



Transformative Initiatives for Rural India's Digital Inclusion

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ABSTRACT

India's economic growth is phenomenal over the past few years. The rural market has been rapidly expanding and is currently larger than the urban market because urban markets have reached saturation and the relative development slowed down in recent years. In India, roughly 70% of the population belongs from rural region, so it is crucial to recognize the value of Powerhouse of technology and innovation, the issue of the digital divide is still prominent in rural communities. The multifaceted impacts of the digital divide on rural Indian communities not only affect their access to information and services but also hinder economic opportunities, education, healthcare, and even social inclusion. In the above backdrop this paper made an attempt to Critically examines the need to empower rural populations with digital access and literacy, various government and private sector led initiatives are undertaken Further it also explore how these initiatives are fostering digitization and narrowing the digital divide in rural India.It strongly advocates for digital inclusion in rural India

KEYWORDS: Digital Divide,Rural India, Digital Inclusion, , Digital Empowerment, Government

I. INTRODUCTION

The Organization for Economic Co-operation and Development (OECD) defines the digital divide as the “gap between individuals, households, businesses, and geographic areas at different socio-economic levels about both their opportunities to access information and communication technologies (ICTs) and to their use of the Internet for a wide variety of activities.” Simply put, the digital divide can be explained as the inequalities between the digital haves and the have-nots in terms of their access to the internet and the ICTs. Due to the ever-increasing importance of the internet and the rapid digital

transformation on account of the COVID-19 pandemic, the UN Deputy Secretary-General Amina Mohammed has even claimed that the digital divide has the potential to be the “new face of inequality”.

Indian economy is predominantly rural with over two-thirds of its population and workforce residing in rural areas. Rural India contributes a substantial part of the total net value added in many sectors. With a population of 833 million people (which incidentally is larger than rural China) residing in 640,867 villages, it is projected that, by 2050, more than half of India's population will still be rural, despite rising urbanization. Thus, the growth and development of the rural economy is imperative for inclusive development and overall growth of the country. With increasing contribution to development and exposure to needs, the buying capacity of rural Indians has taken a sharp upward turn. However, rural consumers have a strong value-for-money orientation, significant local cultural affinity, and a more conservative financial outlook. Their purchasing aspirations are often constrained by easy availability. Digitization and technology can facilitate access and availability of more and more services and products be made available to meet the rising aspirations of the underserved and unreached rural India. This is being driven strongly through the government's Digital India programme.

II. Methods and Materials

A descriptive and explorative methodology is followed. The secondary data based on various reports from Govtdepts and other research institutions. The published sources such as Web sites, periodicals and Reports are liberally used for the preparation of the paper



Section A

Government-led Initiatives

1. BharatNet: Bridging the Connectivity Gap

One of the flagship initiatives of the Indian government, BharatNet, aims to connect the remotest parts of the country with high-speed broadband internet. As one of the biggest rural telecom projects in the world, it envisions establishing a robust optical fiber network, extending broadband connectivity to over 250,000 Gram Panchayats (local administrative units) in rural India. By providing last-mile connectivity, BharatNet seeks to enable mobile operators, Internet Service Providers (ISPs), Cable TV operators, and content providers to offer various services such as e-health, e-education and e-governance in rural and remote India.

As of August, 2023, 196,544 Gram Panchayats are connected through the BharatNet project and 650,080 Km of optical fiber cable has been laid. Additionally, 601,026 Fibre-To-The-Home (FTTH) connections are commissioned and 104,674 Wi-Fi hotspots are installed to ensure last-mile connectivity.

The Indian government recognizes the critical need to bridge the digital divide in rural areas and has initiated various programs to ensure that rural populations have access to digital resources.

2. Common Service Centers (CSCs): Digital Services at the Doorstep

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

These centers offer a wide range of services, including internet browsing, online form submission, utility bill payments, and government document printing. As of May 2023, there are 4,13,999 functional CSCs across rural India.

3. Digital India Campaign: Enabling Digital Literacy and Access

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

The government has taken up several initiatives under the Digital India campaign. Some of these include DigiLockers (this provides access to the citizens' authentic digital documents), E-Hospitals (the platform seeks to connect patients, hospitals,

and doctors), E-Pathshala (it contains textbooks, audio, video, periodicals, and a variety of educational materials), and BHIM (a UPI payment app).

4. PradhanMantriGramin Digital SakshartaAbhiyan (PMGDISHA): Skill Development for Digital Usage

The PMGDISHA initiative, launched under the Digital India Campaign, focuses on imparting digital literacy skills to rural citizens. It seeks to make six crore people in rural areas, across States/UTs, digitally literate, reaching around 40% of rural households by covering one member from every eligible household.

