

DigiLocker Adoption in India: An Exploratory Study in Delhi NCR on Challenges and Way Forward

A Dissertation submitted to the Panjab University, Chandigarh, for the award of
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requirement for the Advanced Professional Programme in Public Administration

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submitted by

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NEW DELHI

CERTIFICATE

I have the pleasure to certify that **Brigadier Manoj Mahendran Goswami** has pursued his research work and prepared the present dissertation titled **“DigiLocker Adoption in India: An Exploratory Study in Delhi NCR on Challenges and Way Forward”** under my guidance and supervision. The dissertation is the result of his own research and to the best of my knowledge, no part of it has earlier comprised any other monograph, dissertation or book. This is being submitted to the Panjab University, Chandigarh, for the purpose of Master of Arts in Public Administration and Public Policy, in partial fulfilment of the requirement for the Advanced Professional Programme in Public Administration of the Indian Institute of Public Administration (IIPA), New Delhi.

I recommend that the dissertation of Brigadier Manoj Mahendran Goswami is worthy of the award of Master of Arts in Public Administration and Public Policy, of Panjab University, Chandigarh.

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March 2025

DECLARATION

I, the undersigned, hereby declare that the dissertation titled “**DigiLocker Adoption in India: An Exploratory Study in Delhi NCR on Challenges and Way Forward**” is my own work, and that all the sources I have accessed or quoted have been indicated or acknowledged by means of completed references and bibliography. The dissertation has not been submitted for any other degree of this university or elsewhere.

New Delhi

March 2025

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EXECUTIVE SUMMARY

Introduction

Digitalization is integrating technology into everyday operations, simplifies tasks, improves accessibility and enhances transparency across industries. Digital tools help in reducing paperwork and ensuring smoother service delivery. ‘Digital India’ program is using technology to improve citizens' lives and ensure equitable access to services. ‘Digital empowerment’ is about giving people the tools, knowledge, and access they need to participate in the digital world. ‘**DigiLocker**’ is an example of how digital empowerment can simplify processes. DigiLocker is a tool, a cloud-based service platform that aims at ‘Digital Empowerment’ of the citizen by providing access to authentic digital documents to the citizen’s digital document wallet and removing the dependency on physical copies of documents like Aadhaar card, driving license, insurance policy documents, academic certificates etc.

Rationale

DigiLocker presents substantial potential for transforming document management practices to achieve saturation in paperless Public Service Delivery. However, the ratio of registered DigiLocker users to the population of India is sub-optimal. There were just 434 million registered users out of the 1.4 billion population, as of December 2024. There is need to explore the challenges that are hindering its population-wide usage and to suggest way forward. Hence, this study was undertaken.

Objectives of the study

1. To examine the legal and policy framework for the DigiLocker.
2. To explore the levels of awareness and usage by the citizens.

3. To explore the technological and behavioural challenges influencing citizens' adoption of DigiLocker.
4. To recommend policy inputs so as to enhance adoption of DigiLocker by the citizens.

Methodology

The study employed a '**Mixed**' research strategy, including interviews with stakeholders like Government officials and citizens. Primary data was gathered from 202 respondents in Delhi NCR through structured online/offline questionnaires for the quantitative approach. The study employed an '**Exploratory and Descriptive**' design and **Stratified sampling** plan which included **Urban** strata of college students, working citizens, pensioners and **Rural** strata including agriculturists and others. Urban study area was in New Delhi and rural area was 'Ramgarh' Block and its Panchayats of 'Lalawandi' & 'Milakpur' villages, under Alwar District of Rajasthan, which comes under Delhi NCR.

Key Findings

1. The **legal foundation** of DigiLocker is rooted in multiple legislations. The IT Act, Aadhaar Act and Data Protection Laws provide a comprehensive legal structure that governs its operations. The **policy framework** governing DigiLocker is designed to promote paperless transactions and seamless digital interactions that includes Digital India Program, National e-Governance Plan, and Data Security & Governance Policies.
2. **Awareness & Usage:** 81.2% of respondents were aware of DigiLocker, but only 63.4% were using it.

- (a) Digital gender divide: Men outnumbered women in all the parameters: Awareness: 78% male vs. 22% female & actual usage: 81.2% male vs. 18.8% female.
- (b) Urban-rural divide: Urban respondents exhibited significantly higher awareness (Urban 93.4%, Rural 55.4%) and usage (Urban 75.9%, Rural 36.9%).
- (c) Occupational patterns: Urban College Students: 87.5% awareness, but only 62.5% were users. Working Professionals: 97.3% awareness, 80% users. Pensioners: 90% awareness, 80% users. Rural Agriculturists: 48.9% aware, 33.3% users. Other Occupations: 62.5% aware, 40.6% users.
3. **Sources of Awareness**: 39% respondents indicated 'Friends' as their source of becoming aware of Digilocker, followed by 'Mobile message' & 'Advertisement'. 75% of urban males couldn't recall how they first got to know about DigiLocker.
4. **Types of document usage**: Respondents cited Transport related documents (DL, RC) as most used (30.5%), followed by Aadhaar/PAN Verification and Education related documents. Usage by rural female was dismal i.e. 0-3% only.
5. **Frequency of usage**: For the usage frequency in the last 3 months, 76.6% respondents used Digilocker 0-3 times, only 10-12% used it more frequently. In the last one year, majority (52.3%) of users fell in low-usage bracket of 0-5 times/year.
6. **Usage to avail Government benefits**: A staggering 78.4% of the users belong to the urban male category, 18.9% were urban females. With just 2.7% usage, rural males were barely using DigiLocker for availing Government schemes & rural female were 0%.
7. **Perception of improvement in 'Quality of Life' with Digilocker**: 42.1% users perceived the benefit of 'saving time', followed by 'environmental benefit of

saving paper’, ‘reduction in commute effort & transaction cost’. 4.8% users did not see any benefit, showing the need for better outreach.

8. **Non-Acceptance of DigiLocker by Departments:** 10.9% users reported this issue. Urban males encountered the most rejections (42.8%).

9. **Reasons for NOT using DigiLocker by non-users:** Out of all responses, 30.3% responses cited it to be ‘not useful’, 11.6% **didn’t find it easy to use**, 18.6% cited **data security & privacy issues**.

10. **Barrier to adoption:** There was a ‘**Behavioural barrier**’ amongst the rural respondents for low adoption rate, but not in the urban set. There were **NO ‘technological barriers**’ either in urban or in rural study areas.

Recommendations:

1. **Strategies for Enhancing Awareness:** It would form the backbone for wider DigiLocker adoption as 18.8% study respondents were not aware of DigiLocker.

(a) Multi-Channel Awareness Campaigns including Mobile Messages, TV Advertisements, Newspaper and Radio Campaigns. **Short videos on YouTube videos/ Instagram reels/ Facebook reels** would enhance its reach.

(b) Regional Language and Community Outreach programmes would increase the penetration and hence, awareness, especially in the rural areas.

(c) Government Ministry-backed promotions and integration with private sector services would garner more awareness.

2. **Modifying Digital Infrastructure and Accessibility:** To enhance accessibility, DigiLocker could incorporate a user-friendly interface, voice-based assistance, multilingual support and inclusive design for visually challenged.

3. **Enhancing Digital Literacy and Outreach:**
 - (a) **Targeted** Digital Literacy Programmes could include **Women-Centric Initiatives**, organizing workshops in collaboration with **NGOs** and providing hands-on training to women **Self-Help Groups (SHGs)** and **‘Anganwadi’ workers** to help them become **‘DigiLocker Ambassadors’**.
 - (b) Rural Training and financial **incentives** like providing benefits such as **‘Mobile Data Credits’** for first-time users can motivate rural population and **‘voice-assisted registration’** in local languages can improve sign-ups.
 - (c) Corporate Sector Companies could encourage DigiLocker usage by emphasizing on it for employment-related documentation, streamlining HR processes.
 - (d) **Linking** essential Government schemes such as Direct Benefit Transfer (**DBT**), agricultural **subsidies**, and pension schemes to DigiLocker would enhance its outreach.
 - (e) Training Government officials **to assist citizens** in using DigiLocker would improve digital literacy.
4. **Improving** User Interface (**UI**)/ User Experience (**UX**), chatbot-guided walkthroughs would improve the ease of use.
5. **Strengthening security measures:** Such as biometric authentication, **Face ID Lock and end-to-end encryption**, will assure users of their data’s safety.
6. **Incentivizing Digital Documentation:** **‘GO PAPERLESS’** initiatives, faster processing for Digital Users, encouraging users to submit official documents through DigiLocker.
7. **Success Story-Based Marketing measures:** Short videos **‘Highlighting Real-World Use Cases’** and Video Testimonials would motivate larger population.

8. **Addressing Non-Acceptance and Non-Users:** Encouraging DigiLocker for storing Government-related documents, organizing Public Outreach Demonstrations & creating awareness about Cost Savings would enhance its acceptance.
9. **Special Considerations for Rural Adoption:**
 - (a) Institutional Awareness Initiatives: **Panchayat and Block Office Campaigns** & issuing written directives to local governance bodies would be helpful for rural sector.
 - (b) **Role of ‘E-Mitra’ Centers:** They can assist rural population in making them aware, signing up and using Digilocker.
10. **Targeted Awareness for Special Groups:**
 - (a) **Elderly Users and Pensioners:** Conducting special DigiLocker awareness and registration drives would help them.
 - (b) **Farmers and Agriculture-Related Subsidies:** DigiLocker’s benefits could be well-reaped if farmers are encouraged to store agriculture-related documents, crop insurance papers, and subsidy-related documents via Krishi Vigyan Kendras and farmer cooperatives.

Conclusion

Despite the fact that DigiLocker has the potential to revolutionize document management and digital storage in India, its adoption by the citizens is sub-optimal. This study explored and described the levels of DigiLocker awareness and usage, challenges that prevent its wider adoption and recommended its ‘way forward’.

1. INTRODUCTION

Digitalization is reshaping the way we live and work, making processes faster, smarter, and more efficient. By integrating technology into everyday operations, it simplifies tasks, improves accessibility, and enhances transparency across industries. Whether in business, governance, or daily life, digital tools help reduce paperwork, enable real-time communication, and drive innovation. It also plays a vital role in expanding financial inclusion and ensuring smoother service delivery. As the world becomes more connected, adopting digital solutions is no longer optional—it's essential for progress, sustainability, and staying competitive in a rapidly evolving landscape.

Digitalization

Digitalization refers to the process of using digital technologies and data to transform operations, services, and systems. It involves converting traditional methods, which often rely on paper or manual processes, into digital formats to improve efficiency, accessibility, and convenience. Digitalization is more than just adopting new technology; it's about creating value through technology by changing how services are delivered, how businesses operate, and how people interact with information.

For example, in public services, digitalization means citizens can get access to Government services online, reducing need to visit offices in person. In businesses, it could involve automating tasks like inventory management or customer service. Overall, digitalization makes systems faster, more transparent, and more scalable,

allowing organizations and governments to meet the needs of modern, digitally connected societies (United Nations E-Government Survey, 2022).

Benefits of Digitalization

Digitalization has brought significant benefits to citizens by simplifying access to essential services and improving overall ‘Quality of Life’ (QoL). It reduces bureaucratic red tape, makes service delivery more transparent, and enhances efficiency in daily transactions. This reduces the need for physical documents, making processes like school admissions, and accessing government services smoother and quicker. By minimizing paperwork, digitalization helps save time, effort, and cost, especially benefiting citizens in remote areas. This ease of access to documents and services leads to better convenience and improved quality of life. (OECD, 2019).

When assessing how digitalization has improved Quality of Life (QoL) in the Public Service domain, following parameter can be used to judge the tangible and intangible benefits that digital tools and services bring to citizens. i.e. –

Accessibility to Public Services, which can be measured by the ease with which citizens can access government services online, such as tax filing, health services, and documentation.

The resultant impact would be to reduce the need for physical visits to government offices, save time, and lower the costs associated with bureaucratic processes.

E-governance platforms and digital public services make government services more accessible, transparent, and efficient. Citizens can interact with governments through online portals, access essential documents and even participate in policy discussions or voting processes digitally. This strengthens democracy and accountability, contributing to a better QoL.

Global versus Indian efforts

Globally, countries like Estonia and Singapore are leading the way in digital governance. Estonia, often called the "digital republic," offers almost all public services online, from healthcare to voting, making it a model for e-governance worldwide (E-Estonia, 2023). Singapore has also embraced digital transformation, integrating technology into urban planning, transportation, and public services under its Smart Nation initiative (Govtech Singapore, 2023). These countries focus on refining their advanced digital ecosystems, while India's efforts are more geared toward addressing challenges like digital literacy, infrastructure, and scale. Despite the differences, India's Digital India program shares a common goal with these global leaders: using technology to improve citizens' lives and ensure equitable access to services, particularly in underserved regions (Digital India, 2022).

Digital India

In July 2015, the Government of India introduced the 'Digital India' initiative, an extensive program designed to transform the country into a digitally empowered society and a knowledge-driven economy. It was built upon the earlier National e-

Governance plan and aims to leverage technology for enhancing governance, economic development, and citizen empowerment. The ultimate goal of 'Digital India' is to ensure that Government services are accessible to citizens electronically, even in remote areas, while creating a robust digital infrastructure to support this transformation (Haldankar, 2018).

The initiative seeks to close the digital divide between urban and rural populations by bringing the benefits of internet connectivity and modern technology to everyone. By improving access to digital services, the program empowers citizens to participate in the growing digital economy, aligning with the government's broader vision of more inclusive and transparent governance (Dua, 2018).

Core Pillars of Digital India

The 'Digital India' program is built upon three main pillars: digital infrastructure, on-demand governance and services, and the digital empowerment of citizens (Dar, 2022).

1. Digital Infrastructure: The first pillar focuses on establishing a solid digital foundation that serves as a utility for every citizen. This includes ensuring access to high-speed internet across India, creating a digital identity for every citizen, and enabling access to mobile banking services. One of the key elements of this infrastructure is the creation of Common Service Centers (CSCs), which deliver various public and private services to rural areas, providing a platform for digital

inclusion. This infrastructure aims to provide equal access to digital resources and services, regardless of geographic location (Dar, 2022).

2. Governance and Services on Demand: The second pillar aims to make government services available in real time through digital platforms. By facilitating online access to essential services, such as tax filing, government benefits, and licenses, the government reduces bureaucratic delays and the need for in-person visits to offices. The Unified Payment Interface (UPI), for example, allows citizens to make payments online for paying service charges to the agencies for obtaining certificates/documents.

3. Digital Empowerment of Citizens: The third pillar emphasizes promoting digital literacy and ensuring that digital resources are available in multiple languages to cater to India's diverse population. The goal is to empower citizens, particularly those in rural and underserved areas, to use digital tools for education, healthcare, and financial services. This pillar also promotes digital platforms for governance participation, encouraging citizens to engage with government initiatives through technology (Haldankar, 2018).

The summary of the initiatives is as follows: (MeitY, 2015).

