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Globalisation and India's Innovation System: A 'Creative Destruction'?

The rise of knowledge economy has made Innovation Systems a major terrain for broader and deeper introspection. Nation-states across the world focus on Austrian economist Joseph Schumpeter's theory of 'creative destruction' and harp on 'newness', 'change', and 'innovation'. Innovation in our hyper-connected world breaks the static mode of the economy and frequently revamps innovation systems worldwide. The World Bank defines *innovation* as "the process by which individuals or organizations master and implement the design and production of goods and services that are new to them, irrespective of whether they are new to their competitors, their country, or the world" and *innovation system* as "a network of organizations, enterprises, and individuals focused on bringing new products, new processes, and new forms of organization into economic use, together with the institutions and policies that affect their behavior and performance" (World Bank: 2012)¹. Globalisation and internet dismantled the spatial boundaries among nations, paving the way for faster diffusion of information among knowledge networks, thereby increasing the delivering capacity and efficiency of Innovation systems swifter than ever before. Accordingly, increased mobility and the network of flows rather than organizations characterize the current 'informationalised' global economy.

Conceptual framework

Globalization led to the growth of the flow of trade and factors of production among countries, strengthening reciprocal effects among countries or among actors in different countries. It has become a process of *transformation* that occurs at the systems level, and it affects this system as much as it affects the identity of the units. Globalisation *despatialized* and *detemporalized* human practices as well as the conditions of human knowledge, and projected them onto the global as a condition of its existence. Despatialization and detemporalization have strengthened the global innovation systems across the world by bringing new products, new processes, and new forms of organisation into economic use. Nevertheless experts differ upon its effects on different national innovations systems, thereby replenishing continuously

¹World Bank 2006.



theoretical approaches to it, viz – National, Sectoral or Regional.² This phase of globalization, which is marked by advancements in communication and transportation technologies, has transformed the organisation of production and innovation. The growth of global production and innovation networks have fragmented the production and innovation activities across countries in the globe while the coordination and control of these activities have been done by the leading firms mostly based in advanced countries.

The growth in global production and innovation networks necessitated the emergence of global standards. International organizations such as World Trade Organisation and World Intellectual Property Organisation do play an important role in setting the global standards. How globalization of standards or harmonization of standards impacts the innovation systems? There has been a surge in the innovation activities as measured by the number of patent applications and foreign direct investment globally in recent times. The annual number of patent applications filed worldwide increased three fold – from 9,97,501 in 1990 to 26,80,900 in 2014³. The global FDI reached an all-time high since 2008-09, due to the increased flow of FDI to developing countries⁴. The surge in joint ventures, IPRs and FDI strengthened interaction among national innovation systems and make it more technological or sectoral oriented.

It is important to critically analyze the impact of these developments on the innovation systems in India. As the experience of different countries show, the State plays a vital role in shaping the innovations systems and in the building up of capabilities. The impact of integration of world economies, which calls for liberalization and greater role of the private sector on the innovation systems of countries especially those at the bottom of the innovation ladder, needs to be analyzed. However, globalisation has not plummeted the role of Government as it builds ‘policy platforms’ that enable innovation and economic growth. Ecology of Innovation system continues to be regulated by national and state legislations.

Recent surge in start-ups or innovative entrepreneurs spearheads business model innovation. The rise of the so-called ‘born globals’ or ‘international new ventures’ – start-ups launch operations in multiple countries right from inception. The emerging thrust on University Innovation system brought the Triple Helix Model to the fore. Innovation processes are an orderly sequence that begins with R&D. Recognition of innovation also as a customer problem, and not a technical ‘discovery’ strengthened industry-academia linkage. The latest in the sequence of events is a spurt in technological start-ups, and strenuous efforts to strengthen University ecosystem of innovation through

²See for National Innovation System (Freeman: 1987; Lundvall: 1992; Nelson: 1993) Technological/ Sectoral Innovation System (Carlsson and Stankiewicz: 1991; Breschi and Malerba: 1997) and Regional/Local Innovation System (Cooke et al.: 1997) Braczyk et al.: 1998; De la Mothe and Paquet: 1996).

³Based on WIPO Statistics Database.

⁴UNCTAD (2016), *Global Investment Trends Monitor*, No. 22.



academia-industry linkage. It is innovation-led growth, driven by entrepreneurial and disruptive actions that will sustain our role as one of the world's leading economies in the years to come.

