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Abhishek Kumar Sharma
Research Scholar University Department of Commerce Munger University, Munger, Bihar, India

Dr. Sunil Kumar Gupta
Professor, Ex. HOD, University Department of Commerce, Munger University, Munger, Bihar, India

Corresponding Author:
Abhishek Kumar Sharma
Research Scholar University Department of Commerce Munger University, Munger, Bihar, India

Opportunities and challenges for digital India & its impact on economic growth: A critical review

Abhishek Kumar Sharma and Sunil Kumar Gupta

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Abstract
In the contemporary networked landscape, both individuals and enterprises are progressively using online marketplaces and service providers for a diverse array of items and services. A term often used to characterize this activity, however not readily definable, is the digital economy. Opportunities for market development are expected to emerge due to the digital revolution, commonly referred to as the Internet Economy or the Internet of Everything. The phrase "digital economy" refers to a diverse range of social and economic activities enabled by computer networks and the internet. It includes many activities conducted online and via related devices, such as banking, buying, selling, and accessing information or entertainment. The internet economy is a fundamental component of the overall economy. It influences our everyday interactions and impacts every sector and kind of organization. It also recognizes that economic frameworks, industry boundaries, and the basis of competitiveness are evolving as sectors transition to data-driven models.
This article is to examine the digital economy in India, along with its opportunities and challenges. The Broadband Highway, Universal Mobile Connectivity, and Public Internet Access Program are components of the Digital India effort aimed at reaching underserved populations. The Digital India program aims to empower citizens and establish a knowledge economy that promotes fair development by enhancing infrastructure and providing measures to provide electronic services, manufacture of devices/products, and job opportunities. Realizing the objective of digitally modernizing India will be very difficult without public awareness. The major objective of this research report is to assess young people's awareness about Digital India.

Keywords: Opportunities, digital India, economy, mobile connectivity, infrastructure

1. Introduction
Innovative methods of engaging with customers are emerging in the digital realm. Others see it as a transformative alteration in their corporate operations. The "digital economy" is becoming difficult to differentiate from the "traditional economy" because of their interdependence. A computer-based economy is one that depends on this technology. Alternative designations for the digital economy are the online economy, the new economy, and the internet economy. Any benefits the government derives from the digital economy, as Abraham Lincoln aptly said, "shall not perish from the earth." This will have a direct and beneficial impact on the lives of all individuals.

2. Review of Literature
Maiti, M. and Kayal, P. (2017) [2] He conducted research to examine the fundamental elements of the Digital India initiative and evaluate its potential impact across several sectors. The study employs a qualitative technique, including an extensive investigation of governmental policies, case studies, and expert interviews.
The paper identifies significant opportunities in sectors such as digital infrastructure, e-governance, and talent development. However, it also raises issues with the digital gap, cybersecurity, and the implementation of legislation.
Ramija, B. (2018) [18], conducted a study to evaluate the effectiveness of the e-NAM platform in improving market access and income for Indian farmers. The study used a case study technique, including questionnaires, field visits, and analysis of transaction data from the

e-NAM platform. The report indicates that farmers using the e-NAM platform are generating more revenue and enhancing their market participation. It also highlights areas requiring more attention, such as infrastructure and awareness.

Mishra, P., (2020) [3]. conducted a study to assess the effectiveness of online education in mitigating disruptions caused by the pandemic. The study used a mixed-methods approach, combining surveys of students and instructors with an analysis of usage data from online learning platforms.

The research illustrates the challenges faced by both students and educators in transitioning to online learning. It also discusses factors that may influence the efficacy of online education, such as accessibility to technology and instructional methods used by educators.

Sharma and Singh (2020) [9] conducted a study to assess the impact of digital financial services on enhancing financial inclusion and accessibility in India. The study used a mixed-methods approach, including surveys, interviews, and secondary data analysis.

The research indicates that the use of digital financial services correlates with increased access to financial services for a greater number of individuals. It illustrates how initiatives like as Jan Dhan Yojana, in conjunction with UPI, provide broader access to financial services.

3. Problem Statement

Several economic sectors in India have been significantly impacted by the nation's rapid digitalization. Comprehensive research is essential to understand the impacts of digitalization on technological, social, and economic dimensions. Studies analysing the impact of digitalization are crucial for quantifying the financial benefits derived from the deployment of digital technologies. Choudhary *et al*. (2018) [4] indicate that stakeholders and policymakers might use it to assess the extent to which digitalization has facilitated growth and development. To assess digitalization's role in promoting socioeconomic inclusion, it is essential to understand its effects. This facilitates the identification of disparities and the formulation of policies to ensure that all segments of society may benefit from digitalization (Narayanan *et al*., 2020) [4]. Research-derived insights may assist legislators in improving digitalization-related strategies and policies. It facilitates the sustainable expansion of digital technology and associated sectors.

