# ROLE OF DIGITAL ECONOMY IN INDIAN ECONOMIC GROWTH

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**Abstract**

*This paper depicts the digital economy playing a major role in promoting India's economic growth that is comfortable with the 6.5% real gross domestic product (GDP) growth projection for FY24. According to the finance ministry, Digitalization is expected to serve as a critical and distinguishing feature in unfolding India's growth story in the 21st century," India's GDP growth in the quarter ending June (Q1) was 7.8%. The digital economy's contribution to India's GDP has increased from 4-4.5% of the GDP in 2014 to 11%, and is expected to cross 20% by 2026, the ministry said. The report said India's unified payment interface (UPI), a real-time digital payment system, has revolutionized digital payments in the country, leading to savings of about Rs 5.50 lakh crores in approximately seven years. Digital economy will help to grow the Indian economy with tremendous changes in future.*



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**Introduction: Digitalization in India**

Digitalization is getting a further fillip in India now and would become a major factor in sustaining India's long-term growth story. Digitalization is by nature multidimensional. It requires a broad definition to cover all activities that use digitized data as a part of the digital economy **(IMF, 2018).** Digitalization is affecting both formal and informal sectors in India. As more Indians come online; there are significant opportunities for continued growth in India's digital economy. However, it has been challenges these include improving internet connectivity in rural areas, closing the gap between urban and rural areas, and ensuring people have the necessary digital skills to take advantage of digital opportunities. In addition, there are concerns about the impact of digitalization on employment, particularly in traditional sectors such as agriculture and manufacturing. These concerns must be addressed by creating new jobs in the digital economy and developing skills and training programs.

**Contribution of Digital Economy**

Joint collaborative research by **Huawei and Oxford Economics (2017),** pegged the size of the global digital economy to be around US$11 trillion i.e., 15.5 per cent of global gross domestic product (GDP) in 2016, which is expected to reach US$23 trillion that 24.3 per cent of global GDP by 2025. According to data provided by the European Commission, the pace of digitalization in India was the fastest among most major economies in the world during 2011 to 2019. Its growth in India ran neck to neck with China at 11 per cent. According to Union Finance ministry, India's GDP was 6.5 per cent and in the quarter ending June of the year it was 7.8 per cent. Moreover, the digital economy's contribution to India's GDP has increased from 4-4.5 per cent of the GDP in 2014 to 11 per cent, and is expected to cross 20 per cent by 2026.

**CONTRIBUTION OF DIGITAL ECONOMY IN INDIA'S VARIOUS SECTORS**

As per the RBI, industries with the highest forward linkages in India from the aggregate core digital economy in 2019 were construction, renting of machinery and equipment, food beverages and tobacco, textiles and textile products, and electrical and optical equipment. Renting Machinery and Equipment and other business activities were, Education (1.5 %) The RBI estimates the size of India's core digital economy at US$222.5 billion in 2019, exhibiting a growth rate of 15.6 per cent over the period 2014 to 2019. Its share in overall GVA is estimated to have increased from 5.4 per cent in 2014 to 8.5 per cent in 2019. Further, the share of digitally dependent economy (digitally enabled sectors) is estimated at 22.4 per cent in 2019.

