DIGITALIZATION IN INDIA: A PERSPECTIVE

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Introduction

Digitalization is transitioning of documents and storage from a traditional paper based system to an electronic format. It reduces process time and errors, and improves transparency. It can also make an organization more competitive. In simple words 'digitalization of administration' means bringing reforms such as electronic filing and documentation and promote information sharing or deliver through information networks in administration, Digitalization will have to cater to several types of communications some are between government offices and others are between government offices and people.

Katz, Koutroumpis, and Callorda, (2014) defined digitalization from societal perspective, as "the economic and social transformation triggered by the massive adaptation of digital technologies to generate, process, share and transact information".

Importance

Digitalization being a global concept and a key economic driver in the present world has prominent impact on economic growth and employment on any nation. Digitalization can play an important role in assisting policy makers to spur economic growth and employment even in unfavorable economic conditions. Digitalization improves productivity and has a measurable effect on growth, yet it can lead to job losses. In contrast, emerging markets tends to gain more from digitalization's effect on employment than from its influence on growth.

Digitalization of administration is designed to raise convenience of the people, simplify the administration and effectiveness and transparency of it through the use of information technology in the every field of administration and review of existing systems and practices. Governments can enhance services, save money and improve citizen's Quality of life by digitizing processes and making organizational changes.

The more advanced a country becomes in terms of digitalization, the greater the benefits. The ability of digitalization to boost output and employment has measurable effects globally, country wise, and sector wise.

"Policymakers have focused until now on improving the reach and affordability of ICT services, though important, policymakers in the future also need to become digital market makers-creators of a digital economy that provides it citizens, enterprises and economic sectors with the competitive advantage essential to thrive in global market. Digitalization has the potential to boost productivity, create new jobs, and enhance quality of life for society at larges.

Benefits of Digitalization

- Cost Savings, quicker, easier, more effective and efficient business process.
- Quicker business information, improved analytics and better process control.
- Automated collection and payment processes through structured electronic document sharing.
- Improved transparency process, opening up new credit models.
- A more favourable sustainability profile, better corporate social responsibility performance and stronger environmental credentials.
- Increased overall productivity and competitiveness.

Governments around the world are doing their best to meet citizen demand and capture benefits. More than 140 countries have online services. However, despite all the progress made, most governments are far from capturing the full benefits of digitalization. To do so Governments need to take their digital transformations deeper, beyond the provisions of online services through e-government portals in the broader business of government itself. It means looking for opportunities to improve productivity, collaboration, scale, process, efficiency and innovation.

Governments utilizing their digitalization on four capabilities like services, processes, decisions and data sharing. The key to good digital services understands the user's perspective. Governments must be willing to remake products, processes and policies around what citizens want.

Governments should digitize high volume services first and should digitize labour – intensive, costly processes before others. The public sector decision can benefit from big data and analytics in defence, public safety, health care and other area. In data sharing Transparency can strengthen the public's trust in government and its civic engagement. Data sharing will help to exchange public information.

Four enablers can accelerate digital transformation government.

Two approaches that can help government incorporate digital concepts into their strategies. The first is to align the goals for digital transformation. The second is to evaluate regularly whether digital programmes are performing well and to adjust them as conditions change.

Governance and Organization, To avoid hamper of digital initiatives, one department can be put in charge of setting strategies.

Leadership, talent, and culture, Government leaders should play meaningful role in digital initiatives, leaders can also push governments to mobilize technical workers and implementation specialist. Government should organize short term, skill development programmes to attract digital talent.

Technology, Digital transformation need not involve major IT architecture changes. Sometimes incremental adjustments to a government's enterprise architecture sufficient.

Digitalization, e-governance, IT security are the primary challenges to administration over the next coming years. Research, suggests the following three key points for digital public administration :

- No digital public administration without and effective governance structure. A centralized body with sufficient authority, resources and decision-making ability is necessary to orchestrate the digital transformation across all levels of public administration. Firm guidelines and increased standardization are imperative.

