

DIGITAL ECONOMY: TRENDS, ISSUES AND IMPLICATIONS IN INDIA

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Abstract

The digital economy is the worldwide promising network of economic activities like e-(electronic) to m-(mobile) transformations, commercial transactions and professional interactions with support of enabled by information and communications technologies (ICT). Digital Economy refers to an economy that is based on digital technologies. The growth, integration of information technology and communications is changing our society and economy. Digital technology in the form of the Personal Computer and the Internet has already transformed work, education, government, entertainment, generating new market opportunities and having a major economic impact across a broad range of sectors. The digital economy is the new productivity platform that some experts regard as the third industrial revolution. Digital revolution, also known as The Internet Economy or Internet of Everything is expected to generate new market growth opportunities. Digital economy describes the range of economic and social activities that are enabled by information and communications technologies. It includes activities like banking, buying and selling, and accessing education or entertainment using the internet and connected devices. The digital economy is not separate to the economy. It impacts all industries and business types and influences the way we interact with each other every day. This paper illustrates the trends, issues and challenges of digital economy in India.

Keywords: Digital economy, Communications, Internet, Technology and Opportunities

Introduction

Digital is a new way of engaging with customers. And for others still, it represents an entirely new way of doing business. Digital economy is intertwined with the traditional economy making a clear delineation harder. Economy refers to an economy that is base computing technologies. The digital economy is also sometimes called the Internet Economy, the New Economy, or Web Economy. Abraham Lincoln rightly said, “Government of the people, by the people, for the people, shall not perish from the earth whatever the government benefits from digital economy, directly have a positive impact on every citizen’s life”.

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The roll out of e-Government services in India is currently going well, but policies of digital inclusion should play an advanced role in this development, in order to encourage the bridging of the 'digital divide'. Limited availability of Internet infrastructure, High cost of access and usage, Lack of awareness and low digital literacy, Narrow range of applications and services and unfavorable business environment. The Government of India has also been pushing for rapid digitization, leading to increasing investments in the IT sector. In the recent Union Budget of 2022-23, the Government of India has made a few announcements which will lead to some major developments in India on the digitization front. Apart from direct digitization in banking, higher education, and health sector, the country will soon have its own Digital Currency issued by the Reserve Bank of India. Also, the government has announced that data centers will be given infrastructure status in the country allowing it to play a key role in enabling a digital economy

Demonetization impact on Indian Economy on November 8, 2016, the Indian government declared that the 500 and 1000 rupee notes will be stripped of their status as legal tender effective from midnight. These notes accounted for 86 percent of the country's cash supply by value. Citizens were given time till December 31, 2016 to deposit their old currency notes and exchange them for the new currency notes of rupee 500 and 2000. The government's aim was to root out counterfeit currency, fight tax evasion, curb inflation, eliminate black money and terror-funding, and to promote a cashless economy. When a currency note of a particular denomination ceases to be a legal tender, it is termed as demonetization. Legal tender refers to money which can be legally used to make payments of debts or other obligations. A creditor is obliged by law to receive such money in payment of due debt to him.

The term demonetization is not new to the Indian economy. The highest denomination note ever printed by the Reserve Bank of India was the 10,000 rupee note in 1938 and again in 1954. It was demonetized first in 1946 and then in 1978. Since not many people had access to such notes at the time, this did not have a big impact on the country. The recent round of demonetization has undoubtedly affected the common public and bankers. It has had many short term effects which are visible. The long term effects are yet to be experienced.

Review of Literature

Several research papers provide clarification about Digital India and give thorough information about this project in India. The reason of the Review of Literature is to decrease the gap of research.

James (2004) in this learn, he explained that ICT and internet usage in broad were used to actions the gap between affluent and poor countries. The issue in India was how ignorant persons in underdeveloped areas could profit from the internet due to a lack of computer and internet skills. This problem should be solved in such a way that uneducated people can learn about technology. If this concept is considered in India, at least 30% of the population will benefit.

Gupta and Arora (2015) the pressure of the D.I plan on India's rural areas is investigated. According to the answer, D.I has implemented a number of programmes to hearten agriculture and developed development in rural areas. Several programmes for the empowerment of Indian women alive in the hamlet have also been industrial as part of the D.I programme.

Midha (2016) focused on barriers and remedies to prevent the challenges faced by the Indian people. Vision, scope and pillars were also included. The study also discussed how the government services can be available to every citizen electronically and improve the quality of life of every citizen.

