

DIGITAL TRANSFORMATION OF RURAL INDIA-PATHWAY TO THE COUNTRY'S DEVELOPMENT

Asst. Prof. A.S. Kausadikar

H.O.D., Dept. of Pub. Adm., N.S.B. College, Nanded-431605

anantrao1971@gmail.com

Abstract

Digital transformation of rural India is a complex and dynamic process that requires a holistic and collaborative approach from the stakeholders. It has the potential to transform India into a digitally empowered society and knowledge economy. The impetus on digitalization has also led to an increase in entrepreneurial ventures in rural areas, thereby creating employment and driving economic growth. To increase online access to various government schemes and services, there is a need to foster technological knowledge and skill among rural people. Most of India's population lives in rural areas; and with digitalization, the rural-urban gap can be bridged effectively by empowering the rural populace digitally. Digitalization has great potential to improve livelihoods and transform rural areas. Continuous efforts are being made by the Government to provide an enabling environment for digitalization and digital innovation. In this context, rural connectivity is important to provide access to data and information at low cost. It will empower the rural population to realize their full potential.

Introduction

On 13th February 2024, a historic initiative 'Smart Gram Panchayat: Revolution towards Digitization of Gram Panchayat' was inaugurated by the Union Minister of Rural Development and Panchayati Raj at a Gram Panchayat in Begusarai district of Bihar. This project is an important step towards digital empowerment of rural India. It is funded under the revised Rashtriya Gram Swaraj Abhiyan (RGSA).

Historically, the rural economy of India has mainly been driven by agricultural activities. Most of our population is dependent on agriculture and allied activities as a means of their livelihood. Rural areas cannot be left out in the current globalized era, where every sector of the economy is highly influenced by Information and Communication Technology (ICT).

India is also witnessing a digital revolution at a rapid pace; the government's 'Digital India Initiative' aims to transform the country into a digitally empowered society and knowledge economy. While the urban population has access to digital technologies, rural areas are largely left out of this digital revolution. This digital divide threatens to hamper India's economic growth the development, making the digital transformation of rural India critical to the country's progress.

Need for Digitalization in Rural India

Digital transformation refers to the ability of individuals and communities to access and use digital technologies such as smartphones, computers, and the Internet.

Digital transformation holds immense potential for bringing about rapid socio-economic development of rural India. Digital transformation in rural India can help bridge the gap between urban and rural populations. Thus, the rural digitalization could

have the following potential for bringing socio-economic development:

- **Increase in Employment Opportunities :** The first and foremost benefit of digitalization is the increase in employment opportunities in rural areas. Provision of internet kiosks in rural areas can provide employment to a large number of small entrepreneurs.
- **Improvement in Education :** This will provide access to quality resources and create opportunities for distance learning. Rural people can be provided employment oriented skills through financial literacy.
- Teachers can prepare the lesson plan more effectively and they too can learn new teaching techniques over the internet.
- **Improved Access to Services :** There will be ease of access to government schemes, health care, education and social welfare.
- Medicine prescription of the doctor can be shared by the internet only and records can be managed and shared digitally
- **Improvement in Financial inclusion :** Will help in empowerment of weaker sections and women living in rural areas.
- **Improvement in Agriculture:** With the help of digitalization, efforts can be made to promote agriculture in rural areas and increase productivity.
- **Improvement in Standard of Living:** Using internet services and other facilities provided by various schemes like Lifeline India can improve the standard of living of people by

increasing their agricultural production as well as income.

- **Rural Development:** Digital transformation can accelerate transformation in e-payments, digital literacy, geographical mapping and rural development, among other benefits.

Digitalization in rural areas continues through transformative developments in e-payments, digital literacy, financial inclusion, geographical mapping and other areas of rural development. Thus, digital transformation strategy can be an effective solution to quickly solve long-term problems.

Digitalization improves the production and distribution process and qualitatively impacts economic growth.

The lack of digital inclusion in rural India has significant impacts on economic opportunities, education, health care, and financial inclusion.

Digitalizing Rural India – Key Challenges and Govt. Interventions :

I sort out the main four challenges in digitalizing Rural India as follows.

1) Technological Challenges :

A recent report by the Internet and Mobile Association of India (IAMAI) found that only 29% of rural India has access to the internet, compared to 64% of urban India. This digital divide is not only a social issue but also an economic issue.

Moreover, the technologies need to be useful in specific environmental conditions such as fields and forests, especially suited to the rural environment. For example, rural agricultural environments are considered relatively challenging, requiring specific policies to implement technologies applications in these areas.

Providing the necessary cyber security to rural people to use digital services regularly is a major hurdle.

Government Interventions

Digital India Campaign : Launched in July 2015, the 'Digital India Campaign' aims to transform India into a digitally empowered society and knowledge economy. The campaign focuses on three key areas: digital infrastructure, digital literacy and digital services.

The government has launched several initiatives under the Digital India campaign; these include DigiLocker (It provides access to authentic digital documents of citizens), e-Hospitals (The platform attempts to connect patients, hospitals and doctors), e-Pathshala (It provides access to textbooks, audio, video magazines and a variety of educational content), and BHIM (a UPI payment app).

