

Promoting Innovation and Technology in Southern Countries

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Abstract: Innovation and technology are fundamental for the economic growth and instrumental for developing countries. Nevertheless, the process of innovation technology is yet an important and challenging topic of research in management, economics and most actions have focused on the comprehension of this process in developed countries rather than in developing countries.

The importance of South-South Cooperation is growing very fast. Developing countries are increasingly becoming home countries for Foreign Direct Investment flows originating from other economically developing nations. Since the late 1990's, aid from one developing country to another appears even to grow faster than aid from developed to developing countries. This is the consequence of the increasing acknowledgment of Southern countries that they share common goals and that the chances of achieving them grow if they interact together. South-South commerce and trade are growing at an estimated rate of 10% per year. The emergent countries achieve target increases in the volume and value of their trade in services, manufactures, goods and materials. Over 40% of exports of developing countries are being sent to other developing ones. Nonetheless, this also has a significant impact on the economic system. During the past three decades, Southern countries' economies have grown much faster than the Northern nations. Since 2003 emerging countries have been the top economic players in the world.

Keywords: Innovation and Technology, Developing Countries, Globalization.

1. IMPORTANCE OF INNOVATION IN THE SOUTH

South-South Cooperation, firstly, is an excellent and considerable example of the way emerging nations can interact and help each other to fulfill, succeed and eventually accomplish way more than they can individually. Accomplishments and advices from a country can expel the shortage of test and error in another, whereby reducing, lowering costs and enhancing efficiency. Secondly, as mentioned previously, South-South partnership provides to industrial advances in Southern countries, particularly in Africa, Southern Asia and South America. For instance, South-South investments tend to be labor-intensive and attract more jobs than the ordinarily capital-intensive FDI from the Northern nations. This is what surely happens for Asian investment in Africa. South-South Collaboration heads yet not only to financial progress but also to social, cultural, environmental and advances. As an example, provincial economic and trade partnership between emergent countries proffer plausibilities to push economic, technological, institutional, human and infrastructural reserves and channels of the contributing nations [1]. Thirdly, South-South Cooperation requires the inferences of economic, political, and cultural power which is from time to time related with North-South assistance. Industrialized and rich countries can no more rely on access to markets and raw materials in Southern countries are more frequently gaining influence. Usually, the new ambition of the South has remodeled the type of North-South relations and cooperation which are nowadays not mainly based on development assistance and help but on mutual exchange as well. Emerging countries are consequently playing an important role in the economy and can be seen as trading partners.

The evolution of the globalization has exposed considerable distortions regarding the structure of the relationships among

economic actors and the variables determining the situations of competitiveness [2]. Two main sectors stick out over many others, such as the first which consists of the constant development of factors of economic institution affected by globalization; and the second that indicates the rising complexity of the innovative procedure [3]. Globalization and innovation technology have been considered two of the most important parts settling economy success over the last decade. The changes of the past century are considerably traceable to an appropriate sort of economic development. This evolution is nevertheless not precisely allocated nor has it been accomplished without effects and impacts on the environment [4]. Environmental degradation, insecurity, inequality and an irregular diffusion of amenities, facilities and infrastructure and technological know-how concur to manufacture an imbalance between knowledge concentrations and the enquiries of a balanced economic growth. The ancient period of intensive progress has mainly been represented as the development of productive capacities through mechanization, production in mass and distribution. The current period is an era of multiplied and increased international union and integration, industrialization and globalization at present adopt not only the economic and financial sector, but also investment, production and distribution systems. The mobility of highly skilled people has also increased. Within capitalist systems, the key points for promoting economic evolution have been the mobilization and organization of society's capacity to create new services and commodities from accumulated traditional know-how, internal research and development strategies, and international science and technology cooperation. This has been completed throughout a procedure of producing the indispensable aptitude, principally with the aid of science and technology foundations. This obviously describes the important role that innovation can play in the rigorous way of development. The significance of learning, networking and knowledge-sharing among various actors is crucial for developing nations and builds a range for research and analyses within an innovation structure.

