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Digital India Initiative: The Road Towards Sustainable Development

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ABSTRACT

As the world moves towards becoming technologically empowered, local governing bodies seek effective ways to promote sustainable, affordable, and citizen-centric digital technologies to meet the growing demands of the public and for the Government services to reach out to more people. The Digital India initiative of the Indian Government has been engaging and transforming lives and livelihoods at the grassroots through technological interventions. The platform has been able to create a sense of unified response in every part of the country to pandemics, calamity, and crisis; it has contributed to the sustainable well-being of the people in the country. Through the transformative initiatives of Digital India, India as a country has been directly as well as indirectly been able to contribute to the United Nations Sustainable Development Goals. This paper discusses how technology, particularly the Digital India initiative, has been effectively changing the lives of its citizens, and, at the same time contributing to Agenda 2030

Keywords: *Technology, Sustainable Development Goals, Social & Economic welfare*

1. INTRODUCTION

The world has undergone extraordinary changes in the last six to eight decades. Eight decades back, having a mobile phone, internet connection, or laptop was a luxury, or rather these were unknown, or not existing then. Today, on the contrary, all these have become essential connectivity gadgets/platforms. The process of transforming societies through digitization has been going on for long. Since the dawn of technology, industries have revamped their working conditions, consumer expectations, economic paradigms, and business models to meet societies' growing demands. Governments, enterprises, organizations, and people have been looking for newer and improved methods and ways to serve the citizens and consumers of the world. India has been on the digitalization trajectory for a long time and has been keeping up with the other developed countries in advanced technology-enabled services. Digital India is one of the several initiatives taken by the Government of India to make India a technologically progressive Nation.

Long gone are the days when people had to wait in the never-ending long queues to avail themselves of essential services from the Government offices and banks, carry a large pile of documents and have inadequate access to Government services and schemes. The country has put extra effort into helping citizens onboard onto technology platforms through various projects. The technological breakthrough innovations brought by 'Digital India' and the resulting transformation in our society exemplify how sustainable technology can help foster economic, social, and environmental progress.

Digital India is the flagship initiative of the Government of India with a vision to transform India into a technologically advanced and empowered society (Byju's, n.d). The mission was launched in July 2015, and it is focused on three significant areas, which are as follows (1) Providing digital infrastructure utilities to every citizen, (2) To ensure governance and services on demand, (3) To aid in the digital empowerment of citizens.

The Digital India schemes ensure that the people from every nuke and corner of the country are connected to the Internet, and they could avail all the Government services without hassle. The scheme encompasses the nine pillars, namely, Broadband Highways, Universal Access to Mobile Connectivity, Public Internet Access Program, e-governance: Reforming Government through Technology, e-Kranti which is Electronic Delivery of Services, Information for All, Electronics Manufacturing, IT for Jobs and Early Harvest Programs (Byju's, n.d). The following are the objectives of the Digital India scheme: (1) To provide Internet services to the Gram Panchayats or Village Administrative Bodies, (2) To ensure that the people have access to Common Service Centre (CSC) in the locality, (3) The Digital India initiative consists of many existing and new schemes that have been restructured, re-focused, and implemented in a synchronized manner. Technology and its services are transformative engines that can propel social and economic development. While most countries have invested time and money in technology, there is also an increased focus on these countries' social and economic development (Bingquin Li, 2018). The United Nations Sustainable Development Goals (UN SDGs) were primarily launched in 2015 to end poverty,

fight injustice, and tackle climate change by 2030. Adopted at the United Nations Sustainable Development Summit in 2015, The UN SDGs are a UN initiative where all 192 UN member states came together to commit to tackling 17 ambitious goals (Earth Institute University, 2015). These goals were introduced and designed to achieve a better and more sustainable future for all. The countries focus on a broad range of interconnected economic, social, and environmental objectives; the goal is to achieve these objectives through multi-sectoral global partnerships. With less than a decade of achieving the UN SDGs, technology and technology-enabled services will act as a catalyst to progress and accelerate global goals (P.P Walsh, 2020) As more and more people are added to India's digital technology users' grid, the digital revolution is paving the way for Sustainable Development where technology becomes a pivotal contributor to the prosperity and well-being of both society and the whole planet.

This article explores the role of Digital India as a scheme in achieving the UN SDGs – 2030 Agenda; and how the Digital India initiative has helped make social, economic, and environmental progress in the country. For the scope of this paper, out of the 17 SDGs, only SDG 1, SDG 3, SDG4, SDG5, SDG 8, and SDG 10 have been mapped with the schemes and actions of Digital India.

