Understanding the Digital Governance and India's Digital Transformation Since 2014

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Abstract

This paper looks closely at the development and effects of digital governance in India since the start of the Digital India initiative in 2014. In a country with vast social, geographic, and economic differences, the use of Information and Communication Technologies (ICTs) in governance marks a major change. This change goes beyond just a technological upgrade; it represents a fundamental shift in public administration that aims to improve efficiency, inclusiveness, transparency, and services for citizens. The research investigates how key digital tools like Unified Payments Interface (UPI), DigiLocker, UMANG, and the National Scholarship Portal have changed access to public services and empowered communities that have traditionally faced obstacles.

This study employs a mixed-methods approach. It examines policy documents, academic literature, and data on digital infrastructure as secondary sources before integrating these with primary data collected from a field survey. The survey gathered responses from 80 individuals across various ages, genders, and occupations. It took place in Abul Fazal Enclave, a mixed semi-urban and urban area in Okhla, New Delhi. This location was chosen for its social and economic diversity and its potential as a center for digital governance.

The findings show a high adoption rate of UPI, especially among young people and women. Digital payment tools are quickly becoming part of everyday life in both rural and urban areas. However, challenges like low digital literacy, app failures, and a lack of trust still exist, particularly among the elderly and unbanked populations. Tools like DigiLocker and UMANG have improved document security and service integration. Meanwhile, the National Scholarship Portal has worked to fill gaps in educational access, although it has faced criticism for excluding some people based on gender identity and caste.

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The paper concludes that India's digital governance strategy has made notable progress in making access more democratic and enhancing service delivery. Nonetheless, ongoing efforts are needed to overcome existing infrastructure and social obstacles to ensure that digital transformation is genuinely inclusive and fair.

Keywords

Digital Governance, E-Governance in India, Unified Payments Interface (UPI), Digital Inclusion, Public Service Delivery

Introduction

Governance is vital to the operation of any organized group. This includes a nation, a business, a non-profit, or even a casual community organization. Governance lays the groundwork for decision-making, creating policies, allocating resources, and keeping order. At its heart, governance is a complex system of institutions, mechanisms, norms, and processes that decide how power and responsibilities are shared, how people express their concerns, and how decisions are carried out. It is not limited to governments; governance exists in many areas and sectors, such as economic, political, administrative, environmental, and social realms. Governance structures are woven into all parts of human society, from traditional panchayat systems in rural India to global regulatory groups like the World Trade Organization. No matter the context or scale, the main goal of governance stays the same: to organize society in a way that fosters stability, growth, openness, and fairness. In the public sector, governance ensures that institutions work effectively, responsibly, and address the needs of the people. In the private sector, corporate governance helps companies maintain ethical practices, follow rules, and protect the interests of stakeholders.

In today's world, we are seeing a significant change in how we understand and carry out governance. This change is driven by technological advances that are rapidly transforming our lives. Digital technologies are now part of everyday activities like communication, commerce, education, healthcare, and administration. As a result, there is an urgent need to change governance frameworks to fit this new reality. This shift has led to the development of e-governance. E-governance, or electronic governance, signifies a crucial change in the relationship between the government and its citizens. It is not just about automating government services; it represents a new way of managing public administration. This approach uses Information and Communication Technologies (ICTs) such as the internet, mobile platforms, cloud computing, and data analytics to improve government processes, enhance service delivery, increase transparency, cut through bureaucratic hurdles, and encourage real-time interaction between the government and the public. The main aim of e-governance is to create a

citizen-focused, responsive, and efficient government that can meet the needs of a rapidly changing society. The term 'e-government' appeared during the late 20th century's digital revolution when the rise of the internet allowed governments to connect with citizens in new ways. At first, e-governance efforts concentrated on digitizing internal processes and setting up government websites to offer basic information. However, the scope of e-governance has grown significantly since then. Today, it covers many areas, including online tax filing, electronic voting, digital identity systems, complaint management platforms, and even predictive policymaking using big data and artificial intelligence (Grönlund & Horan, 2004). E-governance has become essential to governance reforms worldwide. Countries are using digital tools to achieve Sustainable Development Goals (SDGs), promote inclusive economic growth, and strengthen democratic institutions. The United Nations E-Government Development Index (EGDI) helps assess and compare the e-governance capacities of countries, highlighting the progress made by both developed and developing nations in crafting digitally empowered governance systems (United Nations, 2016).

Fig-1 Significance of E- Governance

Source: What is E-Governance | Significance, Objectives & Features. (2022, December 9). Westford Online. https://www.westfordonline.com/blogs/significance-of-e-governance/

India is a nation known for its vast social, cultural, linguistic, geographic, and economic diversity. This diversity brings both challenges and opportunities in governance. The Indian population includes many social groups, such as the rural and urban poor, women in marginalized areas, children living on the streets, historically disadvantaged castes and tribes (like Scheduled Castes and Scheduled Tribes), and people living in remote or underdeveloped regions. These groups often face a consistent lack of access to quality public services, infrastructure, and opportunities. Globalization and market-driven development models have only made this situation worse. In response, the Government of India

understands the need for inclusive and flexible governance models that work well, are clear, and meet the needs of all citizens, especially the most vulnerable ones. Given this context, the rise of digital governance, or e-governance, is seen as more than just a technological fix. It is considered a significant reform that could make accessing public services easier, close socio-economic gaps, and empower marginalized communities. When implemented effectively, e-governance provides tools that cut down on bureaucratic delays, remove middlemen, increase transparency in administrative processes, and extend government services to the farthest reaches of the country. For a country as large and complex as India, this transformation could redefine the relationship between citizens and the government, making it more involved, accessible, and fair.

India's experience with digital governance goes back several decades. The launch of the internet in 1995 was a significant turning point, opening new possibilities for using Information and Communication Technologies (ICTs) in public administration. By the late 1990s, the government started to experiment with basic ICT applications like e-procurement systems, Statewide Area Networks (SWANs), and Common Service Centres (CSCs). These efforts were mostly uncoordinated, with different states and ministries acting independently and often without a central guiding framework. However, the approval of the National e-Governance Plan (NeGP) in 2006 introduced much-needed order and direction to India's digital governance goals. The NeGP aimed to make government services available to everyday people in their local areas through common service delivery outlets, ensuring efficiency, transparency, and reliability at affordable costs (Das, 2022). Despite its successes, the NeGP had limitations in scope and reach. Acknowledging the need to expand and unify digital governance under a clear framework, the Government of India launched the Digital India Programme on July 1, 2015. This initiative was a crucial moment in India's e-governance development. Digital India was more than just a rebranding effort. It brought together, broadened, and enhanced previous ICT initiatives under one comprehensive program. The main goal was to transform India into a digitally empowered society and knowledge economy. This way, every citizen, no matter their socio-economic status, could access government services online without facing complicated administrative barriers.

Fig-2 9 Pillar of Digital India

Source: Manoj Kumar K. (2023, February 6). Digital India - The path forward. AVIXA Xchange; AVIXA. https://xchange.avixa.org/posts/digital-india-the-path-forward

The Digital India initiative rests on nine key pillars, each focusing on an important area of governance and digital inclusion (a) Broadband Highways: ensuring connectivity for everyone. (b) Universal Access to Mobile Connectivity: closing the gap in mobile access between rural and urban areas. (c) Public Internet Access Programme: expanding common service centers and digital libraries. (d) E-Governance: Reforming Government through Technology: simplifying processes and enabling them with technology. (e) Information for All: promoting open data and proactive sharing of information. (f) Electronics Manufacturing: encouraging local production of electronics. (g) IT for Jobs: providing skill development and digital literacy for better job opportunities. (h) Early Harvest Programmes: implementing quick projects like biometric attendance and Wi-Fi in universities. (i) e-Kranti: Electronic delivery of services: focusing on digital health, education, and agricultural services. These pillars are backed by essential digital infrastructure systems such as Aadhaar (a unique digital identity), DigiLocker (cloud-based document storage), e-Pramaan (an authentication system), and Unified Payments Interface (UPI), a groundbreaking real-time payment platform that has changed the financial inclusion landscape in India (Walia, 2025).

The impact of Digital India has been significant. Millions of citizens now have access to online services such as filing income taxes, paying electricity bills, using public grievance portals, and applying for scholarships. Rural areas, especially in states with lower Human Development Indices, have seen increased digital access through Common Service Centers. Women and youth, often overlooked in traditional development models, are now more involved in governance and accessing services through digital platforms. The government continues to expand and improve the program. In August 2023, the Union Cabinet approved an extension and expansion of Digital India with a budget of ₹14,903 crore. This funding aims to further develop digital public infrastructure and scale important platforms like UPI, Aadhaar, and DigiLocker. The expansion shows the government's commitment to integrating digital governance across ministries, states, and sectors. It also highlights the need for collaboration among institutions to promote real-time service delivery and citizen-focused innovations (Vikaspedia.in, 2025).

Digital governance in India is becoming a reform tool and an inclusive development strategy. It has empowered communities that were previously underserved, encouraged localized innovation, and laid the groundwork for a fairer and more efficient public administration system. For a country like India, which still faces significant inequalities and regional differences, using digital governance can drive long-term, inclusive socio-economic change. Since the launch of the Digital India initiative in 2014, the country has embarked on a transformative path to create a digitally empowered society and knowledge economy. This transformation has modernized government processes and changed how

citizens engage with the state. Key initiatives such as the Unified Payments Interface (UPI), DigiLocker, and MyGov have led to more transparent, efficient, and inclusive public service delivery. Digital tools are increasingly reaching rural and underserved communities through platforms like Common Service Centers (CSCs), which help close the last-mile gap. While disparities in access and digital literacy still exist, the trend has been one of increased inclusion. Women, youth, and marginalized groups are getting more involved with digital platforms, supported by specific government policies and infrastructure improvements. For instance, mobile payment systems have changed financial transactions in cities and are slowly reaching informal economies in rural India. Likewise, e-governance platforms have made it easier for people to access essential services, encouraging transparency and citizen involvement throughout the country. This paper critically examines India's digital governance since 2014, focusing on the transformational potential of key digital tools like UPI and their growing impact at the grassroots level. By looking at how digital systems are being expanded and integrated, the study illustrates how India is moving from a digitally divided society to a more digitally inclusive and empowered nation.

1.1 Research Objective

1.1.1 To trace the evolution of digital governance in India since 2014, focusing on major policy shifts, technological developments, and administrative reforms.

1.1.2 To examine how flagship digital platforms are changing public service delivery and promoting citizen-focused governance in India.

1.1.3 To evaluate the real-world impact of digital tools and platforms, especially UPI, in improving service delivery and financial inclusion at the grassroots level.

1.2 Research Questions

1.2.1 How has digital governance evolved in India since 2014?

1.2.2 What is the nature and impact of digital transformation in India since 2014, especially concerning major government initiatives aimed at improving digital infrastructure and public service delivery?

1.2.3 How effective are digital tools like UPI in reaching and empowering marginalized communities, such as local vendors and informal workers?

1.3 Hypothesis

H-1 The adoption of UPI has indirectly increased bank account ownership and has led to a rise in active bank users in India**.**

2. Literature Review

2.1 Åke Grönlund & Thomas A Horan (2004): Introducing e-Gov: History, Definitions, and Issues

The literature on e-Government (e-Gov) has changed a lot since the late 1990s. It started with practical applications in public administration and has grown into a complex research area. Grönlund and Horan (2004) discuss this change. They point out that e-Gov began as a field driven by practitioners. It was a response to the internet revolution and has attracted more academic attention over time. Initially, the focus was on improving efficiency, service delivery, and democratic participation using digital tools. However, the discussion has broadened to include more social and technical aspects, such as governance, institutional change, and citizen engagement. The literature presents many definitions and frameworks. These range from narrow technological views to broader perspectives that involve organizational change and governance reform. Important international organizations like the OECD, World Bank, and EU define e-Gov in ways that go beyond technology. They see it as a systemic change in how governments engage with citizens and other stakeholders. Academic work remains scattered across fields like information systems, public administration, political science, and sociology. Despite these differences, a common theme is the need for integrated, cross-disciplinary approaches. These should balance technical progress with the institutional context and focus on governance that serves citizens. The research also brings up important questions about measuring performance, ensuring democratic accountability, and the dangers of focusing too narrowly on digital service delivery. Therefore, the literature shows that e-Government is not just about implementing ICT. It's a transformative process that needs careful thought regarding societal, political, and administrative factors.