Priyadarsini and Vijayaratnam (2016) discussed about components of Digital India and its nine pillars, adaption of 'look at Villages' policy and the smart villages driving towards smart India and the prerequisites of a smart villages cluster. Indian villages need to be more focused on basic things such as health care, sanity and education.

Kaul and Mathur (2017) analyzed the importance of financial literacy. The finding of the study identified the obstacles in the implementation of various programmes to make India financial literate and strategies to implement these policies effectively and efficiently. Impact of digitalization on a country can be accessed on the basis of its impact on the government, on the economy and the society. The digitalization has created new job opportunities, have led to innovation in very sector and also led to the growth of the economy. The government emphasized on the digitalization as it brings transparency, better control and better job opportunities.

Sheokand and Gupta (2017) introduced the Digital India campaign and Indian economy. The study also discussed pillars and various challenges faced in the implementation of the programme. Findings suggested that a digitally knowledgeable and empowered population can transform the economy. Digitalization will lead to cost savings, increased output, better employment, enhanced productivity and literacy.

Objectives of the Study

1. To forecast economy, trends and challenges.
2. To study the issues and implications in digital economy.
3. To understand opportunities in the digital economy and digital systems.

Research Methodology

Methodology used for this paper is secondary method and the data collected from various secondary resources such as journals, articles, websites and blogs.

Trends

The major technological trends that will continue to transform the Indian IT industry in the present year are the Internet of Things, Artificial Intelligence, Block chain Technologies, Cloud Adoption, Data Security, and Cyber Protection.

Internet of Things (IoT)

The Internet of Things is a network of devices, vehicles, home appliances, and other items embedded with electronics, software, sensors and network connectivity that enable these objects to collect and exchange data. In 2022, the IoT will be firmly entrenched in people's everyday lives. The number of devices connected to the IoT will triple by 2022, reaching 25 billion. Most cars and homes will be connected to the internet by 2022. Both individuals and companies will benefit from this connectivity. IoT makes the autonomous collection of big data possible, which helps businesses get insights into customer behaviors and product performance. IoT also facilitates the continuous optimization and automation of business processes and even helps to improve employee engagement and performance.

Artificial Intelligence (AI)

AI has been one of the most buzzing technologies in recent years. This has led to significant advances in many areas such as speech recognition, natural language processing, robotics, and machine learning (ML) and computer vision. According to Gartner, AI and ML will be used in over 80 per cent of IoT activities in enterprises by 2022. Hyper Automation is one of the major outcomes of AI, and this will be one of the driving forces behind digital transformation in 2022. Hyper automation ensures streamlining of processes to increase efficiency, accuracy, and productivity. In 2022 we will see AI and ML increasingly active, infusing more automation and taking over most mundane tasks, freeing us to focus on activities that shall require more human touch and intervention. With AI and humans working together, the workforce is becoming an augmented one. AI will not replace humans but will be working along to add efficiency to our work.

Block chain Technologies

Block chain is a technology that enables digital information to be distributed but not copied. It is a vast and globally distributed database, which can be applied to anything from payments and banking to complex computer programs. A report by trade association IDC

predicts that worldwide spending on block chain technologies will reach \$9.7 billion in 2022. Block chain is a highly disruptive force for enterprise software. One of the most intriguing applications of block chain technology is supply chain tracking, which gives the ability to track products from the time they are created to when they are stored in warehouses and finally sold to customers. Block chain is also used to reduce fraud in digital contracts and create faster data retrieval for distributed ledgers. The technology is continuously developed, with some of its latest applications being Smart Contracts and crypto-currencies. In the future, block chain technology will be used to manage personal health records, deliver payments, and even smart buildings.

Cloud Adoption

Cloud computing has become an increasingly popular way to store and manage data, which means more sensitive information is on the cloud than ever before. Cloud computing is often looked at as a more secure alternative to on-premise solutions. It is also a better choice for most businesses, as it reduces hardware and maintenance costs by paying for resources only when needed. By moving some of the infrastructures to the cloud, companies can also significantly improve their security posture. Also, companies using single cloud resources earlier are now exploring Multi cloud options. With single cloud earlier, companies were often suffering in vendor-lock ins, and it was also risky and costly to store all data in a single server. Multi cloud is a better option when it comes to disaster recovery. Instead of establishing a traditional on-premise disaster recovery capability, cloud resources can be used as and when required. As each provider will be coming up with their unique selling propositions, be it in AI, ML, or analytics, a Multicolour strategy will give organizations the advantage of each platform's competitive edge.