In the standard economic development discussion, economic growth is treated to be a method of merging reciprocal means to alter the fabrication process of economies and enlarge the production limit as the capital accumulation, technological change and economic diversification. In the case of emerging nations, on the one hand economic growth, and the other hand innovation technology potential have a common developing connection. Innovation technology capacity has a significant impact in pushing up economic evolution of the kind that effect from variations in the process of production. Notwithstanding, these reciprocally comforting junctions do not arise automatically. Specifically, in the framework of South-South partnerships, there is capacity for perpetual development of business, trade and investment that can be achieved through technological and technical learning; considerable efforts have to be accomplished to tackle that capacity. Enterprises desiring to enlarge over an exploration for new markets and economies shall have only insufficient motivations to engage in collaborations joint ventures with host-country enterprises. These motivations are regularly market-based, depending on the accurate characteristics of the host country cooperation which make them attractive partners. This may embrace their extensive marketing and distribution channels in the host countries, or their distinct research and development skills or technological expertise, or their capacity to manufacture specific products competitively. Nevertheless, these so market-affiliated motivations simply attract firms to enter into alliances with firms in host countries that have some level of expertise, as shown by the value addition they make in return. Counting on these motivations for technological learning is deceiving, because since they are not enough to attract enterprises on their own to enter into technological learning fusions with partners who have little or low levels of technological expertise.

2. IMPACT OF TECHNOLOGY AND INNOVATION IN THE DEVELOPING COUNTRIES

The main issues for technology and innovation as part of development which came up are apparently the heterogeneity of developing countries; the need for policy coherence when facing innovation and technology; the importance of learning from both prosperous and not so prosperous practices; the significance of focusing on the local field and on local employers for innovation; better comprehension of how knowledge is developed, shifted and immersed at the local field; and, the importance of understanding innovation. However, it is consequently important to be able to weigh incremental and non-technological innovation, which is not essentially based on research & development, is the important role of the informal sector in Southern countries. While the informal sector is very present in developing countries, so is the role of government. Emerging countries, mainly the least developed (underdeveloped nations), which may not have a functioning market or all of the organizations that create or help an innovation system in an industrialized country. This makes the role of government more significant for forming the suitable structure positions for innovation, as well as the condition of property rights, a functioning financial system, a suitable and inexpensive higher education system, an information and communication technology infrastructure, such as ports, transport, roads and storage services. Furthermore, in spite of the importance of these issues, the impact on South-South technological collaboration is quite rare, which mainly focuses on

how urgent international challenges, for instance climate change and public health, can be noted by partnership amongst emerging countries.

Generally technology and innovation in Southern countries is highlighted by two global operators. The first one is the intensification of the globalization process. Driven by the revolution in telecommunications, this industrialization shows itself, among other things, the significant impact of trade and business within the global economy. It has also diminished essentially time and distance throughout the whole world, connecting the most distant to the most vibrant sites. The second global operator is the intensive change in innovation technology which has been encouraged through massive scientific research based on the foundations of time, life, energy and matter. Consequently, a new development period is a little at a time growing and taking shape, substituting the industrial period of time. This new age introduces the emerging world with its challenges, risks and opportunities. These challenges are stressed by the actual fact that the development procedure needs more learning, training, knowledge and an enterprising ambition to challenge and compete in an environment of deepened worldwide competition. Overcoming them means new and inventive behaviors from the research society in making more efforts to unexplored sectors which are crucial for Southern countries. The advantages emerge from the opportunities for innovation and improvement of traditional actions offered by new technologies.

According to what we described, the resemblance of growing up activities of Southern countries especially in promoting innovation and technology capabilities, and the suitability of their innovation technologies, make them important and considerable counterparts to actual North-South relations. The fundamental message is that developing countries, specifically emerging countries, can be strategic partners for promoting technological capacities and skills in the South, and consequently analyzing how South-South partnership for innovation technology can be developed in an efficient course to promote inclusive sustainable development, in other words it deals with the following pressing question: how can the South be a better partner in actions and efforts to promote innovation and technological learning in the developing nations for a better economic development. Hence, we seek on whether South-South relations could lead to building technological capacities, and under which conditions. From an analysis of the existing models of South-South cooperation on innovation and technology issues, these repeated interests focused on how to make technology and innovation happen to improve the economies of developing countries and seeks to entitle key issues in this area, and determine best experiences for the future economic development in supporting South-South cooperation on innovation and technology.

South-South cooperation is a term to outline the exchange of funds, reserves or resources, knowledge and technology among two, three or more developing nations. South-South collaboration arises among governments, nongovernmental organizations, private sector firms, and civil society organizations across states, regions, or countries. The fundamental concept of South-South collaboration is that it is a partnership among equals based on a bilateral solidarity born out of relative experiences and affinities, which is conducted by the principles of national respect, ownership and sovereignty, exempted from any restrictions [5].