2.2 Dr. Shyam Lal Das (2022): A Brief Study of the Evolution and Development of E-Governance in India

The evolution of e-Governance in India is a complex and transformative journey driven by policy vision, technological progress, and administrative reform. The literature shows e-Governance as more than just the digitalization of services; it represents a strategic shift in governance aimed at improving transparency, efficiency, and inclusiveness. Starting with the introduction of the Internet in India in 1995, the concept gained structure through important initiatives like the establishment of the Department of Information Technology in 1998 and the launch of the National e-Governance Plan (NeGP) in 2006. Scholars like Das (2022) highlight the crucial role of the NeGP and Mission Mode Projects (MMPs) in establishing e-Governance across different sectors and states. The framework focuses on decentralized implementation along with centralized planning, reflecting a practical way to tackle India's diverse social and economic landscape. Additionally, the literature points out the role of

supportive laws such as the IT Act (2000) and the Right to Information Act (2005) in promoting transparency and citizen engagement. However, a closer look reveals ongoing issues with building capacity, coordinating between departments, and improving digital literacy, especially among marginalized groups. The National Knowledge Commission's call for rethinking processes and creating a citizen-focused model further grounds the discussion in administrative reform, rather than just in technological deployment**.**

2.3 Harekrishna Misra (2015): Livelihood Perspective of Rural Information Infrastructure and E-Governance Readiness in India

A review of the literature on rural information infrastructure and e-governance readiness in India reveals a complex relationship between technological progress, governance strategies, and the socio-economic realities of rural communities. Worldwide, e-governance has become an important driver for development. International organizations like the United Nations and the European Union stress the role of Information and Communication Technology (ICT) in improving citizen-centric services, promoting digital inclusion, and closing the digital divide. However, despite these global goals, the actual implementation of e-governance initiatives, especially in developing countries, faces serious challenges. Research shows that many e-governance projects in these areas end in partial or complete failure. This often happens because of a gap between project design and real-world conditions, known as the "design-reality gap." In India, the situation is more complicated due to the diversity of rural livelihoods and the limited involvement of rural communities with ICT-driven efforts. The success of rural e-governance depends not just on having technological infrastructure but on how well it meets the livelihood needs and views of rural people. Information infrastructure that responds to demand and supports various livelihood systems is crucial for the effective use and ongoing engagement with e-governance services. Empirical studies highlight the need to connect ICT initiatives with workable business practices and service-focused opportunities. This ensures that information becomes a real asset for rural livelihood security. Even with improvements in policy frameworks and infrastructure, challenges such as low latent demand, inadequate usage, and ongoing divides in access continue to hinder inclusive and impactful e-governance in rural India. The literature recommends a more nuanced approach that focuses on local context, user readiness, and the collaboration between technology and rural communities. This approach moves away from supply-driven models toward truly participatory and sustainable e-governance systems.

2.4 Archana G. Gulati (2023: Digital Governance an Indian Perspective

This literature on India's digital transformation highlights the country's rapid rise as a digital powerhouse. Experts estimate it could become a USD one trillion digital economy by 20301. The

growth of digital public infrastructure, driven by Aadhaar, the Unified Payments Interface (UPI), and various banking initiatives, has led to nearly universal digital financial inclusion, even among those with low digital skills. For instance, in May 2023, UPI processed over 941 million transactions worth about ₹14.9 trillion. This shows the scale of digital payments in daily life. However, despite a dramatic rise in internet and smartphone usage an eighteenfold increase and a sevenfold rise in screen time from 2016 to 2022, less than 60% of Indians are online. Rural internet access remains around 30%, creating a persistent digital divide. This disparity is compounded by women's relatively low level of mobile phone ownership and low digital literacy in a lot of communities, which creates issues around equity, access, and inclusion. The literature also highlights some of the concerns around the need for consumer trust and safety, indicating that growth in digital commerce was not progressing as quickly as the growth of digital payments because of issues related to delivery, complaint management, and ecosystem reliability. The evidence of regulatory interventions regarding predatory lending apps and coercive design elements on websites and apps have highlighted that ensuring adequate consumer protection especially as the digital landscape evolves can be problematic. Scholars argue that it is imperative that discussions about India's digital future center around inclusion, trust, and consumer-centric governance to ensure that its continued technological evolution leads to sustained and inclusive empowerment of all its citizens.

3. Methodology

This report deployed a mixed-method research design to investigate the evolution of India's digital governance in the hemisphere of digital transformation since 2014 and the potential impacts generated from a key digital tool the Unified Payments Interface (UPI) on public service delivery and financial inclusion. By using a mixed-method approach comprising of qualitative and quantitative techniques, the research study has both theoretical depth and empirical evidence. Primary data derived from the Abul Fazal Enclave in an area mixed urban and semirural in Okhla, New Delhi which was selected due to the socio-economic diversity of the population in the area and its potential to serve as a hub reflecting the promises as well as challenges of digital governance. The survey had 80 respondents and included variables of twelve multiple-choice questions that were aimed at understanding (1) the use of digital platforms in a mostly digital economy especially UPI, (2) the engagement with digital services in the daily lives of participants, (3) ease of accessibility of individuals to digital services, (4) and issues around digital awareness, literacy, or connectivity. Random sampling was used to select participants to ensure there was diversity in age gender and occupation as well as educational background by surveying a range of genders, occupations and ages. The reporting on the survey allowed for insights as to how people, use specific digital tools in their daily lives; how digital tools support service inclusion and impact their financial inclusion.

Secondary data sources included some credible literature and government papers, including policy papers and research articles. Significant sources included the Digital India Programme reports, the Eleventh Report of the Second Administrative Reforms Commission, and academic research related to digital governance and inclusion. Taken together, the papers and reports stroke a reasonable background to make an assessment of the overarching policy context and the framework for implementation of India's digital transformation programmes.

The data produced from the survey were analyzed through basic descriptive statistical techniques, including percentages and mode, simply to determine the post usage experience and commonalities of experience. The findings were compared and interpreted alongside the secondary sources to relate the individual-level data to governance and design strategies and social - economic trends. This combined strategy was important in contextualizing what we learned of digital technology as improving the access of users to interactions with various services and a form of inclusive development.

4. Understanding E-Governance in India

4.1 Conceptual Foundation of Digital Governance

Governance has changed a lot in the digital age. Traditional methods that relied on manual processes, bureaucracy, and in-person meetings are increasingly being replaced or improved with digital systems. This change has led to what we now call e-governance, digital governance, or electronic governance. Although the terms "electronic government," "digital governance," "e-government," and "open governance" tend to be used interchangeably, they are focused on a singular concept: improving the operation and delivery of government services with information and communication technology (ICT) in terms of functionality, responsiveness, transparency, and efficiency. For some time now, many have pursued an interest in e-government; however, the definition of e-government can vary widely according to the objectives of different institutions. The following definitions summarize some commonly accepted meanings:

1. According to the World Bank

'E-Government refers to the use by government agencies of information technologies (such as Wide Area Networks, the Internet, and mobile computing) that have the ability to transform relations with citizens, businesses, and other arms of government. These technologies can serve a variety of different ends: better delivery of government services to citizens, improved interactions with business and industry, citizen empowerment through access to information, or more efficient government management. The resulting benefits can be less corruption, increased transparency, greater convenience, revenue growth, and/or cost reductions' (ARC-2, 2008).

The World Bank's definition highlights how using information technologies can make government more efficient, transparent, and responsive to citizens and businesses.

2. UNESCO defines e-Governance as

'Governance is the use of political, economic, and administrative authority to manage a country's affairs. This includes how citizens express their interests and fulfill their legal rights and responsibilities. E-Governance refers to carrying out governance through electronic means. It aims to make information available to the public and agencies quickly, efficiently, and clearly. It also involves carrying out government administration tasks.'

UNESCO defines e-governance as using electronic tools to improve efficiency, transparency, and public service delivery.

3. Dr. APJ Abdul Kalam, former President of India, has visualized e-Governance in the Indian context to mean:

"A transparent smart e-Governance with seamless access, secure and authentic flow of information crossing the interdepartmental barrier and providing a fair and unbiased service to the citizen" (ARC-2, 2008).

Dr. APJ Abdul Kalam saw e-Governance as a clear, smooth, and secure digital system. It aims to remove bureaucratic obstacles and provide efficient and fair services to citizens.

These different definitions, though worded uniquely, share the common idea that e-governance is about using information and communication technologies to improve governance processes, enhance service delivery, and boost public accountability. At its essence, digital governance refers to the integration of digital technologies into traditional governance frameworks to provide services to the public, engage the public and non-state actors, and hold government accountable for performance. Digital governance encompasses various interactions between the arts, sciences, professions and the public, business or private sector, and intra-governmental connectivity. Specifically, digital governance makes is possible to engage more deeply and meaningfully with public stakeholders. It has also been called e-governance, internet governance, online governance, transformational governance, and connected governance. While these labels matter, digital governance represents a new way of operating and relating to the public. Digital governance is more than a transition of existing governance systems to digitized systems and integrated digital services. It is a transition of the entire governance model into a more SMART (simple, moral, accountable, responsive, transparent) governance model. Digital governance emphasizes delivering services that meet public needs and

public expectations through a variety of platforms and technologies, including ICT (information and communication technology) tools and all aspects of online government services, mobile apps, digital cloud technologies, and the interoperability of multiple data. The argument that digital governance is only about computers, hardware, and software is incorrect; it is about creating a government that is more participatory, more user-friendly, more efficient, and more transparent (Kaushal, 2020). The main goal of e-governance is to enhance the performance and effectiveness of government agencies. This includes simplifying internal processes, reducing inefficiencies, minimizing physical interaction (which can lead to corruption), and broadening access to public services. In developing countries like India, where geographical, economic, and social disparities still exist, the potential of digital governance is particularly important as it can close gaps and provide government services to those who have often been overlooked.

4.2 Stages of E-Governance Evolution

The development of e-governance has not happened overnight. It has progressed in stages, often alongside technological advancements:

1st Phase: Computerization

The first step involved giving government departments personal computers for internal use. This phase focused on word processing and data entry, setting the stage for digital workflows.

2nd Phase: Networking

As computer systems became more common, intranet and local area network (LAN) connections enabled data sharing within departments. Information flowed more quickly, leading to better coordination in government operations.

3rd Phase: Online Presence

The rising popularity of the internet led to a demand for websites and digital information portals. Departments started creating online platforms to share basic information about their structures, goals, policies, and contact details.

4th Phase: Interactive Presence

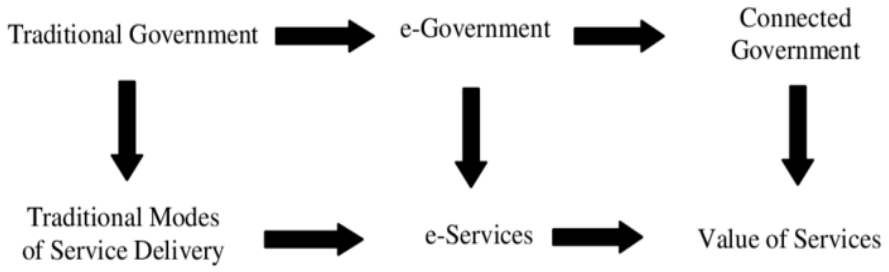
With changing digital capabilities, governments initiated two-way communication with citizens. Citizens began to use downloadable forms, online feedback systems, and emails instead of in-person contact, saving time and money.

5th Phase: Transactional Phase (ongoing)

The new phase of engagement is now relying upon total online service delivery including services such as online tax payments, online identity verification where people must be connected to Aadhaar, electronic KYC, mobile governance applications, and in India, Total Digital Payment systems such as UPI, and so on. While the citizen is able to now communicate with a government entity in the online

space, where the transaction does not happen at the government office, it can now be completed online (ARC-2, 2008).

Fig-3 Evolution of Governance



Source: Misra, Harekrishna. (2015). Livelihood Perspective of Rural Information Infrastructure and E-Governance Readiness In India. 10.13140/RG.2.1.2571.6321. https://www.researchgate.net/publication/280096530_Livelihood_Perspective_of_Rural_Information_Infrastructure_and_E-Governance_Readiness_In_India

4.3 Key Components of E-Governance

Effective digital governance relies on four main pillars:
1. People: Leadership, vision, commitment, and building skills are key. Government staff must receive training, stay motivated, and be flexible with new digital tools.
2. Process: All processes should be simple, focus on citizens, be cost-effective, and sustainable. Cutting red tape and automating services is vital for efficiency.
3. Technology: Technology should follow open standards, be secure, scalable, reliable, and work well across departments.
4. Resources: Properly allocating financial, human, and technological resources is important. Governments should adopt a comprehensive, service-oriented approach that ensures continuity and improvement (ARC-2, 2008).