2. LITERATURE REVIEW

Digital India and SDGs

Digital India is an umbrella program under which various Government departments and initiatives consolidate into a comprehensive vision. What started as an attempt to improve Government services and access to the services with the aim of technological empowerment ofthe country, now the program has had a tremendous impact on people through various initiatives like BharatNet, Make in India, Startup India, and Standup India, industrial corridors,etc.

Through Digital India, Aadhar was one of the most significant achievements, covering 99% ofthe population to the grid and helping them quickly access Government services (Express, 2021). The two advantages of Aadhar were, firstly it improved and enabled transparency in social payments via Direct Benefit Transfer (DBT) program, and secondly, it helped provide financial assistance to the needy. Another accomplishment by Digital India is the introduction

of the Unified Payments Interface (UPI). This has facilitated making transactions and payments more manageable. Similarly, the Electronic Customer Identification System (e-KYC), the Electronic Document Storage System (DigiLocker), and the Electronic Signature System (eSign) helped in streamlining business operations (Express, 2021). All these initiatives have successfully assisted the citizens in smooth transitions from a labor-intensive and inconvenientprocess to an efficient and effective one.

The following section of the article discusses how some of the Digital India initiatives, including infrastructure and services, have contributed to achieving the overall development of India as a country and the Sustainable Development Goals Agenda 2030.

1. DIgital Identity

Aadhar identity is one of the world's most extensive identity programs under Digital India, by which every citizen of the country is provided with a unique identity or Aadhar number by theUnique Identification Authority of India (UIDAI). It gives an identity platform to avail various social and economic welfare schemes. With Aadhar being used in various Governmentschemes, there has been a significant improvement in delivering beneficiaries' subsidies, benefits, and services. Also, reducing the leakage or by preventing the possibility of duplication of Aadhar has brought substantial savings to the state and the country. For example,Aadhar enabled the Government to portability and elimination of diversion in PDS, faster delivery of LPG cylinders and access to cleaner fuel, and facilitating access to the Government's digital services (Meity, 2017).

Aadhar is an essential technological instrument that aids in empowering the poor and entitles them to get their benefits without any middlemen. Aadhar is actualizing the objective of Digital India, which is "leading to digital inclusion and empowering common Indians." There is no need for an MGNREGA worker to run from pillar to post to get his daily wages and

entitlements. With the Aadhaar linkage, MGNREGA wages are directly reaching into the bankaccounts of poor people without extraneous influence (Meity, 2017).

Sustainable Development Goals, which are restrengthened through the scheme, are SDG 10, i.e., Reducing inequality within and among the countries. The introduction of Aadhar and digital identity reduces the inequality among citizens in availing Government schemes and services, thereby paving the way for an inclusive society with reduced disparities in the country.

2. Digital Infrastructure

The BroadBand Highway is one of the nine pillars of the Digital India scheme. The three components of Broadband Highway are: Broadband for All – Rural, which is an initiative thataims to provide broadband connectivity by connecting 250,000-gram panchayats (Village Local Administration bodies) by Optical-fiber cables, Broadband for All – Urban which aims to offer broadband connections in the urban areas and the third component is NationalInformations Infrastructure which intends to combine the country's digital infrastructure to provide high-speed internet connectivity and cloud-based services up to the panchayat level (Meity, 2017).

Universal Access to Mobile connectivity ensures mobile coverage in rural and urban areas of the country.

National Knowledge Network is an advanced infrastructure that paves the way for a knowledgesociety. Some of the applications include Virtual Classes, collaborative research groups, National Digital Library of India (NDL), National Programme on Technology Enhanced Learning (NPTEL), some Grids (like Cancer Grid, Brain Grid, Climate Change

Grid), etc. It provides support and is the backbone of India's educational and research institutions (Meity, 2017).

GI Cloud Initiative known as MeghRaj initiative includes a governance mechanism to ensure the proliferation of Cloud in the Government. The priority of this initiative is to expedite the delivery of e-services in the country while at the same time optimizing the spending on technology by the Government (Meity, 2017).

Electronic Signature Service or eSign is a cutting edge initiative for allowing smooth and secure signing of electronic documents by validating the signatures using e-KYC processes. Some applications enhancing services are Digital Locker, e-filing Financial Sector, for openingaccounts in banks and post office, driving license renewal, vehicle registration, certificates forbirth, caste, marriage, income certificate, etc. (Meity, 2017).