As more and more Southern countries set up on the process of industrial approach, it is predictable that the new expansion poles will more and more confer to a vigorous changing in international relations. A procedure that started with the accelerated globalization and industrialization of the first- and the second-stage East Asian economies in the 1960s and 1970s has been followed by rapid industrial growth in a creative set of what are frequently referred to as emerging countries – Brazil, Russia, India, China and South Africa. This open-ended but interrupted procedure is expected to carry on, with additional nations, such as Egypt and Nigeria, involving in a comparable development in the future. The economic evolution and growth in these countries is traceable to various significant factors: their growing capacities in producing, manufacturing and services, extensive investments in innovative technologies and an effective utilization of opportunities emerging from industrialization and mainly globalization. Furthermore, rising per capita incomes and related expansion of domestic demand have further pushed their growth efficiency. The stable economic development of these countries has conducted to a rise in South-South cooperation in technology and investment over the last two decades, allowing them to become important global trading partners with other developing countries in the 21st century.

South-South cooperation is not restrained to economic factors only. Some developing countries, including their important economic drive, are taking part into remodeling global aid, trade and economic relations. This is merely mentioned in their increasing contributions to emergence assistance and cooperation. Recent researches evaluate that aid by emerging nations has been constantly developing totaling \$7.3 billion in 2010 [6].

These developments aim towards the evolution of a brand new model for international growth that could spread the actual barriers of engagement to incorporate those Southern countries - mainly least developed countries - which are currently

disaffected in the global economic system. Increasing South-South investment and trade trends have been viewed positively as a signal that some developing countries could satisfy an important glance to emerge in developing countries.

Therefore, two main aspects of collaboration among developing countries can be noticed. First, such cooperation would help the South to decouple from the global alternate patterns of emergence and growth, thus promoting a new aspect of stability in the global economic system. Second, since the emerging nations are still in their development phase, they are well positioned to understand the problems of development, especially in the current global context, and could come up with a new model of partnership and technical assistance in connection for developing countries. In addition, growing South-South relation goes with it the idea that it could be conducted into giving particular development targets. Achieving the full potential of South-South cooperation will demand important modifications in the way the global economy is governed, to make it more development oriented.

3. THE EMERGING PROSPECTS OF TECHNOLOGY AND INNOVATION EXCHANGE IN THE DEVELOPING COUNTRIES

It is considerably important to consider how and to what extent South-South cooperation could help developing countries overcome certain issues and obstacles to economic development and growth to reach specific development goals. One such target that continues to evade the global society is to connect the technological divide in order to promote industrialization and inclusive emergence across the developing world. Technology and innovation are both of them hard to estimate within trade and economic transactions, and there is no single indicator that measures them completely. Innovation is a central pilot of trade and economic emergence and decent jobs. It is the key that permits enterprises to compete in the global marketplace, and the process by which clarifications and solutions are discovered to economic and social challenges. Innovation has significantly emerged over the last ages. Firstly, firms are investing historically exceptional amounts in the creation of immaterial goods, for instance new technologies, new ideas, brands, designs, and know-how knowledge and business models. Secondly, innovation driven emergence is no more the privilege of high-income countries only; the technological gap between poorer and richer countries is becoming less. More local forms of innovation take part to social and economic growth, on a par with world class technological creativities. Thirdly, creating and designing new goods or processes is more and more international in nature and seen as more cooperative. Fourthly, knowledge markets are capital in this more changeable innovation method. Policymakers usually tend to assure that knowledge is transmitted from science to institutions, thus sustaining the impact of public study. Furthermore, conceptions and opinions are being exchanged, traded and co-developed through new platforms and intermediaries. Throughout human history, innovation has occupied a strong force for change. However, the innovation between the “how”, the “whom”, and the “what for” has incessantly changed. Realizing these transformations is essential. In present market economies, innovation technology is a significant factor of sustained economic development. In industrialized countries, studies have evaluated that innovation represents more than 80 percent of economy wide growth in productivity. The accessible evidence also recommends that innovating companies in those economies are more effective and productive particularly if regarding an extended view of innovation that consists of process advancements and new product. Surely, the experience of certain East Asian economies has exposed how innovation can push economic catch up even if innovation may be the unique part of the success story of those countries [7]. Particularly, for policymakers it is necessary to supervise and evaluate how innovation alters. However, governments are key stakeholders in national innovation systems. Since innovation patterns shift, governments need to estimate the efficiency of existing policies and, by all means, adapt them.

A long past of experimental research has exposed a number of international factors molding the process of technological modification and rise of productivity. The factor which plays an important role to technological learning and capacity building is the import of capital products. Taking part in global production canals and in supplier-retailer-customer relationships along with foreign direct investment are other sectors that can emerge learning and the raising of capabilities through technological surplus to national companies, either immediately regarding to technology transfer, licensing, or indirectly by the implication of know-how accumulation from local work force. These are usually braced by other means such as communicating with foreign clients on standards and quality requirements, design, collaboration in joint ventures and copying. Since institutions in various developing countries, especially least developed countries, known to be fragile and weak [8], are expected to be challenged in their demand to take advantage of South-South economic, trade and investment to create their technological capacities and promote experiences leading to a fundamental variation and diversification of their economies.

