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Decomposition of Total Factor Productivity (TFP) of Indian software industry

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Abstract

Objectives: To decompose the total factor productivity of Indian Software industry into efficiency change (catch up) and technical change (innovation).

Methodology: The study is entirely based on secondary sources of data. The data is obtained from various sources, which includes World Bank, Reserve Bank of India (RBI), National Association of Software and Services Companies (NASSCOM), CMIE Prowess, and Indian Brand Equity Foundation (IBEF). The study has used the Malmquist Productivity Index in order to carry out the analyses for decomposition of total factor productivity into innovation and catch up.

Findings: The results show that during the study period, the TFP has increased by an average rate of 3 percent. The study found that out of 100 firms, 45 firms have increased total factor productivity. Most firms are trying to catch up their peers rather than surpassing them. It is clearly supported by the analysis that out of 100 firms 82 have shown an increase in efficiency change (Catch up) while as only 8 firms have shown growth in technical change (innovative).

Improvements/Applications: Indian IT sector is required to follow new directions. In order to survive in the long run with the same zeal, the industry demands to consolidate its strengths and move up the value chain if it has to maintain its head start on the competition. Most importantly, it will have to invest substantially in research and development and create linkages to encourage career prospects for researchers in engineering. As a matter of necessity, the companies in the industry should focus on the path-breaking technology rather than following the linear process.

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Software industry, Total Factor Productivity, Technical Efficiency change, Technical change, Research and Development

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