Table.1 Contribution of Digital Economy in Various Sectors

| Sector | 2014 | 2019 | Difference |
|---|---|---|---|
| Construction | 5.4 | 6.1 | 0.7 |
| Renting of Machinery and Equipment and other business activities | 2.2 | 4.2 | 2 |
| Food, beverages, and tobacco | 3.2 | 3.8 | 0.6 |
| Textiles and textile products | 3.3 | 3.6 | 0.3 |
| Electrical and optical equipment | 3.6 | 3.5 | -0.1 |
| Transport equipment | 3.5 | 2.9 | -0.6 |
| Financial intermediation | 1.3 | 2.6 | 1.3 |
| Retail trade, except of motor vehicles and motorcycles; repair of household goods | 1.3 | 2.2 | 0.9 |
| Other community, social, and personal services | 1.2 | 2.2 | 1 |
| Education | 0.5 | 2 | 1.5 |
| Machinery, not elsewhere classified (n. e. c.) | 2 | 1.9 | -0.1 |
| Manufacturing, n. e. c.; recycling | 2.9 | 1.8 | -1.1 |
| Real estate activities | 1 | 1.7 | 0.7 |
| Chemicals and chemical products | 1.3 | 1.7 | 0.4 |
| Air transport | 0.2 | 1.5 | 1.3 |
| Wholesale trade and commission trade, except of motor vehicles and motorcycles | 0.8 | 1.4 | 0.6 |
| Other supporting and auxiliary transport activities; activities of travel agencies | 0.4 | 1.3 | 0.9 |
| Basic metals and fabricated metal | 1.7 | 1.2 | -0.5 |
| Health and social work | 0.8 | 1.2 | 0.4 |
| Inland transport | 4.7 | 1 | -3.7 |
| Agriculture, hunting, forestry, and fishing | 0.7 | 0.9 | 0.2 |
| Coke, refined petroleum, and nuclear fuel | 0.5 | 0.9 | 0.4 |
| Rubber and plastics | 0.5 | 0.5 | 0 |
| Pulp, paper, paper products, printing, and publishing | 0.5 | 0.4 | -0.1 |
| Hotels and restaurants | 0.8 | 0.4 | -0.4 |
| Electricity, gas and water supply | 0.3 | 0.4 | 0.1 |
| Mining and quarrying | 0.1 | 0.3 | 0.2 |
| Leather, leather products and footwear | 0.3 | 0.3 | 0 |
| Other non-metallic minerals | 0.2 | 0.2 | 0 |
| Sale, maintenance, and repair of motor vehicles and motorcycles; retail sale of fuel | 0.1 | 0.2 | 0.1 |
| Wood and products of wood | 0.2 | 0.2 | 0 |
| Water transport | 0.1 | 0.2 | 0.1 |
| Postal and Courier | 0 | 0.1 | 0.1 |

Source: RBI (December 2022)

As per RBI, industries with the highest forward linkages in India from the aggregate core digital economy in 2019 were construction (6.1 per cent), renting of machinery and equipment (4.2 per

cent), food beverages and tobacco (3.8 per cent), textiles and textile products (3.6 per cent), and electrical and optical equipment (3.5 per cent). The growing digitalization of India's economy may itself serve as a major factor for sustaining a robust growth over a long period of time. In 2022-23, total digital payments recorded growth of 57.8% and 19.2% in volume and value terms, respectively, on top of growth of 63.8% and 23.1%t, respectively, in the previous year. India outpaced other nations to emerge as the largest player in real-time transactions at the global level, with a 46% share in 2022.

Union finance ministry's monthly economic report said that Digital economy playing major role in boosting India's growth **(Rajeev Jayaswal, 2023)**, High-frequency indicators such as Goods and Services Tax (GST) collection, e-way bills, Purchasing Managers' Index (PMI) for manufacturing, and PMI services are carrying forward the growth momentum in July-August 2023; GST revenue mark in August was over Rs.1.59 lakh crore, an 11 per cent year-on-year jump. E-Way bills in August touched a record 93 million. Electronic way bills are part of digital compliance mechanism under the GST regime to track movement of goods, indicating business activities. Similarly, the average PMI manufacturing was 58.1 compared to 56.3 in the corresponding period last year. The average PMI service was 61.2 as against 56.3 in the same period previous year. A PMI value greater than 50 signifies expansion in economic activity in these sectors. The report said India's unified payment interface (UPI), a real-time digital payment system, has revolutionised digital payments in the country, leading to savings of about Rs.5.50 lakh crore in approximately seven years. Citing a study by the World Economic Forum said, up to February 2023, approximately Rs.300 lakh crore has been transacted through UPI since its inception in April 2016. If this amount had not been transacted through UPI, it would have cost the economy approximately Rs.50 lakh crore - Rs.7.2 lakh crore depending on the alternatives such as cash, credit cards and debit cards.