- a) Digital Infrastructure as a Utility to Every Citizen
 - i) High speed internet as a core utility
 - ii) UID: Cradle to grave digital identity -unique, lifelong, online, authenticable
 - iii) Mobile phone & Bank account enabling participation in digital & financial space

- iv) Easy access to a Common Service Centre
 - v) Shareable private space on a public cloud
 - vi) Safe and secure Cyber-space
- b) Governance & Services on Demand
- i) Seamlessly integrated across departments or jurisdictions
 - ii) Services available in real time from online & mobile platform
 - iii) All citizen entitlements to be available on the cloud
 - iv) Services digitally transformed for improving Ease of Doing Business
 - v) Making financial transactions electronic & cashless
 - vi) Leveraging GIS for decision support systems & development
- c) Digital Empowerment of Citizens
- i) Universal Digital Literacy
 - ii) Universally accessible digital resources
 - iii) All documents/ certificates to be available on cloud
 - iv) Availability of digital resources / services in Indian languages
 - v) Collaborative digital platforms for participative governance
 - vi) Portability of all entitlements through cloud

Progress

Since its inception, 'Digital India' has made significant advances in expanding internet access. In the year 2014, the internet penetration was just 13.5% whereas in 2024, it rose to 52.4% (statista.com, 2024). It has made government services more

accessible to citizens. Initiatives like ‘MyGov’, an interactive platform for citizens to provide feedback on government policies, and the expansion of CSCs across India have made it easier for people to engage with government processes (Haldankar, 2018; Dua, 2018).

However, challenges also emerged. One of the primary obstacles is the low level of digital literacy in rural areas, where many individuals lack basic knowledge of using digital tools. In addition, issues with internet connectivity and infrastructure, particularly in remote regions, continue to hinder the initiative’s full potential. Concerns about data privacy and cybersecurity have also emerged, requiring the development of stronger legal frameworks to protect citizens' information (Dar, 2022; Kumar, 2023).

The ‘Digital India’ initiative is a crucial step toward transforming India into a more inclusive and digitally empowered nation. While challenges such as limited digital literacy and infrastructure need to be addressed, ‘Digital India’ has the potential to create a more connected and prosperous future for all citizens and to digitally empower the nation (Dua, 2018; Haldankar, 2018).

Digital Empowerment and its Benefits

Digital empowerment is about giving people the tools, knowledge, and access they need to participate in the digital world. In India, this idea has become a core part of the ‘Digital India’ initiative. This initiative aims to ensure that digital technologies

reach everyone, especially marginalized communities, so that they can access essential services and opportunities that technology brings (Kumar, 2023).

The 'Digital India' program focuses on providing every citizen with access to digital infrastructure, digital services, and the skills needed to use them. The idea is not just to connect people to the internet, but to help them use digital tools to improve their lives. From education and healthcare to banking and governance, the initiative seeks to make the benefits of technology available to everyone, even in the most remote areas. Through initiatives like 'DigiLocker' and 'Common Service Centers (CSCs)', the government has created a framework for easy access to critical services (Haldankar, 2018).

Key Elements of Digital Empowerment

1. Access to Technology: One of the most important aspects of digital empowerment is making sure everyone has access to the necessary hardware and software. This is especially vital in rural areas, where access to technology has historically been limited. Programs like the expansion of broadband connectivity and CSCs are helping to bridge this gap by offering digital services close to people's homes (Kumar, 2023).

2. Digital Literacy: Knowing how to use technology is just as important as having access to it. The Government has launched several initiatives to improve digital literacy, particularly in rural areas. These programs teach people how to use digital devices, navigate the internet, and protect their privacy online. Digital literacy empowers individuals to use technology for everything from education to accessing government services (Mäkinen, 2006).

3. Digital Services: Another pillar of digital empowerment is the wide availability of online services. Platforms like ‘DigiLocker’ allow users to store important documents such as driver’s licenses, educational certificates, and other personal records securely. These digital services minimize the need for physical paperwork, make accessing services easier, and promote transparency in governance. The shift towards online services has made it more convenient for people to interact with the government and other institutions (Kumar, 2023).

4. Skill Development: Digital empowerment also focuses on equipping people with the skills to create and innovate in the digital world. Skill development programs encourage people to use digital tools for business, content creation, and even entrepreneurship. This has led to rise of digital entrepreneurs who contribute to the economy and create job opportunities, particularly in sectors like IT and e-commerce (Kumar, 2023).

DigiLocker

A key initiative in the area of ‘Digital Empowerment’ is the DigiLocker, which has been introduced by the Government of India to issue, exchange and verify essential documents or certificates. DigiLocker is a flagship initiative of Ministry of Electronics & IT (MeitY) under Digital India programme. DigiLocker aims at ‘Digital Empowerment’ of the citizen by providing access to authentic digital documents to the citizen’s digital document wallet.

DigiLocker is a cloud-based service that enables citizens of India to securely store and retrieve essential documents in a digital format. It functions as a virtual storage solution, removing the dependency on physical copies of documents like Aadhaar card, driving license, policy documents, academic certificates etc.

Key Features of DigiLocker

- 1. User Authentication:** By integrating with the Aadhaar system, DigiLocker ensures reliable user authentication. Users can access their documents at any time and from anywhere, utilizing their Aadhaar-linked credentials. (DigiLocker.gov.in, 2024)
- 2. Government Integration:** The platform partners with various government bodies to streamline the issuance and verification of documents, acting as a crucial link between government services and the populace. 631 types of documents are part of DigiLocker.
- 3. Privacy and Security:** DigiLocker employs advanced encryption and rigorous security measures to protect user information. (Jain, 2023).
- 4. Paperless Governance:** DigiLocker promotes the goal of a paperless administration by digitizing documentation, thereby reducing bureaucratic procedures, cutting down on paperwork, and improving overall efficiency. Driving Licenses and vehicle Registration Certificates are included in the platform. (DigiLocker.gov.in, 2024)
- 5. Education and Employment:** By storing educational certificates digitally, DigiLocker simplifies the verification process for academic institutions and employers, thereby improving the efficiency of admissions, job applications and

background checks. Recently, the Academic Bank of Credits (ABC) has also been linked with DigiLocker.

6. Financial Inclusion: The platform helps citizens access their financial documents, such as insurances, account statements and income certificates, which is vital for enhancing financial awareness and transparency.

Keypoints of DigiLocker

DigiLocker issues 631 types of documents. It has amassed a total of 434 million users (as of December 31, 2024), reflecting its utility. The platform has issued an impressive 9.39 billion documents, showcasing its extensive operational capacity. There are 1,892 issuers leveraging DigiLocker to provide various documents directly to users. DigiLocker recognizes 2241 requesters, indicating the number of entities or individuals requesting access to documents. (<https://DigiLocker.gov.in> , accessed on January 10, 2025)

The document lists Aadhaar Card as the top issued document, followed by UAN Card and policy documents. The top issuers of documents include several government sectors such as the Unique Identification Authority of India (UIDAI), Central Registry of Securitisation Asset Reconstruction and Security Interest of India (CERSAI), Income Tax Department. and the Ministry of Road Transport and Highways.

Table 1.1 depicts the statistics including a yearly breakdown of user registrations and issued documents from 2016 to 2024, providing insights into growth trends. Number of registered users and documents issued have sharply increased since 2021.

Table 1.1 : Year-wise growth trend of DigiLocker.

S No	Year	Registered Users (in millions)	Documents issued (in billions)
1	2016	1.2	0.0112
2	2017	5.1	1.6623
3	2018	12	2.412
4	2019	23	3.1
5	2020	38.1	3.75
6	2021	91.6	4.75
7	2022	139.4	5.59
8	2023	227.59	6.19
9	2024	434	9.39

(Source: <https://meity.dashboard.nic.in/DashboardF.aspx>, accessed on January 10, 2025)

However, the ratio of registered DigiLocker users to the population of India is sub-optimal. There are just 434 million registered users out of the 1.4 billion population, as of December 2024. This study examined the challenges associated with citizens' adoption of DigiLocker. Also, policy inputs have been recommended to enhance the adoption by citizen.

Statement of the Problem

DigiLocker aims at ‘Digital Empowerment’ of the citizen by providing access to authentic digital documents to the citizen’s digital document wallet.

However, the ratio of registered DigiLocker users to the population of India is sub-optimal. There were just 434 million registered users out of the 1.4 billion population, as of December 2024. There was need to explore the challenges that are hindering its population-wide usage and to suggest way forward.

Rationale

DigiLocker aims to provide digital empowerment by offering access to authentic digital documents in a citizen's digital document wallet.

Digital empowerment is the process of using digital technologies to help people and communities access resources, knowledge, and tools to enhance their standard of living and achieve their goals. It also refers to the ability of individuals and communities to use, access, and create digital technologies to improve their socio-economic well-being and participate in the information society.

Digital empowerment is beneficial to citizens as it enhances access to information, promotes skill development, creates economic opportunities, fosters social inclusion, encourages civic participation, improves health outcomes, builds community, and stimulates innovation. These factors collectively contribute to a more informed, engaged, and resilient citizenry.

DigiLocker presents substantial potential for transforming document management practices in India to achieve saturation in paperless Public Service Delivery (PSD).

However, experience with stakeholders and secondary sources revealed that certain challenges limit the adoption of DigiLocker by the entire populace of the country. This study explored various challenges that influence the adoption of DigiLocker. The insights gained from this study may be useful for the policymakers to boost its adoption and ensuring that DigiLocker fulfills its goal of promoting a paperless, efficient, inclusive documentation system and become part of PSD across the entire population.

Objectives

1. To examine the legal and policy framework for the DigiLocker.
2. To explore the levels of awareness and usage by the citizens.
3. To explore the technological and behavioural challenges influencing citizens' adoption of DigiLocker.
4. To recommend policy inputs so as to enhance adoption of DigiLocker by the citizens.

Research Questions

1. What are the legal and policy framework for the DigiLocker platform?
2. What is the level of awareness about DigiLocker among the citizens?
3. What is the level of usage of DigiLocker among the citizens?
4. What is the perception of users on improvement of 'Quality of Life' with DigiLocker?

5. What are the various technological and behavioural challenges impacting the adoption of the DigiLocker by the population?

6. What are the possible ways to enhance adoption of DigiLocker by the citizens?

Research Strategy

The study used a '**mixed**' research strategy because it combines both qualitative and quantitative methods for analysis. Following were the reasons:

1. Qualitative Approach: The study included the use of interviews (with the help of semi-structured questionnaire) and Focus Group Discussions (FGDs) with stakeholders like government officials and citizens. This allowed the study to explore subjective views and personal experiences related to DigiLocker adoption.

2. Quantitative Approach: At the same time, the study employed questionnaires to collect numerical data from a sample of citizens. These questionnaires were analyzed using statistical methods to measure factors like awareness and usage levels, and challenges.

Research Design

The study employed '**exploratory and descriptive**' design. Following were the reasons:

1. Exploratory Design: Since DigiLocker adoption has not reached its full potential, the study aimed to explore why this was the case, particularly by looking at the technological and behavioral barriers that may be limiting its use.

2. Descriptive Design: It is also descriptive because the study aimed to document the current state of DigiLocker use. This included collecting data on how many people are aware of it, how often they use it, and their perceptions of its impact.

Research Methods and Data Sources

The study included sourcing primary as well as secondary data. For primary data, empirical methods were employed and data was collected from urban and rural areas of Delhi NCR. Secondary data was used from sources like articles, journals, websites, MeitY, Annual Reports etc.

Urban area study: Primary data was collected from the urban area of Delhi NCR using online/offline questionnaire (Questionnaire attached as an **Annexure**), interviews (with semi-structured questionnaire) with the GoI officials associated with DigiLocker and officials of three agencies i.e. Transport Authority office, banks and college admission offices, where digital documents were being used. Ministry of Road Transport and Highways has issued more than 200 crore documents, hence, it had been identified for investigation. More than 16 crore e-passbooks and account statements have been issued, hence bank had been included for investigation. More than 28 crore marksheets have been issued on DigiLocker which could be used to

seek admission in colleges by the students, hence a college admission office had been included for investigation.

In addition, FGDs were conducted with college students and pensioners, covering two ends of the social spectrum.

Rural area study: For collecting primary data from rural area of Delhi NCR, Rajasthan state had been chosen. Among the Delhi NCR states, Rajasthan had lowest literacy rate of 66.1% as compared to 75.6% of Haryana and 67.7% of UP (Ministry of Statistics and Programme Implementation, 2016). It was assumed that digital awareness in a NCR state with lowest literacy would give insight of the other extreme of the spectrum. Hence, Rajasthan state was taken up for the study.

Alwar and Bharatpur are the only two districts of Rajasthan that fall under the Delhi NCR, hence Alwar District was chosen. Initially, its Neemrana Block was identified for the primary research in the rural area. In August 2023, there was an administrative redistribution of the blocks in districts of Rajasthan, where Neemrana block was re-assigned to Kotputli district, which is not included in Delhi NCR. The websites were updated at a later stage. Hence, Ramgarh Block of Alwar district was selected afresh for the rural study area, keeping in view its adjacent location, connectivity, convenience and the constraints of resources.

Primary data collection from the identified rural area included offline/online questionnaire, interviews with 01 Block Development Officer (BDO) and 01 Additional Development Officer (Addl DO) at Panchayat Samiti office of 'Ramgarh'

Block. An FGD was also conducted with the staff of the office. Interviews with Panchayat Officials/elected representatives in separate Panchayats, i.e in villages ‘Lalawandi’ and ‘Milakpur’ under ‘Ramgarh’ Block, were conducted. In addition, FGDs with local people in the two Panchayats were also conducted. Respondents for FGD were divided into 03 groups as per their ages. Age groups of respondents in Group-1 ranged between 15-30 years, in Group-2 between 30-50 years and in Group-3, above 50 years.

Sampling Plan

Stratified sampling (Urban: college students, working citizens, pensioners. Rural: agriculturists and non-agriculturists/others)

Sample size

Total 202 responses were received. It was ensured that there were minimum 30 respondents from each strata, from statistical aspect.

Limitations

1. The study was in Delhi NCR region due to time and resource constraints.
2. There could have been sample bias as some of the respondents were covered online. Attempts were made to include diverse groups to address this concern.

Chapertization Scheme

1. Introduction.
2. Literature Review.
3. DigiLocker: Overview, features, statistics.
4. Legal and policy framework of DigiLocker.
5. The Study Areas.
6. Research Findings and Analysis.
7. Way Forward.

2. LITERATURE REVIEW

Digital India

Launched in 2015, it is a key government initiative aimed at transforming India into a digitally driven nation. Its goal is to enhance online infrastructure, expand internet access, and deliver government services digitally to citizens. The initiative focuses on areas like digital literacy, improved internet connectivity, and ensuring that services are available at the fingertips of every Indian. Innovations such as Aadhaar, DigiLocker, and UPI have emerged from this program, making services more accessible and efficient, while promoting transparency and inclusivity in governance, thereby driving economic growth and digital empowerment.

Dua (2018) focused on the challenges and implementation strategies of the 'Digital India' program. The study primarily aimed to analyze the scope of 'Digital India', assess its economic impact, and understand the barriers hindering its successful deployment. The methodology used is largely conceptual, relying on secondary sources like government documents, research papers, and reports.

Dua's research highlighted that while 'Digital India' has brought about significant advancements in e-governance and service delivery, it continues to face several challenges. Among these are the lack of robust infrastructure, especially in rural areas, and the widespread issue of digital illiteracy. Despite these challenges, the study acknowledged the potential of 'Digital India' to empower citizens and enhance access to public services.

