

A User-Side View of Innovation

Some Critical Thoughts on the Current STI Frameworks
and Their Relevance to Developing Countries

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For fifty years, countries have measured their inventive and innovative efforts using precise methodological rules. The OECD has developed influential manuals to this end. However, the manuals' recommendations are concerned mainly, if not entirely, with the supply side of invention and innovation. For example, the Frascati manual concentrates on the organizations performing research and development (R&D). The Oslo manual focuses on the innovating firm, with a residual concern for end-users. Diffusion is measured from the perspective of the innovating firm (process innovation), with no statistics from users other than firms, whether they be customers, organizations, or whole countries.

The views espoused by the OECD are not limited to that organization. The whole literature on science, technology and innovation (STI) plays similar views. The user is generally missing or relegated to a residual or discussed as an after-thought, despite a whole literature produced on the demand side of STI for many decades (Schmookler, 1966). Nearly forty years ago, a discourse has also developed on consumer-based innovations (Freeman, 1974). Today, "user innovation" has become a catchword. However, the user remains first of all a customer (of products).

Similarly, the concept of innovation as including both invention AND imitation (some may prefer the term adoption; to many, imitation has a pejorative connotation) and as equally valid strategies for firms since the late 1950s (Carter and Williams, 1957; Nelson and Winter, 1982; the latter use the term imitation rather than diffusion) has had few consequences on policies. Imitation has suffered from an overemphasis on invention. This led some researchers, from the early 1990s, to remind policy-makers that there are really two ways to innovate: inventing and diffusing.

The majority of UNESCO countries are, first of all, and for the better and the worst, consumers of knowledge and technology produced elsewhere. There is therefore a need to emphasize these countries' efforts to absorb what comes from outside as much as their own inventive and innovative efforts. This means that the statistical tables should give equal attention to invention and imitation, which is not the case currently. To this end, one must shift his attention from an exclusive focus on firms.

The OECD recently published a document intended to contribute to integrating innovation into the policy agendas of developing countries. *Innovation and the Development Agenda*, published in 2010, is part of the OECD Innovation Strategy of that same year. This document is most welcome. The explicit aim is to introduce in innovation policies a "different lens" from that of industrialized countries (OECD, 2010a: 30). This short note identifies four assumptions and biases on which *Innovation and the Development Agenda* rests. The objective is to suggest the continuance of, and deeper thoughts on, what is certainly a beginning toward a broader understanding of innovation.

1. Innovation is the (not-so) new (miracle) **solution** to development issues. To the OECD, "the last half-century has seen different approaches to development which have achieved varying degrees of success" (OECD, 2010a: 14). In their place, innovation should now be considered a strategy for development: "most current social, economic and environmental challenges require creative solutions based on innovation and technological advance" (OECD, 2010a: 30; see also p. 32). But

- is it really the case and how precisely? The document, as with most of the literature on innovation, starts with innovation as a panacea, not with problems of development (except in general terms, such as p. 30 cited above) or the extent (and limitations) to which innovation is or is not a (THE) solution.¹
2. The document promotes, again as most of the literature on innovation does, a **supply-side view** of innovation: firms, the *commercialization* of invention and the use of invention in *industrial production*. I agree that this must be part of every innovation strategy. But a supply-side view needs to be complemented by a user-side one. To a certain extent, a “different lens” is offered in the OECD document: a certain emphasis is placed on the informal sector and non-technological innovation (OECD, 2010a: 16; 45-49) and on the need to adapt the National Innovation System (NIS) framework to developing countries (OECD, 2010a: 35; chapters 3 and 4) such as: considering product innovation as much as process innovation (but the issue here is still discussed in terms of the old, namely competitiveness; OECD, 2010a: 46), innovation in low-tech sectors, incremental innovation, and adaptive capacities and learning. However, the framework remains a supply-side view. Nothing in the document goes beyond innovation as commercialization.
 3. A **demand or user-side view**, namely a consideration of the user or adopter of (already existing) innovations, is poorly developed. Certainly, the document admits that, “If governments are to support innovation activity, there is a case for policies that encourage the conversion of knowledge, however that knowledge is gained” (OECD, 2010a: 23); “the demand-side of technology and innovation needs to be stressed in addition to the conventional focus on the supply side” (OECD, 2010a: 34). Nevertheless, the document has very little to say except general thoughts about absorptive capacities (OECD, 2010a: 48-49), mentions that developing technologies need to be adapted to local needs (OECD, 2010a: 51). The document discusses the issues in terms of the old: technology-flow

¹ Innovation is a very fuzzy concept covering a substantive, an action and a process (see Godin, 2011). In *Innovation and the Development Agenda*, there are as many different definitions of innovation as there are different authors – or different paragraphs in the same text (OECD, 2010a: 14, 32, 33, 42). Surprisingly, the definition of innovation from the Oslo manual is nowhere reported in this document.