Research on the impacts of digitization in India is essential for informed decision-making and the formulation of effective policies. The assistance may enhance the measurement of economic development, socioeconomic inclusion, and policy optimization. The scope and relevance of future research may be enhanced by addressing research gaps via policy evaluations, sector-specific assessments, and longitudinal studies.

4. Approach to the Research

The data for this study was obtained from several secondary sources, including journals, magazines, libraries, and newspapers, using a secondary research technique. An examination of publicly accessible data derived from the annual reports of electronic commercial firms. The researcher used descriptive techniques to analyze data obtained from the relevant study publication.

5. Objectives

- To provide a thorough comprehension of the economy, including its challenges and opportunities.
- To understand the digital economy.
- To conclude that digital systems will be beneficial.

6. Digitalization's Beginning in India

In the early 1990s, India started the liberalization of its economy to facilitate globalization. This marks the commencement of the nation's digitization efforts. This was the period when the IT and software services industries began to expand, leading to the emergence of major technology hubs such as Bangalore. The National Informatics Centre (NIC), established in 1976, has contributed to the advancement of digitization by offering e-governance technologies.

7. Impact of Demonetization on the Indian Market

On November 8, 2016, the Indian government said that, effective at midnight, the 500 and 1000 rupee notes will cease to be recognized as legal tender. In terms of value, these notes constituted 86% of the nation's currency supply. The new 500 and 2000 rupee notes were launched in 2016, and residents were permitted to exchange their old notes until December 31, 2016. The government aimed to combat tax evasion, mitigate inflation, eradicate black money and terrorism financing, and foster a cashless economy. Demonetization is the procedure by which a certain denomination of currency is withdrawn from circulation as legal tender. Legal tender refers to currency that is permitted by law for the settlement of debts and obligations. The law requires that a creditor get monies as payback for the debt owing to them. Within the framework of the Indian economy, the term "demonetization" is not unprecedented. The 1938 and 1954 printings of the 10,000 rupee note were the largest denomination notes ever produced by the Reserve Bank of India. Demonetization happened on two occasions, in 1946 and 1978. National effect was little, since few persons had access to such notes at that time. The latest wave of demonetization has impacted individuals across all sectors, including the general populace and bankers. It has produced numerous significant short-term effects. We have not yet experienced or encountered the enduring effects.

8. Important Steps toward Digitalization in India

Digitalization is crucial for a nation's economy since it enhances productivity, innovation, and efficiency across all sectors. The digital revolution has significantly impacted India and has also contributed to its economy. The following list delineates significant impacts of the digitalization of the Indian economy:

a. Facilitated access to services and information.
b. Digital payments promote financial inclusion.
c. E-commerce platforms and marketplaces
d. Emerging enterprises and startups in the digital realm
e. The government's initiatives, such as Aadhaar and Digital Identity
f. Intelligent Urban Areas and City Development
g. Acquiring and enhancing digital competencies
h. Developing Internet and telecommunications networks

These accomplishments have contributed to India's economic growth by enhancing productivity, increasing access to services, and promoting entrepreneurship and

innovation. Digitalization has instigated significant transformations across all sectors of the Indian economy.

9. Professional Prospects

According to the 2017 HBR Digital Evolution Index, more persons globally have access to mobile phones than to toilets. The worldwide movement of data via digital channels has increased, however the frequency and severity of cyberattacks have also risen significantly. The latest issue involves a data breach allegation about a potential 120-minute user of Jio, an internet service provider.

The market is progressively becoming controlled by digital enterprises. On July 6, 2017, Apple, Alphabet, Amazon, Google, Microsoft, and Facebook were the most valuable companies globally, based on stock prices. Alibaba, headquartered in China, ascended to the seventh position overall. Work will be conducted differently due to digital technologies. The HBR Digital Evolution Index 2017 states that the implementation of digital technologies might impact fifty percent of the global economy, including automation, big data, and artificial intelligence. Over one billion jobs, collectively valued at $14.6 trillion, may potentially be automated with existing technologies.

For the digital economy to prosper, appropriate governmental policies must be established. To foster innovation in a digital economy, economists globally, including those in India, should adopt public-private partnerships. The legacy industry must be compelled to more effectively integrate data, automation, and emerging technologies. Essential competencies for thriving in the contemporary digital economy should be imparted to children at the earliest opportunity, preferably inside the classroom setting.