A major research gap identified was the insufficient attention given to the grassroots level, particularly in how the initiative impacted rural and marginalized populations. The paper suggested that more studies should focus on practical solutions for improving digital literacy and infrastructure in these areas.

Haldankar (2018) explored the 'Digital India' initiative as a transformative tool for the country's digital landscape. The research examined the vision behind 'Digital India' and analyzed the opportunities and challenges it presents. The study was based on secondary data, utilizing government publications, academic papers, and industry reports. The study highlighted how 'Digital India' has succeeded in bridging the gap between urban and rural areas by improving access to broadband services and facilitating platforms like DigiLocker. However, it also pointed out several challenges, including inadequate internet infrastructure in remote regions and a lack of digital literacy among large sections of the population. Additionally, the study emphasized the growing concerns around cybersecurity as digital transactions become more prevalent. Haldankar identified a key research gap in understanding how the initiative will impact sectors like education and healthcare in the long run. More research is needed on localized solutions to improve digital literacy, especially in non-urban areas where digital inclusion is still lagging.

Dar (2022) examined the impact of the 'Digital India' initiative and its role in transforming India into a digitally empowered nation. The study's main objective was to assess both the successes and challenges faced by the program since its launch. The research used a qualitative methodology, drawing on secondary data from a variety of sources, including government documents, reports, and related academic literature.

These findings show that the initiative has significantly improved access to digital services, especially in rural areas, by increasing internet coverage and infrastructure. Programs such as DigiLocker and BharatNet have helped provide citizens with easy access to digital governance. However, the study highlighted some critical challenges, including the digital divide, which remain evident in rural and underserved regions. The lack of digital literacy and the need for stronger cybersecurity measures also remain key hurdles to achieving full success. Despite the progress made, the research identified several gaps, including the need for more region-specific digital literacy programs and better data on the actual performance of various digital initiatives. There is also a need for further studies into the long-term sustainability of these programs and their socio-economic impact across diverse demographics.

Digital empowerment

Digital empowerment is about equipping people and communities with the skills and tools needed to make the most of technology in their everyday lives. It focuses on closing the gap between those with access to digital resources and those without, ensuring everyone can benefit from online services and information. Through increased digital literacy, individuals can better access education, healthcare, financial services, and government platforms. This empowerment leads to more inclusive and transparent societies, allowing people to participate more fully in the digital age and improve their economic and social well-being.

Mäkinen (2006) studied the concept of 'digital empowerment' and how it helped citizens participate more effectively in society. The main aim of the research was to explore how digital technologies enabled individuals to gain greater control over their

lives by promoting active citizenship. Mäkinen took a citizen-centric approach, emphasizing that people should be viewed as active respondents in the digital space rather than passive users of technology. The research was grounded in a qualitative analysis of societal models and policies that incorporated information technology, with particular focus on enhancing inclusivity and participation. Mäkinen's findings suggested that empowerment did not happen simply by giving people access to technology. Instead, it was a gradual process that required both the development of digital skills and the opportunity to engage in decision-making. Her study highlighted that policies around digital empowerment often measured progress through technical indicators such as access to the internet but neglected to consider qualitative measures like people's ability to participate actively in social and political life. Mäkinen pointed to a need for bottom-up approaches where citizens were seen as contributors to societal change, not just consumers. One of the gaps identified in the study was the lack of focus on qualitative factors in existing policies for digital empowerment. Mäkinen called for more research into participatory models that encouraged meaningful involvement from citizens using digital tools.

Kumar (2023) explored the role of 'digital empowerment' in advancing the objectives of India's 'Digital India' initiative. The paper primarily sought to clarify what digital empowerment entailed, examine how it could help achieve the goals of Digital India, and discuss the barriers that stood in the way of widespread digital literacy. Kumar based his analysis on secondary sources and used a conceptual framework to assess how digital services could help close the gap between India's digitally connected and unconnected populations. Kumar's study found that while digital empowerment was critical to the success of Digital India, numerous challenges remained. These included

poor infrastructure in rural regions, widespread digital illiteracy, and cybersecurity concerns. Despite these challenges, Kumar argued that digital empowerment could have provided underserved communities with access to essential services such as healthcare, education, and finance. The role of government initiatives such as 'DigiLocker' and 'Common Service Centers' was highlighted as crucial in driving digital inclusion. The study identified a key research gap in the lack of localized digital literacy programs tailored to the diverse linguistic and cultural landscape of India. Additionally, the research suggested that further study was required to develop scalable and affordable strategies for overcoming the digital divide in the country.

DigiLocker

DigiLocker is a flagship initiative of Ministry of Electronics & IT (MeitY) under Digital India programme. DigiLocker aims at 'Digital Empowerment' of citizen by providing access to authentic digital documents to citizen's digital document wallet. DigiLocker is a secured cloud-based platform for storage, sharing and verification of documents & certificates.

An article by Petare, Vitthalrao & Mukund (2015) focused on the role of DigiLocker in India's efforts to go digital. The study objectives seek to explain the features, purpose, and advantages of DigiLocker within broader context of the Digital India program. The methodology was descriptive, relying on secondary data, such as government documents and reports, to analyze DigiLocker's functions and its significance in reducing paperwork and administrative burdens. The study's findings emphasized that DigiLocker was a vital tool for digital empowerment, offering citizens a secure and efficient way to store and access government-issued documents

electronically. Despite its potential benefits, the article identified several barriers to successful implementation, including insufficient digital literacy, data security risks, and the need for better coordination among government agencies. One of the research gaps highlighted was the lack of field research on how DigiLocker was being adopted by users, particularly in rural regions. The article also suggested that further exploration was needed to evaluate the system's long-term impact on reducing bureaucratic inefficiencies.

A study by Gulati and Verma (2016) focused on the Digital Locker Scheme under Digital India campaign, highlighting its primary objective of providing Indian citizens with a secure platform to store important personal documents such as PAN cards, Aadhaar cards, and passports in electronic form. The research objectives included evaluating the scheme's potential for enhancing digital infrastructure, improving service delivery, and promoting digital literacy. The research method was based on secondary data analysis, drawing insights from various government reports, online sources, and research papers on digital governance. The study's findings revealed that the Digital Locker significantly reduced paperwork, prevented document loss, and streamlined government services across sectors like education, healthcare, and judiciary. It also underscored the scheme's potential for boosting digital engagement among citizens and minimizing administrative overhead costs. However, the research gap identified concerns about challenges in implementing the scheme, such as digital illiteracy, lack of adequate human resources, coordination between different ministries, and the need to improve awareness about the initiative, especially in rural areas.

An article by Bharati and Garg (2016) explored the effectiveness of the Digital Locker initiative launched by the Government of India. The main objective of the research was to analyze factors that influence how useful Indian citizens perceive Digital Locker to be, focusing on aspects like ease of use, social influence, variety of services, and concerns about security risks. The study methodology involved collecting data from 165 respondents through a survey, using convenience sampling. The researchers analyzed the data using regression and correlation techniques to understand how these factors relate to the perceived usefulness of the Digital Locker system.

Their study tested 4 hypotheses regarding the perceived usefulness of Digital Locker. The hypothesis that perceived ease of use positively influences the usefulness of Digital Locker was supported. The study found a significant and positive relationship, showing that users who found the system easy to use were more likely to consider it useful. The hypothesis that perceived risk affects the usefulness of Digital Locker was partially supported. Although there was a positive relationship, the impact of perceived risk on the usefulness was weaker compared to other factors like ease of use and variety of services. The hypothesis that the variety of services offered by Digital Locker has a positive influence on its usefulness was strongly supported. The results indicated that users who saw a wide range of services available, were more likely to find the platform beneficial. The hypothesis that social influence significantly impacts the perceived usefulness of Digital Locker was not strongly supported. While there was some positive association, the effect of social influence on usefulness was weaker compared to ease of use and variety of services.

The results showed that Ease of Use and the Variety of Services provided by Digital Locker had significant positive impact on how useful people find the platform. On the other hand, Social Influence and Perceived Risks related to security had less of an effect. The study concluded that while Digital Locker was viewed as beneficial, but concerns about privacy and security were still present among users. The research gap identified suggests the need for further exploration of security issues and a broader study covering different age groups and demographics to gain a more comprehensive understanding of its usefulness.

Kumar (2016) studied the DigiLocker initiative, focusing on its uses, challenges, and public reception. The research objectives were twofold: first, to understand the benefits provided by the DigiLocker facility, and second, to identify the challenges users face in adopting this digital platform. The methodology used was descriptive, involving a survey of 60 respondents from Rohtak City, segmented into three categories: students, professionals, and businessmen, to gauge their awareness & use of DigiLocker. The study revealed that while 76.67% of the respondents were aware of DigiLocker, only 35% had actually opened an account. A significant portion, particularly among businessmen, showed reluctance, primarily due to concerns over the security of their documents. The findings suggested that the government's awareness campaigns had been somewhat effective, but there remain gaps, particularly in IT literacy and addressing security concerns. Key challenges highlighted include the general public's lack of trust in digital document safety and the risk of cyberattacks. The research identified gaps in security and technological literacy as areas requiring attention to improve adoption rates and achieve the full potential of DigiLocker.

An article by Porey (2016) provided an interesting analysis of digital locker systems in India, leveraging insights from various scholars, government reports, and subject matter experts. One of the notable arguments was that India's digital locker system holds immense potential for securing electronic documents and simplifying inter-departmental information sharing. However, it also emphasized the significance of having robust digital infrastructure and digital literacy for smooth implementation. The study's research objectives focused on understanding the core principles of the Digital India initiative and examining the strengths and weaknesses of the existing digital locker system. The authors' research methodology relied on an analysis of published materials from government sources, academic journals, and websites. The study's key findings suggested that these systems can effectively reduce the risk of document loss and forgery by offering citizens a personal electronic space for secure storage of their documents. Despite shedding light on the subject, the study left certain aspects unexplored, making way for further research. A prominent knowledge gap lie in the need for broad awareness programs to inform citizens about the benefits of utilizing digital lockers. Moreover, closer coordination between various departments and institutions was also essential for achieving seamless integration with digital lockers.

An article by Vaijawade, Khelkar, and Thakare (2016) explored the Digital Locker system under the Digital India initiative, aimed at reducing physical documentation and enabling the secure sharing of digital documents. The research objectives of this study were to highlight the functionality, benefits, and security aspects of the Digital

Locker system. Specifically, it seek to showcase how the system minimized the use of physical documents, ensured the authenticity of e-documents, and provided secure access to these documents for residents, government entities, and organizations. The methodology used in the article was largely descriptive, focusing on an overview of the Digital Locker's infrastructure. The authors provided a detailed breakdown of the system's four working modules: Administrator, Government Verifier, Organization, and Public Users. Each module served a distinct function, from managing the system's overall security to facilitating document storage, verification, and access. The authors also examined the types of files that can be uploaded, such as PDFs, JPEGs, and PNGs, and how users could access their documents anytime and anywhere.

The findings suggested that Digital Locker improved document management by reducing administrative burdens and simplifying access to government-issued documents. The platform enhanced document authenticity through a government verification process and ensured that users can upload and share their personal documents securely. However, despite these benefits, the study also identified challenges such as the need for increased functionality and user awareness. The research gap lie in the need for empirical studies to evaluate the system's efficiency in real-world applications and assess the security protocols in place. The authors suggested that while Digital Locker is a robust solution, further advancements were necessary to maximize its potential for national implementation.

An article by Uthira (2018) examined how users adopt and accept DigiLocker, an initiative aimed at promoting paperless governance. The study's main objective was to explore how various factors i.e. perceived usefulness, ease of use, risk, and trust

affect users' willingness to adopt the platform, using the Technology Acceptance Model (TAM). TAM, developed by Fred Davis, that served as a framework to understand how users make decisions about technology based on its perceived ease of use and usefulness. The research methodology adopted an exploratory approach, collecting data through a survey distributed to 100 respondents. The majority of the respondents were students, with 83% identifying as such, and 65% of the total sample were female. Most respondents had access to the internet, with 95% reporting internet availability at home, and the predominant device used to access DigiLocker was a smartphone (71%). In terms of education, a significant portion of respondents (46%) were postgraduates. Regarding internet experience, 73% of respondents had been using the internet for over five years, which reflects their digital familiarity.

This demographic data highlighted that the study sample was largely tech-savvy, providing a relevant context for examining the acceptance of a digital service like DigiLocker. The analysis confirmed that TAM is suitable for explaining user behavior in the context of DigiLocker adoption. There was a direct, positive relationship between perceived usefulness and perceived ease of use. An increase in perceived ease of use lead to an increase in perceived usefulness of DigiLocker, and vice versa. Both perceived usefulness & perceived ease of use were positively related to perceived quality. If users found DigiLocker both easy to use and beneficial, they also perceived the service as higher in quality. Perceived risk was directly related to trustworthiness. As perceived risk increased (e.g., concerns about security), trust in the DigiLocker system decreased, highlighting security concerns as a barrier to user adoption. There was a positive relationship between perceived quality and user satisfaction.

Higher perceived quality lead to greater satisfaction with DigiLocker, indicating that when users believed the platform was reliable and efficient, they were more likely to be satisfied with it. Compatibility (how well DigiLocker fits into users' lives) and subjective norms (social influence) were positively related to perceived usefulness, perceived ease of use, perceived quality, and perceived behavioral control. Users were more likely to adopt DigiLocker if they felt it fits well with their daily needs and if they perceived social pressure to use it. Perceived usefulness and ease of use had an inverse relationship with perceived risk and trustworthiness. As perceived risk decreased, both perceived usefulness and ease of use increased, leading to higher trust in the system. Perceived behavioral control (the user's belief that they have the ability to use DigiLocker effectively) was positively related to perceived usefulness, ease of use, quality, and satisfaction. The more control users felt they have over using DigiLocker, the more satisfied they were likely to be. Perceived risk had an inverse relationship with perceived usefulness. Lower perceived risk lead to higher perceived usefulness, suggesting that reducing security concerns would make DigiLocker appear more valuable to users.

The findings suggested that users are more likely to adopt DigiLocker when they perceived it as useful and easy to use, which aligned with TAM's predictions. However, concerns over data security (perceived risk) negatively impacted user trust, which acts as a barrier to widespread adoption. The study emphasizes the need for better awareness campaigns and improved integration with government services to increase usage. One of the research gaps identified was the low awareness of DigiLocker among users. The study recommended further research with larger sample sizes to better understand its adoption dynamics.

An article by Kumar, Chaturvedi, and Dave (2018) delved into the issue of securing personal data when stored in DigiLocker, especially with Aadhaar integration. The primary research objective was to explore and address the security risks associated with the Aadhaar-DigiLocker system, proposing a framework to safeguard user data effectively. In terms of methodology, the authors relied on a detailed analysis of the current security measures used in DigiLocker and Aadhaar integration. They identified potential vulnerabilities, such as weaknesses in OTP-based authentication, and propose solutions that involve using advanced security techniques like Secure Socket Layer (SSL) encryption and Secure Hash Algorithm (SHA-256). The study's findings suggested that while DigiLocker offers notable benefits, such as reducing paperwork and enabling easy access to important documents, its current security measures fell short.