**The Impact of Digitalization on India's Economic Growth**

E-commerce is One of the main ways digitalization has impacted India's economy is through e-commerce; according to a report by the Indian Brand Equity Foundation**,** the Indian e-commerce market is expected to reach $200 billion by 2026, up from $38.5 billion in 2017. Increased internet access among Indians has driven this growth, which has led to more people shopping online and more businesses selling their products online. The growth of e-commerce in India has created new opportunities for businesses to reach customers and made products and services

more accessible to consumers. Digital platforms like Amazon and Flipkart have gained a foothold in the Indian market.

For example, JioMart aims to connect small retailers with consumers through an online marketplace. Milkbasket and bigbasket.com are other players that have gained traction in the Indian market, offering online grocery shopping and home delivery services. Similarly, players like Blinkit and Dunzo provide quick delivery services. The increasing adoption of online payments has facilitated the growth of e-commerce in India. The Indian government has been actively promoting digital payments, and these initiatives have led to a significant increase in the use of digital payments in India, which has, in turn, contributed to the growth of e-commerce. It has made it easier and more convenient for people to transact online, reducing the reliance on cash-based transactions.

**Role of Digital Economy on Indian Economic growth**

Digitalization has also led to the growth of digital banking, with more people using their smartphones to access banking services. It has helped to improve financial inclusion, bringing more people into the formal banking sector.

**1. Financial Services**

A report published by the World Bank states that India has made remarkable progress in financial inclusion, with the number of adults with a bank account increasing from 35 per cent in 2011 to 80 per cent in 2017. The widespread adoption of digital financial services has brought several benefits to the Indian economy. It has enabled people to save time and money by avoiding long queues at banks and ATMs and has made it easier for them to manage their finances. Moreover, digital payments have facilitated more seamless transactions, reducing the costs associated with cash handling and making it easier to track financial flows.

Digitalization has also provided new business opportunities in the financial sector, particularly in fintech. With the rise of digital payment systems and the increasing use of smartphones, fintech start-ups have emerged as a major force in the Indian economy. These companies leverage digital technology to offer customers innovative financial products and services, including peer-to-peer lending, mobile banking, and online investment platforms. As India continues on its path of digital transformation, there is great potential for further growth and development in the financial sector.

**2. Progress of digitalization in India**

An overview Both the value and volume of digital payments in India have grown at a fast pace in recent months including the COVID affected months covering the period November 2019 to January 2023 as shown in Chart 7. The number of digital transactions increased more than three times from 300 crores in November 2019 to 1,052 crores by January 2023. It shows the value of total digital payments relative to nominal GDP. It was 8.7 times the nominal GDP in FY19. Although it fell during the COVID-19 year, this multiple is rising again. This chart shows that the value of total digital payments is a multiple of nominal GDP indicative of the velocity of digital transactions.

**3. Measuring the size of India's digital economy**

As per the RBI, December 2022 monthly bulletin of the RBI, the share of India's core digital economy that Constitutes economic activity from ICT goods and digital services producers were increased from 5.4 per cent of GVA in 2014 to 8.5 per cent in 2019**.** In US dollar terms, India's digital economy exhibited a growth rate of 15.6 per cent over the period 2014 to 2019, which was 2.4 times the growth of the Indian economy. Further, the share of digitally dependent economy (digitally enabled sectors) is estimated at 22.4 per cent in 2019. India's digital economy grew 2.4 times faster between 2014 and 2019 generating about 62.4 million jobs during the period, according to a report from the Reserve Bank of India (RBI). In absolute terms, the economy grew US$ 222.5 billion in 2019 from US$ 104.7 billion in 2014. According to the report, India's digital economy has witnessed a Compound Annual Growth Rate (CAGR) of 15.62per cent between 2014 and 2019, while India's Gross Value Added (GVA) increased annually at a compound rate of 6.59 per cent.