- Effective governance requires sufficient financial resources and a binding plan of action with clear priorities, responsibilities and deadlines accompanied but a legal frame work for the digitalization of public administration. Moreover it is imperative to develop competencies for the implementing digitalization.

- The Digitalization project needs well-trained employees and leaders in public administration who are passionate about innovation. Personnel incentives are essential to attract applicant. In addition. A lot of work must be done to train people for jobs in public administration, and also to provide training for those are already on the job.

- Successful digitalization cannot be an end in itself. It is vital that this transition benefits citizens. Companies and political decision-makers in a practical way. Many managers in government agencies see digitalization primarily as an expense, but the mid to long term benefits of investments in digitalization are clear, those are increased productivity and lower costs.

Digitalization in Indian Context

There is a difference between e-governance and digital governance. E-governance use ICT to achieve better governance, whereas digital governance integrates ICT in the core of public sector modernization, changing process. In 2014, the United Nations placed India at the 11.8^{th} slot globally out of 182 countries in the e-government rankings.

A World Bank Report says that a 10% increase in broadband penetration in India can lead a 1.4% increase; in Gross Domestic Project (GDP), making Internet important for enhancing the growth of the economy. India has the third highest number of internet users in the world, but when it comes to penetration, it is just 12.58% of the country's population.

"Digital India" aim to reform governance through technology, the vision includes growth of several areas such as manufacturing, employment sector, electronic services, products and more.

Internet Connectivity as a Utility to every citizen

The initiative is aimed at providing connectivity through fixed-line broadband, mobile connectivity or Wi-Fi hotspots. Every citizen would be provided with a unique identity with lifelong validity that can be tied up with mobile number and bank account to enable digital banking.

Services on demand

The initiative plans to create seamless integration across multiple government departments and jurisdictions, and make services available on online and mobile platforms. Financial transactions would be made cashless and electronic. The ease of doing business in India is improved.

Digital Empowerment of Citizens

The initiative would provide universal digital literacy to empower citizens to use digital platform or devices. Universal access to digital resources would be provided, wherein all documents would be available in digital form on the cloud. Government services would be provided in local languages and a platform would be made available to citizens for participative governance. Digitization was the need to be implemented in India for bright future and grow more than any other developed country.

The main objective of digital India programme is to transform India into a digitally empowered society. The Digital India programme is centred on the following vision.

- Availability of high speed internet as a core utility for delivery of services to citizens, Cradle to grave digital identity that is unique, lifelong, online and authenticable to every citizen, Mobile phone and bank account enabling citizen participation in digital & financial space, Easy access to a Common Service Centre, Shareable private space on a public cloud, Safe and secure cyber-space.

- Seamlessly integrated services across departments or jurisdictions, Availability of services in real time from online & mobile platforms, All citizen entitlements to be portable and available on the cloud, Digitally transformed services for improving ease of doing business, Making financial transactions electronic and cashless, Leveraging Geospatial Information Systems (GIS) for decision support systems and development.

- To bring universal digital literacy, universally accessible resource, collaborative digital platforms for participative governance.

- Digital India aims ot provide the much needed thrust to the nine pillars of growth areas, namely Broadband Highways, Universal Access to Mobile Connectivity, Public Internet Access Programme, e-Governance : Reforming Government through Technology, e-Kranti-Electronic Delivery of Services, Information for all, Electronics Manufacturing, IT for jobs and Early Harvest Programmes. Each of These areas is a complex programme in itself and cuts across multiple Ministries and Departments.

Benefits of Digital India

- It makes possible the implementation of digital locker system which in turn reduces paper work by minimizing the usages of physical documents as well a enabling   e-sharing through registered repositories.
- It is an effective online platform which may engage people in governance through various approaches like "Discuss, Do and Disseminate".
- It ensures the achievement of various online goals set by the government.
- It makes possible for people to submit their documents and certificates online anywhere which reduces physical work.
- Through e-Sign framework citizens may digitally sign their documents online.
- It may ease the important health care services through e-Hospital system such as online registration, taking doctor appointments, fee payment, online diagnostic test, blood check-up, etc.