The researchers emphasized that reliance on OTP-based security was inadequate. To strengthen the system, they proposed additional security layers, including multi-factor authentication and encrypted document exchanges. The research gap lie in the insufficient security measures, such as the lack of biometric verification, limited storage capacity, and the challenges in integrating central and state-level DigiLocker systems. To address these gaps, the authors recommended enhancing security protocols and educating users on the associated risks.

Kumar & Baghel (2019) presented an in-depth examination of the Digital India initiative, focusing on the concept of digital lockers and their potential to transform the way Indians manage their documents. The authors' primary research objective was

to investigate the current state of digital lockers in India and identify areas for improvement, with a view to enhancing the overall efficiency of government services. A qualitative research methodology was employed, involving a comprehensive review of existing literature, government reports, and online resources. By analyzing the experiences of other countries that have implemented similar systems, the authors provided a comparative perspective on the Indian context. This approach enabled them to identify key themes and issues related to the digital locker system, including its benefits, challenges, and limitations. The authors' findings suggested that the digital locker system could significantly enhance the security, convenience, and efficiency of document management for Indian citizens. However, the study also highlighted the need for improved digital infrastructure, increased digital literacy, and better coordination between government departments to ensure the system's successful implementation.

Despite its potential benefits, several research gaps remained, including the impact of digital lockers on marginalized communities and the potential risks associated with their use. Notably, the study overlooked the role of private sector organizations in promoting digital lockers and the potential for public-private partnerships in this area. Furthermore, the authors did not explore the potential consequences of widespread digital locker adoption on traditional document management systems. These gaps provide opportunities for future research and further exploration of the digital locker system in India.

An article by Kaur & Kaur (2019) focused on evaluating the awareness and utilization of DigiLocker among undergraduate students in Delhi. The study's main research

objective was to determine the impact of factors like age, gender, type of school, and course on students' familiarity with and use of DigiLocker. Additionally, it explored students' perceptions of the tool's security and ease of use. The methodology adopted was empirical, involving a survey conducted through Google forms, gathering responses from 226 undergraduate students across different colleges in Delhi. The findings revealed that knowledge of DigiLocker was significantly affected by variables like age, the type of school attended, and the course of study. Younger students (first-year) were less aware of DigiLocker compared to older students (final-year). Students from private schools were more likely to be aware of DigiLocker compared to those from government schools. Students pursuing technical or professional courses had greater awareness and usage of DigiLocker than those in general courses.

On the other hand, gender and the specific college the students attended had no significant effect on their use of the platform. Despite the scheme's potential benefits, the study pointed out that many students, especially first-years, remained unaware of its advantages, such as simplifying document submission for admissions. Concerns about data security were also highlighted, and the limited adoption of DigiLocker by educational institutions underscored a gap in its broader implementation.

Another article by Kaur & Kaur (2019a) explored how DigiLocker, a flagship initiative under Digital India, was being utilized by college and engineering students in Delhi. The main research objectives included evaluating the extent of awareness and adoption of DigiLocker among students and examining how factors like gender, school background, course type, college location, and year of study influenced its use.

The study employed an empirical methodology, using a questionnaire that was distributed to a total of 721 students, including 455 undergraduates and 266 engineering students. The questionnaire gathered information about students' awareness of the platform, the types of documents stored, and their views on its security and usability. The results revealed that DigiLocker usage was significantly influenced by the students' school background, type of course, and the geographical location of their college.

On the other hand, gender and year of study were found to have no notable impact. There was a significant difference in DigiLocker usage based on the type of school (private or government) students attended, whether the college is located in the city center or outskirts and on the type of course (undergraduate, professional, or engineering) the students are pursuing. 78% of the respondents reported maintaining their driving license, class 10th, and class 12th mark sheets in their DigiLocker account. 82% of final-year undergraduate respondents believed that using DigiLocker would ease the process of applying for jobs during their placements. 80% of first-year respondents mentioned that the verification of documents against DigiLocker copies streamlined their admission process. 78% of the respondents reported maintaining their driving license, class 10th, and class 12th mark sheets in their DigiLocker account. 82% of final-year undergraduate respondents believed that using DigiLocker would ease the process of applying for jobs during their placements. 80% of first-year respondents mentioned that the verification of documents against DigiLocker copies streamlined their admission process.

Although DigiLocker presented clear benefits, the research identified several gaps, such as insufficient awareness among first-year students and the lack of institutional adoption for college admissions. The study called for increased publicity and improved institutional preparedness to make DigiLocker more accessible to the youth. Notably, the article pointed out that security concerns remain a barrier to full adoption, indicating the need for further research on how to address these issues.

Wilson (2020) investigated the progress and challenges of the DigiLocker system. The study's objective was to evaluate the expansion of DigiLocker, examine its connection to rising internet usage, and identify the benefits and obstacles that affect its adoption.

The research methodology employed a descriptive analysis, utilizing secondary data collected from official government reports, websites, and publications spanning from 2015 to 2019. The study emphasized the system's benefits, such as secure online document storage and accessibility, while also addressing hurdles like inadequate internet access and low levels of digital literacy in India. The analysis highlighted a strong positive correlation between the increasing number of internet users and the growth in DigiLocker registrations.

However, its adoption was constrained by issues such as inconsistent internet access, digital illiteracy, and the limited acceptance of digital documents by certain institutions. The number of registered users increased from 2.7 million in 2016 to 33.6 million in 2019, with a significant spike between 2018 and 2019. Maharashtra had the highest number of registered users and the majority of registrations were from the 21-

30 age group, while the age group above 60 showed minimal usage. It identified that the usage was dependence on internet penetration in rural areas and that not all institutions accepted DigiLocker documents, limiting its utility. The research gap suggested the need for a deeper exploration into how digital literacy influences DigiLocker adoption and highlights the importance of gaining broader institutional support to further its integration.

3. DIGILOCKER: OVERVIEW, FEATURES AND STATISTICS

Overview

Digitalization transforms traditional manual and paper-based systems into efficient, accessible digital platforms. It enhances operations, simplifies processes, and reduces costs. For instance, digital public services allow citizens to access government resources online, cutting down on physical visits and enabling seamless interactions (United Nations E-Government Survey, 2022).

Global leaders like Estonia and Singapore exemplify digital governance. Estonia's e-residency program facilitates online healthcare and voting, positioning the country as a digital republic. Singapore's Smart Nation initiative integrates technology into public services, transportation, and urban planning. These nations, while refining their ecosystems, focus on accessibility and inclusivity. Similarly, India's 'Digital India' program launched in 2015 aims to empower citizens by bridging digital divides and fostering economic inclusion (GovTech Singapore, 2023).

DigiLocker, introduced under 'Digital India,' exemplifies how digital tools can transform public service delivery. It provides cloud-based storage for documents like Aadhaar cards, driving licenses, and academic certificates. Its key features include:

- 1. User Authentication:** Aadhaar-linked credentials ensure secure access (DigiLocker, 2024).
- 2. Government Integration:** Partnerships with 1,577 government bodies streamline document issuance and verification.

3. **Privacy and Security:** Advanced encryption safeguards user data (Jain, 2023).
4. **Paperless Governance:** Reduces paperwork and bureaucratic inefficiencies.
5. **Education and Employment Support:** Simplifies processes for admissions, job applications, and background checks.

With over 434 million users and 9.39 billion issued documents (as of January 2025), DigiLocker underscores the potential of digital initiatives to enhance accessibility and efficiency.

Digital empowerment in India extends beyond governance to education, healthcare, and entrepreneurship. Key initiatives include:

1. **Access to Technology:** Expanding broadband networks and CSCs in underserved areas.
2. **Digital Literacy Programs:** Enabling citizens to navigate digital platforms securely.
3. **Skill Development:** Encouraging entrepreneurship through digital tools.
4. **Online Services:** Platforms like DigiLocker reduce dependency on physical documents, promoting convenience and transparency.

The rise of digital entrepreneurship has catalyzed economic growth, particularly in e-commerce and IT sectors. Digital empowerment fosters inclusivity, enabling marginalized communities to participate in the economy.

The Road Ahead: To sustain the momentum, India must address existing challenges:

1. Strengthen digital literacy programs to reach the underserved.
2. Invest in robust infrastructure to connect remote regions.
3. Enhance legal frameworks to protect user data and privacy.

India's commitment to digital transformation, exemplified by initiatives like DigiLocker, positions it as a global leader in digital governance. While challenges remain, the progress achieved under 'Digital India' offers a blueprint for inclusive, technology-driven development.

DigiLocker's success highlights the transformative potential of digital initiatives in governance. By addressing infrastructure gaps and promoting digital literacy, India can further empower its citizens and pave the way for a digitally inclusive future.

The Correlation between Digital Platforms and Improved Quality of Life in

India: Digital platforms like DigiLocker have transformed how services are accessed and delivered in India, creating a positive impact on the 'Quality of Life' (QoL) for individuals. By improving accessibility, inclusivity, and transparency, they have become instrumental in enhancing the daily lives of people, especially in areas like governance, education, and healthcare. Smart technology can help improve quality of life indicators by 10-30%. Some examples of positive impacts are shorter commutes, lesser efforts, lower carbon emissions and improved utilities (Forbes Tech Council, 2021).

Accessibility and Convenience

One of the most significant contributions of digital platforms is the convenience they offer. DigiLocker, for instance, provides users with the ability to securely store and access documents like Aadhaar, driving licenses, and educational certificates anytime, anywhere. This reduces the dependence on physical copies and minimizes logistical challenges, especially in emergencies like medical crises or during job applications (Government of India, 2022). Such accessibility ensures that critical services can be availed without delay, saving both time and effort (Bhatnagar & Singh 2010).

Inclusion and Empowerment

Digital platforms are also intended for fostering social inclusion. In rural and underserved regions, where access to physical government offices may be limited, DigiLocker bridges the gap by enabling citizens to interact with formal systems more efficiently (World Bank, 2021). Additionally, it's been instrumental in empowering women, who often face mobility constraints, by giving them direct access to essential services and documents through mobile devices.

Efficiency in Governance

By reducing paperwork and digitizing records, DigiLocker attempts to enhance efficiency and transparency in governance. For example, users can share verified documents directly with institutions, reducing the risks of fraud and forgery. This efficiency is particularly evident in public welfare schemes, where the direct transfer of benefits through digital systems has significantly minimized leakages and delays (United Nations, 2022). Platforms like DigiLocker contribute to a more streamlined, transparent system, benefitting both citizens and administrators.

Economic Opportunities

Digital platforms, like DigiLocker, aims to support economic growth by improving employability and entrepreneurship opportunities. Verified digital credentials, such as degrees and GST certificates, can be accessed and shared with employers or financial institutions quickly, enabling individuals to secure jobs or loans (MeitY, 2023). Entrepreneurs, particularly in small and medium enterprises, benefit from faster documentation processes that are essential for business growth.

Improved Social Services

The healthcare and education sectors have benefited from digital platforms. For instance, the ability to store health insurance cards and medical records (ABHA card) digitally has improved continuity of care. Similarly, students can easily access mark sheets and certificates issued by DigiLocker-integrated institutions, making processes like university admissions or job applications more seamless (UNESCO, 2022; MeitY, 2023).

Environmental Benefits

A potential indirect benefit of such platforms is the contribution to environmental sustainability. By reducing dependence on physical paperwork, they help lower deforestation and energy consumption linked to paper production, thereby contributing to a cleaner environment (United Nations, 2022). A healthier environment indirectly supports better living conditions, thereby improving quality of life.

Security and Privacy

DigiLocker is designed to provide a secure repository for personal documents, reducing risks of loss or theft. Its user-centric approach allows individuals to share data selectively, giving them greater control over their information. The emphasis on privacy & security is essential in today's digital age, where data breach is becoming increasingly common.

Evolution of DigiLocker in India

An interaction with the Director- DigiLocker & UMANG and Additional Director, DigiLocker, delved into the journey, challenges, and achievements of implementing DigiLocker, a pivotal step in India's digital governance. Highlights of the interaction are as follows:

The concept of DigiLocker began with an idea based on two pillars: To provide space in the data cloud to every citizen and to provide door-step delivery of services, in the form of a secure, user-friendly space for storing and sharing documents. It started with manual uploads but quickly evolved to direct integrations with issuers, ensuring reliability and reducing errors. A big breakthrough came in 2016 with CBSE educational certificates, which paved the way further for Aadhaar cards, driving licenses, and other essential documents.

There were challenges and resistance. Convincing authorities to trust digital documents wasn't easy— early on, traffic police often refused to accept digital driving licenses. There was also hesitation from older generations, who were more comfortable with physical paperwork and worried about security.

To address this, the team focused on students, partnering with education boards to make DigiLocker part of their lives early. By 2020, DigiLocker had built an impressive network, collaborating with over 2,000 issuers and supporting 300 types of services.

Technological advancements, like e-signatures and selective data sharing, made DigiLocker even more powerful. Partnerships with regulators like RBI and SEBI brought it into the financial world, simplifying KYC processes.

The pandemic showed how essential platforms like DigiLocker could be, driving massive adoption. Looking forward, the vision includes adding land records, financial documents, and even making DigiLocker usable globally.

The story of DigiLocker isn't just about technology—it's about a cultural shift towards digitization in India. DigiLocker has become a symbol of trust, innovation, and the future.

Features

DigiLocker is designed to facilitate how citizens interact with their official documents. By providing a secure, cloud-based platform, it minimizes reliance on physical documents while promoting accessibility, efficiency, and security. This section delves deeper into the primary features of DigiLocker and their broader implications, as described in the policy documents (DigiLocker, 2024).

1. User Authentication: DigiLocker employs Aadhaar, India's unique identification system, to authenticate users, ensuring secure and reliable access to personal records.

User verification is facilitated through an OTP (One-Time Password) sent to the registered mobile number or email linked with Aadhaar. This mechanism serves as a robust safeguard against identity theft.

Beyond mere access, Aadhaar-based authentication significantly simplifies digital onboarding, allowing citizens to link and access documents issued by various authorities effortlessly. The elimination of manual identity verification reduces delays, improves efficiency, and prevents document mismanagement or loss.

The convenience offered by DigiLocker's authentication system is transformative for individuals across socioeconomic strata. For instance, rural citizens who may struggle to maintain physical documents due to environmental or logistical challenges can benefit from the platform's secure and reliable digital repository.

2. Integration with Government Services: A cornerstone of DigiLocker's utility lies in its extensive integration with government services. The platform provides a centralized repository where citizens can access over 600 types of official documents issued by diverse agencies. These include Aadhaar cards, driving licenses, vehicle registration certificates, income tax filings, and academic credentials.

Examples of government integration include:

- (a) **Transport Sector:** Citizens can download driving licenses and vehicle registration certificates directly from DigiLocker. This eliminates the need to visit Regional Transport Offices (RTOs) for physical copies.

(b) Education Sector: Universities and boards of education issue degree certificates, mark sheets, and diplomas through DigiLocker. This direct issuance ensures authenticity, simplifies the verification process, and reduces the risk of forgery. This seamless linkage between Government services and citizens reduces bureaucratic hurdles and also enhances the transparency and reliability of document handling. For instance, when applying for government schemes, beneficiaries can instantly share verified digital documents, significantly expediting the process.

