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MAD- 2020
Day – 11
Science & Tech

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Question:

Compare the Information Technology sector and Biotechnology sector in India. What steps can be taken to help the Biotechnology sector flourish?

Answer:

Both the Information Technology (IT) and Biotechnology (BT) became mainstream in India with the advent of the 21st century. Yet both of these followed strikingly different trajectories

1. Driving Force: Developments in the IT took place with the initiatives of the private sector whereas the growth of BT has been mostly due to government support.

2. Human resource: BT requires a very skilled and professionally educated human resource base whereas the IT sector is comparatively more accommodative and provides room for relatively unskilled people as well. The BPO services employs a lot of under-graduate and newly graduate youth.

3. Verticals: IT services are utilized in BFSI, telecom, manufacturing, media, construction and utilities, airlines, transportation and health services, etc. The scope and skillset requirements are widespread. The expanse of BT services is comparatively more limited and the nature of work is more specialized.

4. Infrastructure: BT research requires access to labs with high-end scientific infrastructure, supply of expensive chemicals and reagents with minimum shipping time between the supplier and user, and regulatory and intellectual property requirements. On the contrary, requirements in the IT sector are comparatively lax.

5. Output: Any substantial gains from the human and financial investment in the BT sector takes its own sweet time, sometimes even decades. IT sector is more transactional with quicker revenue generation and more tangible output.

Although it is easier to compare the two sectors based on the input-output mechanism, yet the two sectors are not a substitute to each other. The demands by the two sectors and demands from the two sectors are unique. The following steps can add some pace to the development in BT sector:

1. Creating an entrepreneurial culture of institutions and scientists

2. Institutions might adopt flexible policy to allow scientist to incubate start-up companies in their labs while retaining their positions

3. Increase the academia-industry linkage such that a proper communication channel can be established

4. Researchers from the industry can be appointed as guest lecturers in the institutions.

   Rather than treating the IT and BT as two separate entities, the focus should be to develop artificial intelligence-based tools using the IT such that the innovations of the BT can be fast-forwarded to yield innovations that make an impact.