4.4 Traditional Governance vs. Digital Governance

Table 1: Difference between Traditional Governance & Digital Governance

Aspect	Traditional Governance	Digital Governance
Process Medium	Manual, paper-based systems	Digital platforms (web, mobile apps, cloud, databases)
Accessibility	Physical office visits required	24/7 online access from anywhere
Speed & Efficiency	Slow, bureaucratic delays	Faster, automated processes
Transparency	Low (prone to corruption due to human interface)	High (digitized records, real-time tracking)
Service Delivery	In-person, limited working hours	Remote, on-demand services

Citizen Interaction	Face-to-face, long queues	Virtual (chatbots, video calls, helplines)
Data Management	Manual record-keeping, prone to errors	Real-time data analytics for evidence-based policies
Cost	High (paper, storage, manpower)	Reduced (automation minimizes operational costs)
Accountability	Weak (opaque processes)	Strong (audit trails, digital footprints)
Objective	Maintain bureaucratic procedures	SMART Governance: Simple, Moral, Accountable, Responsive, Transparent
Inclusivity	Limited reach (urban-centric, privileged access)	Wider reach (bridges rural-urban gaps)
Corruption Risks	High (human discretion in processes)	Low (reduced human intervention)

Source: Traditional government vs digital government: Which is best? (2023, October 5). Jotform. https://www.jotform.com/blog/traditional-government-vs-digital-government/

4.5 Models of E-Governance

Governance, at its core, is not just a one-way function carried out by the state. It is an interactive process that involves many stakeholders, including citizens, businesses, and government institutions. Governance aims to create opportunities for engagement, ensure fair distribution of resources and chances, and provide public services effectively. In today's digital world, e-governance acts as a connector, using technology to link government with all relevant parties. A good way to understand e-governance is to analyze patterns of interaction. E-governance refers to structured interactions between governments and their various stakeholders, which collectively represent e-governance models of interaction. Types of interactions can be categorized into four main types of interaction: 1) Government to Government (G2G); 2) Government to Citizens (G2C); 3) Government to Business (G2B); and 4) Government to Employees. All types of interaction contribute to the enabling conditions for a full e-governance system to operate.

A. Government to Government (G2G)

G2G interaction is a concept that occurs strictly within the government and can be vertical and horizontal. It often implicates the use of information and communication technology (ICT) to facilitate seamless data, services, and directions among various departments, ministries, or levels of government, such as central and state and local authorities, and that they connect to streamline the internal process, improve information exchange, and carry less turnovers.

An example would be digital platforms that connect tax departments to municipalities or ministries to

their subordinate agencies to enable real-time communication and coordination to promote effective decision-making and facilitate consistent policies while avoiding delays in bureaucracy. Initiatives such as State Wide Area Networks (SWANs) and the Integrated Mission Mode Projects (MMPs) under India's National e-Governance Plan are good examples of G2G interactions (ARC- 2, 2008).

B. Government to Citizens (G2C)

The G2C model is one of the most visible and valued aspects of e-governance. It refers to the digital interface between the government and the citizens and provides the public with direct and easy access to a variety of services and information with increased transparency. G2C models tend to prioritize making services available to everyone, reducing reliance on intermediaries, and ensuring that citizens are at the core of public service delivery.

With the G2C model, citizens can now determine how, when, and where they engage with their government. The G2C model encompasses services such as birth certificate registrations, passport applications, lodging complaints, e-filing income tax, and land records digitization. There are examples in India through platforms such as DigiLocker, UMANG, and Aadhaar-enabled services. These platforms have significantly increased citizen access to crucial services, which is especially important in rural and underserved areas. Moreover, services through digital platforms will not be restricted by office hours, the need to visit physically, or long wait times. It is through these innovations that G2C models can address the problem of corruption, save time and resources, and empower citizens (ARC-2, 2008).

C. Government to Business (G2B)

The G2B interaction model focuses on the relationship between government agencies and businesses. E-governance makes it easier for companies to follow regulations, manage business processes, and provide services efficiently. With digitalization, businesses can now apply for licenses, pay taxes, file reports, and participate in procurement processes more easily and openly.

The main goal is to create a supportive environment for business growth. This is done by cutting down on red tape, making government interactions more predictable, and encouraging accountability. Examples include e-tendering, online permits, and real-time tracking of applications. These systems often add promotional features like trade promotion, tourism support, and investment tracking. The Government e-Marketplace (GeM) is a groundbreaking G2B initiative that provides an online procurement platform for government buyers and vendors. These efforts not only boost economic efficiency but also enhance India’s position in global rankings, such as the Ease of Doing Business

rankings (ARC- 2, 2008).

D. Government to Employees (G2E)

The government is one of the largest employers in India, and it has an obligation to regularly and effectively communicate with its employees. The G2E model portrays and describes the framework which facilitates the interactions of government institutions with their employees and uses Information and Communication Technologies to facilitate the employment life cycle in terms of HRM, Payroll, Employee Grievance Redressal, and Performance Evaluation.

The use of digital platforms facilitates prompt dissemination of orders, automatic payment processing, electronic self-service records, and online training modules for skills acquisition. Such examples include the Central Government Employees Pension Portal, as well as HRMS portals in various departments to facilitate a timely flow of information and service to employees. G2E initiates are very important for the overall satisfaction of employees (efficiency), accountability of the organization, and the development of a digitally literate and skilled administrative workforce. Complementarity between the organization (government) and its employees through a robust and effective employee-management system, augmented by digital technologies, leads to a responsive and responsible public governance structure (ARC- 2, 2008).

5. Post 2014 Reforms in Digital Governance

The roots of e-governance in India go back to the 1990s with initiatives like the National Informatics Centre (NIC), the computerization of government offices, and the beginnings of an online presence. However, the period after 2014 marks a significant change. With the launch of the Digital India Mission in 2015, the Government of India aimed not just to computerize services, but also to empower citizens digitally, improve access across the country, and ensure governance is participatory, inclusive, and efficient. This era saw a major shift in both the scale and depth of digital governance. It focused on connecting the most remote parts of the nation, closing the digital gap, and making access easier through platforms designed for citizens.

5.1 UMANG: Bridging Governance and Citizens through One Platform

A key initiative to result of this vision is UMANG (Unified Mobile Application for New-age Governance). UMANG was developed by the National e-Governance Division (NeGD) under the Ministry of Electronics and Information Technology (MeitY) as a single platform to combine multiple government services within a single mobile interface. The ideology behind the platform is "less government, more governance," reflecting the current objective to minimize red tape while

simultaneously increasing the quality and accessibility of the public services (Jadeja & IMPRI Desk, 2024).

Introduced to simplify and centralize government services, UMANG is a pivotal milestone toward a seamless, universal, and efficient interaction between residents and their government. As of December 31st, 2023, UMANG had over 6.31 crore registered users and provided over 418.31 crore departmental transactions. This demonstrates the scale and acceptance of UMANG. UMANG's core a function is the integration of over 1984 services from 207 Central and State departments. Services include passport services, Aadhaar updates, utility bill payments, income tax filings, health and education services. These various services provide the unique opportunity for citizens to accomplish many types of transactions from a single app which saves time, money, and effort. UMANG is available on Android, iOS, and web browsers, thus improving UMANG's reach and facilitating the intent of making services universal and inclusive. Citizens can access essential services from anywhere and at any time whether they are using a smartphone or a basic web-enabled device. This is invaluable in rural and semi-urban areas of India, where digital realization is still growing (Jadeja & IMPRI Desk, 2024).

One great feature of UMANG is the multilingual support, which makes sure that users do not face any issues related to language while accessing government services. At this point, 23 languages are supported by the site, these are Bengali, Marathi, Tamil, Kannada, Hindi, and English, among others. The linguistic diversity of India is covered by this policy as a lot of people are not fluent in Hindi and English, which are the two most widely used languages in government platforms. Another feature that allows the app to be user-friendly is service bookmarking; it allows users to save the services that are visited the most. This not only makes interacting with the government more personal but also improves their digital experience. The design of the app allows it to be utilized by a large number of demographic groups since it is very easy to use even for newbies and those who have little or no experience with digital technology (Jadeja & IMPRI Desk, 2024).

UMANG is a term more than a mere app-a whole digital ecosystem. Its connection with DigiLocker and MyScheme shows how various pieces of India's e-governance machinery work together to present a consistent user experience. On DigiLocker, one stores and safekeeps all-important documents like the driving license, academic records, and ID proofs. With MyScheme, under some simplistic inputs, a user can find welfare schemes and programs he/she may qualify for. The growth of UMANG and others since 2014 also tells of the government's intent of spreading high-speed internet in the rural areas and in promoting digital literacy. With BharatNet, the idea is to provide broadband connectivity to 2.5 lakh plus Gram Panchayats, thus putting the infrastructure required for UMANG to run (Jadeja & IMPRI Desk, 2024).

5.2 DigiLocker: Advancing Paperless, Secure, and Citizen-Centric Governance

Another flagship project that represents this shift is DigiLocker, a cloud-based digital document storage platform launched on 1st July 2015 under the Digital India initiative. Created and developed by the Ministry of Electronics and Information Technology (MeitY), DigiLocker has changed the way citizens manage, access, and share their official documents. Essentially, DigiLocker aims to remove the reliance on physical paperwork, reduce administrative delays, and prevent forgery by providing government-authenticated digital documents.

DigiLocker is a secure, Aadhaar-linked repository that offers each user 1 GB of cloud storage space. Using DigiLocker, people can store documents such as the Aadhaar cards and driving licenses that are issued by government departments automatically under their names along with academic certificates, PAN card or health records. If we take a step back to see where Bhamashah started as what originally was intended as an simple ID Manager, over the years it expanded into an access channel for education resources, healthcare systems and ecosystem of financial services and distribution network. Passport offices, banks and telecom companies are some of the entities that can ask for a user's copy from the digilocker where they need a file on priority but only after getting explicit consent to do so. The architecture ensures data privacy yet enables users to, quite literally – have their own identity management gear that eliminates the needwhereby for repeated document submissions and physical verifications (IMPRI, 2025).

To build trust and security, DigiLocker uses Aadhaar-based OTP verification and the MeriPehchaan Single Sign-On (SSO) system for strong identity verification. The platform features two main repositories: Issued Documents and Uploaded Documents. The Issued Documents repository contains digitally signed records from registered issuers, which ensures authenticity and reliability. On the other hand, the Uploaded Documents section allows users to upload scanned copies of legacy or offline documents. This enables a complete transition to digital records without losing any important documents (IMPRI, 2025).

DigiLocker operates on three digital governance principles: paperless operations, electronic authentication, and service integration. It replaces physical documents with verified digital ones, reducing paper use, aiding sustainability, and streamlining administration. Documents are legally valid and electronically verifiable, minimizing forgery and impersonation. Its integration with public and private services makes access easier and more convenient especially for those who struggle with managing physical records, like the elderly, rural residents, and students needing verified academic documents (IMPRI, 2025).

The biggest strength of DigiLocker is that it plays well with other digital platforms. An important breakthrough came in October 2024 with the signing of MoU with UMANG (Unified Mobile Application for New-age Governance). This enabled users on DigiLocker to now use more than 1,658 services from a single mobile B interface. This app-within-app function led to reduced friction and made digital engagement with government services easier for non-multiplex users. Furthermore, DigiLocker was integrated to Level 2 with Ayushman Bharat Digital Mission (ABDM) in November 2022. This enabled over 130 million ABHA users to keep and manage their health records, such as vaccination certificates,ad test results, and prescriptions, directly from hospitals and diagnostic labs. This health-tech merger is one of the key factors working towards a citizen-centric digital healthcare system. DigiLocker has rapidly grown since its inception. As on March 2022, the platform had 1,783 issuers and stored some 494 crore digital documents. As of November 2022, there were 13.5 crore registered users and the digital repository reached 562 crore records. As of March 2025, the number of DigiLocker users saw an upsurge to 51.52 crore and kept growing, even while more than 943.36 crore documents being issued. This was an almost quadrupling in the space of three years. The platform achieved peak of 1,936 active issuers and linking to 2,407 requesters, fulfilling its scale and maturity of building digital governance system interconnected (IMPRI, 2025).