- It provides benefits to the beneficiaries through National Scholarship Portal by allowing submission of application, verification process, sanction and then disbursal. '

- It is a big platform which facilitates an efficient delivery of government or private services all over the county to its citizens.

- Bharat Net programme (a high-speed digital highway) will connect almost 2,50,000 gram panchayats of county.

- There is a plan of outsourcing policy also to help in the digital India initiative.

- For better management of online services on mobile such as voice, data, multimedia.

- National Centre for Flexible Electronics will help in the promotion of flexible electronics.

- Large scale deployment of Wi-Fi hotspots has been planned by the BSNL all across the country.

- There is a Broadband Highways in order to handle all the connectivity related issues.

- Open access of broadband highways in all the cities, towns and villages will make possible the availability of world-class services on the click of mouse.

Digitalization, in this age, has to be the common link in all the sectors of any successful economy, as well as in all the aspects of a progressive society. The indispensability of going digital in any recent or future technological endeavour connot be emphasized enough in India, Aadhaar has played and continues to play an integral role in providing a unified national digital identity framework. The strength of this foundational infrastructure is now being increasingly felt in almost every sphere of life of residents of the country.

Aadhaar is held by almost one-sixth of the population of the world residing in India and is the foundation of India's digital democracy. This technology is for the digital inclusion and India has always been advocating that a digital economy is an important tool for social inclusion for future cooperation towards digital inclusion and social empowerment.

Through the combination of Jan Dhan Bank Accounts and mobile phones and the establishment of digital identity through Aadhaar, the poor can now received benefits directly in to their bank accounts. In recent years digital banking, digital payments and fintech Innovations have exploded in popularity in the country. Scheduled commercial Banks are proposing the establishment of 75 Digital Banking Units (DBUs) in 75 districts across the country.

The government of India has been expanding the basket of services for citizens through deeper digital technology access.

The UMANG (Unified Mobile Application for New age Governance) application has already started providing the following functions :

- Mera Ration, helps users identify and navigate to the nearest Fair Price shops.

- E Nam, through the 'Mandi Near me' Service on UMANG, users can identify and navigate to the nearby mandis pointed on the map.

- Damini Lighting Alert's service give users a visual of nearby plans where lighting has struck in the recent few minutes to offer lighting alerts. On the map display, this alert mechanism shows the potential of lighting strikes.

Further, services like DigiLockar aim to give citizens access to all their lifelong documents in a single digital wallet and all such government – issued citizen-centre proof documents are equally valid under India laws. DigiLocker already issues digital copies of Ration Cards and marriage certificates for a majority of Indian states. Additionally, Digi Locker is in discussion with Passport Seva for the issuance of Passport to further enhance coverage of citizen services digitally.

Digital Panchayats, e Gram Swaraj Interface

To strengthen e-governance in Panchayati Raj Institutions (PRIs) e-Gram Swaraj, a simplified work-Based Accounting Application for Panchayati Raj, has been developed by amalgaming the functionalities of currently available applications in the e-Panchayat Mission Mode Project (MMP) and was launched by the Prime Minister on National Panchayati Raj Day on 24th April 2020. The application subsumes the e-FMS applications comprising of Paln plus, Action Soft PRIA soft and National Asset Directions (NAD), along with the Area profile applications with Local Government Directory (LGD) forming the base for the system along with the Public Financial Management system (PFMS).