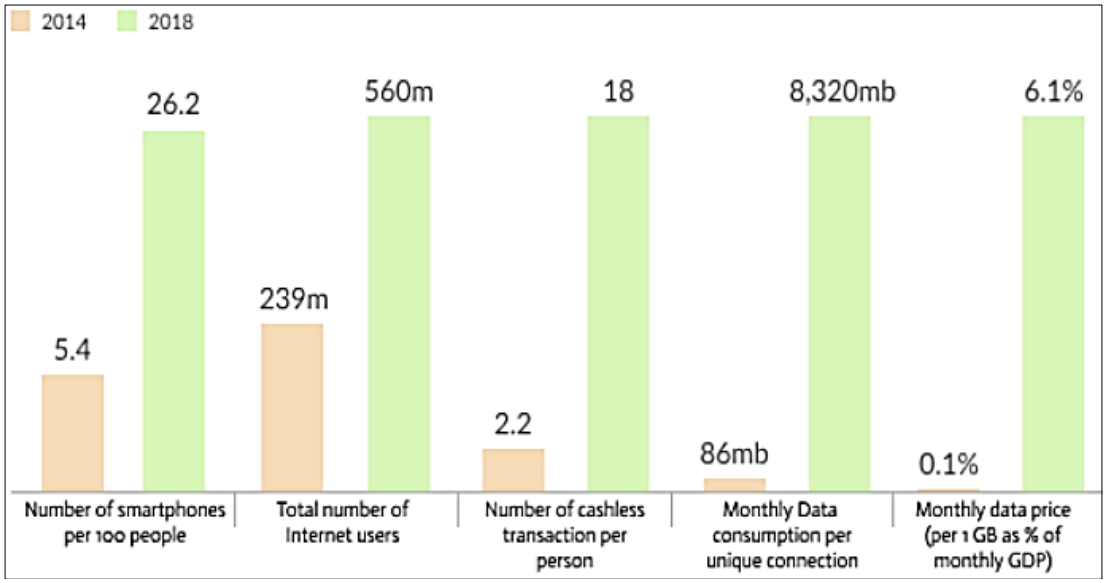
It is essential to ascertain the factors that contribute to a nation's digital momentum. We must identify and enhance the development drivers of the digital economy, considering factors such as the nation's size and its current digital economy status. Emerging nations should prioritize institution creation, whereas developed countries should focus on innovation.

10. Digitalization in Many India Industry Sectors

In this sense, "digitalization" refers to the transformation or improvement of activities, services, or products by transforming them from analog to digital format.

Digital Payments: Digital technology facilitates a transition from cash to electronic payment alternatives. Since the introduction of UPI in India, digital payments have undergone a significant revolution. (National PCI Institute, 2019).

E-Governance: The provision of public services, including information and communication, to the populace via electronic channels. The objective of the Indian government's "Digital India" effort is to enhance the inclusivity and use of technology in daily life. Government of India, 2015.



Source: MeitY Report, GOI

Fig 1: The Indian Digital Landscape

E-Commerce: Digital markets facilitate transactions between buyers and sellers. Platforms like Amazon and Flipkart in India have transformed the retail sector by enabling online shopping.

Digital Education: The enhancement of learning and education via online platforms using digital technology. Initiatives like the National Digital Library of India provide access to a vast array of educational resources (NDLI, n.d.).

Telemedicine refers to the provision of medical care to patients using electronic communication networks. During the COVID-19 pandemic, patients in India increasingly used telemedicine to interact with clinicians online. Official paper from the Indian government dated 2020.

