Abstract

A quantitative and objective assessment of industrial innovation in India is attempted by this research work.

It is noted that while the availability of variety of all kinds of products, whether technological or otherwise, is exponentially rising in Indian markets, a disproportionately large percentage seems to be of non-Indian origin. On the other hand, available Indian products are neither able to compete in quality nor cost nor features.

The features of the products are related to product innovation while the quality and cost is related to the process innovation.

Patents are by far known to be the most certain measure of a product as well as a process innovation, since a patent document undergoes scrutiny at several levels. Patenting an innovation is expensive and time consuming and thus no inventor invests his or her time or money unless the innovation provides clear industrial edge in terms of feature or cost or quality competitiveness.

A patent document is intensely technical in contents and most technical persons, particularly in India, even if skilled in a subject, have shied away from patents belonging to their own subject.

The research scholar, by virtue of three decades of exposure in industrial research and development in the domains of mechanical, electrical, hydraulic, mechatronics, embedded electronics and software; and having facilitated patenting of few tens of innovations undertook to study and analyse patents filed by Indians with India Patent Office in four different years – 1995, 2000, 2007 and 2013.

The rationale for selecting these years is
- Year 1995 is just after India commenced permitting foreign competition and availability of foreign goods in India at par with Indian goods.
- Year 2000 being after 5 years of Govt. new policies ought to reflect change in Indian competitiveness.
- By the year 2007, the Indian innovators ought to have geared up for new market scenario.
- 2013 is chosen as the most recent year for which patent data ought to be available, since patents get published after 18 months of filing.

More than 3000 patents were found to have been granted or published by India Patent Office. These patents encompass ALL domains of engineering, namely, non-exhaustively; core engineering that is mechanical, electrical, chemical and civil, pharmaceutical, software, biotechnology and space.

While it might be impossible for any technocrat to reasonably understand and analyse technical document pertaining to ALL known domains, the research scholar took advantage of the patent drafting guidelines where each patent has to necessarily include prior art, that is background information and previous technology/method.

The scholar also consulted a large number of technocrats, who are domain experts in different fields, in order to validate his understanding.

Each and every patent document is first categorized into a product or a process or a combination innovation. Further, each patent is rated on a scale of 5; 1 to 3 being incremental innovations while 4 and 5 being significant innovations.

The outcome of the analyses unambiguously made it clear that Indian Innovation could not face the onslaught of global competition, neither in quality nor in quantity.

A quick comparison with other nations reveals that many countries managed innovation and liberalization better than India.
A deeper, year by year study involving few dozen experts from different technological domains ought to be undertaken to probe and critically validate this finding, along with suggesting corrective measures.