The last half century has observed several paths to growth that have reached diverse points of success. The problems of inequality and poverty are increasing not diminishing, and this is what makes it more crucial and urgent to find solutions to these and other problems for example the climate change. As industrialized countries, certain ordinary motives are developing. They incorporate the requirement for policy integrity in dealing with growth, for leadership and for partnerships from emerging countries with shared risk and also a focus on key areas for economic and social development, for example health and safety, agriculture industry. A relevant idea is innovation. Innovation is about originating value from learning and know-how. It can signify the procurement of a new service or commodity to the market or the finding of new strategies to manufacture products, to develop a market or to organize production. Knowledge is the key input to innovation. It can result from a classical process, like research and development, or it can be indigenous knowledge developed over years of learning from the environment, or it can also be local knowledge of what functions and what does not. Entrepreneurs operate innovation by taking risks and transform things. In developing countries learning how to sustain innovation is a challenge, but growing to the challenge will help the community to create wealth and to take part, contribute to their society. Despite the significant skill and experience accumulated in the scope of innovation strategy in advanced countries, mostly is not directly transferred to developing nations due to the aspect of the challenges the second are confronting. Actually, economically developing countries endure real handicaps to innovation technology which literally make them still underdeveloped. These difficulties come principally from improper trade, insufficient education and governance situations. Meanwhile, innovation technology policies have to overcome these difficulties. Therefore, it's important to create appropriate innovative approaches that comfort the possibilities and expectations of Southern countries. However, this case is more complex because the developing world shows numerous conditions such as governance environments, culture, levels of development, etc. Therefore, innovation strategies have to be suitable to countries' special features and the value for working more on national themes to emerge policies and economies.

In order to reduce these enterprising constraints, policies need to be taken into account at multiple levels of South-South exchange. To overcome obstacles, developing countries have undertaken an assortment of measures to do trade, business and intellectual property rights protection in their own economic growth, which can give significant lessons for other Southern countries. Their triumphant capabilities and activities reveal firstly how technological skills and capacities can be established, secondly what policy measures can possibly be utilized to promote national growth referring to the current multilateral trade management. The similitude of their expanding experiences is essential, deriving from their past path dependent barriers on developing sustainable economic growth. Sharing knowledge and practices amongst Southern countries and reinforcing their cooperation remains crucial and significant for countries that are yet wrestling to bring agreeable, friendly and rational industrial policy environments and local innovation. Once this has been well identified, both scholarly analysis and policy have started to provide much more consideration to what practices can be acquired from experiences of emerging nations for development, and the process of capabilities building. An alternative and perhaps more adequate advantage of developing nations for supporting technological know-how in the South is that mostly have traced much the same routes in constructing their skills and abilities which goes from reverse engineering to incrementally innovating in goods and methods, to expanded research and development and managing at the technological field. Although the developing countries can be named as emerging, there are several manufacturers which are at the technological sector internationally, unlike plenty of other enterprises or industries cope with habitual limitations on innovation comparable to those predominant in other Southern countries, such as least developed countries. This signifies that, in general, these countries are yet facing certain primitive difficulties related to promoting the technological absorptive capabilities of their processes.

Consequently, most of these challenges to innovation advances show that the technologies resulting from Southern countries is usually more convenient, adapted and proper to other developing nations and companies, therefore, featuring the interest in promoting more and more South-South cooperation in this arena. Possibly, partnership on innovation and technology is one of the most crucial elements of South-South harmony, unity, agreement, offering a real commitment of sustainable development all over the developing world. Nevertheless, since comparable collaboration yet takes place between Southern countries at various levels of economic growth, it inevitably implies some rude conditions and opportunities too for many developing countries. Pressures involve in agreement with various requirements imposed by intellectual property rights and international trade regimes, in addition to obligations related to global warming, intellectual property rights' protection, and the transition towards a green economy, in order to assure a sustainable industrial development.

Given the importance of South-South exchange to boost, promote and encourage technological knowledge, there is

manifestly a revived significance in this sector. Key tactics considerations introduce how ongoing South-South partnership can be oriented to adopt innovation and technological capacity, and how the technology requirements of developing countries in general as well as least developed countries could be integrated into a balanced program of exchange, agreement, cooperation and harmony.

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