Exploring Digitalization Persuasion and Negligence in Rural India: A Comprehensive Study

Vandana Mishra*
Assistant Professor, Integral University, Department of Humanities & Social Sciences, Integral University
Vinod Kumar Kanvaria
Professor, Department of Education, University of Delhi, Delhi

**Corresponding Author Email: mvandana363@gmail.com*

Abstract: *The current study examines the effectiveness and challenges of implementing technology in rural India under existing conditions. Launched in July 2015, the Digital India initiative aims to digitally transform India at the grassroots level by ensuring every citizen has internet access and can utilize digital platforms to access governmental programs and regulations. Despite global strides in digital transformation over the past three decades, India lags behind other nations. Digitalization, dating back to the 1940s, continues to shape international commerce, influencing economic and technological spheres globally. Significant advancements, such as 5G in medicine and ultra-rapid aircraft in education, demonstrate the pervasive impact of digitalization. India, with a majority rural population and an economy heavily reliant on agriculture, faces unique challenges in this digital revolution. The current Indian government prioritizes extending technological benefits to rural areas, recognizing digital access as crucial for progress. However, educational deficiencies pose significant obstacles to this goal. Ensuring rural populations receive adequate education is essential to fully harness the potential of digital technologies. This research highlights the comparative analysis of digitization in urban versus rural communities within India and includes a global comparative perspective. Special attention is needed to address educational barriers to pave the way for a digitally inclusive future in rural India.*

Keywords: Digitalization, Multimedia, E-Governance, Laxness, Effectiveness, Time-Space

INTRODUCTION

The term "digital revolution" refers to the phenomenon of information processing, which leads to societal changes that go beyond digitization, such as interaction, the erasure of place and time, and the phenomenon of use in multimedia. Both society and its way of thinking have evolved over time. The digital revolution in the context of society refers to the conversion of social problems and social institutions into e-Kranti. The effects of the changes caused by digitalization are visualized through multimedia processes, and information and data are converted to digital. Digitalization is the process of moving a corpus of connected knowledge from one location to another that is accessible to all countries globally. The Stone Age was when technical science first became known. This growth has led to the development of digital technology in the modern period. The Ministry of Today's centerpiece initiative, Digital India, was introduced in July 2015 with the goal of converting India into a knowledge-based society and economy. India is one of the largest and fastest-growing digital marketplaces. The rapid and widespread adoption of digital technology is being fueled by decisive state intervention and private-sector innovation. Information processing, storage, and transmission are critically dependent on digitization because it "enables information of all sorts in all forms to be transferred with the same efficiency and also intermixed.

Objectives Of the Study

- To study the digitalization's effects on rural India
- To understand the effectiveness digital components in India along with Global world
- To study the laxness of to carry out the objectives of the national Transformation initiative.

Methodology of the study

Owing to the theoretical and review character of the research study, the researchers used an exploratory research strategy and a variety of secondary data that were accessed through secondary data sources. Researchers have reported several new trends, problems, and concerns regarding digitalization based on secondary data and evaluations. Research reports, journal publications, and news items by renowned authors were examined.

The Beginning of Digitization in the World:

In the present globalized world, online technologies are crucial. Many large businesses have created their own Internet technologies over the past 20 years to oversee vendors, engage with consumers, and facilitate interaction and information sharing for employees across the globe. The biggest services can support hundreds of millions of people globally, thanks to the innovative use of automation and technology, which nearly completely eliminates the expense

of launching additional trades. (McKinsey Global Institute, 2019).

It involves technologies and computational power in some way. Systems have been in existence for a lot longer than that, therefore it simply cannot be that alone. Networking is a key component in digitalization. Smartphones made networking commonplace and made digital gadgets usable for daily usage.