2) Financial Challenges :

- 'Technology cost', commonly known as 'modernization cost', is a hindrance in the Digitalization of rural areas.
- Funding the biggest obstacle in this direction. The technologies are expensive and not all rural people have the necessary funds to meet these types of expenses.
- The sustainable investment available for the development of digital technology in rural areas is not sufficient.
- Major rural economy basically belongs to the unorganized sector, for which the use of cash is easier to operate than digital payments.
- A majority of MSME units in rural areas, run by women, SC, ST and other marginalized groups, do not have access to basic digital tools.

Government Interventions

- **BharatNet:** Bharatnet, also known as Bharat Broadband Network Limited, is a company set up under the Department of Telecommunications to establish, manage and operate the national optical fiber network.
- It aims to provide connectivity to all 250,000 gram panchayats in the country, to improve communication in India and reach the campaign goal of Digital India.
- By August, 2023, 196,544 gram panchayats have been connected through the BharatNet project and 650,080 km of optical fiber cable has been laid. Additionally, 601,026 fiber-to-home (FTTH) connections have been commissioned and 104,674 Wi-Fi hotspots have been installed to ensure last-mile connectivity.
- **Universal Access to Mobile Connectivity :** This initiative through the Digital India campaign focuses on reducing the gap in network penetration and connectivity in the country.

3) Infrastructural Challenges

- In rural parts of the country, there is inadequacy of essential infrastructure for digitalization i.e. electricity, broadband network connectivity, banking facilities, etc.
- Digital payments have the potential to transform the rural economy by reducing

transaction costs, improving financial inclusion and promoting entrepreneurship.

- Due to lack of capital and technology, most of the small and medium industries in rural areas have to struggle a lot to adopt new modern technology.

Government Interventions

Common Service Centre : Common Service Centre (CSC) is a strategic cornerstone of the National e-Governance Plan (NeGP) approved by the Government in September 2006. CSCs are physical facilities that serve as access points for digital services in rural and remote areas.

CSC centers provide a wide range of services including Internet browsing, online form submission, utility bill payments and government document printing.

According to the information provided by the government, as of May 2023, there are 4,13,999 functional CSCs in rural India.

e-NAM : National Agriculture Market of eNAM is an online trading platform for agricultural commodities in India. The market facilitates online trading in commodities to farmers, traders and buyers.

eNAM is helping rural producers to discover better prices and providing facilities for smooth marketing of their produce.

4) Human Resources-related challenges :

Our current mobile and computer system is based on 'cloud', Rural people are unable to collect information at the local level with the help of sensors, smartphones or computers. In such a situation, it is challenging to develop understanding of complex technology among them.

In rural India, people generally have a lax attitude towards the process of digitalization. Much of rural India still depends on cash transactions, which is not only inconvenient but also makes them vulnerable to theft and fraud.

There is a lack of targeted technical education for the use of digital devices. Additionally, the limited capacity of smartphones available in rural areas and the lack of skilled manpower in the field of digital technology make the challenges even more serious. Due to lack of skills, the required cyber security experts are not being met to investigate and monitor the growing threat of digital crime.

Government Interventions

Pradhan Mantri Rural Digital Literacy Campaign : To improve digital awareness, Government of India has launched 'Pradhan Mantri Rural Digital Literacy Campaign' under 'Digital

India' initiative with the aim of making six crore Indians living in rural India digitally literate.

According to the government press release (July, 2022), more than 6.15 crore candidates have been enrolled and 5.24 crore have been trained under it, out of which 3.9 crore have been trained under it, out of which 3.89 crore candidates have been duly certified under the PMGDISHA Scheme. Also, More than 4.13 lakh Common Series Centres have been sanctioned under the scheme.

What should be done ? or Promoting Rural Digitalization : Key Imperatives

Investment in rural digital infrastructure should be encouraged. Institutional credit should be made available for the development of digital infrastructure in rural areas.

Uninterrupted power supply and internet connectivity is required for rapid socio-economic upliftment of rural people.

Land records of rural areas should be digitized. This will help make all the information about local resources available.

Fast internet connectivity along with availability of 'Point of Sale' machines (POS Machines) etc. should be ensured at the shops and business establishments.

Connecting the Panchayats with optical fiber cable, internet access to educational and health institutions and establishment of mobile internet service centers are important.

There is a need for proper implementation of 'Jan Dhan-Aadhar-Mobile Trinity' (JAM Trinity) to expand digital services in rural India.

Rural people can be motivated towards digitalization by providing a safe cyber-space. Digital payments etc. can be promoted by strengthening cyber security.

The government should provide an enabling policy framework, regulatory environment and institutional support for digital transformation. It should also invest in digital infrastructure, capacity building, innovation ecosystem and public awareness.

Conclusion:

Digital transformation of rural India is a complex and dynamic process that requires a holistic and collaborative approach from the stakeholders. It has the potential to transform India into a digitally empowered society and knowledge economy. The impetus on digitalization has also led to an increase in entrepreneurial ventures in rural areas, thereby creating employment and driving economic growth. To increase online access to various government schemes and services, there is a need to foster technological knowledge and skill among rural

people. Most of India's population lives in rural areas; and with digitalization, the rural-urban gap can be bridged effectively by empowering the rural populace digitally.

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