3. Privacy and Data Security: Given the sensitive nature of documents stored on DigiLocker, privacy and security are of paramount importance. The platform employs advanced encryption technologies to protect user data, ensuring that unauthorized entities cannot access stored records. Aadhaar-linked login credentials and multi-factor authentication (MFA) further bolster the platform's security. Moreover, users have control over document sharing. DigiLocker allows citizens to generate secure links or QR codes for sharing specific files, ensuring that only the intended recipient can access them. This feature is particularly useful for processes requiring confidential data exchange, such as loan applications or academic admissions. DigiLocker adheres to international data protection standards, with regular audits to ensure compliance. This commitment to security fosters trust among users, encouraging widespread adoption.

4. Moving Toward Paperless Governance: One of DigiLocker's most impactful contributions is its role in advancing India's vision of paperless governance. By

offering a digital alternative to physical documentation, it reduces the administrative burden on both citizens and institutions. For example:

- (a) When applying for a loan, citizens can digitally share income certificates or bank statements, eliminating the need for hard copies.
- (b) Government agencies can process applications faster due to the instant availability of verified documents.

The environmental benefits of paperless governance are also noteworthy. By reducing reliance on paper, DigiLocker contributes to sustainable development goals, helping to lower deforestation and waste generation.

5. Transforming Education and Employment: DigiLocker has streamlined document management in the education and employment sectors. The ability to securely store and share academic records has transformed how students and job seekers navigate admissions and recruitment processes.

Examples include:

- (a) **Student Mobility:** The Academic Bank of Credits (ABC) integration allows students to store and transfer academic credits digitally, facilitating seamless transitions between institutions.
- (b) **Recruitment Efficiency:** Employers can verify qualifications directly on DigiLocker, reducing the time and effort involved in background checks. This feature is particularly beneficial in India's competitive job market, where quick and accurate verification of credentials can be a decisive factor.

6. Promoting Financial Inclusion: Financial inclusion is a significant focus of DigiLocker. The platform enables users to store essential financial documents, such as

income certificates, insurance policies, and bank statements, in a secure digital format. This accessibility empowers individuals to participate more actively in economic activities.

For example, Loan Applications. Applicants can directly share verified documents with banks, expediting approval processes. For marginalized communities, who often face barriers in accessing financial services due to document unavailability, DigiLocker serves as critical tool for empowerment and inclusion.

7. Universal Accessibility: DigiLocker is designed to be inclusive, catering to India's diverse population. It supports multiple Indian languages, ensuring that linguistic barriers do not hinder usage. Additionally, the platform's mobile-friendly interface makes it accessible to citizens who primarily use smartphones for internet access. The mobile app's intuitive design allows users to retrieve and share documents easily, making it particularly valuable in rural areas, where access to computers may be limited.

8. Ecosystem Collaboration and Innovation: DigiLocker fosters a collaborative ecosystem by enabling third-party integrations through its API-based architecture. This allows educational institutions, banks, healthcare providers, and private enterprises to connect their systems with DigiLocker, enhancing service delivery and user experience. For instance:

- (a) Educational Institutions: Universities can directly issue digital diplomas to students' DigiLocker accounts.
- (b) Healthcare Providers: Hospitals can share medical records securely through the platform under "Ayushman Bharat".

This openness to innovation encourages startups and tech companies to develop value-added services around DigiLocker, contributing to the growth digital economy.

Statistics

The DigiLocker platform was launched in 2016 and has grown since then. Now, it has 434 million (43.4 crore) registered users as of December 31, 2024 (<https://meity.dashboard.nic.in> , accessed on January 10, 2025). There are 1892 ‘issuers’ and 2241 ‘requesters’ on the platform (DigiLocker.gov.in/web/statistics). The growth curve of DigiLocker users shows a marked increase after COVID-19 phase. Since 2023-24, there was a steep increase in its users. Fig 3.1 depicts graphical representation of the year-wise increase in number of registered users of DigiLocker.

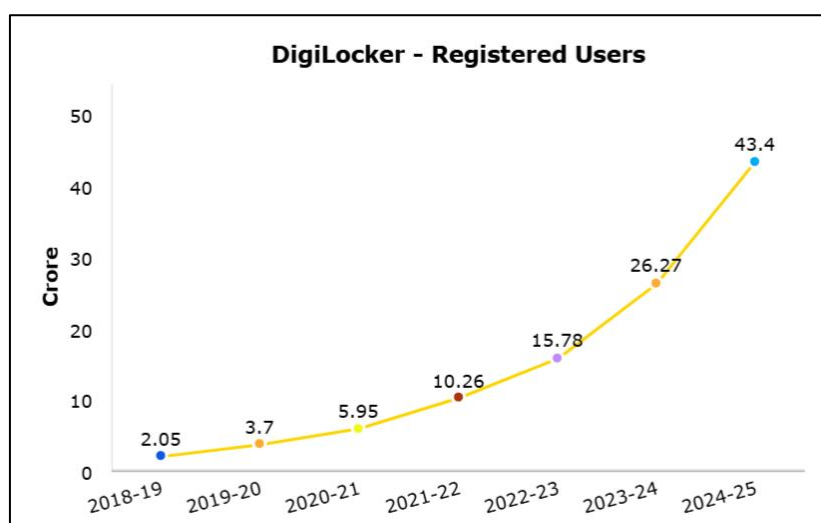


Fig 3.1: Year-wise registered users of DigiLocker. (<https://meity.dashboard.nic.in>. accessed on January 20, 2025)

Since its inception in 2016, DigiLocker has issued a total of 9.39 billion (939.57 crore) documents on its portal as of December 31, 2024. Fig 3.2 depicts graphical

representation of the year-wise increase in number of issued documents on DigiLocker.

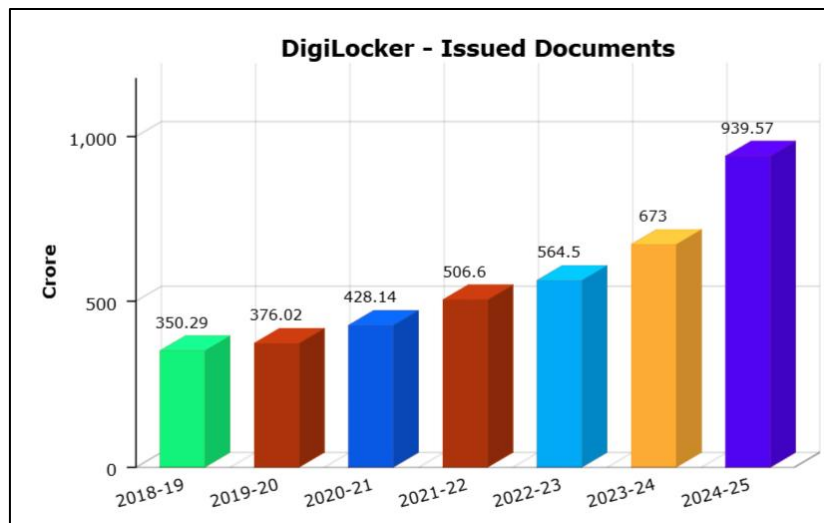


Fig 3.2: Year-wise No. of issued documents on DigiLocker (<https://meity.dashboard.nic.in>. accessed on January 20, 2025)

Till December 31, 2024, there have been 6863.38 lakh documents that have been accessed on the DigiLocker platform. Fig 3.3 depicts graphical representation of the year-wise increase in number of accessed documents and Fig 3.4 depicts the number of consumed documents of DigiLocker.

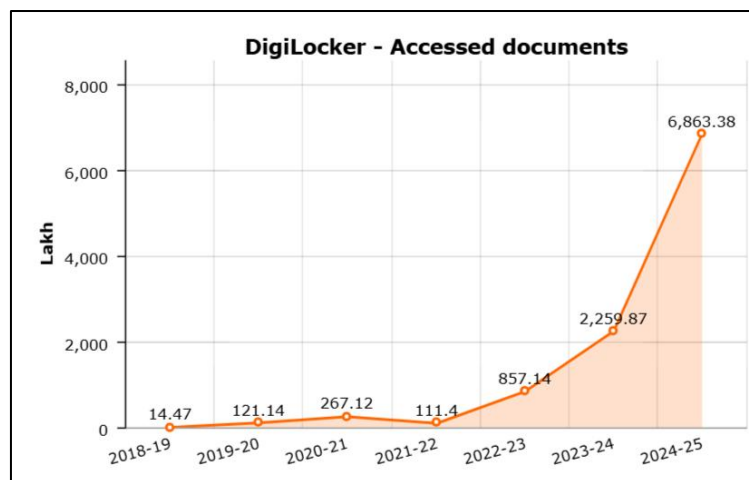


Fig 3.3: Year-wise No. of accessed documents on DigiLocker (<https://meity.dashboard.nic.in>. accessed on January 20, 2025).

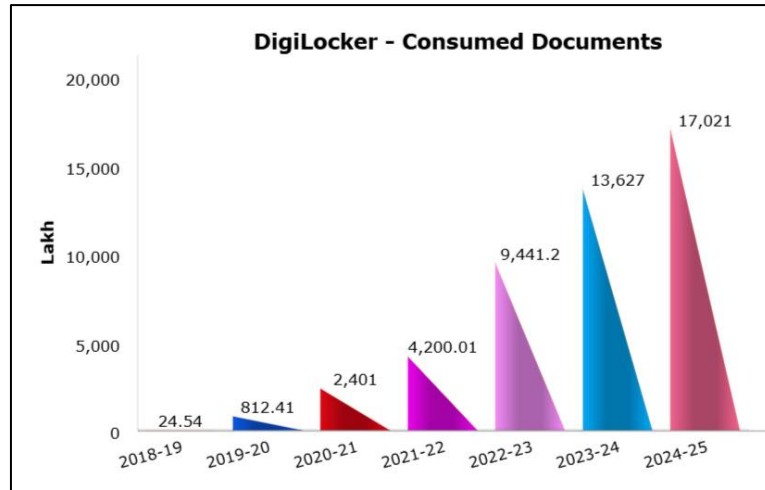


Fig 3.4: Year-wise No. of consumed documents on DigiLocker (<https://meity.dashboard.nic.in>. accessed on January 20, 2025).

Among the most issued documents on the DigiLocker upto the year 2024, ‘Aadhaar card’ ranks the first. Amongst the least issued documents are ‘Licence for massage parlour’, ‘Agreement to sell’ and ‘Permit to operate Ambulance’, with only one (01) document issued upto the year 2024 (DigiLocker.gov.in/web/statistics). Amongst the top issuer organizations upto the year 2024, is the Ministry of Health & Family Welfare, followed by UIDAI & MoRTH.

Fig 3.5 depicts the top 08 issued documents and Fig 3.6 depicts top 08 issuer organizations upto the year 2024.

Sr.No.	Name	Available
1	Aadhaar Card	1,39,30,19,098
2	UAN Card	43,02,10,144
3	Policy Document	38,17,98,977
4	PAN Verification Record	1,40,48,00,000
5	Insurance Policy - Two Wheeler	31,27,38,652
6	Ration Card	26,02,36,472
7	Registration of Vehicles	21,42,44,958
8	Vehicle Tax Receipt	19,62,10,068

Fig 3.5: Top eight documents issued on DigiLocker upto 2024. (<https://www.DigiLocker.gov.in/web/statistics>, accessed on January 20, 2025).

Sr.No.	Issuer Organization	Documents
1	Ministry of Health & Family Welfare	1,50,00,00,000
2	Unique Identification Authority of India (UIDAI)	1,38,34,54,546
3	Ministry of Road Transport and Highways	1,03,98,11,313
4	CERSAI (CKYC)	91,00,00,000
5	Income Tax Department	70,24,00,000
6	New India Assurance Co. Ltd.	38,61,31,239
7	Indian Overseas Bank	38,50,00,000
8	Ayushman Bharat	36,16,77,899

Fig 3.6: Top eight issuer organizations on DigiLocker upto 2024. (<https://www.DigiLocker.gov.in/web/statistics>, accessed on January 20, 2025).

Amongst the states and UTs with most number of issuers, Maharashtra ranks first. Andaman & Nicobar, Ladakh and Lakshadweep rank the lowest with only four (04) issuers ([DigiLocker.gov.in/web/statistics](https://www.DigiLocker.gov.in/web/statistics)). Fig 3.7 depicts the States/UTs with the range of issuers in shaded form.

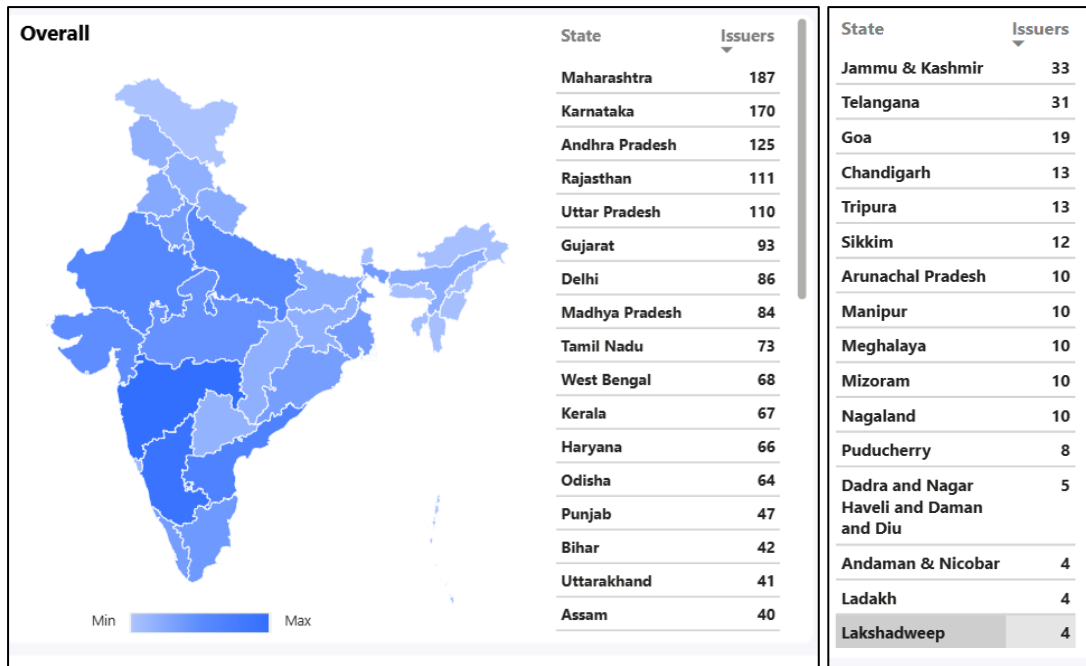


Fig 3.7: States/UTs with issuers on DigiLocker upto 2024. (<https://www.DigiLocker.gov.in/web/statistics>, accessed on January 20, 2025).

Amongst the states and UTs with most number of requesters, Maharashtra ranks first. Three of the Northeastern states rank the lowest with only one (01) requester (DigiLocker.gov.in/web/statistics). Fig 3.8 depicts the States/UTs with the range of requesters in shaded form.

