

## DIGITALIZATION AND ITS IMPACT ON THE INDIAN ECONOMY

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### ABSTRACT

*The Digital India program is a flagship initiative of the Indian government with the goal of transforming India into a knowledge-based society and economy by using IT as a development driver for the country's new economy. Since the majority of the developed economies in the world, including the USA and Japan, we're using more online transactions some decades ago, digitalization involves an online transaction. This is because it allows consumers and producers to benefit by saving time, making products available at a lower cost, and lowering the cost of transportation to buy any products in the country, like education, banking insurance hotel services, and commerce sectors. The Digital India goal supports inclusive growth in fields like electronic services, products, gadgets, manufacturing, job possibilities, etc. with an increased drive for additional momentum. The total effect of Digital India on India's economic growth is expected to have a long-lasting effect because all of the efforts of the Digital Schemes are technology-driven. the segmentation of the Indian economy & GDP into its main sectors, including agriculture, industry, and services. Therefore, in order to fully realize the potential of this program, some obstacles to its successful implementation, such as a lack of digital literacy, subpar infrastructure, inadequate internet connection, etc., must be overcome. If successfully executed, it will provide the nation & residents with a number of new prospects, so given the program's current state, it necessitates a lot of work and commitment from all government agencies as well as the business sector. Given the program & current state, it requires a lot of work and dedication from all government agencies as well as the business sector. If properly implemented, it will open up a number of new opportunities for the citizens of the country.*

**KEYWORDS:** *Digital India, Inclusive Growth, Economic Growth, GDP, Digital Literacy.*

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### Introduction

Although digitization and digitalization are two distinct processes, both have an indirect or direct impact on the "Digital India Initiative." While digitalization is the process of utilizing various digital technologies, digitization is the process of turning our data into bits formats and is mostly related to digital data.

Technologies/approaches to alter business prospects and meet efficiency targets. Following demonetization, people in recent years began to realize that because of the cash shortage and the significance of digital transactions, the use of digital money transparency was much strengthened, and this assisted in putting an end to the parallel economy.

Nearly all of the world's major economies, including India, have transitioned from knowledge-centric to techno-centric status in the beginning of the twenty-first century. The Digital India drive is a dream initiative of our Honorable Prime Minister Narendra Modi that was launched on July 1, 2015, with the goal of redesigning and transforming India into an educated economy and thereby creating opportunities for all citizens. It also aims to connect rural areas to high-speed Internet networks and increase digital literacy.

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The effects of digitization are anticipated to lessen corruption, make public utilities easily accessible, eliminate paperwork, and offer straightforward and user-friendly cloud storage on the internet. Promoting digitalization has long been a government priority in order to provide all services to citizens electronically or through web portals and to ensure smooth and transparent transactions. From this point on, digitalization serves as a catalyst for India's potential for progress.

**Digital India: Key Areas and Major Initiatives by the Government**

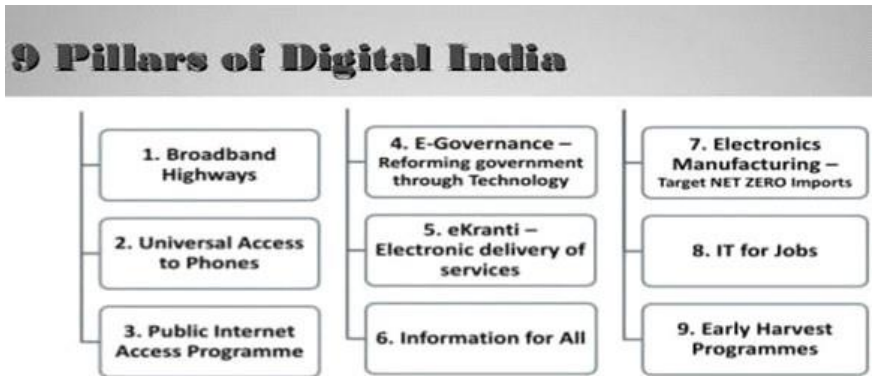
For all the right reasons, the ambitious "Digital India" effort has consistently made headlines. The project, which has a total cost of Rs. 1 lakh crore, connects many ongoing and past initiatives to put India on a worldwide stage.

global platform.



