

# Chapter 1

## Digitalization Policy and Practice Towards the Comprehensive and Sustainable Green Growth of the Industrial Sector With Special Reference to the Indian Economy

**Sivasubramanian K.**

 <https://orcid.org/0000-0001-6137-0847>

*Kristu Jayanti College, India*

**Madhusudhanan R.**

*Kristu Jayanti College, India*

**Jaheer Mukthar K. P.**

 <https://orcid.org/0000-0002-7888-0242>

*Kristu Jayanti College, India*

**Nirmala M. M.**

*Kristu Jayanti College, India*

### ABSTRACT

*This chapter highlights the significance of digital policy framework and the practice carried out by the manufacturing industrial sector in India for the sustainable green growth during the digitalization era. The Industry 4.0 has been put forward for an innovative path for industrial rebellion that would support the industry through connectivity, automation, robotics, and machine learning. In this juncture, the industry has to adopt the various technology which brings the comprehensive and sustainable green growth through digitalization in their production process. This chapter follows the descriptive research method through the conceptual framework of the various existing related works done at the national and international levels. A well-defined and comprehensive degree of literature has been collected and structured on the basis of significance of the study. On the whole, the study reveals that the digitalization supports the industries to reduce the emission and maximizes output and profitability of the manufacturing sector with sustainability.*

DOI: 10.4018/978-1-6684-4610-2.ch001

## **INTRODUCTION**

Green industrial growth is expected to be a key driver for the economic development and formulation of environmental policy. Economic growth and development in the era of industrialization has been reached at the cost of severe over utilization of non-renewable exhaustive energy sources. The green industrial policy framework could be able to support transformation to an economic system that equalizes environmental sustainability and generate wealth for the sustainable future too. Industrial sector production measures the level of output of various businesses combined in the manufacturing segments of the economy. Industry is the important segment and records 78 percent of the national output. The widest segments within the industries are such as metals, which constitutes 13 percent of the total production, twelve percent from refined petroleum, chemical products consist of 8 percent, food motor vehicle, machinery and pharmaceutical constitutes 5 percent respectively. The green businesses are classified as two categories namely environmental goods considered as renewable energy, green technology and pollution abatement technique. Secondly, creation of green businesses (Khanna, 2020). The mining registered with fourteen percent of the total manufacturing. Industrial sector emerged as one of the major growing sectors among the other segments in India. The year-on-year production of industrial commodities has been increased by 3.2 percent up to October 2021 and it further rose to 3.3 percent at the end of September 2021 (MOSPI, 2021). India is one of the fastest growing industrial and manufacturing hub and playing a key function in the global economy. The concept of make in India scheme is supporting a lot to enhance the industrial capacity (Pilicherla, et al., 2021). Industrialization is an integral part of the economic growth of a nation and presents a phase where revenue, productivity and increase in employment. Manufacturing industries are the second biggest contributor to the nation's discharge about 25 percent of the total GDP. The manufacturing sector activity is a single biggest consumer of delivered energy, as a result (Biswas, et al., 2019). The monetary market didn't always hold adequate information to precisely assess the hazards tangled in the financing of new business projects, and financial mediators may henceforth fail to clutch profitable openings, making government involvement compulsory. The markets generally fail to adequately cost the environmental influence of economic activity, and this could lead to economically feasible whereas socially unwanted economic activity. The state has a vital role in flattening the playing arena for green businesses, positioning private revenues more carefully with social returns (Schwarzer, 2013). In this backdrop, the present chapter is constructed to reveal the industrial growth, significance of industries, pollution, controlling measures of pollution and green growth policy for the sustainability. This chapter is organized with introduction, reviewing of dimensions of existing studies and analysis with relevant data. Based on the comprehensive study expresses the similarities and dissimilarities of the existing works. Based on the analytical review, the present study concluded with major findings of the study.

This chapter work follows the descriptive research method through the conceptual framework of the various existing related works done at national and international level. A well-defined and comprehensive degree of literature has been collected and structured on the basis of significance of the study. It describes the various dimensions of this chapter such as concepts, meaning, and definitions of various dichotomies used in this chapter. It also moves with the direction of identifying and analyzing the concepts of digital transformation, significance of industry, role of government, industrial pollution, industrial policy, green growth policy, and sustainability. This conceptual method of work is used to bring out the existing practice and suggest suitable areas for the development of the existing findings through evaluating the present works. Based on the collection, arrangement and evaluation of various works would bring out

10 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:  
[www.igi-global.com/chapter/digitalization-policy-and-practice-towards-the-comprehensive-and-sustainable-green-growth-of-the-industrial-sector-with-special-reference-to-the-indian-economy/309795](http://www.igi-global.com/chapter/digitalization-policy-and-practice-towards-the-comprehensive-and-sustainable-green-growth-of-the-industrial-sector-with-special-reference-to-the-indian-economy/309795)

## Related Content

---

### The Resource and Leagile Strategy Model for Apparel Export Enterprises: A Proposed Model to Mitigate COVID-19 Uncertainties

Adeel Shah, Che Rosmawati Binti Che Matand Alisa Ibrahim (2022). *International Journal of Circular Economy and Waste Management* (pp. 1-14).

[www.irma-international.org/article/the-resource-and-leagile-strategy-model-for-apparel-export-enterprises/288502](http://www.irma-international.org/article/the-resource-and-leagile-strategy-model-for-apparel-export-enterprises/288502)

### Channel Conflict and Management of O2O Network Marketing Model Under E-Commerce Exploration of Ideas

Rafia Sber (2022). *International Journal of Circular Economy and Waste Management* (pp. 1-4).

[www.irma-international.org/article/channel-conflict-and-management-of-o2o-network-marketing-model-under-e-commerce-exploration-of-ideas/312227](http://www.irma-international.org/article/channel-conflict-and-management-of-o2o-network-marketing-model-under-e-commerce-exploration-of-ideas/312227)

### Engineering Education for All: Increasing Access to Engineering Education for Men and Women Across the World Through Distance Learning

Roofia Galeshi (2019). *Gender Economics: Breakthroughs in Research and Practice* (pp. 714-728).

[www.irma-international.org/chapter/engineering-education-for-all/218027](http://www.irma-international.org/chapter/engineering-education-for-all/218027)

### The Resource and Leagile Strategy Model for Apparel Export Enterprises: A Proposed Model to Mitigate COVID-19 Uncertainties

Adeel Shah, Che Rosmawati Binti Che Matand Alisa Ibrahim (2022). *International Journal of Circular Economy and Waste Management* (pp. 1-14).

[www.irma-international.org/article/the-resource-and-leagile-strategy-model-for-apparel-export-enterprises/288502](http://www.irma-international.org/article/the-resource-and-leagile-strategy-model-for-apparel-export-enterprises/288502)

### Integrating Biodiversity and Circular Bioeconomy Practices for Climate Resilience in the Indian Himalayan Region

Vishal Jain, Archan Mitra and Sanchita Paul (2026). *Harnessing Biodiversity for a Sustainable Bioeconomy* (pp. 151-190).

[www.irma-international.org/chapter/integrating-biodiversity-and-circular-bioeconomy-practices-for-climate-resilience-in-the-indian-himalayan-region/404071](http://www.irma-international.org/chapter/integrating-biodiversity-and-circular-bioeconomy-practices-for-climate-resilience-in-the-indian-himalayan-region/404071)