According to the user reviews, the platform has an 85% satisfaction rate from the users. Also, 78% was the number of users who responded after successfully using DigiLocker that they have avoided at least one physical visit per transaction. These statistics show that DigiLocker has made it easy for citizens to interact with government services as if they are just a mere push of the button and that leads to a more effective and citizen-friendly governing ecosystem. A significant area of DigiLocker’s work has been in the use of the education sector where in the line of being a National Academic Depository (NAD) DigiLocker is now holding that position. By 2025, more than 90 crore academic certificates from 2,906 institutions have been placed on the platform. The process not only reduces the instance of counterfeit degrees and academic fraud but it also makes it quick and accessible to confirm the authenticity of the degrees by universities, employers, and government agencies (IMPRI, 2025).

5.3 Unified Payments Interface (UPI): Revolutionizing India's Digital Payment

The launch of the Unified Payments Interface (UPI) in 2016 was a significant step in India’s move towards a cashless and inclusive digital economy. Developed by the National Payments Corporation of India (NPCI), UPI is an instant real-time payment system that allows inter-bank transactions through a single mobile app. It combines various banking features, enables easy fund routing, supports merchant payments, and allows users to schedule and settle peer-to-peer (P2P) collect requests at their convenience. The initial release of UPI took place on 11th April 2016, with Dr. Raghuram G. Rajan,

who was the Governor of the RBI, at the helm, in Mumbai. At first, only 21 banks were a part of the pilot program. From 25th August 2016, UPI-enabled apps appeared on the Google Play Store, thus announcing the public phase of the service. UPI is a technology built on the Immediate Payment Service (IMPS) architecture, which NPCI (National Payments Corporation of India) has also developed for real-time money transfers between accounts... and without customers having to use IFSC codes or bank details (NPCI, 2023). Unlike UPI, other digital payment systems focus on just the user's payment needs and they have a different concept of money delivery means. Instead of being stuck with one bank's or platform's account, UPI has the distinct advantage of working across all the banks that are a part of it and maintaining their multiple bank accounts through a single interface. UPI, by subordinating the convenience... of mobile applications to the complexity of banking infrastructure, does not only reach real-time digital payments but also makes its accessibility and scalability the highest for a diverse population UDAY KOTAK, the founder of the innovative Kotak UPI, who possesses an exceptionally brilliant financial mind, was constantly thinking well ahead of time for the complete transformation of the financial services industry in India. The scenario where the payments sector in India was fragmented and the digital transactions were very few in number was precisely understood by the Reserve Bank of India (RBI) and NPCI. It became a joint decision to build a unified payment ecosystem. Close to the hugely successful Immediate Payment System (IMPS) that already existed, NPCI was the organization that was responsible for the simplified payment platform in the domestic market of India at that time when it was set up in April 2009 (Prasanna, 2023).

The issue became quite noticeable in March 2011 when on average an Indian only performed six non-cash transactions per year, and almost 145 million families remained out of the formal banking system. It was in the same period that the high degrees of the black money flow and the corruption, which was mainly in cash, were reiterating the need for a secure and traceable digital alternative. In 2012, RBI introduced a four-year vision document, showing that the bank is committed to the establishment of a secure, efficient, inclusive, and interoperable payment system as part of its Green Initiative, which aimed to reduce paper use in the domestic transaction business. Following this course of action, UPI was created as the payment system and digital innovation through the means of which the digital divide was going to be bridged, digital transactions were going to become easier, disappearing, and more secure to everyone, from the tech-savvy urban youth to the digitally underserved rural citizens. UPI utilizes the VPA (Virtual Payment Address) model, which gives users the opportunity to establish simple, easy to remember identifiers (e.g., name@bank) that are linked to their bank accounts. These VPAs are used as a digital equivalent for the personal account data and when doing so, they protect themselves from any misuse of the data and the account. Besides, with UPI, payments can be executed via QR code scan, mobile number, or account details, which is very helpful to users who have different

preferences for modes of payments (Prasanna, 2023).

The technological architecture of UPI is based on a four-pillar interoperable model, consisting of:

A. Remitter Front-end PSP (Payment Service Provider)

B. Remitter Back-end Bank

C. Beneficiary Front-end PSP

D. Beneficiary Back-end Bank

In just a few years, UPI has changed from a niche innovation to a widely used digital tool. Its user-friendly interface, ability to work across banks, and no-cost feature for customers helped it grow quickly. According to ACI Worldwide and Global Data, India became the world's largest real-time payment market in 2020, recording 25.5 billion transactions in a year. This surpassed both China and the United States (Prasanna, 2023).

UPI's impact on making finance more accessible was solidified in January 2019, when it was added as a payment option for Initial Public Offerings (IPOs). This expanded its use beyond regular consumer payments to include investment and capital markets, increasing digital participation across different economic sectors. In March 2020, the transaction limit increased from ₹1,00,000 to ₹2,00,000, and later to ₹5,00,000 in December 2021 for the Retail Direct Scheme and IPO applications. This change allowed for larger financial transactions (Prasanna, 2023).

Table- 2: No of Banks Live on UPI from 2016 – 2021

Year	No. of Banks live on UPI	Transaction volume (in Mn)	INR Value (in Cr.)	USD Value (in Billions)
2021	**282**	**38,744.55**	**7,159,285.80**	**966.17**
2020	**207**	**18,880.89**	**3,387,744.72**	**457.19**
2019	**144**	**10,787.54**	**1,836,638.18**	**247.86**
2018	**129**	**3,746.32**	**585,710.45**	**79.04**
2017	**67**	**418.8**	**57,020.87**	**7.7**
2016	**35**	**2.65**	**893.07**	**0.12**

Source: Prasanna, T. R. (2023). THE HISTORY OF UPI. International Journal of Creative Research Thoughts (IJCRT), 11(5), 2320–2882. https://ijcrt.org/papers/IJCRT2305935.pdf

UPI's impact goes beyond just transaction volumes. It has played a key role in financial inclusion, especially in rural and semi-urban areas where traditional banking is limited. By enabling micro-merchants, street vendors, and gig economy workers to accept digital payments without needing Point-

of-Sale machines or credit card systems, UPI has helped bring millions into the formal financial system. Another important feature of UPI is its open architecture. This allows third-party apps like PhonePe, Google Pay, Paytm, and BHIM to provide UPI services. This not only fosters innovation in the private sector but also offers users a choice-driven ecosystem, which boosts adoption across different demographics.

Table- 3: App Wise Market Share

App	Transaction Value (Rs)	%	Rank	Transaction Number (In Million)	%	Rank
PhonePe	**5,247,424,900,000**	**49.25%**	**1**	**2,993.83**	**47.33%**	**1**
Google Pay	**3,666,690,900,000**	**34.42%**	**2**	**2,130.63**	**33.68%**	**2**
Paytm	**1,111,496,600,000**	**10.43%**	**3**	**933.88**	**14.76%**	**3**
Amazon Pay	**67,518,000,000**	**0.63%**	**8**	**68.77**	**1.09%**	**4**

Source: Prasanna, T. R. (2023). THE HISTORY OF UPI. International Journal of Creative Research Thoughts (IJCRT), 11(5), 2320–2882. https://ijcrt.org/papers/IJCRT2305935.pdf

UPI has been vital during emergencies like the COVID-19 pandemic. Digital payments became key to reducing contact. It allowed the government to send welfare payments directly to beneficiaries' accounts, which improved transparency and cut down on losses in public distribution. UPI transactions follow strict rules to ensure safety and honesty. The system uses two-factor authentication, end-to-end encryption, and real-time fraud detection. The connection with Aadhaar and mobile verification provides extra layers of security. UPI also works under the Digital Payments Security Control Guidelines from the RBI. These guidelines require strong complaint handling processes, data privacy measures, and compliance checks for all service providers. These standards have helped keep public trust in digital finance and built a solid foundation for a safe digital economy.

5.4 National Scholarship Portal: Every Student Matters, Every Student Counts!

One of the most impactful initiatives for youth is the development of the National Scholarship Portal (NSP). Launched in 2016 as part of the Digital India initiative and the National e-Governance Plan (NeGP), the portal marks a significant change in how educational benefits are distributed across the country. This particular program is designed to revolutionize the scholarship sector so that it can be more effective, open, and welcoming to everyone. One of the functions of the platform is to ensure that all students, most notably those who are underprivileged in both social and economic contexts, can avail themselves of the scholarship system without any hassle and with equity. The NSP is formulated on the principle that education is a human right and an efficient instrument for individual and societal

development. By taking the aid of digital tech, it frees up monetary hindrances to obtaining an education. Through the platform, not only is the access to information and application raised, but the public fund distribution is also made more transparent and secure. The latter is effectively done by the platform which works to minimize the fraud, inefficiency, and corruption that might have occurred in the execution of the scholarship program in India (IMPRI Desk & Jadeja, 2025).

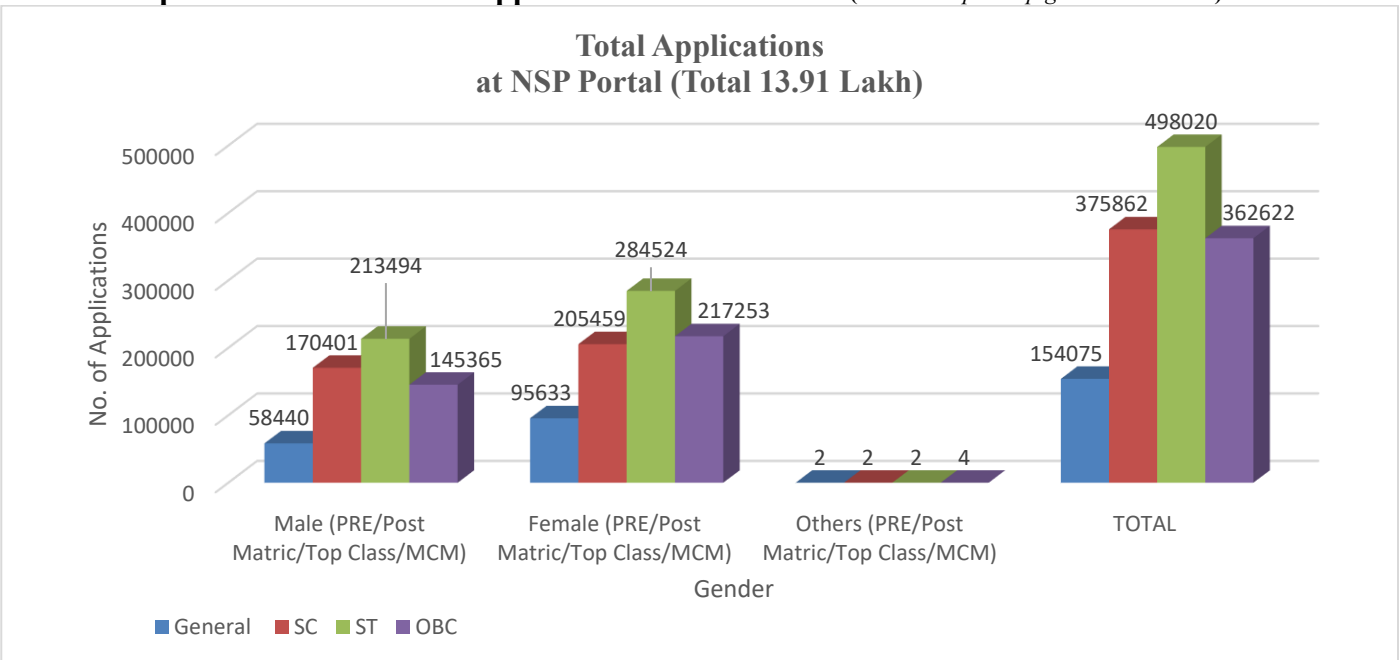
The National Scholarship Portal is a one-stop place for Government of India scholarships. This is the place where you can find scholarships like the ones from the central ministries, states and union territories. The Mission Mode Project (MMP) falls under the Ministry of Minority Affairs. It is mission-based, transparent and accountable, following the SMART principle: the governance should be Simplified, Mission-oriented, Accountable, Responsive, and Transparent. NSP has a feature uniqueness through which the student has access to the entire lifecycle of a scholarship from one-stop. This involves application submission, document verification, merit-based or criteria-based assessment, sanctioning and fund disbursement. The platform is fully digital and every part of it can be implemented via the Digital India initiative. By transferring scholarship money directly into the students' bank accounts through the use of Direct Benefit Transfer (DBT), NSP is able to eliminate the middlemen and prevent scholarship funds from being misappropriated. This not only speeds up the process but also helps in making it more fraud-proof. Furthermore, the NSP platform is comprehensive, containing scholarships for students from all levels of education, from pre-matriculation to post-graduation. It also includes scholarships specifically aimed at the communities of Scheduled Castes (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), and minority groups. This framework is available to everyone alike, so that every student who qualifies to get support can find the right assistance despite their socio-economic background (IMPRI Desk & Jadeja, 2025).

