IJRAR.ORG E-ISSN: 2348-1269, P-ISSN: 2349-5138

INTERNATIONAL JOURNAL OF RESEARCH AND ANALYTICAL REVIEWS (IJRAR) | IJRAR.ORG

An International Open Access, Peer-reviewed, Refereed Journal

TRENDS, OPPORTUNITIES AND CHALLENGES IN DIGITAL ECONOMY OF INDIA

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ABSTRACT

The digital economy is the worldwide network of economic activities, commercial transactions and professional interactions that are enabled by information and communications technologies (ICT). It can be succinctly summed up as the economy based on digital technologies. Digital Economy refers to an economy that is based on digital technologies. The growth, integration and sophistication 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. In the ICT of the digital economy, India appears to have comparative advantage to grow to global stature.

KEYWORDS: Digital economy, Communications, Technology and Opportunities.

INTRODUCTION

Digital Economy refers to an economy that is based on digital technologies. The digital economy is also sometimes called the Internet Economy or Web Economy. The digital economy became the model global economy as the last stage for the devolvement of the economy and it considers as a result of using the information technology in different economic fields, such as what happened in all our life activities. No doubt, the digital economy has the risks and problems of Security and Privacy which are more in the case of India subject to internal and external risk. The roll out of e-Government services in India is currently lightly 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 unfavourable business environment. he 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, the country's apex bank. Also, the government has announced that datacentres will be given infrastructure status in the country allowing it to play a key role in enabling a digital economy. Multicolour adoption will be on the rise, and so will cybersecurity vulnerabilities. Together 2022 will be an interesting year with technologies playing the lead roles in our lives. India will be the largest

consumer of digital technologies in times to come. Another reason is that the world-over, there are several channels of communication to access goods and services and digital channel happens to be the latest and the most convenient.

Objective of the Study

- To study the trends, opportunities and challenges in digital economy of India.

Research Methodology

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

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, Blockchain Technologies, Cloud Adoption, and Data Security & 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 behaviours 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, machine learning and computer vision. According to Gartner, AI and machine learning (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.

Blockchain Technologies

Blockchain 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 blockchain technologies will reach $9.7 billion in 2022. Blockchain is a highly disruptive force for enterprise software. One of the most intriguing applications of blockchain 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.

Blockchain 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, blockchain 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,

machine learning, or analytics, a Multicolour strategy will give organisations 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 ransomware 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 cybersecurity management. Also, it is estimated that cyberattacks will be relentless in attacking small and medium scale businesses. End-to-end encryption is already becoming mainstream 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 ransomware attacks are gearing up menacingly. As per research agency, Cybersecurity Ventures, the frequency of ransomware attacks on a consumer or business will only ramp up to every two seconds by 2031. Cybersecurity insurance premiums will be hiked up with the increasing numbers and complexities and there is more likely a chance that Ransomware-as-a-Service will only be a growing darknet business in the year, also giving rise to a gig-economy for hackers.

Opportunities

- **Digital players have begun to dominate the market**

The most valuable companies globally were Apple, Alphabet, Microsoft, Amazon, and Facebook. China's Alibaba gained the seventh position, overall.

- **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.

- **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.

- **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

- **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.

- **New competitors**

After an early and atomized stage of fin techs 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.

- **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.

- **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.

- **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 analyse 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.

- **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 Challenges Impacting Businesses in 2022: While digital transformation presents unique opportunities for organizations to innovate and grow, it also forces critical thinking and potentially reimagines aspects that are core to your business.

The most important challenges to consider when undertaking digital transformation projects in 2022:

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.

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.

Driving Adoption of New Tools & 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 onboarding 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.

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.

Lack of a Digital Transformation Strategy

Why are you replacing legacy systems and manual processes for new digital systems? Does your organization have a plan (or need) to implement advanced and complex systems? Are you ready to properly migrate your existing systems into new ones? These are all 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. Don't be sold on false assumptions and buzz-words. Know where your organization can be improved, what areas of the company are in need of upgrade, and start from there.

Lack of Proper IT Skills

To succeed in your transformation efforts, you'll 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.

Security Concerns

A push back many enterprise organizations in data-sensitive industries have is privacy and cybersecurity 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. Of course, this brings up the increased threat of cyberattacks 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 cybersecurity expert to help identify weakness in your defence.

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. This will help you clearly understand what spending is too much, and what room you have to increase your budget.

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, digitisation will pervade all industries in 2022, making each organisation an IT venture. Smart and immersive technologies such as AI, AR (Augmented Reality), ML, IoT will become mainstream 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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