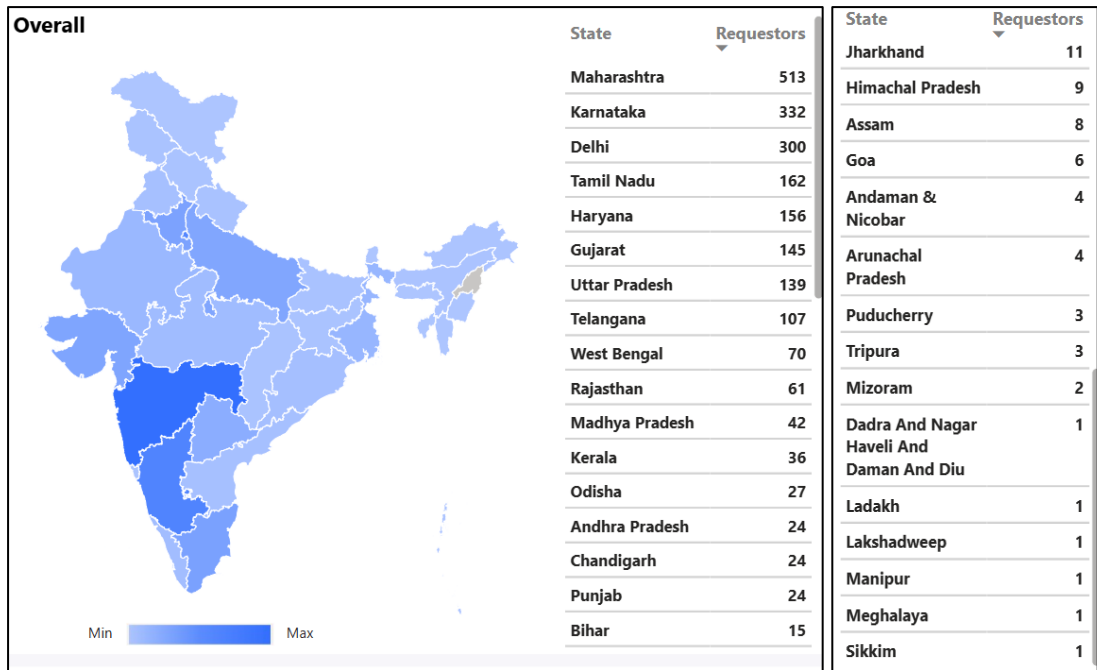


Fig 3.8: States/UTs with requestors on DigiLocker upto 2024. (<https://www.DigiLocker.gov.in/web/statistics>, accessed on January 20, 2025).

Among the No. of DigiLocker users per State/UT, Uttar Pradesh has got maximum users (31194516) and Ladakh has got the least (6406). Fig 3.9 depicts the list of States/UTs with No. of DigiLocker users.

state	count
Andaman_and_Nicobar_Islands	80985
Andhra_Pradesh	10628598
Arunachal_Pradesh	204544
Assam	5025509
Bihar	11669467
Chandigarh	391024
Chhattisgarh	2974459
Dadra_and_Nagar_Haveli	84189
Daman_and_Diu	44985
New_Delhi	6913599
Goa	356102
Gujarat	11710154
Haryana	6600701
Himachal_Pradesh	1595585
Jammu_and_Kashmir	1872539
Jharkhand	3955842
Karnataka	19850154
Kerala	5933514
Ladakh	6406
Lakshadweep	8189
Maharashtra	27185864
Madhya_Pradesh	10711590
Manipur	351037
Meghalaya	201731
Mizoram	96190
Nagaland	150966
Odisha	5055072
Puducherry	236188
Punjab	5562792
Rajasthan	13359134
Sikkim	95791
Tamilnadu	10909693
Telangana	4392134
Tripura	389615
Uttar_Pradesh	31194516
Uttarakhand	2425896
Uttaranchal	171
West_Bangal	9916808

Fig 3.9: States/UTs with No. of DigiLocker Users. (data obtained from NeGD by email on September 8, 2024).

Implications of DigiLocker: The innovative features of DigiLocker have far-reaching implications across sectors:

- 1. Convenience and Accessibility:** Citizens can access critical documents instantly, regardless of their location.

2. **Time and Cost Efficiency:** By eliminating physical paperwork, DigiLocker reduces delays and associated expenses.
3. **Transparency:** The direct issuance of documents by government agencies ensures authenticity and prevents tampering.
4. **Environmental Sustainability:** DigiLocker's paperless approach aligns with global sustainability goals.

DigiLocker exemplifies the potential of technology in transforming public service delivery. Its integration with Aadhaar ensures secure access, while partnerships with government bodies streamline the issuance and verification of documents. By addressing the needs of education, employment, and financial inclusion, DigiLocker serves as a model for paperless governance.

Despite its achievements, challenges like improving digital literacy and expanding internet connectivity in rural areas remain. Addressing these issues will ensure the platform reaches its full potential and benefits every segment of society. DigiLocker is a testament to how innovative digital solutions can empower citizens and make governance more inclusive and efficient.

By embracing such initiatives, India continues to take significant strides toward becoming a digitally empowered nation.

4. LEGAL AND POLICY FRAMEWORK OF DIGILOCKER

A strong legal and policy framework underpins DigiLocker's operations, ensuring that it adheres to data security standards, compliance regulations, and legal validity requirements. The framework includes various laws and policies that safeguard digital transactions, authentication mechanisms, data privacy, and the legal acceptance of electronic records. These regulations collectively make DigiLocker a legally recognized, trusted, and user-centric digital platform, helping citizens and institutions transition to a fully digital document ecosystem.

Legal Framework

The legal foundation of DigiLocker is rooted in multiple legislations, ensuring its authenticity, reliability, and legal enforceability. The Information Technology Acts, Aadhaar Act and Data Protection Laws provide a comprehensive legal structure that governs its operations.

1. Information Technology (IT) Act, 2000 and IT (Amendment) Act, 2008

The Information Technology (IT) Act, 2000, serves as the primary legislation for governing electronic records, authentication processes, and digital transactions in India. Sections 3 and 3A of this Act legally validate electronic documents and digital signatures, granting them the same legitimacy as their paper-based equivalents (Ministry of Law and Justice, 2000). Sections 3 and 3A form the berth for DigiLocker, as digital documents issued on DigiLocker become equivalent to their hard copy papers.

With the IT (Amendment) Act, 2008, the government reinforced regulations to enhance cybersecurity, secure digital transactions, and safeguard user data (Ministry of Law and Justice, 2008). This amendment plays a critical role in strengthening the credibility of digitally signed records, ensuring that electronic documents in DigiLocker are legally admissible and tamper-proof.

DigiLocker's foundation is built on the Information Technology (IT) Act, 2000, and the IT (Amendment) Act, 2008, which provide the legal framework for electronic records, cybersecurity, and data protection.

Following are the key provisions of these Acts and their relevance to DigiLocker:

(a) Making Digital Documents Legally Valid: The IT Act, 2000 was the first step in recognizing electronic records as legally equivalent to physical documents. Sections 4 and 5 ensured that digital documents and electronic signatures could be legally accepted in place of paper-based ones.

The 2008 Amendment went further by introducing Section 6A, which enabled government agencies to issue digital documents—the exact role DigiLocker plays today.

Relevance to DigiLocker:

- (i) Documents stored in DigiLocker are as legally valid as physical ones.
- (ii) Reduces reliance on paper documents in government and private transactions.

(b) Ensuring Data Security and Privacy: DigiLocker holds sensitive personal information, including Aadhaar-linked records, driving licenses, and educational certificates. The IT (Amendment) Act, 2008, through Section 43A, requires platforms handling such data to follow strict security practices. Additionally, Section 72A penalizes the unauthorized disclosure of personal data.

Relevance to DigiLocker:

- (i) Users' personal data is protected from unauthorized access and misuse.
- (ii) DigiLocker is legally bound to follow cybersecurity best practices.

(c) Preventing Cyber Threats and Identity Theft: With growing cyber threats, protecting user data is critical. The IT Act, 2000 initially addressed hacking and tampering with digital records. The 2008 Amendment strengthened these laws with:

- Section 66C (criminalizing identity theft).
- Section 66D (punishing digital impersonation and fraud).
- Section 66E (safeguarding digital privacy).

Since DigiLocker relies on Aadhaar authentication and electronic verification, these provisions help in tackling fraudulent activities.

Relevance to DigiLocker:

- (i) Prevents unauthorized access to Aadhaar-linked DigiLocker accounts.

(ii) Offers legal protection against identity theft and cyber fraud.

(d) **DigiLocker's Responsibility as a Digital Platform:** Under the IT Act's Section 79, DigiLocker is classified as an intermediary, meaning it provides storage and access to digital records but isn't responsible for user-uploaded content unless it knowingly allows illegal activity.

Relevance to DigiLocker:

(i) Shields DigiLocker from liability for fake or unauthorized documents.

(ii) Requires the platform to maintain due diligence to prevent misuse.

(e) **Enabling Secure Digital Signatures:** For digital records to be trusted and tamper-proof, the IT Act legally recognizes electronic authentication. The 2008 Amendment strengthened this with secure digital signatures that verify the integrity of documents.

Relevance to DigiLocker:

(i) Ensures that documents issued by government departments remain authentic and verifiable.

(ii) Reduces fraud by making it impossible to alter or forge stored documents.

DigiLocker owes its **existence and security** to the IT Act, 2000, and its 2008 Amendment. These laws:

- (a) Give legal recognition to digital documents.
- (b) Enforce strict cybersecurity and data protection rules.
- (c) Provide safeguards against hacking, identity theft, and cyber fraud.
- (d) Define DigiLocker's role as an intermediary to protect it from legal liabilities.

Together, these regulations enable DigiLocker to function as a trusted, government-backed digital vault, making life easier for millions of Indians by eliminating paperwork and ensuring document security in the digital world.

2. Aadhaar Act, 2016 – Digital Authentication Backbone

DigiLocker integrates Aadhaar-based authentication to verify user identity securely. The Aadhaar (Targeted Delivery of Financial and Other Subsidies, Benefits, and Services) Act, 2016, provides a legal basis for Aadhaar-linked digital services, enabling seamless authentication via biometric verification and OTP-based login (UIDAI, 2016).

By linking DigiLocker with Aadhaar, the platform ensures that only legitimate users access their documents, reducing fraud risks. This instant identity verification feature benefits both individuals and institutions, making processes like bank verifications, educational document verification, and government service access faster and more secure.

3. IT Rules, 2016 – Secure Data Management

The Information Technology (Preservation and Retention of Information by Intermediaries Providing Digital Locker Facilities) Rules, 2016, were introduced to regulate digital locker services (Ministry of Communications and IT, 2016). These rules establish:

- (a) Strict security guidelines for storing and accessing documents.
- (b) Robust authentication mechanisms, including Aadhaar-based login and OTP verification.
- (c) Interoperability standards, ensuring smooth integration with government agencies.
- (d) Data retention policies, defining how long documents must be stored and under what conditions they can be deleted.

These regulations ensure that DigiLocker functions as a highly secure and legally compliant digital repository, promoting confidence among users. These rules details the governance, operation, and compliance of DigiLocker services in India (Ministry of Communications and IT, 2016).

The **key points** of the IT Rules, 2016 are as follows:

The rules define the framework for managing Digital Locker services, aimed at preserving, retaining, and securely delivering digital records. These rules are authorized under the Information Technology Act, 2000.

Key Definitions

- (a) Digital Locker: A service allowing preservation, retention, and secure delivery of electronic records by subscribers.
- (b) Digital Locker Authority: The designated authority to license, empanel, and manage Digital Locker service providers.
- (c) Subscribers, Issuers, and Requesters:
- (d) Subscribers access and use Digital Lockers.
- (e) Issuers generate and provide digital records.
- (f) Requesters access records with proper authorization.

Digital Locker System

- The system operates on both web and mobile platforms, providing access to documents issued by central/state departments or authorized agencies.
- Standards and technical guidelines are laid down by the Department of Electronics and Information Technology (DeitY).

Usage and Functionality

- Subscribers:
 - Can upload and digitally sign documents.
 - Allow requesters to access their records via unique document identifiers.
- Requesters:
 - Access subscriber-provided documents or those issued by the government.
 - Must seek consent before accessing private records.
- Issuers:
 - Provide digital or digitized records.

- May integrate with repositories and systems for efficient data delivery.

Service Provider Responsibilities

- Digital Locker service providers are responsible for system operations, including maintaining repositories and access gateways.
- They must comply with government-issued standards, guidelines, and practices to ensure security, confidentiality, and efficient functioning.

Confidentiality and Security

- Sensitive data, including account information and document identifiers (URIs), is treated as confidential.
- Data must not be stored or transferred outside India.
- Service providers must follow strict security practices, including annual audits, disaster recovery plans, and adhering to IT security guidelines.

Grievance Redressal and Suspension Policies

- Each provider must appoint a grievance officer to resolve complaints, such as unauthorized access or terms violations, within one month.
- Digital Locker accounts can be suspended or revoked under specific conditions, such as user requests or public interest concerns.

Fees and Portability

- Service providers may charge fees for opening accounts, as approved by the government.

- Subscribers can transfer their accounts between providers with minimal disruption.

Audits and Compliance

- Providers must conduct annual audits covering security policies, physical security, technology assessments, and compliance with practices.
- They must report audit results to the government and take corrective actions when irregularities are found.

Implications:

These rules facilitate the effective operation of DigiLocker as a crucial component of India's digital governance framework. By ensuring data security, transparency, and accessibility, the regulations aim to promote trust and widespread adoption of digital storage solutions.

Amendment to IT Rule 2016 was issued vide G.S.R. 111(E) by MeitY Notification dated 8th February 2017.

These rules are called the **Information Technology (Preservation and Retention of Information by Intermediaries Providing Digital Locker Facilities) Amendment Rules, 2017.** (MeitY, 2017)

It mentions that ‘after **Rule 9**, the following rule shall be inserted, namely:—

“**Rule 9A.** Issuing certificates or documents in Digital Locker System and accepting certificates or documents shared from Digital Locker Account at par with Physical Documents.—(1) Issuers may start issuing and Requesters may start accepting

digitally (or electronically) signed certificates or documents shared from subscribers' Digital Locker accounts at par with the physical documents in accordance with the provisions of the Act and rules made thereunder.

(2) When such certificate or document mentioned in sub-rule (1) has been issued or pushed in the Digital Locker System by an issuer and subsequently accessed or accepted by a requester through the URI, it shall be deemed to have been shared by the issuer directly in electronic form.

Explanation.— For the purpose of sub-rule (2), it is hereby clarified that if the links of the issued certificates or documents take the requester to the single source of truth, such as issuer repositories, automatic verification happens.”;

Also, for **Rule 12**, the following rule shall be substituted, namely:-

“Appointment of grievance officer by the Digital Locker service provider for dispute resolution.— Every Digital Locker service provider shall publish on its website the name of grievance officer and his contact details as well as mechanism by which any users or aggrieved person who suffers as a result of -

- (a) access or usage of Digital Locker or Digital Locker system by any unauthorised person; or
- (b) violation of licensing terms; or
- (c) any other complaints not covered under clauses (a) and (b) above,

4. Digital Personal Data Protection (DPDP) Act, 2023

With data privacy concerns on the rise, the Digital Personal Data Protection (DPDP) Act, 2023, strengthens user privacy protections and data security measures (Ministry of Law and Justice, 2023). Under this law, DigiLocker must:

- Obtain explicit user consent before collecting or processing data.
- Adhere to strict retention and deletion policies, ensuring minimal data exposure.
- Implement robust security mechanisms to prevent unauthorized access or data breaches.