The Digital Green Initiative

India is making remarkable strides in harnessing Digital Technologies to empower its rural communities and propel them towards the creation of green villages. Government departments, agencies, nonprofits, and other stakeholders are leveraging digital tool to disseminate valuable knowledge and resources on sustainable practices. From school-based education to community engagement and policy advocacy, those initiatives are fostering environmental awareness and action. With an expansive social media presence and innovative use of technology, they are not only raising awareness but also actively involving village communities in these efforts. As these initiatives continue to evolve and expand, India is on a promising trajectory towards a greener, more sustainable future where rural populations are equipped with the information and support they need to thrive in harmony with environment.

Digitally Self Reliant Village and Digital Transformation

A Digitally self-reliant village acts as a gateway to crucial rural services, offering a range of high-tech amenities. This approach integrates high-tech education, providing internet access, e-content, educational apps, smart classes and video conferencing for enhanced learning. Additionally, it offers e-health services through online consultations with specialist doctors and ensures efficient e-governance, including public utility services and social welfare schemes. The village is equipped with intelligent ICT Infrastructure and eco-friendly amenities, complemented by robust hard infrastructure like all-weather roads, transportation

facilities, healthcare centres, banks and water supply systems. Further more, surveillance through CCTV cameras enhances village security. This blend of smart services and infrastructure not only enhances the quality of life but also creates economic opportunities. By fostering entrepreneurial interventions, the Digitally Self-Reliant Village paves the way for a self-sufficient, technologically advanced rural economy, transforming the village into a thriving hub of innovations and progress. Digital hubs represent on of the many strategies that policy makers can employ to promote digital engagement among rural communities and businesses, contributing to the realization of digitally self-reliant villages.

Digital technologies are revolutioning agriculture, enabling the seamless integrations of small holders into a tech-driven agrifood system, "This digitalization transforms every aspect of the agrifood chain, optimising resource management with individualized, intelligent and real time solutions. Hyper-connected by data, value chains become traceable to minute details, while fields, crops and animals are precisely managed. Digital agriculture ensures high productivity, adaptability to climate change and anticipatory capabilities, potentially enhancing food security, profitability and sustainability for the future.

Mobile – Governance in India

M-governance is a sub-domain of e-governance, which is part of Digital India. It ensures that electronic services are available to people via mobile technologies using devices such as mobile phones. These services bypass the need for traditional physical networks for communications and collaboration. Mobile services are also cheaper as well as accessible in most of the rural areas in India.

Increasing the mobile phone accessibility, adaptability and with the millions of subscription base, governments are prompting and using the mobile phone in delivery the   e-Governance services. In the last few years, governments have seen mobile phones can empower citizens and affect the way citizens interact with each other and with society at large. Mobile phones are also considered to be an effective tool in strengthening democracy through better citizen-government interaction, thus influencing the political decision-making process and making governments accountable for their activities.

M-Governance aims at providing fast and easy access of public services to citizens through mobile devices. Mobile services are quickly emerging as the new frontier in transforming government and making it even more accessible and citizen-centric by extending the benefits of remote delivery of government services and information. Delivering timely and accurate information and citizens and an established system of two-way communication between the government and people is on the keys to strengthening democracy by facilitating enhanced utilization of public services, participation and empowerment of citizens. The use of mobile technologies has been prominent in government departments especially in agriculture, health care, financial services, retail trading, utilities, communications, manufacturing, transportation and series.

Mobile phones are introducing services, especially in the banking section Mobile banking is the future because of its cost effectiveness and ability to teach out customers in remote areas.

Mobile Services Delivery Gateway (MSDG)

The MSDG enables delivery of public services over mobile devices through various mobile based channels, such as SMS, USSD, IVRS and mobile applications. The objective of creating MSDG is to put in place government-wide shared infrastructure and services to enable rapid development, mainstreaming and deployment of m-Governance services.

MSDG supports the following delivery channels for development and deployment of mobile-based applications for Government services. As the mobile-based technologies are constantly evolving, more channels may be added in future as the need arises.