These infrastructures provide accessible, efficient, and reliable services. Through them, the Government strives to connect users to broadband and other digital technology, which helps reduce inequality within the country. The SDGs that the digital infrastructure contributes to are: SDG 10 and SDG 4 which is ensuring quality education. With the help of the National Knowledge network, educational institutions are encouraged to collaborate, enable remote access of the databases and facilitate distance learning education. This strengthens the education system of the country through digital technology (Meity, 2017).

3. Digital India for Better governance

JAM (Jan Dhan-Aadhaar-Mobile)Trinity for DBT is helping the poor to avail of direct benefittransfers without the money being subjected to pilferages due to the previous long-driven processes and procedures. The combined usage of 32.94 crores of Jan Dhan Bank account and121 Crore mobile phones and through 122 crore Aadhaar is helping the poor receive the benefits directly into their bank account helping to a save Rs. 90,000 crore to the country and its people (Meity, 2017). Today, what started as a first step to weed out leakages empowered

the entire nation during COVID-19. During the pandemic, while there were physical distancingnorms, JAM has helped to reach out to the farthest of the country and provide them with theirpensions, wages, and other benefits. This has resulted in financial inclusion and reduced inequality in the country (Express, 2021).

Digital Payments has been a real game-changer in the country modest street vendors (Kirana shops) to Big business houses now use digital payment methods for their transactions and payments. It benefits businesses, entrepreneurs, and people to carry out seamless, safe, and convenient transactions. This also helps eliminate the circulation of black money and is used as a one-stop for paying bills. For example, gas cylinder payments, electricity bills, and other utility bills (Meity, 2017).

Unified Mobile Application for New-Age Governance (UMANG) is a single platform that provides Indian citizens to access all the e-services offered by the Government. It has placed the power of governance in the hands of the country's ordinary citizens. It is a single mobile app that provides more than 307 Government services (Meity, 2017).

Digital Delivery of standard services is now available through various mobile phone applications. The National Scholarship portal has students registered for scholarships. E- hospital and online registration services ensure that patients access doctors and their services 24*7. It helps citizens avail hospital services through this platform. All services are provided online, including consultation, medical records, and medicine supply. There is also the possibility to exchange patient information throughout India.

E-education ensures that all schools are connected with broadband, and there would be free Wi-Fi available in the schools (Meity, 2017). The scheme also provides that the citizens are digitally literate and can effectively utilize the technology. Through e-education, the students are able to access quality education. These platforms have been immensely helpful for students

during the pandemic when they were not allowed to go to school; some have even dropped outof school due to the families' reduced income. The technology could act as a facilitator in providing education to them, who would not have had the opportunity to continue their studies had these platforms weren't available.

Similarly, e Nam is an electronic trading portal that networks the existing Agricultural Produce Marketing Committee (APMC) Mandis to create a unified national market for agricultural commodities. This platform helps in better price discovery and ensures smooth marketing of the products.

DigiLocker is another significant initiative by the Digital India scheme, which is a secure placefor storing all the documents online. Public, including students, are no longer required to carrytheir original print documents; instead is can be placed safely with the Digilocker (Meity, 2017). Indian citizens will get a maximum of 10 GB storage using their Aadhar card number. In Punjab, the farmers can print or download digital copies of J-forms in the Digilocker. The pro-farmer approach has made it farmer inclusive, and technology has become a facilitator. Through the DigiLocker scheme, we also ensure that we make less carbon footprint by reducing the no of documents to be printed on paper, thereby contributing to the well-being of our planet(Meity, 2017). Along similar lines, e visa and e-courts have also been introduced to help to encourage tourism in the country and provide access to time-bound, citizen-centric, and transparent judicial productivity (Meity, 2017).

The above-discussed platforms of Digital India ensure that the basic facilities are accessible tothe nuke and corner of the country, ensuring that no citizen of the country is deprived of the above-mentioned services. They

contribute to the SDGs in the following ways.

Digital Payment services and the JAM trinity contribute to SDG 1, which is meant to end poverty in all forms by providing timely and accurate information services to ensure equal

rights to economic resources and improve their productivity. It also promotes financial inclusion and reduces inequality in the county; this ensures contribution to SDG 10, reducing inequalities within and among the countries. The services like E-hospital create a global healthcare ecosystem and enable continuous and effective management of diseases. It contributes to SDG 3, which ensures healthy lives and promotes well-being. Lastly, the e- education platforms provide quality and inclusive education to the country's citizens contributing to SDG 4. Needless to mention that all these digital services help to reduce the paper consumption. Digital India initiatives are helping the country minimize paperwork and ensure the planet's well-being.