Data Security and Cyber Protection

Data security and data protection will remain areas of highest concern in 2022. Businesses in the last two years were riddled by constant ransom ware attack threats, data breaches and major IT outages, which became even bigger nuisance than supply chain disruptions, or the COVID-19 pandemic, all of which have heavily impacted businesses in the past year. 2022 will still be a difficult year, as there is still a large talent pool to fill up for efficient cyber security management. Also, it is estimated that cyber attacks will be relentless in attacking small and medium scale businesses. End-to-end encryption is already becoming main stream along with zero-trust policies when it comes to network security, and data access control. However, things will continue to look grim for the coming years as ransom ware

attacks are gearing up menacingly. As per research agency, Cyber security Ventures, the frequency of ransom ware attacks on a consumer or business will only ramp up to every two seconds by 2031. Cyber security insurance premiums will be hiked up with the increasing numbers and complexities and there is more likely a chance that Ransom ware-as-a-Service will only be a growing dark net business in the year, also giving rise to a gig-economy for hackers.

Opportunities

- i. Digital players have begun to dominate the market the most valuable companies globally were Apple, Alphabet, Microsoft, Amazon, and Face book. China's Alibaba gained the seventh position, overall.
- ii. Digital technologies will change the way work is done Automation, big data, and artificial intelligence enabled by the application of digital technologies could affect 50 per cent of the world economy. The present technology has the potential to automate over 1 billion jobs worth \$14.6 Trillion.
- iii. Public policy is essential to the success of the digital economy globally, economists should adopt public-private policies to foster innovation in a digital economy, including India. Also, they must encourage better integration of automation, data, and new technologies into the legacy economy. Steps must be taken to introduce skills required to thrive in a digital economy at early levels, specifically at schools.
- iv. Identifying a country's unique drivers of digital momentum is necessary considering factors such as the current state of digital economy and country size, growth drivers for digital economy must be identified and amplified. While developed economies need to priorities on innovation, developing economies should focus on institution.

Challenges

i. Technologies

In the next couple of years, Block chain technologies will consolidate and be applied to different and innovative uses increasing transparency and decentralization of information. New models will challenge how organizations store and manage data transactions and enable internet-based companies develop new financial products and

services. The expansion of internet of things will create zillions of data sources capable of measuring and combining physical and digital data to create and expand products and services, such as Biometrics authentication. Quantum computing will open new opportunities for a real-time based economy and mobile devices will have computing power.

ii. New competitors

After an early and atomized stage of fintech entering the financial market, new large competitors will form digital banks and challenge conventional industries. Smaller fin techs will probably specialize in specific sectors and will concede space to large corporations such as Apple, Google and Facebook which will focus on online payments and general financial services to their clients.

iii. New regulations

New regulations such as the second version of Payments Service Directive (PSD2) and the General Data Protection Directive aim to transform the financial industry and stimulate competition in the financial sector and provide more security against fraud. In a more competitive, diversified and open market, companies will struggle to offer services at lower rates.

iv. New customers

Millennial and following native digital generations will tackle current digital challenges differently. The Robotization of the economy and new measures like the universal income become a reality. Citizens spend less time working and increase their capacity to consume. The debate about privacy will enter in a new phase and individual users will count on newer resources to exploit their personal data, such as personal data lockers. On the one hand, individuals will be less afraid of trading their data, and data collectors will have to pay more for the personal data they can collect.

v. New business models

A world without cash will become a reality soon. All transactions being digital will help companies gather a complete picture of their market and understand more clearly market opportunities. A completely digital world will make financial services more transparent and accessible, and will create opportunities for a multimodal explosion like augmented reality, will allow customers to analyze the value of a

building or calculate the cost of a mortgage for a specific car. Data marketplaces will enable new business to acquire data they do not produce and generate new products and services. Crowd funding will leave space for crowd lending.

vi. New global threats

New global threats will continue to expand and transform the economy. The sharing economy will find a better legal framework and continue to advance. Massive hacking will force countries and companies to heavily invest in security and political systems will suffer recurring crisis derived from the persistent security crisis.