**Visions/ ideas of Digital India:**

- Digital infrastructure is a utility for every citizen.
- All government services are delivered electronically.
- Digital citizen empowerment.



**Literature Review**

How can digitization and raising financial literacy among the populace transform a developing country like India? Because transactions in the future will take place online, everyone must be financially literate in order to make wise choices and put various policies into place to make it possible (Kaul,2017).

The ability of various industries to transition from a traditional to a digital system and their understanding of the differences between digitization and digitalization in their respective fields (Rymarczyk,2019).

Impact of technical innovations like industry 4.0 on the industrial sector, its potential to influence the economic cycle, and the challenges it faces throughout implementation (Pranjali,2017).

Impact of digitalization on MSME (Micro Small and Medium Enterprises), able to predict a bright future growth but yet facing many obstacles because of the access to finance and the abrupt shift in technology and being unable to keep up with the current trend (Maiti,2017).

Impact of information technology (IT) and IT-enabled services on various industries, with a focus on MSME and service sectors, which have the ability to grow and lead the economy in the forefront, which has a significant impact on Indian Trade (Kumar, 2019).

The effects of digitization on the Indian economy, including the adjustments that must be made to make it relevant in the modern world and the effects on GDP, unemployment, and FDI (Aftab,2015). Information and communication technologies (ICT) have completely changed every industry, and digitizing information has both socioeconomic and environmental advantages. (Khan, 2019) ICT has completely transformed every industry.

### Why Digitalization

The elements that caused India's quick escalation in digital technology were primarily on the side of the consumers.

With 560 million users, India has overtaken China as the largest and fastest-growing market for digital consumers. By 2023, it's expected that there will be 650 million customers in India.

Each person utilises 12GB of data on average each month, above China's usage of 5.5GB. India has seen widespread adoption of mobile devices and related applications, which is encouraging for any technology-related initiatives.

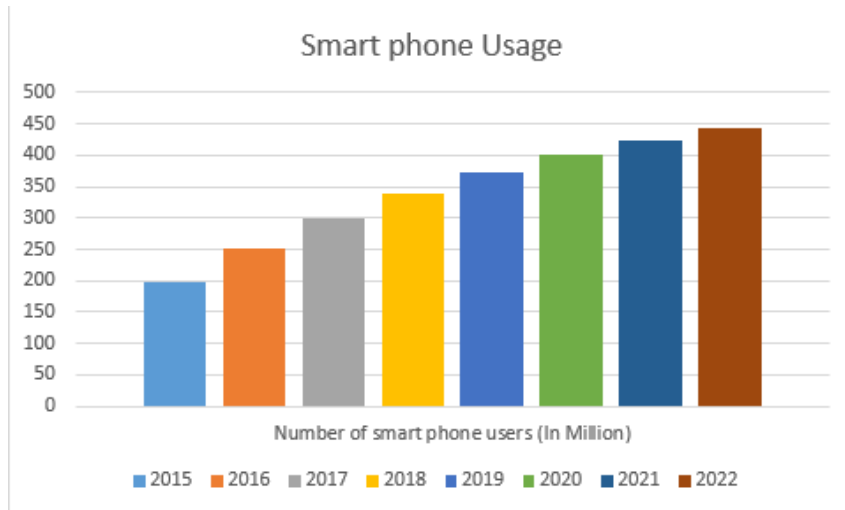


Figure 1: Smart Phone Usage in India

Sources: <https://www.digit.in/news/mobile-phones/over-a-billion-smartphones-will-be-sold-in-india-by-2025-counterpoint-research-43923.html>

