

## **Editorial: Innovation in India: Micro Dimensions**

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In the era of globalization, innovation is increasingly considered a decisive means of competitiveness. This is because, innovation is the ultimate source of productivity and growth. It is the only proven way for economies to consistently get ahead, because innovations promote the economic competitiveness of the whole country. A report from the US Council on Competitiveness (World Business, 2007) declared that “Innovation will be the single most important factor in determining America’s success in the 21st century”. According to *The Economist* (2011) innovation is today’s equivalent of the Holy Grail. Rich-world governments see it as a way of staving off stagnation and poor-world governments see it as a way of speeding up growth whereas business executives everywhere see it as the key to survival. Thus innovation is the necessary core competence to remain competitive in the global landscape.

Among the different economies of the world, emerging economies such as China, India, Mexico and Brazil are upgrading their economies from low value-added manufacturing and services to innovation based economies. In the process, the Policy makers of these countries face innumerable challenges due to their steep diversity, in terms of intra as well as inter-regions and sectors. India occupies a unique position among the emerging economies, due to its ever growing contribution in the Information and Communication Technology (ICT) industry, and more recently as a source of innovative high-tech start-ups. The Indian technology start-up landscape has evolved to become the fourth largest base across the world (NASSCOM, 2015).

However, the paradox is that even today bulk of India’s population lives in rural areas, and majority of its workforce is employed in the un-organized sector. Given this, it is appropriate to examine whether innovation in India is exclusively confined to urban/modern high-tech industries or is it prominently visible even in the rural/traditional industries? What are the constraints? What are the solutions? What are the achievements? It is in this context that the current special issue of *Asian Journal of Innovation and Policy* (AJIP) focusing

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exclusively on the issues relating to innovations with reference to diverse sectors/regions of India, assumes significance.

The current issue of AJIP comprises five invited research papers contributed by 10 different experts drawn from four eminent institutions, located in different parts of India. While the first paper dealt with an analysis of institutional constraints to innovation in the context of artisan clusters in rural India, the second paper elucidated an innovative approach for mainstreaming energy access in rural India. The third paper focused on the rapidly growing automobile industry of India with reference to foreign direct investment (FDI) through international joint ventures (IJVs) and analysed its role in the promotion of technology transfer and innovation. The basis for innovation is R&D, and it assumes special significance in the IT sector. How does R&D intensity impact the market concentration of firms in the Indian IT industry, is examined in paper four. Finally, the fifth paper revealed the role and contribution of innovation in the growth of firm size, based on two SME case studies in the engineering industry of India. Given the diversity of sectors and issues discussed in the five different papers, it is essential to elaborate on it and bring out its implications.

Rural artisan clusters, which emerged spontaneously over a period of time, account for a considerable proportion of industrial enterprises, particularly in rural India. Traditional technology, low level of skills, declining market and inadequate finance are the key challenges faced by these clusters. The advent of modernity is steadily posing new challenges to their very existence. Though policy support through institutional infrastructure has been steadily extended over the period, Das based on case studies of five rural artisan clusters from five different regions/States of India, observed lack of coordination between institutions, lack of progressive vision and narrow sector specific approaches to cluster development. As a result, the schemes and programmes for cluster development hardly yielded the desired results in the form of encouraging innovation within these clusters. Rather, Das observed institutional constraints for undertaking product/process innovations in all the five clusters. To overcome these constraints and to promote the rural artisan clusters, Das made some policy prescriptions in the form of systematic interventions, among others, for market development by making use of the Internet and E-Commerce.

Despite decades of economic progress, providing access to modern energy carriers to the majority of India's rural population has remained a formidable challenge to the Policy makers even today. Balachandra attributes it to the ineffective government policies and programmes pursued over the years. In this context, he assessed the need for an innovative approach for mainstreaming energy access in rural India in a sustainable manner, examined the feasibility of carrying out innovations in terms of technologies, markets,

financial instruments, business models, apart from institutions and policies, and finally analysed the economic and financial feasibility of implementing such innovations, in terms of micro enterprises. The essence of his analysis brings out that the enterprises created to maximize social benefits can also maximize private benefits.

The modernity of India is reflected in the fast growing automobile industry. A steady rise in the income levels of households, particularly in urban areas is consistently driving the demand for automobile products upwards. Gopalaswamy, Sureshbabu and Mathew have examined the motives, growth and performance of foreign direct investment (FDI) through IJVs in the automobile industry of India, over a period of time, with a particular focus on the liberalization era. The IJVs were favoured by the local partners primarily to ensure a steady transfer of better technology to the local market. Whereas the foreign partner found it advantageous in terms of retaining control over the technology transferred and minimum interaction with the local government, on a day to day basis. It is important to note that Indian partners laid exclusive emphasis on technology and design capabilities (which would contribute to domestic innovation capability building, directly or indirectly) while choosing a foreign partner. Overall, the authors found the promotion of IJVs in the automobile sector in tune with the current policy thrust on “make in India”, to accelerate the growth of manufacturing industry.

Information Technology (IT) industry assumes unique significance in Indian economy today, particularly for its steadily growing contribution, and its wider impact on Indian economy, in terms of employment, output and exports. However, how R&D intensive Indian IT industries are, and how does R&D benefit these firms have not been adequately explored till now. Sahu and Narayanan have analysed the role of R&D intensity on the market concentration of firms by studying the market share, labour intensity, firm age, and firm’s market value. They found that R&D intensity positively influenced firm’s market value. The diversified, bigger, more labour intensive and more R&D intensive firms had higher stock excess returns compared to the others.

Small & Medium Enterprises (SMEs) occupy a place of strategic importance in Indian economy, in view of its ever growing contribution to employment, industrial production and exports. Though, of late, some attempts have been made to explore and understand the innovation characteristics of SMEs and its achievements, not many have analysed the role of innovation in inducing firm growth. Krishnaswamy, Bala Subrahmanya and Mathirajan have investigated in detail, based on two engineering industry case studies in Bangalore, how entrepreneurs have played a crucial role in perceiving the market opportunities, building up appropriate in-house technological capability, supplement it with needed external assistance to carry out process-cum-product innovations. The resultant innovated products enabled the two SMEs to further penetrate and

expand their market share leading to firm growth. In the process, the relationship between innovation and growth is established.

Thus the five research papers have revealed the constraints, alternatives, the motives, the process, the outcomes, and its resultant benefits for the firms as well as the sectors, and its value to the economy at large. The wider policy implications are to take remedial measures in the form of:

- Removing constraints to facilitate rural artisan cluster based innovations,
- Encouraging micro-energy enterprises to promote access to modern energy carriers for rural Indian population,
- Laying further thrust on FDI as part of India's "Make in India" strategy,
- Facilitating R&D in the IT sector, for better firm performance, and
- Stimulating entrepreneurial innovations in SMEs, for their gradual growth.

If these research findings are incorporated adequately and appropriately into policy guidelines, it would give a new direction for the innovation-led growth of Indian economy.

## **References**

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