Digitalization: Since the 1940s, when the digital revolution first started, the conversion of analogue technology into a digital format has been causing disruptions in corporate operations

Table:1

Year	History of Digitalization	Main Features of the Form of Digitalization
1940	The founder of contemporary information theory and digital communication is Claude Shannon.	Developed the A mathematical Theory of Communication
1950	Microchip used semiconductor	Analog computing goes digital
1960	Message sent through internet known as ARPANET	Moore theory work on it 'innovation enhanced the scope of digitalization'
1970	Invention of home computer	Data record in business analogue data into digital form
1980	World wide web develops in this period	Automation begins workforce
1990	The first transmission of Digital HDTV is now made accessible on the internet.	2G network is introduce and digital cell phones are sold in commercially
2000	More than half American have household personal computer with internet	The revolution spreads to the rest of the developing world.

Source: Author(Salmi, 2020)

Digitalization In India

The goal of the digital revolution is to build a better future. This transformation might have a significant effect on the economy, other civilizations, and most significantly, on mankind. Digitalization has also altered how information is distributed across a number of international sectors, allowing them to dominate international markets and improve global interconnection by giving businesses the chance to develop into markets outside of their own.

It also demonstrates conformity with the government's leadership in driving India's technological innovation. The nation is now technologically equipped, thanks to this program. India's controlled government has established justifications for making computerized access to government services possible. Expanded Internet access and improved online infrastructure have made it easier for residents to perform their tasks. India has undergone many sophisticated changes in the past 25 years and is now at the forefront of the digital revolution. Even with the necessary population growth, India's poverty rate decreased from 22% in 2012 to 16% in 2019. India boasts the second-largest mobile subscriber base and the second-largest internet subscription base in the world, with approximately 1.2 billion mobile and 560 million active social media connections. To achieve this, India can enter the digital world by utilizing the technological and managerial prowess of the public and commercial sectors under the holistic framework of Various Initiatives.(Zende, 2022)

Digital India Program

Several government agencies are included in the overall scheme known as "Digital India." An overall vision is created by combining various facts and ideas, allowing each to be executed as a component of a larger objective. Each piece stands for itself while also contributing to the overall picture. Digital India is a government-wide implementation, with the Ministry of Information Technology controlling overall coordination.

Following a strong initiative by the Government of India, the Digital India project was launched as part of efforts to improve the infrastructure of online systems and facilitate Internet connectivity so that the country's technological infrastructure can be built. To make India a knowledge-based economy with strong digital capabilities, the Indian government launched the Digital India programme in July 2015. The second is digitizing government services, and the third is ensuring that everyone has access to digital literacy training. Only those sectors are expected to benefit from the government's increased efforts to build a fully digitized economy, with core digital sectors such as information technology and business operational processes, digital communication services, and consumer electronics likely to see their GDPs double to US$ 355-435 billion by 2025. India's digital gap is wide and is causing economic differences between those who can afford technology and those who cannot, which is impacting the country's overall digital progress despite increased use of digital technologies and the IT industry.(Ministry of Electronics and information technology Goverment of India, 2008)

The Digital India program is based on nine pillars, which are detailed below:

Digital India:

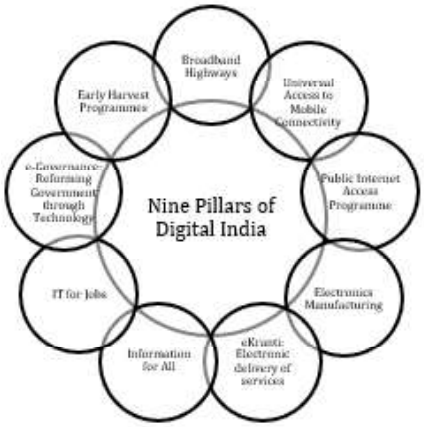

Figure: 1

Important components of digital platform

Digital India aims to provide the much-needed impetus to the nine pillars of the growth sector, that is

1. Broadband highway: In December 2016, the National Optic Fiber Network (NOFN), which consists of three sub-components, including 2,50,000 Gram panchayat

communities, would be covered by Internet service for All - Rural, High-speed internet for All - Urban, and National Availability of information. The focus of this initiative is the Department of Telecommunications (DoT).