One of the primaries aims of the platform is to act as a one-stop-shop for scholarship information that will come from a credible source and which will be of the students' knowledge about all the available opportunities. The online portal is a medium of visibility guarantee and honesty in as much as scholarship operations are concerned. The automation of the application and disbursement of funds processes, on the other hand, makes it an issue of transparency and accountability and in this way, the chances of manipulation and deliberate bias are minimized. The whole process is merit-based whereby a student qualifies only if they pass an objective test. The NSP system, by using Aadhaar and bank verification, enables scholarships to be directly deposited (DBT). It is more convenient and quicker for funds to be released directly without the need for dealing with intermediaries. The portal, in addition, has an intuitive user interface that has the application process and the procedures thereof, among other links, and being the significant player in the whole process of accessing the services, the students find

it convenient. The National Scholarship Portal provides information about your scholarships and allows you to track the current status of your application, hence, the user has a guarantee of communication and is assured of the service delivery flux (IMPRI Desk & Jadeja, 2025).

Increasingly, as globalization progresses, the students of India, not only look for scholarships in domestic colleges, but also apply for those abroad. In order to cater to this rising demand, the NSP ecosystem initiates ties with national and international educational gateways that render help to students seeking opportunities abroad. As a result, students will be able to access scholarship searches (which are generally directed to the university), undergo profile evaluation, and receive a realistic assessment of chances of admission. These platforms come in handy when students are making choices thus assisting them to make well-thought-out decisions. This makes the concepts easier for a student but also links Indian scholarship systems with global standards of quality. Thus, this tactical move opens the way for streamlined education access on an international scale which will put the Indian students in a competitive position globally besides maintaining a transparent and efficient process. Both the accounts retrieved from the field research and the records indicate unarguably that the portal is the major driving factor that accounts for delays being decreased and the number of beneficiaries increased. Furthermore, this significant reduction has arguably been the unseen force that has driven the coalition advocating for gender parity more girls, especially from the minority, getting to be beneficiaries of the targeted scholarships. The National Scholarship Portal apart from the digital platform is also collaborating with other environmental changes such as DigiLocker for saving grades and cv and UMANG, which provides mobile access to different government services. These services are coordinated to create a system of empowerment in education (IMPRI Desk & Jadeja, 2025).

Graph-1: Total number of Applications at NSP Portal (*Source: https://nsp.gov.in/dashboard*)



According to the National Scholarship Portal (NSP) data, the total number of applications is 13.91 lakh. Clearly, there is a great need for support for education expenses. But there is an alarming gender divide. The non-binary and transgender category (others) had surprisingly low applications 1 to 4 in all. This stark underrepresentation is caused by an entrenched social stigma and structural hurdles. Discrimination, ignorance and exclusion continue for gender minorities in India.

Even extra distressing is the intersectional marginalization amongst this population. "Others" gender has 2 applications each in General, SC and ST applicants. OBC candidates fared barely better at 4, showing how caste compounds pre-existing risks. This is a -layered exclusion: on the only hand for gender identification, on the other it goes any other layer down, it is down cased, caste-primarily based barriers. The extremely low numbers imply that scholarship applications are both failing to attain this needy network via negative outreach, bureaucratic limitations, social stigma, or a bit of all 3. We want reforms urgently: focused attention with L.G.B.T.Q. And Dalit rights organizations, streamlining the software manner, and education for officers. The facts expose how systemic prejudices are nonetheless going for walks rife in educational inequalities, and strengthens the argument that energetic policy adjustments are needed to address the hassle if we in reality want to attain out to India’s most marginalized students.

Before this, the traditional method of scholarships had the major drawback of having no real-time view shared across other institutions and areas; this usually leads students to miss deadlines or simply could not find programs for which they qualified. Real-time observation of the NSP now gives students and administrators better insight into their situations, where quick interventions can be provided as solutions. Although education is constitutionally guaranteed as a fundamental right, economic hurdles still bar millions of Indian students from receiving such education. The problem becomes more serious in rural, tribal, and underdeveloped areas where socioeconomic hindrances often prevent talented students from procuring higher education. Hence, through digitizing and bringing the scholarship system under one umbrella, the NSP becomes a major force in the promotion of a fairer environment for education.

The NSP constitutes an enormous step forward, but there are remaining issues to be addressed. Lack of access to good internet service outside of cities, lack of tech skills and language barriers stand in the way of broader deployment. Data discrepancy forms have to be checked and more delays occur. We need ongoing training more awareness better infrastructure and other steps to solve these problems. Future phases of the NSP will be more powered by AI, smart data analysis to find potential scholarships, and they will be checking rights things via blockchain. All of this is intended to make the entire process more open, and function better (IMPRI Desk & Jadeja, 2025).

6. India's Digital Transformation

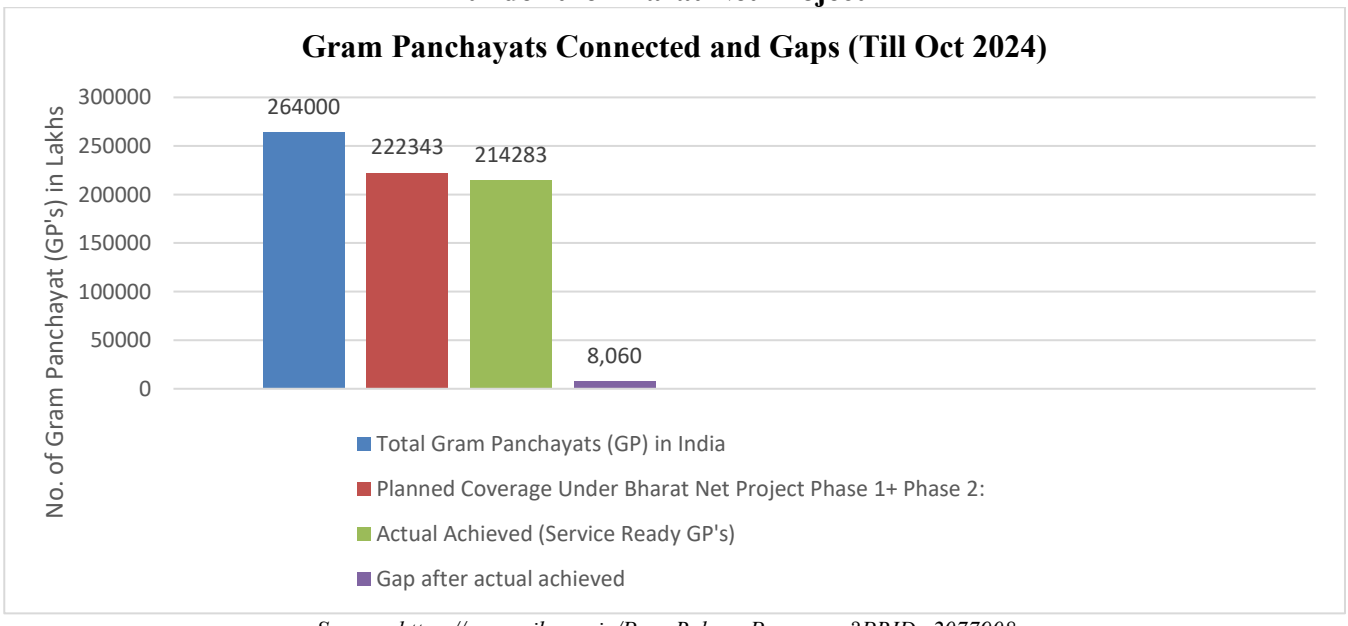
India has undergone a huge digital transformation in the last decade. It has moved from conventional administration based approach to an approach of e-governance, digital inclusion and, technology enabled service delivery. The nation is rapidly getting to its citizens' ready access to internet as well, as part of the grand vision of Digital India. It is also ensuring that the dividends of digitization are available to all and do not discriminate between those in the city and those far away in hinterland, between the rich and the poor, or between men and women. One unmistakable sign of this shift is the rapid expansion of India's internet user base. India on track have 900 million active internet users by 2025: Report India could cross the 900 million mark in terms of active internet users by 2025, thanks to growing digital adoption and usage in rural area! That number is on course to be at 886 million by 2024 already growing at a robust 8% each year. And it is rural India that is now driving this surge, accounting for 55 percent of all internet users, or some 488 million users. This expansion shows that the government is serious about increasing digital outreach and developing infrastructure in rural regions. One of the unique facets of India's digital revolution is the rise of the Indic languages in the consumption of the internet. Today, 98% of users are consuming content in regional languages like Hindi, Tamil, Telugu, Malayalam and Bengali. Language is more democratized in the digital world. In urban areas, even 57% of users only engage with content in their mother tongue. "That's an indication of a change in cultural approach to more appropriate digitally driven communication. Language inclusion not only makes a digital platform more user-friendly but also makes it culturally resonant for the user. The transition has also helped cut the gender divide in digital accessibility. So far, it's the highest percentage recorded: women now represent 47% of all internet users in India. In rural areas, nearly 58% of women across users sharing devices indicates encouraging growth of women in the digital ecosystem. This development indicates increased social mobility, information flow and facilitation by digital tools. Cities have already adopted the internet, and now they are driving the next wave of the digital economy. Products such as smart TVs, voice assistants and smart speakers have ballooned by 54% between 2023 and 2024. And mobile phones are still the most common way for rural and urban users alike to go online. Urban India accounts for e-commerce, digital payments and online education. Invariably, rural India is fast bridging the gap, particularly in OTT content consumption, social media and online communication (IBEF, 2025).

For citizens to acquire skills necessary for survival in the digital world, the GOI has initiated major programs, such as the Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA). The objective was to make at least one member of each household digitally literate in rural India. As of March 31, 2024, the programme overachieved its target, by training 6.39 crore people in all parts of the

India. This initiative has created a digitally-literate rural community that can avail of e-governance services, use digital payments, and access online courses. Concurrently, efforts to generate employment have also been made through India BPO Promotion Scheme (IBPS) and North East BPO Promotion Scheme (NEBPS). These programmes have contributed to increasing IT, ITES penetration in even small towns by providing financial assistance up to ₹1 lakh per seat. These schemes are riding on local entrepreneurship and women participation to democratize access to the digital economy and have created several thousands of jobs in Tier II and Tier III cities (Press Information Bureau, 2024).

Digital Literacy According to the National Digital Literacy Mission (NDLM), digital literacy is 'the ability to understand and use information in multiple formats from a wide range of sources when it is presented via computers'. It becomes even more reinforced into believing this. Digital literacy rates for Indians 15 and older have increased in recent years, from 18.4% in 2017-18 to 24.7% in 2020-21. The proportion in rural areas increased from 11.1% to 18.1%, and urban regions from 34.7% to 39.6%, both presenting an increasing tendency. Halsey Public-private partnerships have played a key role as well in accelerating digital empowerment. For instance, NIIT Foundation in collaboration with Mahindra Finance has started a Financial and Digital Literacy Program for 30,000 low-income gig workers. Similarly, Hindustan Coca-Cola Beverages (HCCB) in collaboration with the Y4D Foundation trained over 2,000 women from five villages in Hajipur, Bihar in basic digital and financial literacy. These efforts complement those of governments and help to ensure that the most marginalized groups are reached (Bhattacharya, 2024).