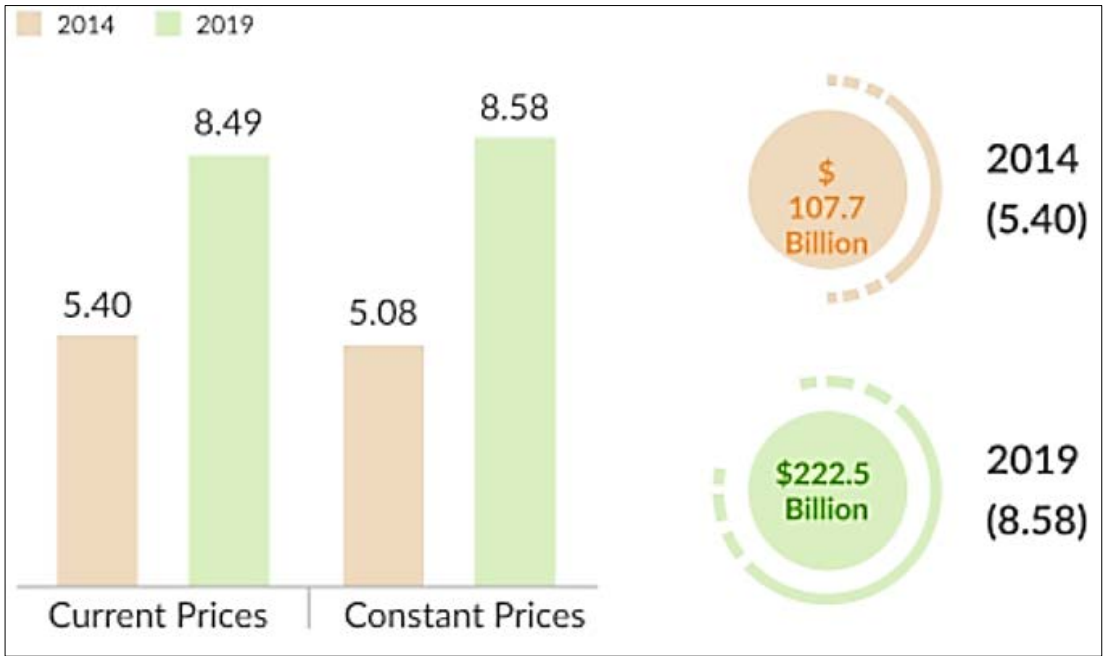
Smart Agriculture: Improving agricultural practices via technology advancements, data analytics, and Internet of Things (IoT) devices. Internet of Things (IoT) sensors and precision agriculture techniques used to assess soil fertility and regulate irrigation schedules (ICAR, 2021).

11. Impact of the Digital Era

The word "digitization" arises from advancements in the intricacies of information and communication technologies.

The expansion of the Internet has resulted in a transition from print media to digital formats, making previously inaccessible large quantities of knowledge accessible to everybody. Digitization facilitates the escalating creation, processing, transmission, and preservation of knowledge in digital form.

a) Economic Impact: Experts anticipate that the Digital India initiative might augment GDP by up to $1 trillion by 2025. It has the capacity to substantially influence key economic indicators such as gross domestic product (GDP), employment, workplace productivity, corporate growth, and governmental revenue deficits. A ten percent increase in mobile penetration in developing countries correlates with a 0.81% to 1.38% gain in GDP per capita, as per a World Bank report. India is the second-largest telecom market globally, with 915 million cellular subscribers. With over 259 million broadband subscribers, it is the third-largest Internet market. Despite a tele-density of just 45% in rural India, which houses over 65% of the people, the nation has significant economic possibilities. Given the saturation of urban areas with a telephone density over 160%, future subscriber growth in the telecommunications industry is expected to come from rural regions.



Source: MeitY Report, GOI

Fig 2: Size of the Digital Economy (in %)

b) Social Impact: The populace is hindered from accessing social sectors such as healthcare, education, and finance due to obstacles and constraints, including poverty, illiteracy, ignorance, and deficiencies in funding, information, investments, and intermediaries. various problems have led to uneven growth between rural and urban areas, creating substantial gaps in the social and economic status of the populations in various regions. Contemporary information and communication technology (ICT) enhances the procurement of services and resources.

The advancement of entirely new services, along with the proliferation of mobile devices, may serve as a very advantageous supplemental channel for public service delivery, thereby facilitating societal modernization and markedly enhancing consumers' quality of life.

c) Ecological Impact: Significant technical improvements will impact the financial system and contribute to environmental issues. The forthcoming technological advancements will diminish the carbon footprint, leading to a more sustainable ecosystem via less petroleum use, improved waste management, and the establishment of environmentally friendly workplaces. The ICT industry facilitates the effective management and usage of scarce and non-renewable resources. Cloud computing technology improves mobility and flexibility, thereby decreasing carbon emissions.

12. Conclusion

Digitalization fosters economic development, generates new job possibilities, stimulates innovation, and enhances the ease of work. Implementing transparency in the system is advantageous, since increased clarity in the flow of cash within the economy reduces tax evasion and the prevalence of parallel economies. This leads to the conclusion that the new technology must be efficiently used, requiring both its accessibility and the requisite expertise to apply it and reap advantages. This vision aims to transform India into a knowledge-based economy and a digitally empowered society. The effort to promote India is praiseworthy. Although the Digital India initiative has several challenges, it has profoundly influenced India, aiming to provide an optimal future for its residents. We, as Indians and others, should unite to impact the knowledge economy. The Digital India program represents a significant leap in India's progress in the 21st century, driven by technology innovations and enhanced connectivity.

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