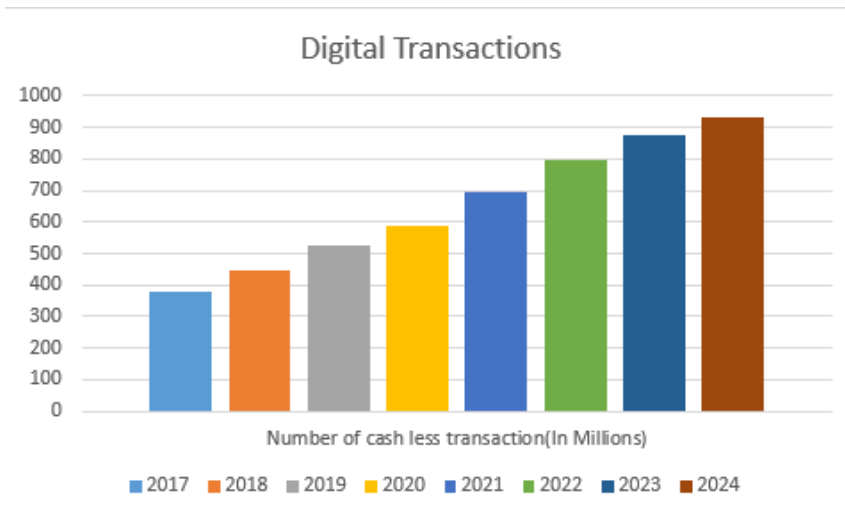


Figure 2: Number of Digital Transactions in India

Sources: <https://www.rbi.org.in/Scripts/PublicationsView.aspx?id=19417>

Some of the facilities provided under the initiative of Digital India are as below:

- **Digi Locker:** The service was introduced as an essential tool for cloud storage of important papers such as voter ID cards, pan cards, BPL cards, driving licences, and education certificates.
- **MyGov.in:** MyGov.in provides a forum for discussing suggestions and ideas related to governance and policy. It serves as a platform for citizen participation in governance using the "Discuss," "Do," and "Disseminate" methods.
- **e-Sign Framework:** Using Aadhar authentication, this programme would allow users to digitally sign a document online.
- **Swach Bharat Mission (SBM) Mobile App:** This app will make it possible for organizations and citizens to get information about the cleanliness drive and fulfil the mission's objectives.
- **National Scholarships Portal:** This programme attempts to simplify the application procedure for scholarships. Everything relating to government scholarships can be done online on one single portal, including application submission, verification, sanctioning, and disbursement to the final beneficiary.
- **e-Hospital:** This initiative's online registration system (ORS) enables users to access services including online registration, fee and appointment payment, online diagnostic results, online blood availability checking, etc.
- **Digitalize India Platform:** The country's data and records will be heavily digitalized as part of this endeavour to provide simple and quick access.
- **Bharat Net:** A high-speed digital highway will link the nation's 2.5 lakh gram panchayats as part of this effort. The largest optical fiber-based rural broadband project in the world is this one.
- **Wi-Fi Hotspots:** Another endeavour to enhance digital connectivity in the country is the creation of high-speed BSNL wi-fi hotspots across the entire nation.
- **Next Generation Network:** This service, which was introduced by BSNL, will take the position of 30-year-old telephone exchanges in managing all types of services, including voice, data, multimedia, and other forms of communication.
- **Electronics Development Fund (EDF):** The fund will be created to assist the production of electronics goods, which will help cut imports and create new jobs. To build a resource pool within the nation, the funding will support product development, research, and innovation.
- **National Centre for Flexible Electronics (NCFlexE):** The government of India has launched an initiative to support research and innovation in the rapidly developing field of flexible electronics.
- **Centre of Excellence on Internet of Things (IOT):** The Bangalore Center of Excellence will promote a new growth strategy and facilitate quick adoption of IOT technologies in collaboration with NASSCOM, DEITY, and ERNET. IOT technology will assist the residents in creating smart cities, smart manufacturing, smart agriculture, and other related services such as transportation, parking, electricity, waste management, water management, and women's safety.
- **Impact of Digitalization on Indian Economy:** Since 2014, a number of fresh, beneficial policies have been introduced in India. The programme for a digital India was one of those important laws that came our way. The emergence of digital played a crucial role in the Indian economy's expansion. Moreover, "Make in India" initiative has greatly encouraged young people to launch new businesses, and come up with innovative ideas to help India become more digital. The predicted cross-cutting effects of Digital India by 2019 would include widespread connectivity in all Panchayats to Wi-Fi in educational institutions hotspots for free public WiFi. The initiative will produce a significant amount both directly and indirectly, of IT, Telecom, and electronics vocations.

In the modern world, where digitalization is a major force, it is crucial to integrate the economy by developing digital markets. The three advantages an economy derives from are firms, prices, and productivity.

The usage of the internet for business has shown that, on average, across all nations, profitability has improved by 10%. The GDP of India receives a 3.2% contribution from internet-related businesses.