2. Universal mobile connectivity: In the nation, there are about 55,619 communities without cellular service. Mobile coverage for isolated settlements began as part of the North East's broader development goal. Communities that are currently unconnected would gradually receive cellular connectivity. The project's nodal department will be the Department of Telecommunications, and it will cost approximately $16,000 Cr from 2014 to 2018.

3. Public Internet access scheme: This scheme performed their works under two sub-centers.

Common Services Centers (CSCs): (Seeks to provide e-Services to as many of the 2.5 lakh Gram Panchayats as possible.)

- CSC Portal: http://csc.gov.in/
- Deity's weblink: http://deity.gov.in/content/common-services-centers
- e-Book: http://deity.gov.in/DeitY_e-book/csc/index.html

Multi-service centers at post offices: It is planned to convert 150,000 post offices into such facilities. The Department of Posts is the nodal department for implementing this plan.

4. Governance: Restructuring the administration Since it is essential for reformation to improve the government's delivery of services across all government domains, all ministries/departments must carry out government process re-engineering using IT to streamline and boost the efficiency of government processes.

5. e-Kranti: Numerous levels have consistently worked to enhance the provision of public services and streamline application procedures over the years. Several Individual States and National Ministries have started a range of e-governance initiatives to usher in the era of e-government.

- Computerization 1980
- Department state initiative taken by in 1990
- National e-governance Plan 2006
- E-Kranti 2014

6. Information for all: Open data platforms enable ministries and departments to proactively release datasets in an open format for use, reuse, remix, and redistribution. Open and simple access to information for citizens can be facilitated by putting information and documents online. On July 26, 2014, MyGov.in, a platform for citizen engagement in governance, was created by the Honorable Prime Minister to allow the submission of ideas and proposals to the government. Two-way contact between the public and the government will be made easier, supporting effective governance.(Ministry of Electronics and information technology Goverment of India, 2008)

7. IT for employment: IT simplifies the process of training residents of smaller cities and towns for employment in the IT industry.

8. Early harvest: Meity has created a mass messaging program that is accessible to all government workers and elected officials. The database includes more than 1.36 billion mobile numbers and 22 lakh emails. The portal was launched on August 15, 2014. Data gathering and cleansing are continuous procedures.

9. Electronics manufacturing: To make a powerful statement of will, this pillar targets NET ZERO Imports by 2020 while supporting domestic electronics manufacturing. This challenging objective necessitates concerted efforts on numerous fronts, including:

- Taxation and inducements
- Economies of scale, removing financial obstacles(MEITY Annual Report, n.d.),(Ministry of Electronics and information technology Goverment of India, 2008)

Digitalization's Role In Rural India's Growth

India's rural population plays a crucial role in guaranteeing economic progress. This is the reason why many fintech businesses, particularly in rural India, are emphasizing financial inclusion. In the first quarter of 2022, start-ups raised $11.8 billion, which was 186% more than they had during the corresponding time in 2021. People in remote places can obtain benefits such as the internet, financial independence, and other things with improved lifestyles and general growth. On the rough roads of far-flung towns, a new start-up ecosystem has emerged. India is a developing nation, and this growth process depends heavily on its rural people.(*Internet in India 2022*, 2023)