(OECD, 2010a: chapter 6) – there is nothing on flows of scientific knowledge and how developing countries get and use scientific knowledge from foreign sources. All in all, a user-side view still needs to be articulated. It is one thing that a firm extracts value from innovation, but another if the end user is not better for it – that it does not share in that added value.

4. There is little concern for **“people” as innovators** (doing things differently) except, again, as introducers of new inventions to the market or as buyers of new inventions. Certainly, the consideration of people as innovators in the larger sense gets some hearing in *Innovation and the Development Agenda*, like the discussion of the informal sector. However, the issue is entirely discussed in terms of the market. As if every solution to health, poverty and education need a firm, a technology, a market. How do people change their behavior in response to new knowledge (like AIDS)? How organizations (schools, hospitals) contribute to people adopting new behaviors? What about microcredit, certainly one of the most innovative ideas of the last decades in the developing country. Is it included in the statistics, as the current survey is constructed?

Why such a vision? Simply because the authors continue to use the dominant frameworks – and the OECD itself urges implanting of its own methodology in developing countries, like reviews of innovation policies (OECD, 2010a: 18, 20).

In the last five decades, all frameworks used at the OECD have been supply-side, including NIS. *Innovation and the Development Agenda* spends a lot of time on NIS. Certainly, the document suggests adapting NIS to developing countries, but it still serves as framework – although addressing most of the issues of the document does not require this framework at all. ² NIS is entirely centered on innovation in firms: the system gravitates around firms and the way other organizations and institutions contribute to innovation in firms. Such is also the case with the Oslo manual, which relies on NIS as framework. The manual is entirely concerned with surveying innovation in firms. Innovation is defined as “implementation”, namely introducing invention on the market

² This should not be interpreted as a criticism of NIS.

or bringing a new invention into industrial use (OECD, 2005: 46-47). With regard to diffusion (“the spread of innovation”) and transfer (“linkages and flows”), the manual deals only with how the firm acquires knowledge and technology from outside. Residual attention is given to end-users, including individuals (in their jobs), customers and organizations other than firms. There is nothing on end users, the capacity users have to use invention, how a (potential) user like a developed country comes to know (foreign) knowledge and technology, what mechanisms it has to this end, what supporting infrastructures, etc. *Measuring Innovation*, another document coming out of the OECD Innovation Strategy of 2010, has not improved the matter. For example, the very few indicators that exist on people as “innovators” (although not phrased this way) are limited to people as buyers of new inventions, like information and communication technologies (ICT) (OECD, 2010b: 58-59).

What would a survey of innovation look like if one starts with a user-based view? It would:

- Address and focus on specific and precise problems or **areas of development** – like one does in the case of specific surveys, like ICT, biotechnology – not innovation in general and broad terms (“percentage of enterprise that introduced innovation”).
- Survey **end-users**, not just producers.
- Cover **individuals, groups, organizations and government**.
- Measure diverse kinds of innovation: **ideas, behaviors and things** (and compared the new to the old). Where does the innovation come from?
- What **use**, if any, is made of the innovation? By whom?
- Identify the mechanisms through which innovation **diffuse** and their presence or absence in a developing country: Do and how knowledge about X gets into country Y? What lags? Why?
- What **effects** (quality of life), including the bad ones? To what extent is the innovation adapted to a country’s needs?

- Evaluate the role of **government as innovator** in matter of policies (not only as “hampering factor”): what infrastructures, policies and programs exist in country Y for supporting innovation?

Moreover, in order to increase its relevance, a survey of innovation (be it supply-based or user-based) should look for facts rather than rely on questions with answers of a subjective nature.

A Radical Proposal

1. Forget OECD’s frameworks and statistics and start anew.³
2. Back to basic concepts: invention, diffusion and use.

³ This is no judgment on OECD works, but its relevance to development.

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