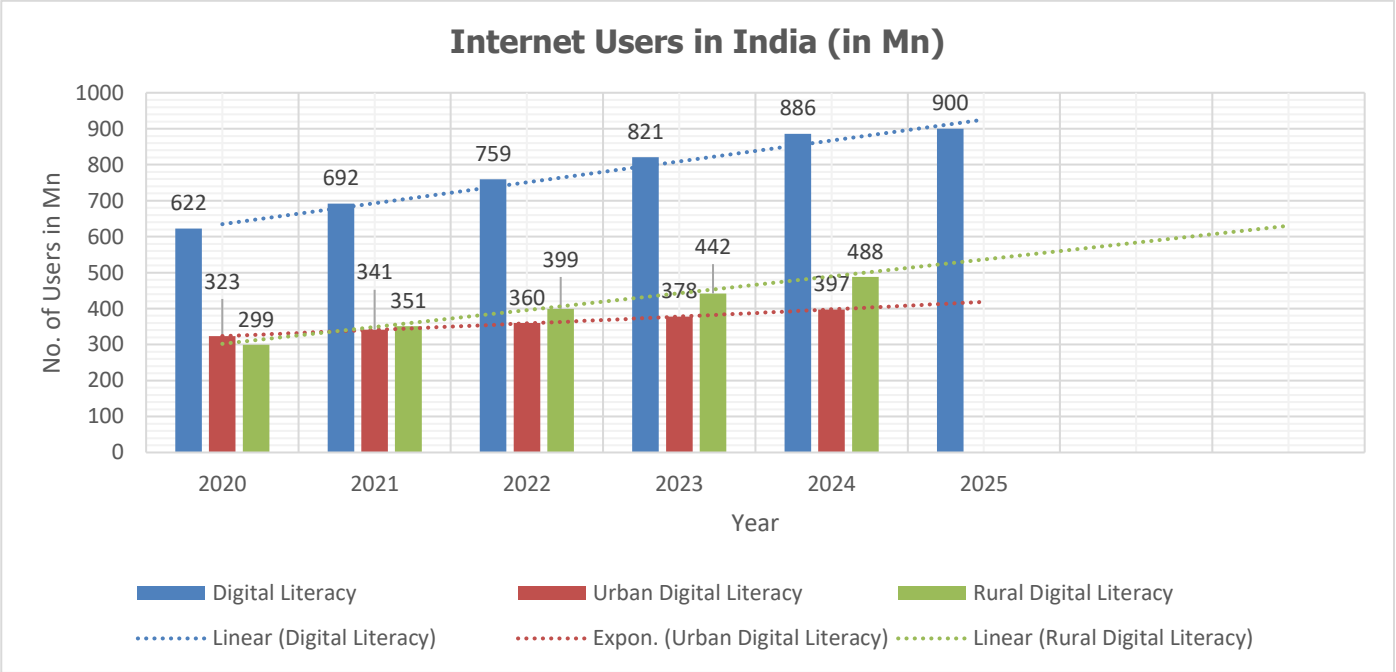
Graph-2: Total number of Gram Panchayats connected by Optical Fibre Cable/Satellite link under the Bharat Net Project



Source: https://www.pib.gov.in/PressReleasePage.aspx?PRID=2077908

At the infrastructure level, the BharatNet Project has played a key role in establishing the groundwork for last-mile internet connectivity. Phase III is currently ongoing. The program aims to integrate 5G technologies, expand bandwidth, and ensure reliable internet access even in remote areas. The BharatNet initiative has been implemented in three unique phases, each building on the previous one to improve digital infrastructure in rural India. Phase I concluded in December 2017 and focused on laying optical fiber cables to connect 1 lakh Gram Panchayats by using existing infrastructure. Now, Phase II is in progress. It aims to extend coverage to another 1.5 lakh Gram Panchayats using a combination of optical fiber, radio, and satellite technologies. This phase emphasizes cooperation, bringing together state governments and private companies to improve efficiency and reach. Meanwhile, Phase III is also being developed, with the goal of future-proofing the network by incorporating 5G technologies, increasing bandwidth capacity, and ensuring reliable last-mile connectivity to the most remote areas. A key aspect of this phase is the Amended BharatNet Program (ABP), which received approval in August 2023 (National Payments Corporation of India [NPCI], 2025).

Graph-3: Total number of Internet Users in India



Source: Internet and Mobile Association of India (IAMAI) and Kantar[75]

The graph illustrates the significant growth of internet users in India, projected to reach 900 million by 2025. It also points out the digital literacy divide between rural and urban. The rate of digital literacy in urban areas increases fast, reaching 61% by 2022. It now has risen only because we are equipped with a robust infrastructure, common acceptance of digital payments like UPI, and user-friendly e-

[75] Internet and Mobile Association of India (IAMAI) and Kantar
(2020) https://www.iamai.in/sites/default/files/research/IAMAI-KANTAR-ICUBE-2020-Report.pdf
(2021 & 22) https://www.iamai.in/sites/default/files/research/Internet%20in%20India%202022_Print%20version.pdf
(2023) https://www.iamai.in/sites/default/files/research/INTERNET%20IN%20INDIA%202023.pdf
(2024) https://www.iamai.in/sites/default/files/research/Kantar_%20IAMAI%20report_2024_.pdf

governance platforms such as UMANG. Rural areas, on the other hand, are advancing at a slower pace, where digital literacy stands at just 25% in 2022. This is because of problems such as limited access, reduced knowledge, and language differences. Government programs play a crucial role in addressing this gap. The BharatNet project is providing broadband connectivity to the rural Gram Panchayats. Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA) has digitally literated more than 6.39 crore persons. The increase in the number of female internet users (47% women as against 43% in 2018) also suggests that such inclusive programmes as the National Scholarship Portal (NSP) are working.

However, challenges such as affordability, device access, and the need for localized digital content still exist. Digital literacy is becoming increasingly important not just for accessing services, but also for achieving professional success. In rural India, 53% of digitally literate households earn regular wages from non-agricultural jobs. The steady growth of digital awareness is helping agricultural workers, marginalized communities, and youth to take part in the digital economy. According to 2022 data, urban digital literacy stands at 61%, while rural literacy is quickly improving, currently at 25% (Dattopant Thengadi National Board for Workers Education & Development, n.d.).

7. Case study: Digital payments in practices in India

In recent years, digital payments in India have evolved from being mainly urban to becoming a widely accepted practice across various socio-economic and age groups. While adult users are still the majority, there is a notable increase in participation among minors, especially teenagers over 15 years old, in digital financial systems. The Reserve Bank of India (RBI) now allows individuals 10 years and older to open savings accounts in Indian banks. More importantly, those over 15 can conduct UPI-based transactions independently, following certain guidelines. Minors under 15 can hold joint accounts with parents but are not allowed to use UPI directly. This change is significant for India’s financial inclusion efforts, highlighting the growing recognition of the changing needs and independence of Gen Z users (Digit Insurance, 2025). This case study looks at how young users engage with UPI and digital payment platforms through a survey of 80 respondents from urban and semi-urban areas of Abul Fazal, Okhla, New Delhi. The 12-question survey aimed to assess how often UPI is used, which platforms are preferred, how easy users find them to use, and what barriers they face. The target group included young adults aged 18 to 25, and notably, it also included minors aged 15 to 18, who reported active use of UPI services, either through individual platforms or under parental supervision. Involving both minors and young adults is crucial for fostering early financial literacy and independence among India's youth, supported by user-friendly and secure digital tools. As India's Gen Z got access to more digital financial tools now which are becoming essential to their everyday lives.

UPi becomes a necessity than luxury with option to scan QR codes at local shops, ordering online or splitting bills with friends. Apps like FamPay, India's first neobank for teenagers, are redefining the space. FamPay enables minors to do UPI transactions and provided them with an app in addition to an linked card which parents can use to monitor transactions and set limits. The app strikes the balance between autonomy and parent control financial empowerment without compromise on safety. Other services such as Akudo and Junio are gaining traction, targeting the UPI services for teenagers, with apps that in some cases include gamified features to encourage savings and responsible spending (Thakur, 2025). But even though FamPay, Akudo and Junio grant minors access to UPI and prepaid cards under parental supervision, they rely on a presupposition: an operational bank account. While this remains a hurdle for many in rural India and for the country's most vulnerable, keeping them from fully participating in the digital payment's world.

Satisfactory bank account provision is a vital prerequisite for being active in an ecosystem as a member of the UPI platform. This has been, for many people in India, particularly in the rural and marginalised communities, a major obstacle throughout history. To mitigate this, the Government of India has introduced PMJanDhan Yojana on 15th August 2014. This programme is designed to drive financial inclusion for all. PMJDY is not only a scheme, but also a National Mision, with objectives of ensuring access to those financial products and services to citizen who does not have a saving or currenct account at bank. Its hybrid approach has greatly expanded the financial safety net, enabling millions previously outside the formal financial system to enter the economic mainstream.

The scheme was launched and its first phase was internationally acclaimed as Guinness world record had confirmed that as many as 18,096,130 number of accounts were opened in a week by the Department of Financial Services, which is first-ever since the inception of the department (Prime Minister of India, n.d.). Over the last 10 years, PMJDY has not only achieved its principal objective but also laid the foundation for the digital revolution in the country. As on 14 August 2024, the total number of Jan Dhan accounts became 53.14 crore (a 3.6-fold increase from 15.67 crore accounts in March 2015). Most significantly, the scheme has facilitated inclusion for women and rural areas, with women making up 55.6% of account holders and almost 66.6% of accounts in rural and semi-urban areas. These figures illustrate the extent to which the scheme has played a crucial role in driving the adoption of UPI and other digital financial solutions among previously-underserved groups.

Through the provision of a bank identity and digital and financial literacy programs, PMJDY is reaching tens of millions of first-time users particularly women, farmers, laborers, and young people introducing them to mobile banking, digital wallets, and UPI-based accepted platforms. In summary,

the Jan Dhan Yojana has not only democratized financial services but also given the necessary institutional backing to foster the steep trajectory of digital payments in the country. Had the bedrock groundwork laid by PMJDY not existed, the UPI penetration and UPI effect would have merely been an urban phenomenon, confined to urban and semi urban accountholders. In this context, PMJDY is a critical anchor in India's transformational quest for digital financial empowerment (Press Information Bureau, 2015).

7.1 Findings

Table- 4: Age Group & Usage of UPI

Age Group	No. of Responders	Usage of UPI	Percentage
Below 18 (Minors)	10	5	50%
18-25 (Entry level professionals/ Students)	62	58	93.54%
26-35 (Early Career Professionals)	3	3	100%
36-60 (Mid- Career to Retirees)	5	3	60%

The data in Table 4 highlight the different adoption rates of Unified Payments Interface (UPI) across age groups in India. This reflects wider trends in digital financial inclusion. The highest UPI usage, at 93.54%, is seen among young adults aged 18 to 25. This group mainly includes students and entry-level workers, showing a strong level of digital skills and a preference for mobile transactions in this tech-savvy age group. The complete adoption by early-career professionals aged 26 to 35 further confirms UPI's popularity in urban, economically active populations. However, the use among minors, those below age 18, is only 50%. This is likely due to Reserve Bank of India (RBI) rules that restrict UPI access to teens aged 15 and older with parental supervision, as well as their lower financial independence.

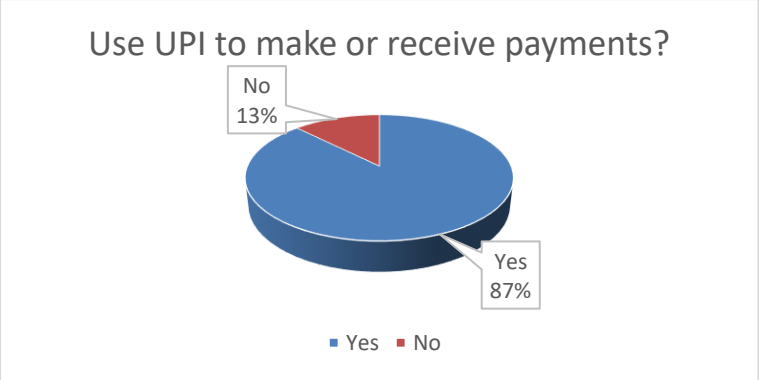
The 60% uptake among older adults, aged 36 to 60, indicates ongoing issues such as trust in digital methods, a preference for cash, and limited digital skills. These results support the idea that UPI promotes financial inclusion while also showing gaps related to age and policy limitations. The data suggests a need for focused initiatives, such as digital literacy programs for older adults and UPI apps for teenagers, like FamPay, to ensure fair access. This is an important part of India's Digital India transformation.