- According to research from the Internet and Mobile Association of India (IAMAI) and consulting company Kantar, Internet users have increased by 13% in the past year. The government hopes to provide 100 Mbps broadband and digitally empower gram panchayats through the Bharat Net Project.
- As of November 2019, there were 227 million Internet users in rural India, 10% more than in urban India, according to the most recent study from the Internet & Mobile Association of India (IAMAI) and Nilsen (205 million).
- In 2020, 299 million individuals in rural regions used the Internet. In 2020, when there were an expected 1,433 million people living there, India had 622 million active Internet users. This shows that 43% of the individuals routinely used the Internet. Users were active nine out of ten times every day. Additionally, these people logged into the Internet for an average of 107 minutes per day.
- The government's "Digital India programme" has a significant influence on rural populations. Internet usage significantly grew from 25% in 2016 to 53% in 2018, mostly due to the accessibility and convenience of services and products.
- The government intended to enhance rural areas by establishing community service centers administered by local business people. These "brick and click" locations offer rural residents access to both governmental and commercial services.
- Rural inhabitants run small enterprises, including poultry farms, retail shops, wheat mills, dairies, and fertilizer firms. Most of them are agribusinesses. Because only 8.8% of individuals used computers at first, relatively few people

had access to digital storage. The biggest number of people, notably business people, now have access to a digital platform because to the growing use of smartphones in rural regions, which increased from 36.5% in 2018 to 67.6% in 2021.(MEITY Annual Report, n.d.)

The myriad social networking sites that have become prevalent in contemporary society have impacted both urban and rural populations. Facebook, WhatsApp, Instagram, YouTube, and e-commerce are some examples. Additionally, we learned from our investigation that 400 million individuals use Facebook. Its percentage has climbed from 35 to 85 in rural areas, while the proportion of women has increased to 91%. New facets, such as vlogging, encourage economic independence. More than 400 million people use an app like WhatsApp, with 38% of rural users spending more than two hours each day on it. It is starting to become the foundation of small-scale industries. Most crucially, the fast expansion of smartphone and Internet access into even the most isolated rural areas has created endless opportunities to contribute to the solution of persistent issues such as poverty, hunger, and discrimination. However, not everyone is benefitting from the digital revolution sweeping rural Asia and the Pacific. Digital technologies may sometimes even be disruptive or have unforeseen repercussions, such as extending rather than narrowing the digital divide, if their deployment results in the loss of good jobs(MEITY Annual Report, n.d.)(Kantar; et al., 2021).

Digital Initiatives Taken by the Indian Government:

DIKSHA the nation's digital infrastructure for providing quality e-content for school education in States/ UTs and QR coded Energized Textbooks for all grades (one nation, one digital platform).(Ministry of Education, 2023)

S. No	Agriculture	Health & Family Welfare	Education	Inclusive Development	e-Transport	Social Welfare & Skill Development
1	PM Kisan- Pradhan Mantri Kisan Samman Nidhi	Arogya Setu	School Learning and Management Platforms	Pradhan Mantri Adarsh Gram Yojana – PMAGY	Growth as a Public Digital Platform	National Social Assistance program (NSAP)
2	PM KISAN Mobile App	Covid-19 Sample Collection Management System (RT-PCR/RATI Mobile App)	Schemes and Welfare Program Management	Mahatma Gandhi National Rural Employment Guarantee Act	mVahan	NGO Grants in Aid Proposal and Tracking System (e-Anudaan)
3	Integrated Fertilizer Management System (eUrvarak)	OxyCare – Management Information System	Examination and Admission Services	JalJeevan Mission (JJM)	Integration of eChallan with Intelligent Traffic Management System (ITMS)	Post-Matric Scholarship Scheme
4	Kisan Suvidha – Integrated Mobile App for Farmers	e-Hospital Project/Online Registration System (ORS)	Proctoring Based Online Examination P-BOX	Swachh Bharat Mission (Grameen)	VLTS Command & Control Centre Solution	Development Action Plan for Scheduled Castes (DAPSC)
5	Unified Farmer Service Platform (UFSP)	Collaborative Digital Diagnosis System	Educational Institutes Information Management		Bharat Series vehicle registration	National Helpdesk Against Atrocities

(Source: Annual Report 2020-21 Govt. of India)

Digital India has initiated 13 major projects, and other sub-projects aim to empower India. Here, we discuss six major areas of the Digital India program. By using these platforms, the government has made it easier for citizens to access government policies and programs.