Twenty- five years have elapsed, since India initiated its reforms in 1991. We have grasped the reality of globalisation and attempted to address it at the policy level. How India, as an emerging power in Global Innovation System, addressed this challenge necessitates deeper inquiry. The activities and interactions of India's network of institutions in the public and private sectors imitate, import, modify and diffuse new technologies for economically useful knowledge. Several institutions, be it political or cultural, determine the innovative performance decisively. India has shown remarkable progress in technological areas that include IT, automobiles, space, pharmaceuticals, where clusters or networks of agents interact in specific technology area under a particular institutional infrastructure for diffusing and utilizing technology focus on knowledge, information and competence flow. Government has established bodies such as Council for Scientific and Industrial Research (CSIR) and Department of Science and Technology (DST) to play a critical role in India's innovation system. These bodies have divisions for international cooperation to be connected with the rest of the world in science and technology matters. Nonetheless, doubts are rampant over the diffusion of knowledge in certain traditional sectors like agriculture. But the relationship is strong between 'specialized equipment suppliers' and 'science-based firms,' and between 'scale-intensive firms' and 'specialized equipment suppliers.' A surge of regional innovation pockets led to imaging a complex network of knowledge relationships on a limited geographical area as a space that enhances the local innovative capability through 'synergetic and collective knowledge exchange' made several Indian cities synonymous with innovated product –Bangalore or Hyderabad for IT, Jalandhar for sports goods cluster, etc. Major Knowledge links include Triple-helix interactions, Inter-technological links or tacit knowledge sharing social networks. Globalisation touched all systems of innovation in India- National, Sectoral or Regional. Thus the movement of world's production of knowledge into a distributed knowledge production system alongside the traditional disciplinary structure of science and technology produced profound ramifications involving transdisciplinary nature, heterogeneous groups, and multiple actors.

In the light of this, the KN Raj Centre, Mahatma Gandhi University in association with its Business Innovation and Incubation Centre is conducting a three-day international Seminar on 12 - 14 of January 2017. The Seminar will attempt to find answers to the following questions.

- How globalisation has restructured India's National innovation system in the post liberalisation phase?
- Whether such a restructuring, if there be any, proved beneficial to India's National, Sectoral and Local innovation systems and how effective has been the role of government in authoring prudent policies vis-à-vis industry, agriculture, services, etc?



- How far entrepreneurship is recognized as a key driver for 'creative destruction' for facilitating economic development in India?
- How successful are the Universities in India's knowledge economy to emerge as a vital helix facilitating radical or incremental innovation?
- What are the options and challenges to build a sound innovation capability in India?

The proposed conference will examine the effects of globalization on India's Innovation System, and review its multi dimensional aspects, besides extrapolating the recent trends in selected national innovation systems of the world.

The major themes the conference would focus on are given below.

1. Theoretical approaches to understand innovation in the context of globalisation.
2. India's national innovation system that would address various aspects of national level policies and programmes, academia-industry linkage that influence the innovation ecosystem in India.
3. Globalisation and India's sectoral innovation system subsequent to India's integration with global economy - IT, automobiles, space, pharmaceuticals; agriculture.
4. Local/regional innovation systems in India and its interaction with the world.
5. Innovation ecosystem in Universities and the Government-Industry-Academia linkage in the Knowledge economy; Innovation – a customer problem or a technical 'discovery'; strengthened industry-academia linkage as industrial problem solving.
6. Entrepreneurship and innovation; Joint Ventures, Patents, Technology Transfer; Impact of Innovation on small scale and indigenous industries; Bilateral and multilateral trade agreements and India's innovation systems
7. Open source innovation models.
8. India vis-a-vis the global innovation system. A comparative study of United States, Germany, South Korea, China, Japan, etc.; other like that of India's international commitments at international organisations like WTO, WIPO, UNIDO, etc.

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Important dates

Submission of abstracts for review: November 10, 2016

Notification of abstract acceptance: November 15, 2016

Submission of complete/full papers for Publication: January 1, 2017

Conceiving and finalizing the Conference program: January 03, 2016

Seminar Dates: 12-14 January

For those interested in presenting a paper may send their abstract to girishramkumar@yahoo.com .

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