This Act ensures that DigiLocker maintains a high standard of data protection, reinforcing public trust in the platform.

Given that DigiLocker stores crucial documents like Aadhaar-linked records, educational certificates, and government-issued licenses, this law has a direct impact on its operations. The act outlines how personal data should be collected, stored, and protected, making it essential for DigiLocker to comply with its provisions.

Following are the key provisions of these Acts and their relevance to DigiLocker:

(a) DigiLocker as a Data Fiduciary

The DPDP Act classifies organizations that collect and manage user data as Data Fiduciaries. Since DigiLocker stores official government documents and personal records, it falls under this category.

Relevance to DigiLocker:

- (i) It must obtain clear consent from users before collecting or using their data.
- (ii) Users should be able to access, modify, or delete their information when needed.
- (iii) The platform must handle data fairly and transparently without misusing it.

(b) Strengthening User Control Over Data

A key focus of the DPDP Act is ensuring individuals have control over their personal data. Users must be able to:

- Give or withdraw consent easily.
- Know how their data is being used and request changes if needed.

Relevance to DigiLocker:

- (i) It must clearly explain why data is collected and how it will be used.
- (ii) Users should have an option to delete their DigiLocker accounts and erase stored data if they wish.

(c) Data Security and Protection from Breaches

Since DigiLocker holds sensitive personal information, security is a top priority. The DPDP Act mandates:

- Strong encryption and security protocols to protect data.
- Immediate reporting of data breaches to the authorities.

Relevance to DigiLocker:

- (i) It must upgrade its security infrastructure to prevent hacking and data leaks.
- (ii) In case of a breach, it has to inform users and authorities promptly.

(d) Data Storage and Restrictions on Transfers

The DPDP Act requires that personal data be stored within India, with limited exceptions for cross-border data transfers. As a government-backed platform, DigiLocker must store and process all user data in India to comply with the law.

(e) Compliance and Penalties for Violations

The DPDP Act introduces strict penalties for mishandling personal data. If DigiLocker fails to protect user data or violates consent rules, it could face fines up to ₹250 crore.

Relevance to DigiLocker:

- (i) Must adhere to strict data protection measures to avoid fines.
- (ii) Likely needs to appoint a Data Protection Officer (DPO) and conduct regular security audits.

The DPDP Act, 2023 ensures that DigiLocker operates in a way that prioritizes user privacy, security, and transparency. The platform must:

- Give users complete control over their data.
- Implement strong security safeguards to prevent breaches.
- Store all personal data within India.
- Follow strict compliance guidelines to avoid legal trouble.

With these regulations, DigiLocker can continue to be a trusted digital repository, ensuring the security of millions of Indians' documents while maintaining full legal compliance.

Policies and Programmes

DigiLocker is aligned with India's digital transformation policies, ensuring efficient governance, enhanced service accessibility, and improved digital security. The policy framework governing DigiLocker is designed to promote paperless transactions and seamless digital interactions.

1. Digital India Programme (2015) – Driving Paperless Governance

DigiLocker forms an essential part of the Digital India Programme. Key objectives include:

- (a) Minimizing paperwork by promoting digital document storage and sharing.
- (b) Providing citizens with universal access to official records through an online repository.
- (c) Facilitating government service integration through API-based document verification.

As part of this initiative, DigiLocker plays a crucial role in simplifying access to essential documents, making services more efficient and user-friendly.

2. National e-Governance Plan (NeGP) – Standardizing Digital Services

DigiLocker also falls under the National e-Governance Plan (NeGP), which aims to modernize service delivery by reducing reliance on manual paperwork (MeitY, 2015).

It facilitates:

- (a) Digital documentation across government agencies, eliminating duplication.
- (b) Secure access and verification mechanisms, ensuring document authenticity.

- (c) Inter-departmental interoperability, allowing smooth data exchange between institutions.

With NeGP's structured approach, DigiLocker enables the fast, secure, and transparent exchange of official records.

3. Data Security and Governance Policies

DigiLocker follows strict data governance standards, ensuring that user information is managed responsibly. Key policies include:

- (a) Encryption-based security protocols, preventing unauthorized access.
- (b) Audit trails for document access, ensuring transparency.
- (c) User access controls, ensuring documents are shared only with authorized stakeholders.

These measures reinforce trust and compliance, making DigiLocker a reliable and secure platform for document management.

By ensuring data security, interoperability, and legal acceptance, DigiLocker serves as a cornerstone of India's digital transformation efforts. As technology evolves, its legal and policy frameworks will continue to adapt, making it an even stronger and more user-friendly digital platform for document storage and verification.

Legal and Policy Documents, and their Provisions

Self-KYC for Mobile

The Department of Telecommunications (DoT) issued a directive on September 21, 2021, approving Self-KYC (S-KYC) as an alternate process for issuing new mobile connections. This decision followed Union Cabinet approval and superseded previous

instructions from August 31, 2021. (Department of Telecommunications, 2021). Under Self-KYC, customers can apply for new mobile connections online via a service provider's app or portal. The SIM card will be delivered to their doorstep, with documents being verified electronically through UIDAI (Aadhaar) or DigiLocker. The process eliminates the need for physical document verification or in-person visits.

e-PPO for pensioners

An Office Memorandum (OM) for integration of Electronic Pension Payment Order (e-PPO) with DigiLocker was issued by the Department of Pension and Pensioners' Welfare (DoPPW), Government of India, on August 26, 2020. It announced the integration of the Electronic Pension Payment Order (e-PPO) with DigiLocker, aiming to provide central government civil pensioners with easy access to their e-PPOs. This initiative is part of the Digital India program, promoting paperless governance and enhancing the convenience of pensioners. Pensioners can now access their e-PPOs by logging into the DigiLocker platform, ensuring secure and efficient retrieval of their pension documents. (Department of Pension and Pensioners' Welfare, 2020)

Acceptance of Educational Documents

A Department Order No. F. 1-46/2020(NAD/DigiLocker) by the Secretary of University Grants Commission (UGC) dated September 12, 2022, was issued regarding the National Academic Depository (NAD) – DigiLocker integration for acceptance of Degree, Mark-Sheet and other educational documents presented through the DigiLocker platform. It outlined the collaboration between the Ministry of

Education (MoE) and the Ministry of Electronics and Information Technology (MeitY) to implement the NAD through DigiLocker. This initiative aimed to provide a 24x7 online storehouse of academic awards, ensuring their authenticity, safe storage, and easy retrieval. Academic institutions were encouraged to register with NAD to facilitate the digital issuance and verification of academic awards. All Higher Education Institutions (HEIs) were requested to accept the digital copy made available in the DigiLocker platform by the various Boards including Central Board of Secondary Education (CBSE) and other recognized institutions, as its legally valid documents. (University Grants Commission, 2022)

Citizen-Centric Service Delivery

An OM titled "Adoption of DigiLocker to Promote Citizen-Centric Service Delivery," issued by the Department of Administrative Reforms and Public Grievances (DARPG), GoI, on December 28, 2020, emphasized the mandatory integration of DigiLocker by all government ministries, departments, and associated organizations. Effective from January 1, 2021, these entities were required to:

- a) Integrate their systems with DigiLocker to issue and verify documents and certificates for citizens.
- b) Ensure that previously issued documents are made available on the DigiLocker platform in a timely manner.

The initiative aligns with the government's philosophy of "Minimum Government and Maximum Governance," aiming to enhance service delivery efficiency and accessibility for citizens. (Department of Administrative Reforms and Public Grievances,2020).

Aadhaar Authentication

A Gazette Notification was issued by the Ministry of Electronics & Information Technology (MeitY), Government of India, on March 7, 2022. It announced that the National e-Governance Division (NeGD), operating under the Digital India Corporation, was authorized to perform Aadhaar authentication on a voluntary basis for resident identification within the DigiLocker platform. This authorization was in accordance with Rule 5 of the Aadhaar Authentication for Good Governance (Social Welfare, Innovation, Knowledge) Rules, 2020. (Ministry of Electronics & Information Technology, 2022).

KYC for Insurance

Insurance Regulatory and Development Authority of India (IRDAI), in its circular dated September 18, 2020, addressed to all insurers stated that DigiLocker can be used as an Officially Valid Document (OVD) for Video Based Identification Process (VBIP) to simplify KYC of customers. (Insurance Regulatory and Development Authority of India, 2020).

Digital Insurance Policies

A circular titled "Issuance of Digital Insurance Policies by Insurance Repositories" was issued by the Insurance Regulatory and Development Authority of India (IRDAI) on February 9, 2021. It mandated that all insurers registered with IRDAI must issue digital insurance policies through registered Insurance Repositories. This initiative aimed to promote policyholder convenience, enhance policy servicing, and support the Digital India campaign by providing easy access to insurance policies in electronic form. The Authority advised all insurers to enable their IT systems to interact with

DigiLocker facility to enable policyholders to use DigiLocker for preserving all their policy documents. (Insurance Regulatory and Development Authority of India, 2021).

Driving Licence, Registration Certificates of vehicles

A circular addressed to The Principal Secretaries /The Secretaries of the Department of Transport, The DGP/ ADGP(Traffic), The Transport Commissioners of all the States/UTs from the Ministry of Road Transport and Highways (dated August 8, 2018) addressed the acceptance of electronic forms of Driving Licence, Registration Certificates, and other documents presented through DigiLocker or mParivahan. It clarifies these digital records are legally equivalent to physical documents under the Information Technology Act, 2000, and the Motor Vehicles Act, 1988. It emphasized online verification for better compliance and monitoring, aligning with the Digital India initiative (Ministry of Road Transport and Highways, 2018).

DigiLocker during Train journey

The Ministry of Railways, Government of India, issued a circular in 2018 regarding the acceptance of electronic records in DigiLocker under “issued documents” section, as valid proof for railway-related purposes. The document stated that passengers were permitted to present digital copies of their identity documents (Aadhaar/Driving Licence) via DigiLocker. It clarified that these digitally stored documents held the same legal status as physical copies under the Information Technology Act, 2000. Documents uploaded by a passenger would not be valid. (Ministry of Railways, 2018).

DigiLocker for Air Travellers

The Bureau of Civil Aviation Security (BCAS), Government of India, issued a circular in 2018 regarding the acceptance of electronic documents in DigiLocker at airports. The document stated that identity documents i.e Aadhaar/PAN or Driving Licence, in DigiLocker were to be recognized as valid proof of identity for domestic air travel for departing passengers. It clarified that documents uploaded by a passenger would not be valid. (Bureau of Civil Aviation Security, 2018).

KYC of Investors

The Securities and Exchange Board of India (SEBI) issued a circular in 2020 clarifying the Know Your Client (KYC) process and the use of technology for KYC. The document stated that officially valid documents (OVDs) submitted by investors through DigiLocker were to be accepted for KYC verification. It emphasized that such documents, issued directly to an investor's DigiLocker account by the original issuing authority, were considered valid under the Prevention of Money-Laundering (Maintenance of Records) Rules, 2005. The circular clarified that SEBI-registered intermediaries could rely on DigiLocker-based electronic documents for KYC verification without requiring physical copies. (Securities and Exchange Board of India, 2020).

RBI's amendment to Master Direction on KYC

The Reserve Bank of India (RBI) issued a circular in 2020 that provided amendments to the Master Direction on Know Your Customer (KYC), incorporating digital identity verification methods, including the use of DigiLocker. The document stated that equivalent e-documents issued by an authority and stored in DigiLocker were

recognized as valid identity and address proofs for customer verification. The RBI emphasized that regulated entities (REs) could accept DigiLocker-issued documents for Customer Due Diligence (CDD) without requiring physical copies, provided they contained a valid digital signature. (Reserve Bank of India, 2020)

DigiLocker and the Prevention of Money Laundering Act (PMLA), 2005

The Ministry of Finance, Government of India, issued a Gazette notification in 2019 regarding the acceptance of electronic documents from DigiLocker under the Prevention of Money Laundering Act (PMLA), 2005. The document stated that electronic copies of officially valid documents (OVDs) retrieved from DigiLocker were to be accepted as equivalent to physical documents for compliance with KYC (Know Your Customer) requirements. The notification clarified that such documents, when issued directly by the original authority and stored in DigiLocker, were legally valid for identity and address verification. (Ministry of Finance, 2019).

Academic records of National Academic Depository in DigiLocker

The Ministry of Human Resource Development (MHRD) issued a circular in March 2020 regarding the implementation of the National Academic Depository (NAD) through DigiLocker. The document stated that the NAD, which was initially implemented through NSDL Database Management Limited (NDML) and CDSL Ventures Limited (CVL) under a tripartite agreement with the University Grants Commission (UGC), would now be integrated with DigiLocker as a permanent scheme. This decision was taken after the tripartite agreement ended in November 2019. The circular instructed that the Ministry of Electronics and Information Technology (MeitY) would now be the sole entity managing NAD through

DigiLocker, eliminating any user charges. The UGC was directed to transfer all existing academic records from NDML and CVL to DigiLocker and ensure a smooth transition. Additionally, UGC was tasked with finalizing technical procedures related to student account creation, academic award uploads, and verification processes in consultation with DigiLocker. (Ministry of Human Resource Development, 2020).

5. THE STUDY AREAS

For this study, research was carried out in the urban and rural areas of Delhi NCR. For the primary research in rural area of Delhi NCR, Rajasthan state was chosen. Among the Delhi NCR states, Rajasthan had lowest literacy rate of 66.1% as compared to 75.6% of Haryana and 67.7% of UP (Ministry of Statistics and Programme Implementation, 2016). It was assumed that the digital awareness in a NCR state with lowest literacy would give insight of the other extreme of the spectrum. Hence, Rajasthan state had been identified.

Alwar and Bharatpur are the only two districts of Rajasthan that fall under the Delhi NCR, hence Alwar District was chosen due to the convenience factor. Initially, its Neemrana Block was identified for the primary research in the rural area. In August 2023, there was an administrative redistribution of the blocks in districts of Rajasthan, where Neemrana block was re-assigned to Kotputli district, which is not included in Delhi NCR. The websites were updated at a later stage. Hence, Ramgarh Block of Alwar district was selected afresh for the rural study area, keeping in view its adjacent location, connectivity, convenience and the constraints of resources.

Introduction to Delhi NCR

The National Capital Region (NCR) of India encompasses Delhi and neighbouring districts from the states of Haryana, Uttar Pradesh, and Rajasthan. The NCR presently includes NCT-Delhi, and 24 districts from three adjoining states, i.e. 14 districts of

Haryana, 8 districts of Uttar Pradesh, 2 districts of Rajasthan (Fig 5.1).



Fig 5.1: Constituent Areas under Delhi NCR <https://ncrbp.nic.in/drp2041.html> (accessed on February 20, 2025).

This region includes prominent cities like Gurugram, Noida, Greater Noida, Faridabad, and Ghaziabad, functioning collectively as a significant political, administrative, and economic hub.

The NCR is governed by the National Capital Region Planning Board (NCRPB), established to facilitate coordinated development across state boundaries (National Capital Region Planning Board, 2021).