Digitalization-Based Growth in Both Rural and Urban Communities

Integrating rural regions was the main goal of India's Pradhan Mantri Gramin Digital Saksharta Abhiyan, a program focused on the banking and agricultural sectors. Agriculture employs more than 50% of the workforce and contributes 18% to the GDP. In 2019, there were more than 600 million internet users, and that figure is growing daily. The Indian government's primary goals were to advance the financial and economic sectors in rural areas. The economic development of rural India has received special attention. According to the survey, where internet users in rural areas were 32% in 2017 but climbed to 38% in 2020, particular attention is also being devoted to the economic success in rural areas.(Habibipour et al., 2021) This expansion demonstrates that digitalization is moving in the correct ways. The Digital India initiative in rural India offers several programs, including Direct Aadhaar transfers to rural regions, Single Biometric Identification Aadhar, Zero Balance, Jan Dhan Savings Bank Accounts, and Social Benefit Payments. With all these programs, bank account rates climbed, rising from 54% in 2014 to 80% in 2018. Children between the ages of 6 and 13 who cannot attend school, according to the Institute of Social and Rural Research's examination of 640 census 2011 districts, which indicated that 2.97 percent of children nationwide and 2.54 percent in rural areas and 3.13 percent in urban areas are unable to acquire an education. Hence, children who are not in school are not learning(Bhatt, 2020).

Scenario Of Global Digitalization

Digital technology has the potential to revolutionize global markets and economic prospects. The rise of the digital economy and jobs, as well as the digitalization of procedures and services in the public sector, all contribute to socioeconomic development. According to studies, between 2000 and 2017, mobile technology had a significant impact on GDP; a 10% rise in mobile use increased GDP by 0.5% to 1.25%. The World Bank Group's Digital Economy for Africa programme supports the African Government's 2020–2030 Digital Transformation Strategy (DE4A). It aims to connect every person, organization, and authority in Africa through technology. India has continued to expand at a respectable rate over the past 20 years, despite the worldwide crisis. The recent slowdown in Chinese growth has elevated India from second to first place, with an average GDP growth rate of approximately 7% in recent years. Owing to the robust

results of the manufacturing and agricultural industries, India's annual growth in the first quarter of this fiscal year 2018 was an excellent 8.2%. As a result, it continues to have a larger lead over China, which is competing to be the fastest-growing large economy worldwide. According to a report by Harvard University's Centre for Global Development, India is predicted to have the world's fastest-expanding economy for the next ten years, with a projected annual growth rate of 7.9%. In advanced economies, approximately 50% of the population already uses them. By enhancing connectedness, access to financial services, trade, and government services, technology may be a significant equalizer. Globally, the proportion of women who use the Internet is 13% lower than that of men. Although this difference decreased between 2013 and 2017 in many regions, it increased from 30% to 33% among the least developed nations.

Lax Adoption of Digital Technology in Rural India

When it comes to technology and digitization in rural India, there are still many obstacles preventing the complete infrastructure from being changed. It is necessary to identify the barriers preventing the successful adoption of digitization in rural development. There are still potholes in the digitalization road, which prevent this project from running smoothly.

· The lack of access to digital education in rural areas makes it challenging to understand this system. Rural residents are still uneducated and less interested in learning this knowledge.

· There are still several issues with rural infrastructure that hinder the adoption of digitalization systems.

· The adequate Internet infrastructure required for the digitization process is lacking in rural regions.

· Residents of rural societies continue to be afraid of problems such as cybercrime.

· According to the National Curriculum Policy 2020, the traditional classroom model is being replaced by digital learning as a means of communication between teachers and students. Perhaps there are different circumstances, an improper teacher-student ratio, and no digital classroom amenities in the rural areas.

