



Mapping of Research Publications and Patents Portfolio of Top 100 NIRF Engineering Institutes in India

Mamta Bhardwaj
DST-Centre for Policy
Research
Panjab University,
Chandigarh-160014
India
mamtab@pu.ac.in

Radhika Trikha
DST-Centre for Policy
Research
Panjab University,
Chandigarh-160014
India
mits_trikha@yahoo.com

Rupinder Tewari
DST-Centre for Policy
Research
Panjab University,
Chandigarh-160014
India
dstprc2014@gmail.com

Abstract - Research publications and patents (granted) are two important indicators for judging the Science, Technology and Innovation ecosystem of a nation. India enjoys an impressive global ranking of 5 in the indicator of research publications as per Global Competitive Index, 2017. However, its patent applications filing is very poor viz a viz many countries including Asian countries like China, Japan and S. Korea which filed 13,38,503; 3,18,381 and 1,08,830 patent application reported by World Intellectual Property Organization, 2017. In order to boost the patent ecosystem in India, it is imperative to understand the patents and publication portfolio of Higher Education Institutes of India. In the present study, top 100 National Institutional Ranking Framework Engineering Institutes were mapped for research publications and patents (granted), in order to identify institutes performing well in domains of research publications, or patents or both. The study revealed that only a handful of institutes namely, Indian Institute of Technology (IIT)-Bombay, IIT-Madras, IIT-Delhi and IIT-Kanpur are performing satisfactorily in the domains of research article publications as well as patent generation. However, a large number of engineering institutes such as National Institutes of Technology, autonomous institutes/colleges and universities are good in the publication of research articles but have not been able to make a niche in the domain of patent generation. This limitation is being attributed to the lack of or absence of 'Translational Research Ecosystem' in their respective institutes. The translational research ecosystem of IITs can be adopted by other institutes to strengthen their patent regime. The data was also categorized on the basis of fields of specialization. The results showed that IITs are leading not only in the fields of Engineering but also have good profile in the fields of Chemical Engineering, Physics, Pharma/Drug Biotech/Food/Agriculture and Medical Sciences.

Keywords— Engineering, IIT, NIT, Publications, Patents, Translational Research Ecosystem