

Career prospects in research and development

FAVOURABLE Thanks to tech-savvy courses and encouraging initiatives, research and development is the right field for every ambitious professional, believes **Muhammed Majeed**

Economic growth of a nation is determined by the invention and application of new technologies available. Research and development (R&D) is one such sector, where these new technologies are developed and driven to action. Investigative activities undertaken by the R&D sector proves to be important for the growth of a business or a nation as a whole. It is a means of acknowledging the future prospects of a business by developing new products and experimenting ways to improve and expand their operations.

In today's innovation-driven world, R&D has acquired a major position, important for economic competitiveness and national development. In developed economies, the percentage invested in R&D sector is 70-80, mostly accounted for by its industries. In the developing economies, the amount invested in R&D sector is minuscule, accounting to only few firms investing in

such activities. In the Indian scenario, it is mainly the public enterprises that are spending their profits on R&D to stay ahead of the technological advances globally. Although the investments are taking place, India's R&D share stands at a stagnated position of 2.7 per cent in the global market as compared to 31.1 per cent in US, 24.5 per cent in Europe and 17.5 per cent in China, as per Battelle forecast for 2014.

The perfect time

According to a report by UNESCO, India has 366 research and development (R&D) personnel per million population, compared with 1,366 in Brazil, 2,358 in China and 6995 in Germany. India spends around 0.9 per cent of GDP on R&D activities, while the United States spends around 2.8 per cent of GDP on R&D, China spends 2 per cent and Russia 1.5 per cent. However, with the growth of start-ups in the country, R&D activities are set to take a leap in the near future.

According to the experts, a career in R&D is predominantly attractive today as these skills are short in supply. While e-commerce giants, technology and internet-based companies along with those in life sciences and telecommunication are investing heavily in R&D activities, career prospects do seem brighter for the R&D aspirants in the coming future.

Today, there are over 300 MNCs vying for researchers from India, pressing more importance on R&D. With rapid advances in science and technology, there is a growing recognition of R&D activities in our nation. Therefore, there is a need of synergetic partnership between institutions and industries to create a dynamic environment for the students to learn the real life problems and prospects of the industries.

Various renowned companies are setting up their research facilities in metro cities like Bengaluru and Mumbai, along with well-established R&D labs and



organisations encouraging their employees for PhD through affiliation through colleges. Such organisations create a structure in which the employees are encouraged to engage themselves to acquire knowledge in their respective fields, empowering them to adapt to the changing scenarios with an ease.

Research as a profession requires passion driven by innovation to transform tomorrow's technologies and create a platform for an organisation

to grow. According to a report by World Bank called *Unleashing India's innovation potential*, there are around three lakh scientists and innovators in the country. Aspirants, wishing to take up research and development as a career choice require a master's degree covering the relevant area of research and specialisation along with comprehensive knowledge of the same. Biotechnology, manufacturing, pharma industry or software field are some of the avenues to explore by the aspi-

rants in this field. Encouragement to researchers to pursue application driven projects will help them carve the right career path for themselves and in turn benefit the relevant industries.

On the uptake

According to an article by Indianeducation.net on scientific research and development, today even biotechnology industry has grown to be a \$2 billion worth industry and is estimated to be growing at a

rate of 37 per cent every year, while the Indian pharma industry is expanding at a rate of over nine per cent, standing at Rs 238,665.

The Indian government has taken up various steps to promote the R&D sector. With the 'Make in India' campaign launched by Prime Minister Narendra Modi, innovation and research will play a significant role in the coming year. India is set to witness a growth in agricultural, IT and pharmaceutical sectors, with government investing huge amounts to build research centres specifically dedicated for R&D in these fields. Also, engineer-

ing R&D is set to witness a growth at a CAGR of 14 per cent to reach \$ 42 billion, while it stood around \$ 14.7 billion in 2012 (a study by management consulting firm Zinnov). Apart from these sectors, the food business is investing heavily on R&D activities along with travel and online commerce sites.

Therefore, the future seems bright for the aspirants as the research and development opportunities are growing with start-ups escalating across sectors from technology to consumer industry.

(The writer is founder and chairman of Sami Labs)