The digitally dependent economy was around 22.4 per cent of the overall economy in 2019. Media reports also said that India's core digital economy are hardware, software publishing, web publishing, telecommunication services, and specialised and support services has increased from 5.4 per cent of GVA in 2014 to 8.5 per cent in 2019. Construction, renting of machinery & equipment, food beverages & tobacco, textiles & textile products, and electrical & optical equipment are the industries with the highest forward linkages from the aggregate core digital economy in 2019. With growing activities in e-commerce, online transactions and numerous internet services, India's digital economy will experience further growth in the coming years. RBI has also decomposed the overall output multiplier into digital and non-digital

output multipliers. The output multiplier is defined as capturing the direct and indirect impact of a unit change in final demand covering digital and non-digital sectors on the economy's total output. The RBI then estimated separately the digital and non-digital output multipliers for 2014 and 2019. It is shown that while the non-digital output multiplier fell from 1.68 to 1.57 during this period, the digital multiplier increased from 1.34 to 1.50.

**4. Employment in the digital sector**

The RBI report point out that employment in the digital sectors of the Indian economy is still quite limited. Based on India's current population (2022) and the worker population ratio in 2019-20 as per PLFS (at 38.2 per cent), the total employed workers in the core digital economy was estimated at 4.9 million.

Table.2 Sector-wise employment distribution in digital sector (per cent)

| Sl. No | Sector | Share |
|---|---|---|
| 1 | Computer programming consultancy and related activities | 59.8 |
| 2 | Telecommunications | 15.2 |
| 3 | Manufacturing, nec; recycling | 9.8 |
| 4 | Data processing, hosting and related activities | 7.6 |
| 5 | Software publishing | 2.2 |
| 6 | Motion pictures, videos, TV | 2.2 |
| 7 | Computer manufacturing | 1.1 |
| 8 | Web portals | 1.1 |
| 9 | Tapes, CDs | 1.1 |
| **Total** | | **100** |

Source: RBI (December 2022)

Above table gives the relative share of employment in the digital sectors. The highest share at 59.8 per cent pertains to computer programming consultancy and related activities followed by telecommunication services at 15.2 per cent.

**5. Accelerating growth of digital economy in India**

In July 2015, the Government of India launched the 'Digital India' initiative to improve online infrastructure and increase internet accessibility for citizens, empowering them to become more digitally advanced. This initiative encompasses three key dimensions namely, a) establishing a secure and stable digital infrastructure, b) delivering digital services and c) ensuring that every

citizen has access to the Internet. Government of India's persistent effort to digitalize the Indian economy and make India's population at large participate in it, is already showing results. Some notable Government of India initiatives for creating public digital infrastructure include the UPI and Open Network of Digital Commerce (ONDC).

In the financial sector, digitalization is taking advantage of a large set of Application Programming Interfaces (APIs) which allows the government and private companies to deploy cashless and paperless technology products. In the health sector, a notable initiative pertains to Ayushman Bharat Digital Mission (ABDM) which involves extensive digitization of various health records and related data. Public health stack includes linking historical records of patients, offering a network of doctors and medical service providers, and a linked registry of drugs. The main initiatives affecting the growth of digitalization in India include Aadhaar, Common Services Centres, DigiLocker, Unified Mobile Application for New-age Governance (UMANG), e-Sign, MyGov, MeriPehchaan, Digital Village, National Rollout of eDistrict MMP, Open Government Data Platform, eHospital/ Online Registration System (ORS), CoWIN etc.