Table- 5: Gender & Usage of UPI

Gender	Responses	UPI Usage	Percentage
Male	50	41	82%
Female	30	29	96%

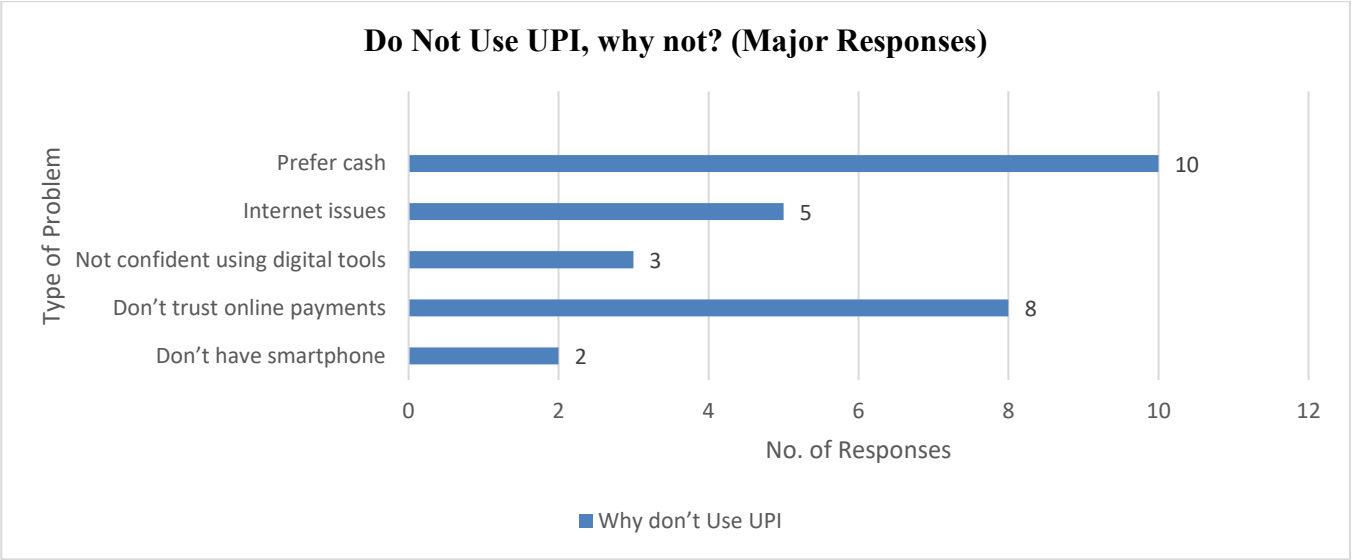
The data in Table 5 shows a surprising trend in UPI adoption among different genders. Ninety-six percent of female respondents use UPI, while only eighty-two percent of male respondents do. This higher usage rate among women challenges the usual views on gender gaps in digital finance. It also supports the paper's findings about India's efforts to narrow the digital gender gap. The almost universal use of UPI by women may point to the convenience and safety of digital payments. This is especially true in urban and semi-urban areas, where UPI reduces the need for cash and cuts down on visits to banks. This benefit is highlighted in the paper's discussion on governance focused on citizens. However, the smaller number of female respondents (30 compared to 50 males) calls for caution. If this trend is representative, it could indicate successful programs like PMGDISHA and UMANG's multilingual support, which empower women through easy-to-use platforms.

Graph-4: No. of People use UPI



The data shown in Graph 4 reveals important insights about UPI adoption among the surveyed population. Out of 80 respondents, 70 individuals (87%) reported using UPI for payments, while only 10 respondents (13%) said they do not use the platform. This high adoption rate of nearly 9 out of 10 respondents strongly confirms UPI's success as India's leading digital payment system, as discussed in Section 5.3 of the research paper. The significant penetration rate indicates that UPI has evolved from an innovative payment option to a common financial tool, fulfilling the Digital India program's goal of creating a digitally empowered society (Section 5). However, the 10 non-users represent an important group that needs further attention. These individuals may face challenges such as limited digital literacy (covered in Section 6), lack of access to smartphones or internet, especially in rural areas, security worries, or they may belong to demographic groups like elderly citizens who struggle with digital adoption. Although this data does not show usage frequency or transaction volumes, the total number of adopters (70 out of 80) offers strong evidence supporting the paper's claims about UPI's significant impact on India's financial landscape and digital governance.

Graph-5: Do Not Use UPI, why not?



The data from Graph 5 offers insights into the barriers that stop non-users from fully adopting UPI. Those who do not use UPI Of the 10 respondents who replied in the negative, the reasons cited include a liking for dealing with cash (10 responses), lack of faith in making payment online (8 responses), lack of confidence in using digital tools (3 responses) and lack of a smartphone (2 responses). These results correspond to the barriers to digital inclusion discussed in Section 6 of the paper. The nearly unanimous preference for cash (100% of non-users) reflects continuing cultural and behavioral attachments to banknotes. Trust Issues, which affects 80% of non-users, are the drivers for stronger security and public information campaigns. The smaller differences on technology barriers (20% don't have a smartphone) and skill deficiencies (30% don't feel confident) provided additional support to the arguments in the paper about infrastructure and literacy barriers to digital payment adoption universality. These findings re-enforce the claims of the paper about UPI's deficiencies. They argue that material solutions such as UPI have had impressive success but that mental and schooling challenges remain formidable barriers to India's digital transformation. The findings support as well the argument in section 7.1 around the necessity of targeted interventions to on-board non-users into a digital payments ecosystem.

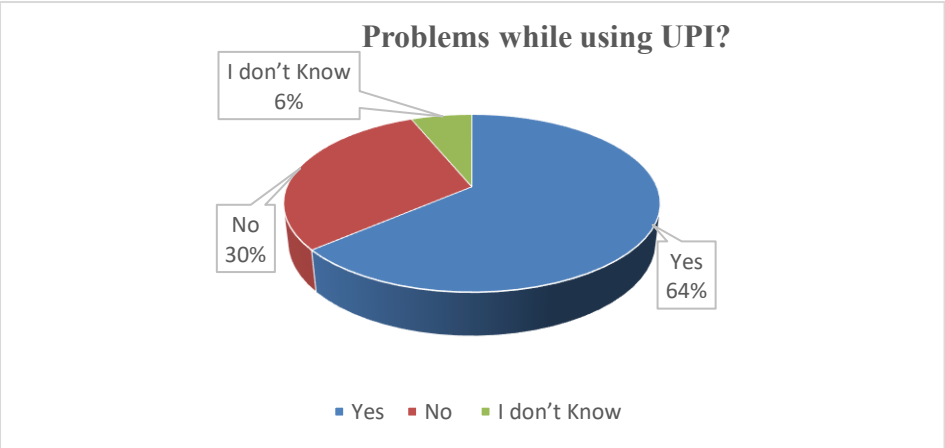
Table- 6: Usage of UPI Apps

UPI App	Responses	Percentage
PhonePe	29	36.3%
Google Pay	21	26.3%
Paytm	15	18.8%
Fampay	4	5%
WhatsApp	1	

Omni Card Kotak Iranian UPI Supermoney	1 1 1 1	6.25%
Total	74	92.65%

The data clearly shows market segmentation among UPI payment platforms. PhonePe leads the way with 29 respondents, or 36.3%, followed by Google Pay with 21 respondents, at 26.3%, and Paytm with 15 respondents, making up 18.8%. Together, these three major platforms hold 81.4% of the UPI market share among the surveyed users. This highlights the concentrated nature of India's digital payments ecosystem. The remaining 18.6% goes to smaller players like Fampay, which has 4 respondents at 5%, Kotak with 1 respondent at 1.25%, and various niche platforms with very few users. This pattern supports the discussion in Section 5.3 about UPI's open structure encouraging private sector innovation while keeping NPCI's regulatory oversight. The strong performance of domestic platforms, like PhonePe and Paytm, compared to global players like Google Pay, shows the effectiveness of localization strategies in the Digital India initiative. However, the presence of minor platforms, with 6 different apps covering only 11.25% of usage, indicates that newer competitors face challenges in gaining traction. This may be due to network effects and the advantages in brand recognition held by established companies.

Graph-6: Do you face any problem while using UPI?

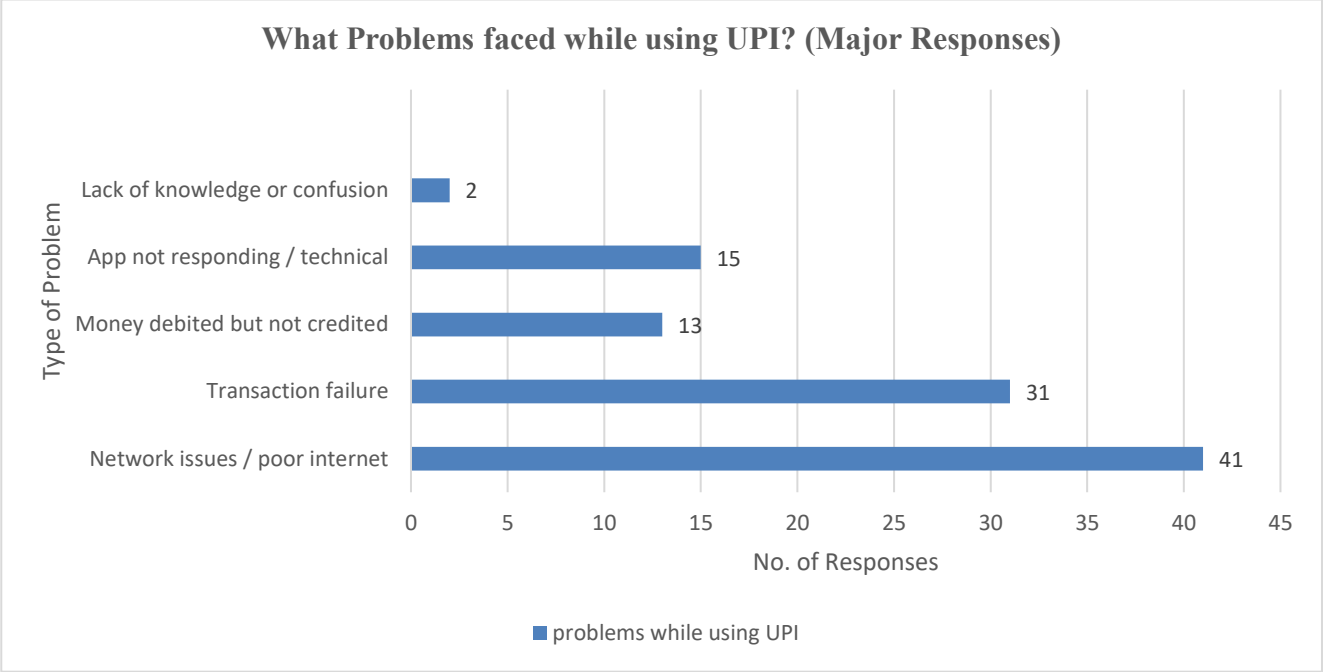


The data from Graph 6 provides important insights about user experiences with UPI. Among the 80 people surveyed, 51 (64%) reported facing problems while using UPI. In contrast, 24 respondents (30%) said they encountered no issues. Notably, 5 respondents (6%) answered "I don't know." This group likely consists of individuals who do not own UPI apps but use digital payments through friends' or relatives' accounts, making them less familiar with the platform's features and challenges.

This breakdown highlights several key points. First, the majority of users (64%) experience some

difficulties with UPI. This suggests there is room to improve user experience and support for troubleshooting. Second, the "I don't know" responses (6%) indicate an important demographic secondary users who depend on others' accounts instead of having their own UPI profiles. This indirect usage pattern could signal either temporary adoption or barriers to independent usage, such as a lack of personal bank accounts or smartphones. The data particularly emphasizes UPI's accessibility challenges. Although the platform is widely used, many users still encounter operational difficulties or rely on informal sharing arrangements to access digital payments.