- SMS (Short Message Service)
- IVRS (Interactive Voice Response System)
- USSD (Unstructured Supplementary Service Data)
- CBS (Cell Broadcasting Services)
- LBS (Location Based Services)
- Mobile Payment Service

Make in India

Make in India campaign was launched in 2014 by Government of India. This initiative is a precursor to Digital India scheme a call to the top business investors all across the world (national or international) to invest in India. It is a big opportunity to all the investors to set up their business (manufacturing, textiles, automobiles, production, retail, chemicals, IT, ports, pharmaceuticals, hospitality, tourism, wellness, railways, leather, etc) in any field in the country. This attractive plan has resourceful proposals for the foreign companies to set up manufacturing powerhouse in India.

The successful implementation of this plan will help in the 100 smart cities project and affordable housing in India. The main objective is to ensure solid growth and valuable employment creation in the country with the help of top investors. It will benefit both parties, the investors and our country. The government of India has created a dedicated help team and an online portal (makeinindia.com) for the easy and effective communication of investors.

Benefits of cashless India

- Cashless transaction does away with any inconvenience to carry cash

- It is in keeping with the worldwide trend. People need not carry any cash in various countries around the world as most of the transactions there are done electronically.

- In digital transaction, you can view history of your expenses at one go which helps you to manage your budget easily.

- Since cashless transactions are traceable, they invite payment of taxes, wherever applicable, thus ruling out use of black money.

- As tax collections become easy through the cashless mode, it accelerates the pace of economic development, making it easier for the government to spend on education, health care, employment generation, infrastructure and the overall welfare of the people.

- Increased tax collection lead to reduction and simplification of the tax structure.

- Transfer of monetary benefits to the poor and the needy through bank transfer rules out their exploitation by the unscrupulous middle men.

- Cashless transactions deal a body blow to counterfeit currency or distribution of black money through Hawala channels. It also cuts the supply of unaccounted money used in funding criminal and terrorist activities.

- It saves the government substantial costs in printing and circulation of currency notes.

Increased liquidity of money with the banks makes them lower their interest rates puts the huge amounts of cash deposited with them to some productive use.

A part of Digital India programme, the concept of cashless economy in India is centred around the vision of transforming the country into a society, which is digitally enabled and empowered by several modes of cashless transactions. Consequently, digital modes lie credit/debit cards, mobile wallets, banks pre-paid cards, Paytm, BHIM, UPI, AEPS, USSD, Internet banking etc. have gained in currency, leading to cashless India in near future.

Challenges of Digital India

The Digital India project, no doubt is one of the largest projects till date because it embraces all the government machinery and departments in its fold; its aim is to create a truly participatory democracy with the use of digital technology; its target is to connect more than 130 crore Indians with the Government so that they could avail services and benefits of government services in real time and also get their grievances redressed in quick time. But to implement this scheme is a great challenge before the Government;

- Fore mostly connecting 250000 Gram Panchayats through National Optical Fibre Network is not an easy task; it will require a lot of efforts and dedication from BSNL, the nodal agency for laying down the cables.

- Improving IT literacy is a great task ahead because for the project to become successful, it is necessary that most of people must know how to utilize the digital services;

- Security of data is very important because digital medium is still very unsafe and data vulnerability is a big issue specially in financial transactions; thus, internet data security is a big concern ahead;

- It needs an immediate action to combat the digital divide and improve the access to common people for the use of digital technologies.

- Many of the mobile devices applications are developed using English language. As many of the citizens understand only the vernacular languages it hinders the use of application. This is one of the factor will give challenge to the Digital India Initiative.

Conclusion

Digital India is a programme to transform India into digital empowered society and knowledge economy. The Digital India is transformational in nature and would ensure that Government services are available to citizens electronically. It would also bring in public accountability through mandated delivery of government's services electronically; a Unique ID and e-Pramaan based on authentic and standard based interoperable and integrated government applications and data basis.

The Digital India Programme will pull together many existing schemes which would be restructured and re-focused and implemented in a synchronized manner.

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