Future Of Digitalization And Overall Growth In India

Despite agriculture's significant economic contribution, human labor in India's agricultural sector depends on natural conditions, such as sufficient rainfall, whereas agricultural industries in Western nations are completely mechanized in a planned manner. Technologies can enhance justice, peace, and fairness in our world. Technological advancements can support and expedite the United Nations Sustainable Development Goals, including the elimination of extreme poverty, and all human activity and dignity are impacted by them. Governments, businesses, and individuals must decide how to harness and manage emerging inventions. India has been moving towards a digital future for many years.

CONCLUSION

The digital revolution has a domino effect. According to recent figures, Internet usage among rural dwellers is rising faster than that of urban users. The digital revolution has had a significant impact on rural Indian culture, and organizations like economic start-ups have aggressively assisted rural people in achieving greater economic independence. The available statistics demonstrate a strong trend towards more rural populations utilizing digital services than they did previously. Currently, the tendency among many startup business owners tend to target the rural market. Digitalization has improved education levels in rural regions, and it also helps farmers by providing Internet access to data on crops, loans, programs, practices, etc. Rural Indians still deal with a number of problems, nevertheless.

ACKNOWLEDGMENT

I, Dr. Vandana Mishra, Assistant Professor Sociology, Department of Humanities and Social Sciences, Integral University. Vandana Mishra acknowledges to Integral University, Lucknow, for providing me Manuscript Communication Number (MCN) IU/R&D/2024-MCN0002730.

REFERENCES

1 Bhatt, S. (2020). Digitalization of rural India: Digital village. *VISION: Journal of Indian Taxation*, *7*(1), 83–93.

2 Calderón, C. (2021). *The Impact of Digital Infrastructure on African Development*. *November*.

3 Habibipour, A., Lindberg, J., Runardotter, M., Elmistikawy, Y., Ståhlbröst, A., & Chronéer, D. (2021). Rural Living Labs: Inclusive Digital Transformation in the Countryside. *Technology Innovation Management Review*, *11*(9–10). https://doi.org/10.22215/TIMREVIEW/1465

4 *Internet in India 2022*. (2023). *April*, 1–52. https://www.iamai.in/sites/default/files/research/Internet in India 2022_Print version.pdf

5 Kantar;, IAMAI;, & ICUBE. (2021). Internet Adoption in India: *Kantar*, *June*, 1–22. https://cms.iamai.in/Content/MediaFiles/7d9fac50-7cac-43df-93c9-0cf34fb52403.pdf

6 McKinsey Global Institute. (2019). *Digital India, March 2019*. *March*, 144. https://www.mckinsey.com/~/media/mckinsey/business functions/mckinsey digital/our insights/digital india technology to transform a connected nation/digital-india-technology-to-transform-a-connected-nation-full-report.pdf

7 MEITY Annual Report. (n.d.). *MeitY_AR_English_2021-22*.

8 Ministry of Education. (2023). *Digital India initiative of Government has revolutionized education access in rural areas*. 1945057.

9 Ministry of Electronics and Information Technology, Government of India. (2008). *INDIA'S TRILLION-DOLLAR DIGITAL OPPORTUNITY*. 282.

10 Rwigema, P. C. (2020). Digital technology and its relevance to political and social economic transformation. Case study of East African Community Region. *The Strategic Journal of Business & Change Management*, *7*(4), 1402–1436.

11 Saba Siddiqui, D. Z. A. (n.d.). *Building Up an Ecologically Sustainable Society by Inculcating Environmental Ethics and Values in ChildreSaba Siddiqui, Dr Zeba Aqil. "Building Up an Ecologically Sustainable Society by Inculcating Environmental Ethics and Values in Children," n.d.n*.

12 Salmi, H. (2020). *What is digital history?* John Wiley & Sons.

13 Zende, S. S. (2022). Digitalization in india: Prospects and Challenges. *International Journal of Entrepreneurship & Technopreneur (INJETECH)*, *2*, 29–37.