**6. Increased allocation in education**

Digital sectors of the economy are technical skill intensive. They require a minimum foundation of education supplemented by further training and skilling. The central and state governments need to prioritize the education sector as a whole and within that, education oriented toward participation in the digitalization process even more with a view to increasing employment in this sector. Education has a two-way relationship with digitalization. The more educated the population of a country, the easier it is to popularize digitalization in that country. At the same time, the more digitalized an economy, the easier it is to educate its population by using digital delivery models to improve the quality and reach of classroom education. In the new wave of digital delivery of education in India, teachers are routinely using online lessons, videos, and digital examples and applications to impart quality education to their students. Internet is proving to be a great facilitator for augmenting the quality and quantity of content for the students. Internet also enables cross-country comparisons and compilation of relevant case studies for enriching classroom education.

**Role of digital economy in India's economic growth with other countries**

India's digital transformation has been remarkable in recent years, with the rapid adoption of smart phones, increased internet connectivity, and the government's push towards a digital

economy. It has opened up tremendous opportunities for economic growth across various sectors of the economy. The fast-paced digitalization has significantly impacted the country's economic growth, with tremendous opportunities for continued growth in the digital economy. With the government's continued focus on digital transformation and investments in digital technologies, India is well-positioned to continue to drive economic growth. India's digital payment platforms have become quite popular amongst its general population. The digital economy, however, has broader connotations due to its backward and forward linkages with other sectors in the economy. As compared to developed countries, India's pace of digitalization has been very high in recent years, particularly over the period from 2011 to 2019 as 10.6 per cent measured by CAGR in the ICT sector with only China exceeding India's growth marginally. With the advent of 5G and the setting up of semiconductor industries in the country, India is expected to accelerate further its pace of digitalization in the next few decades.

Table.3 Pace of digitalization: a cross country perspective (per cent CAGR in the ICT sector)

| Sl. No | Country | CAGR (2001 to 2011) | CAGR (2011 to 2019) | CAGR (2001 to 2019) |
|---|---|---|---|---|
| 1 | China | 17.8 | 11.0 | 14.7 |
| **2** | **India** | **11.0** | **10.6** | **10.8** |
| 3 | South Korea | 6.4 | 2.5 | 4.7 |
| 4 | Taiwan | 5.3 | 3.3 | 4.4 |
| 5 | Brazil | 9.8 | -2.1 | 4.3 |
| 6 | Germany | 2.3 | 4.1 | 3.1 |
| 7 | EU | 2.4 | 3.2 | 2.8 |
| 8 | France | 1.7 | 3.0 | 2.2 |
| 9 | United States | -3.0 | 6.8 | 1.2 |
| 10 | United Kingdom | -0.9 | 3.9 | 1.2 |

Source: European Commission, PREDICT database

India is projected to become one of the largest economies by the middle of this century in market exchange rate terms. This has been highlighted in EY's recent publication titled "India@100: realizing the potential of US$26 trillion economy". According to ACI Worldwide in collaboration with GlobalData, India is way ahead even in comparison with China in terms of the number of digital payments in 2021 was at 48.6 billion in India as compared to 18.5 billion in

China and 8.7 billion in Brazil. MeiTY (2019) has estimated the size of India's digital economy at US$200 billion in 2019, is expected to rise US$500 billion by 2025 (18-23 per cent) in their 'business as usual' scenario. Size of India's digital economy can be increased up to US$1 trillion by following a set of policy initiatives covering 30 digital themes under nine national goals. These goals are IT infrastructure and software capabilities, E-governance of the future, Healthcare for all, Quality education for all, Energy for all, Next-generation financial services, Doubling farmers' income, Make in digital India, make for India, make for the world and Jobs and the skills of the future.

**Conclusion**

Adopting digital technologies such as automation and robotics has helped increase manufacturing efficiency and productivity, enabling Indian manufacturers to compete more effectively in global markets and banking sector, improving financial inclusion and driving economic growth. Though, there is also a need to address data privacy and security issues to ensure people can trust and use digital technologies confidently. Overall, the impact of digitalization on India's economic growth has been positive. Even so, more work needs to be done so that everyone can benefit from digitalization opportunities. Investing in digital technologies, India can continue to drive growth and improve citizen welfare.

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