary that the state continues to play a major role in the evolution of this market in order that it can grow and eventually become competitive. This is the information and knowledge millennium. **The emergence of a new information paradigm might accelerate the process because information triggers changes in the perceptions of its users.** All infor-

mation providers must try to reduce the subsidy elements in their prices, but gradually. Subsidy can be negative unless handled with *finesse* and sophistication. Likewise, the information sellers/providers must adapt to the users' tastes, expectations, and modify their portfolio whenever changes in the former are observed. In our humble opinion, following are some of the more critical issues for the development of a competitive social sciences/development information market in the region:

- h) Thorough understanding of the countries' culture, values and institutions, as well as the system of governance.
- i) Market development through need based instruments.
- j) Conscientisation of the market players.
- k) Freedom of entry/exit for all suppliers
- l) Appropriate fiscal incentives (we have to remember that the market is still in its infancy)
- m) Creation of a competitive environment
- n) Network development to overcome lack of technical and human infrastructures
- o) Investment in human capital, and research and development (R&D)
- p) An Appropriate Information Policy

which is based on rigorous research and analyses of all the relevant factors, issues and constraints.

Market forces are dynamic. Time, money and efforts are necessary to make them work. Some information could be nebulous, or even trivial, some could be tangible, critical and utilitarian. A CD, a book, a leaflet, a CD\_ROM drive, a brochure ... all contain information and are distinct subjects with capacity to satisfy specific human wants. There would be need for information management even in a fully competitive market because of the public goods character of information. Such management must encompass assets, quality and images. The managers must have empathy. **They must know how to individualize a) tensions, and b) recognition-the knowledge and feelings of having been understood.**

We can have a constrained maximization model for information market, with users' benefits as the objective function or the maximand. Like in any other market, here also the consumers will be the king and their needs/demand must be followed by the market which is a wonderful place of discovery, learning, unlearning, losing and profiting. It is time that the in-

formation professionals also enter that wonderful marketplace of human actions which has existed since the dawn of human civilisations.

***On n'arrete pas le progress (One never stops from progressing).***

## References

- [1] Buxton, Alex, *Beyond Technology: The Researcher Cycle On the Information Superhighway*, Institute of Development Studies (IDS), Sussex, UK, (1994).
- [2] Cornella, Alfons, *The Role of Information Services in an Information Intensive Environment*, CIDOB, Barcelona, (1994).
- [3] Marks, Arnaud F. *Supply, Demand and Need of Social Science Information in a Differentiated Information Market*, International Social Sciences Documentation Centre (ICSSD), Amsterdam, the Netherlands, (1994).