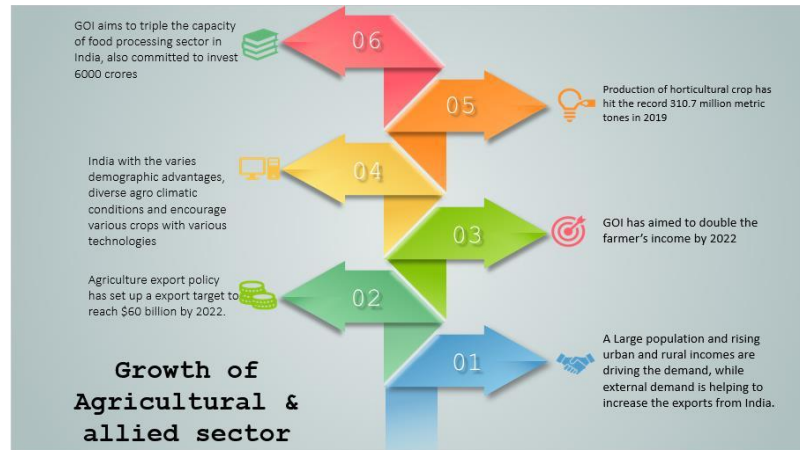
- **Economic Impact:** Macroeconomic aspects like the creation of jobs, labour productivity, the growth of businesses, and the generation of income are significantly influenced by digitalization. The World Bank report states that a 10% increase in mobile and broadband penetration raises the per capita GDP in developing nations from 0.81 to 1.38 percent. India currently has nearly 259 million broadband customers, making it the second-largest telecom market in the world and the third-largest Internet market overall. Given that over 65 percent of Indians live in villages and that there is only a 45 percent teledensity there, this demonstrates the country's immense economic potential.
- **Social Impact:** Due to many barriers and restrictions of the intermediaries, illiteracy, ignorance, poverty, limited funding, and other factors, the social sectors of education, healthcare, and banking were initially unable to reach out to the majority of individuals. These difficulties have led to uneven growth in rural and urban areas, with a notable divergence in the native population's economic and social standing.

The government hopes to close this gap and improve the standard of living in rural India through the Digital India programme. In addition, the Digital India initiative aims to deliver real-time education (or, e-Education), and partially attempts to solve the lack of teachers in educational systems, which contributes to India's low literacy rate due to a lack of teachers and physical infrastructure.

- **Environmental Impact:** The enormous changes in the innovation sector will not only affect the financial system but will also amplify the ecological shifts. The most recent technologies will assist in reducing the carbon footprint via reducing waste and fuel use management, wasting executives, creating greener workplaces, and similar to encouraging a more eco-friendly biotic community. These ICT said in effective governance and the use of scarce and unsustainable resources assets. Innovation in distributed computing reduces carbon emissions by increasing adaptability and flexibility.
- **Impact on Technology:** The digital India initiative offers a significant chance to rethink India's service industry norms using the most cutting-edge technology. The social and economic conditions of individuals living in various regions can be improved by a digitally connected India. In addition, by developing an interconnected ecosystem and revenue-sharing business models, mobile and internet banking can improve financial inclusion and create a win-win situation for everyone in the value chain.
- **Impact on Banking Sector:** In order to improve the customer experience and give clients access to their bank accounts anywhere, anytime with just a click, banks are now making a point of adopting the newest technologies. Banks have been able to save expenses by streamlining their procedures as a result of the digitalization of their processes. Customers can now take advantage of services like ATMs and cashless transactions using credit or debit cards, among other things. Initiatives like Startup India, Mudra, and other ones have greatly benefited from the digitalization process. In order to lessen its dependency on cash transactions, the government is pushing and encouraging the Indian population to go cashless. In addition to reducing human error and saving time, it has also led to cashless transactions, which have decreased the use of counterfeit money in the economy.

"Go Cashless" and the recent demonetization in India are related. The goal is to transform us.adopt electronic payments. Indeed, the adoption of digital payments will benefit the world at large.

- **Impact on Agricultural Sector:** The type of governance will change from electronic to mobile, or m-governance. Through their mobile phones, farmers can instantly access all kinds of information about seed types, crop preferences, weather, plant protection, cultivation techniques, and market information, which will help this industry grow as well.