According to the government press release (July, 2022), more than 6.15 crore candidates have been enrolled and 5.24 crore have been trained, out of which 3.89 crore candidates have been duly certified under the PMGDISHA Scheme. Also, more than 4.13 lakh common service centers are approved under the scheme.

Section B

Non-Governmental Organizations (NGOs) and Private Sector Involvement

While government initiatives play a pivotal role in advancing digital inclusion in rural India, the concerted efforts of non-governmental organizations (NGOs) and private sector entities have proven equally impactful. These stakeholders bring innovation, localized approaches, and corporate social responsibility (CSR) to the forefront, effectively complementing governmental efforts.

1. Role of NGOs in Grassroots Level Digital Inclusion

NGOs often operate at the grassroots level, intimately understanding the unique challenges faced by rural communities. They facilitate workshops, training sessions, and awareness campaigns that empower rural populations to confidently operate in the digital landscape.

2. Private Sector's CSR Initiatives for Digital Empowerment

Recognizing their role in social development, several private companies have undertaken corporate social responsibility initiatives aimed at promoting digital education and infrastructure in rural areas.

Last year, Smartphone manufacturing company **OPPO India** contributed digital literacy tools to support the academics of first-generation learners through Project Dhruv, an initiative by



Mensa India. As part of the association, 45 OPPO pads, styli, and internet dongles were distributed to the students at a school in Gurgaon. As a part of the Digital Learning Enabling Programme (DLEP), **Atkins India** installed computer labs in two rural schools in Karnataka. Contributions from global firms only strengthen digital empowerment efforts manifold. Like we had **Wartsila**, a Finland-headquartered manufacturing company, partnered with a local NGO, the Digital Empowerment Foundation (DEF), to set up a digital classroom in a town in Haryana.

3. Collaborative Efforts for Lasting Impact

Collaborations and partnerships between NGOs, private companies, and government bodies enable the pooling of resources, expertise, and networks, leading to more effective and sustainable initiatives and result in holistic digital inclusion. Their involvement ensures that digital access and literacy are not only top-down approaches but also community-driven endeavors.

For instance, in August 2023, OctaFX, an international broker, collaborated with Community Action for Rural Development (CARD) to set up a computer lab at a rural school in Tamil Nadu, aiming to address the digital divide. Often, such small but relevant steps encourage mass interest and participation.

Section C Innovations in Digital Infrastructure

Overcoming the challenges of digital infrastructure in rural India requires innovative solutions that adapt to the unique needs and constraints of these areas. Fortunately, several creative approaches have emerged to address these challenges and expand digital connectivity:

1. Mobile Internet Penetration

While traditional broadband infrastructure might be challenging to deploy in remote areas, mobile networks have managed to extend their coverage significantly. The increasing penetration of affordable smartphones has enabled sections of rural residents to access the internet, communicate over social media, and engage with digital services on the go.

2. Solar-Powered Digital Centers

Solar-powered digital centers have emerged as a game-changer in regions with unreliable electricity infrastructure. These centers use solar panels to generate electricity, run computers, and streamline internet connectivity. By

eliminating the dependence on conventional power sources, solar-powered centers can be established even in off-grid locations.

One notable instance is that of Rajasthan's government school at Karenda, which has digital classrooms facilitated by solar power. The electricity is generated from the solar panel installed on the roof of the school, and the internet is taken from a nearby telecom tower, which also runs on solar energy. By embracing technologies that adapt to local conditions and needs, these innovations offer a promising avenue for rural India's digital transformation.

The Way Forward

Addressing the digital divide is crucial to unlock India's economic potential and promote social equality. Government initiatives like the National Digital Literacy Mission and the PradhanMantriGramin Digital SakshartaAbhiyan have been introduced to increase digital literacy. However, there is a need to ramp up efforts to improve digital infrastructure, particularly in rural areas, and ensure physical access to ICT for all sections of society.

Further, underprivileged groups need to be motivated to incorporate technology into their daily lives, and digital skills must be imparted to bridge the gap. Stronger regulation and efforts to reduce the cost of Edtech products can improve access to online education. Initiatives like the NDHM should be accompanied by measures to enhance digital infrastructure and promote digital literacy to ensure the effective delivery of healthcare services.

India has grand growth aspirations, but bridging India's digital divide is crucial for inclusive growth and to harness the full potential of technology. By addressing disparities in internet usage, mobile ownership, and access to digital services, India can create a more equitable society and unlock economic opportunities for all its citizens.

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