4. Digital India for Employment, Entrepreneurship, and Empowerment

Digital Service delivery reaching near your door-step called the Common Services Centres (CSCs) is a vast network of more than 3.06 Lakhs of digital services and delivery centers. It has been created to provide access to affordable digital services, especially in rural areas. Thesecenters have aided in the empowerment of the people by creating jobs and promoting rural entrepreneurs, majority of those who are women. CSCs have also undertaken the Stree Swabhiman (Women Self-Pride Programme) initiative to create awareness about menstrual health and have set up 204 sanitary pad manufacturing units (Meity, 2017).

Digital Literacy for the citizens ensures that at least one person in a household is an e - literate.Some of the schemes launched to make people digitally literate are National Digital Literacy Mission (NDLM) and DISHA (District Development Coordination and Monitoring Committees), wherein 53.7 lakhs people were trained & certified in Digital Literacy. The Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA) scheme helps to deliver digital literacy in rural areas of the country to cover six crore rural households (Meity, 2017).

Business Process Outsourcing (BPO) production in smaller towns has been set up to provide the local youth employment and secure regional growth of the Information Technology IT Enabled Services (IT/ITES) Sector in each State (Meity, 2017).

These services of Digital India contribute to SDG 10 by reducing inequality and encouraging inclusion, SDG 5, which is Gender Equality, by providing them with jobs and educating them on menstrual hygiene. Employing rural households, women, and the youth contributes to SDG8, i.e., Decent Work and Economic Growth.

Table 1 shows the snapshot of Digital India initiatives and schemes mapped to the SDGs on which they make an impact.

No	Digital Initiative	Scheme(s)	SDGs Mapped
1	Digital Identity	Aadhar	SDG 10
2	Digital Infrastructure	Broadband Highway	SDG 10
		Universal Access to Mobile Connectivity	
		MeghRaj	
		E-Sign	
		National Knowledge Network	SDG 4
3	Digital India for Better Governance	JAM Trinity	SDG 1, SDG 10
		Digital Paymets	
		UMANG	SDG 10
		DigiLocker	
		e-Nam	SDG 8, SDG 10
		E - Hospital	SDG 3
		National Scholarship Portal	SDG 4
		E - Education	
4	Digital India for Employment, Entrepreneurship and Empowerment	Common Service Centres	SDG 10
		Digital Literacy	SDG 10, SDG 5
		BPO	SDG 8

5. RESULT AND DISCUSSION

Research indicates that 50% of the employees currently working in the IT sector would requireupskilling in the next three years as advanced technologies would transform every industry andhow businesses are conducted (Express, 2021). Through various initiatives, India has been ableto make changes in the lives of ordinary citizens, and some of the points which could aid in making faster progress in becoming a technologically advanced country are as follows:

a. Identifying and supporting sectors and areas could make India a home to technology startups and entrepreneurs.

b. Reach out to more people and help them update themselves and reskilling to become futuristically skilled.

c. Retaining the talent pool of India by encouraging

them through incentivized programs and protecting their interests in the country; so that these youngsters would make the future of Digital India.

d. There needs to be a more significant push for access to technologies in areas with difficulty accessing them. And also required to cater to the needs of the actual genuinebeneficiaries.

e. Industry and academia synergy create a future-ready talent pool.

Accessibility of services helps people achieve great accomplishments. If that holds for India, the sky's the limit. In India, as of June 2021, 666.1 million people in the urban regionand 536.47 million people in the rural area are subscribed to the Internet (Express, 2021). This number is growing as access to services also improves.

The Digital India platform has proved that it can turn the next billion users into reality by providing conducive policy environments and at the same time by ensuring the safety andwelfare of its people. Much progress has been made through the platform and its initiatives; much more can be done later. In the following years, the initiative should focus on access to data, high-quality seamless connectivity, low-cost devices, especially smartphones in allIndia, Switching to green technology, and most importantly, availability of safe and securecyberspace with proper grievance redressal mechanism (Express, 2021). Through the advancement of Digital India, we are making progress in the path of genuinely AtmaNirbhar Bharat, where every citizen is connected and fully empowered.

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