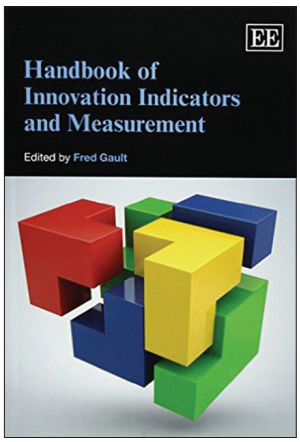
Handbook of innovation indicators and measurement



Book Title : Handbook of Innovation Indicators and Measurement
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In a knowledge-based economy, innovation takes a central stage. The knowledge economy nurtures the innovation frameworks across the board while encouraging the development of the innovation ecosystem in the country by establishing an array of the innovation clusters, national systems of innovation, and sectoral systems of innovation across the states. The ecosystem is put in place with special concessions are given to the actors in an innovation system, such as the start-ups, entrepreneurs, and intrapreneurs in terms of extending the ease of doing business. The appropriate measurement of national innovation systems is essential for the public policymaking, encouraging start-ups, entrepreneurs, and intrapreneurs in setting up more innovative solutions to the people's problems, and measuring growth and development in the country.

The innovation measurement requires a distinct set of statistical and qualitative indicators. Worldwide, the frequently used set of innovation measurement guidelines is known as Oslo Manual. The Oslo Manual, also known as "The Measurement of Scientific and Technological Activities: Guidelines for Collecting and Interpreting Technological Innovation Data," is developed by the Organisation for Economic Co-operation and Development (OECD) for collecting and using data on industrial innovation. The manual is now available in the third edition. The Preface to this edition clarifies "This third edition has been updated to take account of the progress made in understanding the innovation process, the experience gained from the previous round of innovation surveys, the extension of the field of investigation to other sectors of industry, and the latest revisions of international standard classifications."

A nation-wide innovation survey, also known as community innovation survey (CIS), is central to derive data on industrial innovation in a country. Every member country of the OECD and the European Union undergoes far periodic survey of their industrial establishments. The UNESCO Institute for Statistics also technically supports other countries to make use of Oslo Manual for national and regional level CISs. Many of the emerging economies, including BRICS countries, organize periodic CISs to determine progress and policy gaps in achieving industrial innovations in the respective country. BRICS countries are a group of countries that include Brazil, Russia, India, China, and South Africa. Most of the OECD member countries have assured a significant GDP share in research and development (R and D) activities that are instrumental in improving firm-level innovations.[1] Thus, community information surveys help in determining firm-level initiatives and investments in R and D activities, including generation of innovations leading to registering intellectual properties to the firms or the innovators.

In the book "Handbook of Innovation Indicators and Measurement," distinguished scholar Fred Gault presents a detailed analysis of standardized methods of measurement in industrial innovations and their genesis. This book is systematically structured with seven parts on diverse topics, namely (i) Why Indicators Matter, (ii) Defining Innovation and Implementing the Definitions, (iii) Measurement, (iv) Developing and Using Indicators, (v) Innovation Strategy, (vi) Beyond the Horizon, and (vii) Challenges.

The genesis of innovation indicators and CISs is described in the first two parts. Chapter one, titled "Innovation

indicators and measurement: An overview," written by Fred Gault, gives a thematic introduction to the book while the author distinguishes between statistical indicators and R and D statistics. This chapter includes a harmonized survey questionnaire titled the CIS 2010, prepared for the European enterprises by the Eurostat of the European Union.

Part two provides a simple overview of how the CIS was originated and how the Oslo Manual became a standardized tool to the member countries in designing a questionnaire. Many countries have also customized the survey questionnaire to meet the national and regional variations and local contexts.

In part three, three chapters present a collection of country case studies. These case studies help in identifying lessons learned and best practices while undertaking CISs in the OECD member countries, namely Germany, Norway, and Japan. These chapters also help in contextualizing the country situations, particularly in Germany and Japan, while the respective countries accelerated their innovation drives after experiencing a devastated World War II. The countries had much in commonalities with a zeal for re-generating their national resources through creating high-value intellectual property portfolios and industrial infrastructures. However, the book does not provide any case study of any of the emerging economies.

Other chapters from parts four to seven discuss a divergent issues ranging from the formulation of national and enterprise-level innovation strategies for the betterment of the society, changing dynamics in OECD innovation measurement agendas, developing indicators for emerging and enabling technologies, foresight of science, technology, and innovation (STI) indicators, and indicators for social innovations. The last chapter gives a summation of the challenges faced by the surveyors while dealing with innovation indicators in the emerging countries or countries in transition.

The book is recommended for the scholars in STI studies and scientometrics. The book will also help the practitioners and science policy analysts who are involved in measuring industrial and social innovations at the regional, national, or enterprise-level.

Anup Kumar Das*

Centre for Studies in Science Policy, Jawaharlal Nehru University, New Delhi, India

***Address for correspondence:**
E-mail: anupdas2072@gmail.com

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