**Figure 4: Initiatives for the Growth of Agricultural & Allied Sectors**

Sources: <https://www.ibef.org/industry/agriculture-india.aspx>

- **Service Sector:** One of the largest economies, India exports services to foreign nations, and the services industry accounts for around 55 percent of India's GDP. Additionally, it has drawn a sizable amount of foreign investment, contributed to exports, and is one of the top employers.

India's service sector GVA increased by 6.96 percent to 1356.5 billion USD in 2019 from 846.54 billion USD in 2012, accounting for 31.45 percent of the country's employed population. The services sector is the largest beneficiary of foreign investments in India, receiving USD 80.67 billion from 2000 to 2019.

The ease of doing business has significantly increased from 24 in 2017 to 24, as can be shown. 137 in 2014 as a result of the government's actions.

As part of the newly established initiative, the GOI is committed to making "Make in India" succeed. The National Internet Mission is a strategy to provide broadband service to every municipality by The Indian management facilities market is anticipated to expand at an astonishing rate of 17% (CAGR) between 2015 and 2020, with assistance from growing real estate, retail, and hospitality and surpass the \$17 billion USD threshold in the market. With the introduction of various new technologies, the health sector is anticipated to reach 132 billion USD by 2023 emerging technologies in the medical sciences. The IT sector is predicted to contribute the most to India's digital economy, which is projected to develop at an 8 percent annual rate to reach 14.3 billion USD by 2025.

Moving from personalized care to automation and self-service, which lessens the strain on the businesses, is one of the key effects of digitalization on the service sector. The accessibility of services is improving, such as the ability to offer remedies at the most affordable prices worldwide. The possibility of attracting the attention of the client increases with an increase in customer data, which leads to personalized marketing. Digitalization fosters innovation and promptness in the services while also helping to boost efficiency. Total agricultural exports are projected to increase significantly from 2010 to 2019 at a CAGR of 14.61 percent, totaling \$38.54 billion by 2019. The organic industry has experienced exceptional growth. CAGR of 10% from (2016–21) and to grow from 2,700 crores to 75,000 crores by 2025 2015.FDI equity inflows to India increased significantly between 2000 and 2010, totaling \$9.78 billion the biggest month in the sector of agricultural and related industries is December 2019.

Digitalization has altered the way that agrifood startups look because they are now experiencing investment of \$1.66 billion in 558 agreements from 2013 to 2017. The government supported these industries in every way possible in order to improve output and to inform farmers about new technologies.

## MSME

80 million people are employed by micro, small, and medium-sized businesses, which also play a significant role in the development of the economy by accounting for around 45 percent of manufacturing output and 40 percent of exports. These businesses contribute about 8 percent of GDP. The industrialization of unconventional and economically underdeveloped industries is accelerated by MSME, which has a significant impact on socioeconomic development. Due to low-cost structure regimes and other advantages, such as not having to pay provident fund, gratuity fund, or excise duty (for businesses with annual revenues under 1.5 crores), MSME industries have seen significant growth to date. This has allowed them to price their products competitively and gain an edge over other established businesses by maintaining profit margins. Given the difficulties they face, it is essential to increase digital literacy in the MSME sector so that they can utilize technology to the fullest. Given the potential of the MSME sector, digital transformation may be the greatest way to assist them. The following are some ways that digitalization could benefit MSMEs: Access to information and global best practices and operational excellence around the globe using real-time information and the demands. Knowledge of finances, making wise judgments, minimizing risks, and other factors conformity problems. A correct comprehension of the STP (Segmentation, Targeting, and Positioning) Provision of goods and services efficiently. When it comes to investing in technology, MSMEs face a number of challenges, including ineffective supply chain management, rising global competition, an uncertain market environment, and a lack of business benefits that could come with digitalization as well as skilled labour to implement technologies properly. Access, changes in technology, and the capacity to deal with them. How the shift in smartphone usage has affected digital transactions and improved the financial system's openness and accountability. The value of financial literacy can alter the trajectory of developing nations like India. If digitalization is properly implemented, the Indian economy may shift and eventually become the third-largest economy in the world. However, some of the nine pillars of the Digital India mission are still unmet, and this is causing major implementation problems. Therefore, empowering citizens through universal digital literacy and widely available digital resources is urgently needed.

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