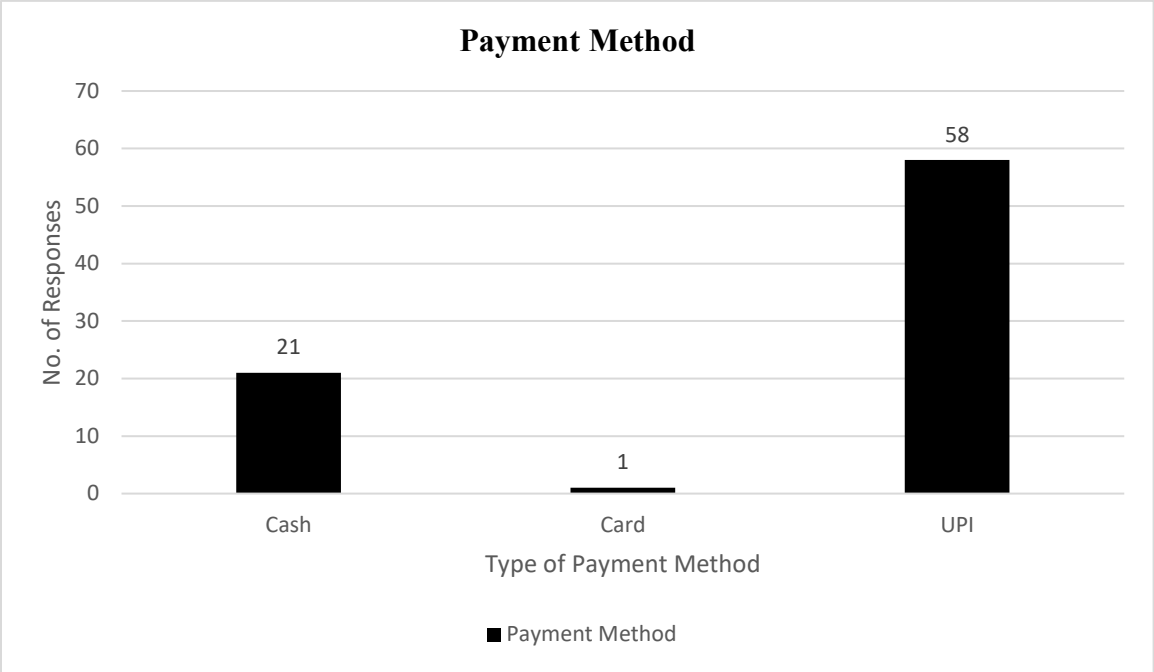
Graph-7: What type of problems faced while using UPI?



The data from Graph 7 provides an important look into the operational challenges in UPI usage that could undermine its impressive adoption. Network and connectivity issues are the most common problem, affecting 41 respondents, which makes up 51% of the sample. This highlights the infrastructure issues that remain despite India's push for digital advancements. Transaction failures are the second most frequent issue, impacting 31 respondents or 39%. This indicates serious gaps in the reliability of payment processing. More concerning, 13 users, or 16%, reported that money was debited but not credited to recipients. This serious flaw could harm public trust in digital payments. Technical glitches, such as app unresponsiveness, impacted 15 respondents, or 19%. Interestingly, only 2 respondents, or 3%, pointed to knowledge gaps as their main challenge. This suggests that UPI's interface is generally user-friendly, but its technical implementation needs improvement. These findings call for urgent policy action in three main areas: first, speeding up the development of digital infrastructure to close connectivity gaps; second, enforcing stricter transaction verification systems to reduce payment failures; and third, creating offline transaction options to lessen reliance on network

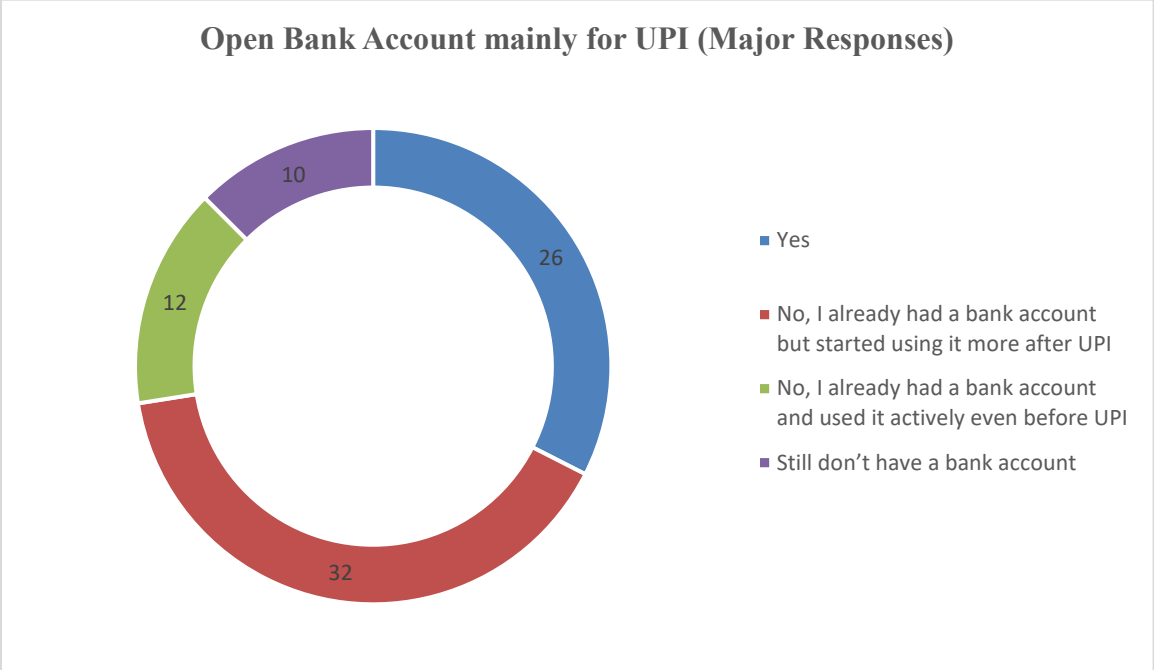
access.

Graph-8: What type of Payment method generally use?



The data from Graph 8 shows a clear change in payment preferences among respondents. Digital payments are clearly more popular than traditional methods. UPI stands out as the leader, used by 70 respondents, or 87.5% of the sample. Cash transactions follow, with 21 respondents, making up 26.3%. Card payments are the least favored, with only 1 respondent, at 1.3%. This distribution strongly supports the paper's main argument about India's fast shift to a digital-first economy, especially the significant role of UPI. The strong preference for UPI, which is nearly 9 times more popular than cash, demonstrates its successful reach in urban and semi-urban areas, as shown in Table 5. However, around a quarter of respondents still prefer cash, aligning with findings in Graph 5 about trust issues and habitual use. This suggests that while digital payments have gained popularity, cash still has a role for certain transactions or user groups. The almost nonexistent use of cards, with only 1 respondent, highlights how UPI has effectively surpassed traditional card payments in India's financial scene. These results collectively strengthen the paper's points about the disruptive effect of UPI on payment behaviors while also indicating that cash is slowly being replaced, rather than completely eliminated, in India's digital transformation journey.

Graph-9: Open Bank Account mainly for UPI?



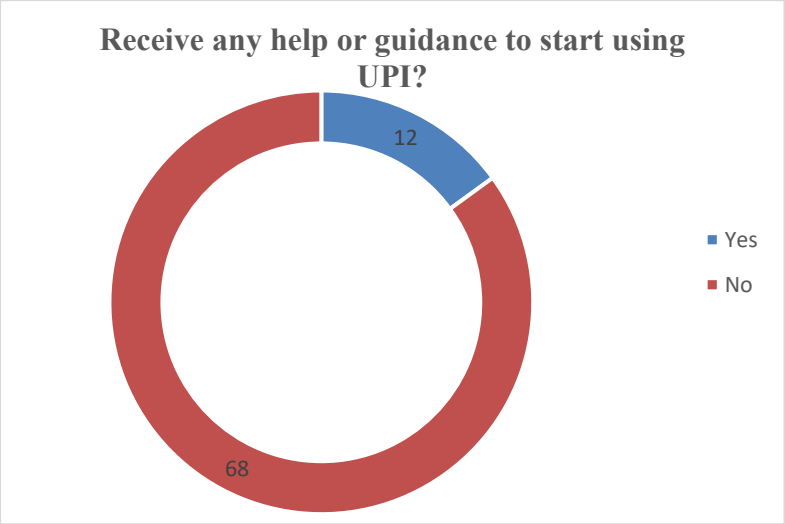
The data shows four clear patterns in the relationship between UPI adoption and banking behavior. First, 26 respondents (32.5%) opened bank accounts to access UPI services. This provides direct evidence that UPI is a key factor in improving financial inclusion, as we expected. A larger group of 32 respondents (40%) who already had bank accounts increased their banking activity after adopting UPI. This shows that UPI can activate accounts that were not used much. Meanwhile, 12 respondents (15%) maintained consistent banking activity regardless of UPI adoption. These individuals make up the traditionally banked population. However, 10 respondents (12.5%) remain unbanked, showing ongoing gaps in financial inclusion despite UPI's widespread reach.

These findings strongly support the research hypothesis but also reveal important limitations. First, the total of 58 respondents (72.5%) whose banking behavior changed due to UPI—either by opening accounts or using them more clearly shows UPI's transformative effect on financial engagement. Second, the 40% who shifted from passive to active banking highlights UPI's unique role in boosting digital financial participation. However, the 12.5% who are still unbanked point to systemic barriers. This suggests that while UPI has considerably improved access, it has not yet achieved complete financial inclusion.

This analysis supports the paper's balanced view on digital financial inclusion, celebrating UPI's successes while recognizing ongoing challenges, as discussed in Sections 5.3 (UPI's impact) and 6 (digital divides). The data not only backs the hypothesis but also clearly illustrates its limitations. This

reinforces the need for focused actions to address remaining gaps.

Graph-10: Receive any help or guidance to start using UPI?



The data from Graph 10 shows important insights about the support systems that help people adopt UPI. Out of the surveyed respondents, 12 individuals (15%) reported receiving some form of assistance or guidance when they started using UPI. The remaining 68 respondents (85%) adopted the platform without any external help. This distribution reveals two main points that relate to the paper's broader arguments. First, the majority's independent adoption (85%) indicates that UPI has a generally intuitive design and has become successful in mainstream use. This supports claims in Section 5.3 about its user-friendly interface, which contributes to its rapid spread. Second, the 15% who needed guidance probably includes less tech-savvy or older users. This highlights the ongoing importance of support mechanisms like Common Service Centers (discussed in Section 5.1) and digital literacy programs (Section 6) for achieving truly inclusive adoption. These results complement the paper's analysis of UPI's accessibility strengths and the barriers that some user groups still face in India's digital transformation journey. The data reinforces the need for diverse onboarding methods as digital governance systems expand to serve all segments of India's varied population.

Conclusion

India’s digital governance journey has transformed since the Digital India initiative launched in 2014. The government has taken significant steps to make governance more inclusive, transparent, and efficient by using tools like UPI, DigiLocker, UMANG, and the National Scholarship Portal. These platforms have reduced bureaucratic red tape, empowered citizens, and fostered a more participatory public service environment. However, challenges still exist that limit the full potential of e-governance, particularly for the elderly, digitally illiterate, and rural populations.

One major issue highlighted by this study is the lack of guidance and user education in implementing digital tools like UPI. Although UPI is praised for its user-friendly design and smooth integration, many senior citizens and users with little technology experience find it hard to use. The government and private UPI service providers have not introduced structured awareness campaigns or training programs to help this demographic adapt to digital payment systems. The belief that intuitive design is enough has proven insufficient in a country with significant gaps in digital literacy. To address this, the government must make digital literacy a key part of expanding e-governance. While efforts like PMGDISHA have made progress, these programs should be strengthened and tailored to reach specific underserved groups, such as the elderly, homemakers, and agricultural workers. Digital literacy must not be seen merely as a tool for youth empowerment; in modern democratic societies, it is a basic need for all citizens, allowing them to access essential services and exercise their rights effectively. Furthermore, there is a strong need to improve the completeness and accessibility of digital services. Currently, many government services are only partially digital, and citizens often still need to visit offices physically for verification, approvals, or document submissions. A more inclusive and integrated approach is necessary to ensure that end-to-end processes can be completed digitally whenever possible. This can be done by digitizing the remaining legacy procedures, enhancing interdepartmental data sharing, and strengthening authentication systems like Aadhaar and DigiLocker. Another key recommendation is to introduce government-led UPI orientation centers or helpdesks, especially in rural and semi-urban areas. These centers can work with Common Service Centers (CSCs) to offer hands-on training for digital payments and e-services. They can help boost confidence and promote safe online behavior. Public-private partnerships should be encouraged, with leading UPI providers like PhonePe, Paytm, and Google Pay playing a role in user education and support for complaints. Additionally, the security and trust framework of digital platforms must be improved continuously. Many people who don’t use UPI mentioned distrust in online payments as a significant barrier. This highlights the need for stronger cybersecurity policies, real-time fraud alerts, and widespread promotion of complaint resolution systems to build public confidence.

Lastly, inclusivity should guide the future of e-governance. Platforms must support multiple regional languages, assist people with disabilities through voice and text-to-speech technologies, and ensure that gender minorities and marginalized communities are not left out. The success of e-governance relies not just on digital advancements but also on making sure no one is left behind. While India has become a global leader in digital transformation, the next phase of progress must focus on increasing inclusivity, expanding service coverage, and improving digital skills across all segments of society. By addressing structural, social, and infrastructure gaps, India can achieve the true promise of e-governance—governance that is not only digital but also democratic, fair, and centered on the people

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