

## Chapter 4

# Methodology to Identify Opportunities for Development-Oriented Quality Innovation: Application in the Case of Least Developed Countries

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### **ABSTRACT**

*This chapter considers the broader developmental impact of quality innovation as a process that creates novelty that satisfies not only the short-term profit of firms but also the long-term developmental gains of the society at large. Development is associated with the production of an expanding range of more complex products, which ultimately are the result of innovation. In the context of development-oriented quality innovation, the question is how governments and business sector could foster the emergence of more complex products given existing productive capacities and the incentives created by domestic and global demand. This chapter presents a methodology to identify such opportunities for development-oriented quality innovation and illustrate its application in the context of the least developed countries.*

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## **INTRODUCTION**

Quality innovation relates to exploitation of innovation that suits the broad range of end-users within the society. When a good, idea or process is first introduced in a country, not only the end-users of the product benefit from its consumption, potentially all society benefits if new productive capacities are created to produce that good. The introduction of garment industry in Bangladesh and floriculture in Ethiopia are examples of quality innovation that have had a spillover effect in the economies of these countries. They have provided the opportunity for more productive jobs and created new productive capacities, from management practices to logistics to machinery, which could be further recombined and exploited, increasing the potential for future innovation and growth of the economy. Therefore, when considering the wider developmental impact, the potential users of a firm's quality innovation include the current and future population of that firm's country.

As a process, such development-oriented quality innovation relates to the mechanism by which the creation of new productive capacities, including capital- and labor-embodied technologies within firms and in the economy as a whole, are oriented towards achieving the stakeholders' perceptions. In principle, those stakeholders within firms seek innovation to outpace competition and maximize profits, while the stakeholders in the society at large would benefit the most if the innovation has a higher multiplicative effect on future development. A relevant question then is how to address these two perceptions – short- to medium-term profits and long-term developmental gains – given limited resources for innovation. While information regarding the potential profits is somewhat available to entrepreneurs, information regarding the long-term prospects for development gains is not.

This chapter aims to discuss some of the developmental aspects of innovation, present a methodology to identify such opportunities for development-oriented quality innovation, and illustrate its application in the context of least developed countries.

## **BACKGROUND**

### **Development and Economic Diversification**

The chapter starts by discussing some stylized facts related to development and economic diversification, which is the direct result of innovation.

Economic development is associated with the production of an expanding range of goods and services, not simply producing more of the same. This is one of the stylized facts that come out of recent literature on growth, trade and development. For example, Imbs & Wacziarg (2003) shows that, as incomes increase, economies become more diversified. Such pattern holds up to a fairly high level of income above which specialization seems to kick in. This result suggests that, for most of their development path, countries diversify and do not follow the pattern of specialization based on comparative advantage. This empirical regularity is a robust feature of the data and it has been supported by subsequent work by Klinger & Lederman (2004) and Carrere and others (2007) using disaggregated export data. Figure 1 illustrates this stylized fact regarding the association between gross domestic product (GDP) and diversification, using as a proxy of the latter the number of products exported.

That stylized fact suggests that countries expand production into new goods and services – increasing the diversity of its economic activities – in tandem with economic growth. The fact that development is associated with diversity of eco-

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