Top Digital Transformation Implications Impacting Businesses in 2022

Digital transformation presents unique opportunities for organizations to innovate and grow, it also forces critical thinking and potentially remains aspects that are core to our business.

i. Lack of Change Management Strategy

Organizations with a thorough change management strategy are 6x more likely to meet or exceed digital transformation objectives. (Prosci) Having a strong change management culture is vital for any organization's success. A lack of a change strategy sets up any new project or implementation plan up for failure.

ii. Complex Software & Technology

Enterprise software is inherently complex. New technologies can be intimidating. This is a large challenge for organizations undergoing digital transformation both from an implementation and data integration perspective, as well as from an end-user experience perspective. Leaders should consider this when in the early stages of a transformation project, and seek out the most intuitive, integrated systems.

iii. Driving Adoption of New Tools and Processes

New processes and technologies often present challenges in the form of resistance to change from tenured employees who feel there is nothing wrong with the way they're currently doing things. For new software implementations, organizations must provide comprehensive on boarding training, as well as continuous employee

performance support to help employees become productive and proficient with a tool quickly, allowing them to understand the value of these new processes.

iv. Continuous Evolution of Customer Needs

Organizations are always evolving – and COVID-19 accelerated this. Consider what a customer wants. That changes as the world evolves and industries change. Digital transformation is not an easy project, and intensive transformation efforts can take years to accomplish. What happens if, during that time, your customer needs change? Evolution of customer problems will happen. Don't be surprised, and plan to be agile when it comes time to adopt new digital technologies.

v. Lack of a Digital Transformation Strategy

Why we are replacing legacy systems and manual processes for new digital systems. Does our organization have a plan (or need) to implement advanced and complex systems. Are we ready to properly migrate or customize our existing systems into new ones. These are all practical issues and questions that should be answered before implementing a digital transformation process. There is no such thing as a successful transformation project without a predetermined strategy.

vi. Lack of Proper IT Skills

To succeed in your transformation efforts, we need a skilled, high-performing IT team. And that is difficult to put together especially in the current tech worker shortage. According to an enterprise study, 54 per cent of organizations said that they're not able to accomplish their digital transformation goals because of a lack of technically-skilled employees.

vii. Security Concerns

A push back many enterprise organizations in data-sensitive industries have is privacy and cyber security concerns. And that is valid. Most digital transformation efforts involve leaving behind on-premise solutions to move to the cloud, as well as integrating all of a company's data into one centralized system. This brings up the increased threat of cyber attacks stealing customer data and company secrets. Online attacks can target system vulnerabilities, poor setups, and unsuspecting users. Be sure

to have a plan in place to proactively mitigate these threats before they happen. Bring in a cyber security expert to help identify weakness in our defense.

viii. Budget Constraints

Digital transformation is not a cheap investment. For organizations that have a less-than-stellar transformation strategy, scope creep can slowly start to push back deadlines and add in new work all adding to the cost of a project. Add in any consultation work, changes in your customer needs or IT errors, and the cost of digital transformation continues to increase. Understand what your long-term goals are, and what ROI you plan to achieve from your transformation process.

ix. Culture Mindset

Organizations with legacy systems and manual processes often have an old-school mentality. Things change slowly, automation is looked down upon, and new technologies are difficult to adopt. A huge challenge of digital transformation is a cultural one. Everyone – from leadership to new employees must be on the same page. Everyone should be ready to make big changes in their day-to-day lives, and not be afraid of learning new things.

Conclusion

India is a fast-developing digital economy, and all global technology trends will also be impacting the Indian IT sector. As mentioned, digitization will pervade all industries in 2022, making each organization an IT venture. Smart and immersive technologies such as AI, AR (Augmented Reality), ML, IoT will become main stream and play a constructive role in improving business efficiency.

The private sector and government, working together, must address these problems in ways that make the Internet a safe environment while not impeding its commercial development. Digital revolution, also known as ‘The Internet Economy’ or Internet of Everything (IoE) is expected to generate new market growth opportunities, jobs and become the biggest business opportunity of mankind in the next 30 to 40 years.

We need to be ready, as an economy and a community, to respond to change and to grasp the opportunities of the digital economy. New and emerging digital technologies are changing the way industries and business work. There are many instances where the market is adjusting well to digital transformation. The long-term effects of Demonetization are yet to

be ascertained. It is expected that it can improve the Indian economy in the long run by increasing tax compliance, financial inclusion, consequently improving the state of the economy. It can boost the GDP by increasing the availability of funds for lending and also by reducing transaction costs if the economy moves to digital modes of payments.

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