Historically, Delhi has been a center of governance and commerce, with its significance evolving over centuries. The rapid urbanization in recent decades has transformed Delhi NCR into a major metropolitan area, contributing substantially to India's Gross Domestic Product (GDP). Key economic sectors include Information Technology, finance, real estate, and manufacturing. Urban expansion has been accompanied by infrastructural developments, yet challenges such as traffic congestion, pollution, and resource management persist. These issues underscore the need for adopting digital governance tools to enhance administrative efficiency and improve the Quality of Life for residents (Government of India, 2022).

Delhi NCR: Demographic Profile

According to the 2011 Census of India, total Delhi NCR population was 5,81,57,286, population of urban NCR was 3,17,31,165 and rural NCR was 2,64,26,121. It is expected to grow to about 7 crores by 2031 and to 11 crores by 2041. The region will be highly urbanised in the coming times with urban populations of about 57% by 2031 and about 67% by 2041. The average population density of the NCR as per Census of India 2011 was around 1,056 persons per sq km, which was around three

times higher than the all-India average of 382 persons per sq km. (National Capital Region Planning Board, 2021). The National Capital Territory (NCT) of Delhi had a population of 1,67,87,941, with males numbering 89,87,326 and females 78,00,615. The literacy rate stood at 86.2%, with male literacy at 90.9% and female literacy at 80.8%. The sex ratio was 868 females per 1,000 males. The population density was approximately 11,320 persons per square kilometer (Census of India, 2011).

Economic Profile

The economic landscape of Delhi NCR is diverse and dynamic. Cities like Gurugram and Noida have emerged as major IT and corporate hubs, attracting multinational companies and startups. Faridabad and Ghaziabad are known for their industrial and manufacturing units. Despite economic prosperity, the region faces income disparities, with affluent neighborhoods existing alongside informal settlements. Digital penetration is significant, with a substantial portion of the population having access to the internet and digital services (National Capital Region Planning Board, 2021).

Progress of Digital India Initiative in Delhi NCR

Delhi NCR figures prominently in the Government of India's Digital India initiative, aimed at transforming the country into a digitally empowered society and knowledge economy. The region has been at the forefront of adopting e-Governance services to enhance transparency, efficiency, and citizen engagement. Initiatives such as the e-District Delhi portal provide citizens with online access to various government services, including certificates, licenses, and permits (Delhi Government, 2023).

Existing e-Governance Infrastructure

The e-District Delhi portal serves as a comprehensive platform for citizens to access a wide range of government services online. It aims to link databases of various government departments to facilitate online verification of documents submitted by citizens, reducing the need for physical visits to government offices (Delhi Government, 2023).

Additionally, the Delhi Traffic Police has implemented an e-Challan system, enabling digital payment of traffic fines and integration with platforms like DigiLocker for storing digital copies of driving licenses and vehicle registration certificates. Municipal services, including property tax payments and grievance redressal, have also been digitized to enhance accessibility and efficiency (Ministry of Transport, 2023).

Government Policies Supporting Digital Adoption

The National e-Governance Plan (NeGP), formulated by the Ministry of Electronics and Information Technology (MeitY), provides a framework for e-Governance initiatives across the country, including Delhi NCR. The plan emphasizes the delivery of government services electronically to improve accessibility, transparency, and efficiency (MeitY, 2023).

The Delhi government has also launched initiatives like the Doorstep Delivery of Public Services, allowing citizens to avail themselves of various services from their homes. This program underscores the government's commitment to leveraging technology to enhance service delivery and governance (Delhi Government, 2023).

Urban Profile of Delhi NCR

The National Capital Region (NCR) is a dynamic and rapidly expanding urban hub, centered around Delhi. With an ever-growing population, increasing economic activity, and significant infrastructure developments, NCR has become one of the most important urban regions in India. The fast-paced urbanization, however, brings with it several challenges, including housing shortages, environmental concerns, and the need for better planning.

Population and Urbanization Trends

Urbanization in NCR has seen an exponential growth over the years. The urban population is expected to reach 76.6 million by 2041, comprising nearly 68% of the total population. As of the 2011 Census, the region had 230 urban settlements, categorized into various population groups:

- Class I (Population above 1 lakh): 28 cities
- Class II (50,000 - 99,999): 19 cities
- Class III-VI (smaller towns): 183 settlements

Delhi is anticipated to be fully urbanized by 2031, while other regions continue to experience a steady shift from rural to urban landscapes. The rise in urban settlements has led to the creation of new economic corridors and the transformation of rural areas into semi-urban clusters.

Economic and Infrastructure Growth

NCR serves as a powerhouse for India's economy, contributing around 8% to the national GDP. Economic hubs such as Delhi, Gurugram, Noida, Faridabad, and

Ghaziabad house a mixture of industries, IT parks, and commercial centers. Major infrastructure projects have fueled this growth, including:

- Expansion of metro and rapid rail networks for seamless connectivity.
- Development of economic corridors and logistics hubs to support trade and business.
- Implementation of smart city initiatives to enhance urban management and governance.

Challenges in Urban Development

Despite its rapid development, NCR faces multiple challenges that need immediate attention. Some of the major urban concerns include:

- **Housing Shortage:** The demand for affordable housing is rising, especially for low-income groups.
- **Unauthorized Colonies & Urban Villages:** Many parts of the region have grown unregulated, leading to overcrowding and inadequate infrastructure.
- **Environmental Issues:** Air pollution, water contamination, and ineffective waste management are growing concerns.
- **Traffic Congestion:** Increasing vehicular movement has put pressure on NCR's road network, leading to frequent traffic jams.

Government Initiatives and Future Plans

Recognizing the urban challenges, the government has introduced several measures to make NCR more sustainable and livable. Some key initiatives include:

- **Smart City Projects:** Delhi, Gurugram, Noida, and Ghaziabad are at the forefront of digital infrastructure and smart governance.

- Affordable Housing Schemes: Programs like Pradhan Mantri Awas Yojana (PMAY), Deen Dayal Jan Awas Yojana (DDJAY) aim to provide housing solutions for economically weaker sections.
- Sustainable Urban Planning: Focus on green spaces, energy-efficient structures, and reduction of vehicular emissions to enhance environmental quality.

Rural Profile of Delhi NCR

The rural landscape of the National Capital Region (NCR) plays a pivotal role in shaping its socio-economic framework. Despite rapid urbanization, a significant proportion of NCR's population still resides in rural areas, contributing to traditional sectors such as agriculture, dairy farming, and small-scale industries.

Population and Settlement Pattern

According to the 2011 Census, nearly 2.64 crore people in NCR lived in rural areas, accounting for around 45% of the total population. This region is home to approximately 11,774 villages, with a considerable number having populations exceeding 2,000 residents (National Capital Region Planning Board, 2021).

The distribution of villages among NCR's states is as follows:

- Delhi: 357 villages (3.03%)
- Haryana: 3,987 villages (33.86%)
- Uttar Pradesh: 3,790 villages (32.19%)
- Rajasthan: 3,640 villages (30.92%)

Looking ahead, the rural population is expected to decline in proportion but will still constitute a substantial share of NCR's demographic landscape, ranging from 39% to 45% by 2041. The outskirts of urban centers are experiencing a transformation, with some rural settlements evolving into census towns, indicating a gradual shift toward urbanization.

Socioeconomic Characteristics and Challenges

Rural NCR primarily thrives on an agrarian economy, where farming, dairy production, and local industries provide employment to a vast number of people.

However, several challenges persist, including:

- Low income levels and lack of economic diversification.
- Limited access to quality education and healthcare services.
- Inadequate drinking water and sanitation facilities.
- High unemployment rates with limited non-agricultural job opportunities.
- Poor infrastructure, including weak road networks and inconsistent electricity supply.

Government Initiatives and Development Plans

To address these concerns, the government has launched the Rurban Mission in 12 clusters across NCR, with an investment exceeding ₹1,500 crore. This initiative is expected to enhance infrastructure, digital connectivity, and job creation, benefiting around 4.5 lakh rural residents. Despite these efforts, Delhi's rural areas, comprising 357 villages, lack structured development plans, leading to unregulated expansion and land use conflicts.

Policies and Future Development

While the District Development Plans (DDPs) were proposed under the 74th Constitutional Amendment, their implementation in rural NCR remains incomplete. The National Capital Region Planning Board (NCRPB) has suggested integrating rural settlements into broader regional growth corridors. Key strategies for rural development include:

- Identifying underdeveloped districts and formulating balanced growth strategies.
- Improving infrastructure, including roads, healthcare, education, and digital services.
- Encouraging small businesses and micro-enterprises to boost employment.
- Supporting agro-based industries, dairy farming, and horticulture for economic sustainability.
- Promoting rural tourism by leveraging NCR's proximity to urban hubs.

The rural areas of NCR remain crucial to the region's economy and settlement structure. As urban expansion continues, it is vital to ensure that rural communities receive the necessary resources for sustainable growth. The NCR Draft Regional Plan 2041 aims to bridge this gap by fostering economic diversification, enhancing infrastructure, and ensuring an equitable distribution of opportunities across urban and rural areas.

Alwar District of Rajasthan State

Alwar, located in the northeastern part of Rajasthan, India, is a district known for its historical, economic, and cultural significance. It serves as the administrative headquarters of the Alwar district and is an important part of the National Capital Region (NCR) (Rajasthan Foundation, 2023). With a blend of industrial growth, agriculture, and tourism, Alwar plays a crucial role in Rajasthan's overall development.

Geography and Demographics

Alwar covers an area of approximately 8,380 square kilometers. It is bordered by Rewari district (Haryana) to the north, Bharatpur (Rajasthan) and Nuh (Haryana) to the east, Dausa district to the south, and Jaipur district to the west (Rajasthan Foundation, 2023). The district lies between 27°4' and 28°4' north latitudes and 76°7' and 77°13' east longitudes. According to the 2011 Census of India, Alwar had a population of around 3.67 million, with a literacy rate of 71.68% (Census of India, 2011). The district exhibits a mix of rural and urban settlements, contributing to a diverse economic landscape.

Administrative Setup

Alwar district is divided into 14 tehsils: Alwar, Bansur, Behror, Govindgarh, Kathumar, Kishangarh Bas, Kotkasim, Laxmangarh, Mundawar, Rajgarh, Ramgarh, Thanagazi, Tijara, and Reni (Central Ground Water Board, 2023) (Fig 5.2). It has one Lok Sabha constituency, and its governance falls under the Rajasthan state administration.



Fig 5.2: Alwar District & its Tehsils (www.mapsofindia.com)

Economy and Industrial Growth

Alwar's economy is driven by both agriculture and industry. The district is rich in mineral resources, including marble, granite, feldspar, dolomite, quartz, limestone, and soapstone, which support its mining and construction sectors (Indiastat Districts, 2023). Industrial hubs in Bhiwadi, Shahjahanpur and Behror host manufacturing units of major corporations such as Ashok Leyland, Pepsi, Parryware, Kajaria Ceramics, and Honda Motors (DCMSME, 2023).

Agriculture and Irrigation

Agriculture remains a significant part of Alwar's economy. The district has approximately 509,107 hectares of agricultural land, where major crops include bajra,

maize, jowar, pulses, wheat, barley, gram, and mustard (Alwar Krishi Vigyan Kendra, 2023). Irrigation is mainly carried out through wells and tube wells, making water conservation an important aspect of regional development.

Tourism and Heritage

Alwar is known for its rich historical heritage and natural attractions. Some of the prominent tourist destinations include:

- Bala Qila (Alwar Fort) – A historic fortress offering a panoramic view of the city.
- Sariska Tiger Reserve – A wildlife sanctuary home to Bengal tigers, leopards, and other species (Rajasthan Tourism, 2023).
- Bhangarh Fort – A well-known haunted fort that draws visitors from across the country. (Rajasthan Tourism, 2023).

Ramgarh (Block/Tehsil), Alwar District, Rajasthan

Ramgarh is a block/tehsil (administrative division) in the Alwar district of Rajasthan, India. It serves as the administrative headquarters of the Ramgarh sub-district and is located approximately 24 kilometers east of Alwar city (OneFiveNine, 2023). The region is known for its agricultural economy, cultural heritage, and proximity to historical and natural landmarks.

Geography and Demographics

Covering an area of around 676 square kilometers, Ramgarh tehsil consists of 177 villages and one town. According to the 2011 Census of India, the total population of

Ramgarh is approximately 256,605 people, with 134,131 males and 122,474 females. This results in a sex ratio of 913 females per 1,000 males (Census India, 2011). The literacy rate of the region stands at 63.17%, with male literacy at 78.29% and female literacy at 46.69% (Census India, 2011). It has 38 Gram Panchayats under it.

Economy and Land Use

Ramgarh has an agrarian economy, where most of the population is engaged in farming and allied activities. The region also has small-scale industries and local markets, which contribute to the economic development of the sub-district (OneFiveNine, 2023). The primary crops cultivated in the area include bajra, mustard, wheat, and pulses.

Culture and Language

The primary language spoken in Ramgarh is Rajasthani, though Hindi is also widely understood. The sub-district is known for its vibrant cultural heritage, which includes traditional Rajasthani music, folk dances, and local festivals. The people of Ramgarh take great pride in their customs, which have been preserved for generations.

Transportation

Ramgarh is well-connected by road to major nearby cities, including Alwar, Nagar, Rajgarh, and Nadbai. The well-developed transportation infrastructure plays a key role in facilitating trade, commuting, and tourism in the region.

Political Structure

Ramgarh tehsil falls under the Ramgarh and Alwar Rural assembly constituencies. The major political parties active in the region include the Bharatiya Janata Party (BJP) and the Indian National Congress (INC). Local governance and administrative services are managed by the Alwar district authorities.

Tourism and Points of Interest

While Ramgarh itself is a quiet and serene location, its proximity to major tourist destinations such as Alwar city and the Sariska Tiger Reserve makes it a convenient stop for travelers. The region offers access to historic forts, scenic landscapes, and cultural sites (Rajasthan Tourism, 2023).

FIELD STUDY

Urban area study was conducted in New Delhi.

Rural area study was carried out at the Ramgarh Block ‘Panchayat Samiti Office’ and at two Gram Panchayats i.e. ‘Lalawandi’ and ‘Milakpur’.

Interactions at the ‘Panchayat Samiti Office’ involved interviews (with semi-structured questionnaire) with the BDO and Addl DO, FGD with the office staff and ‘Pradhan’ of the Samiti.

Village ‘Lalawandi’ has a population of about 6000 with 3200 voters, where the FGDs were carried out. Village ‘Milakpur’ has a population of about 3500 with 2000 voters. Here also, FGDs were carried out.

6. RESEARCH FINDINGS AND ANALYSIS

All figures & tables in this section are from the Field Work, hence ‘Source’ not mentioned separately for each.



Fig 6.1: Block Office of Ramgarh Block of Alwar District



Fig 6.2: Panchayat office of village ‘Lalawandi’



Fig 6.3: Panchayat office of village 'Milakpur'

FIELD DATA ANALYSIS

Survey results

A total of **202 responses**, including the urban & rural strata respondents, were received for the Questionnaire applied for this study survey.

Demography of respondents

1. Gender Distribution

The survey revealed a **male-dominated** participation, with Male respondents forming the majority (76.7%), suggesting that male users may be more inclined to engage with or participate in digital service-related surveys (Fig 6.4).

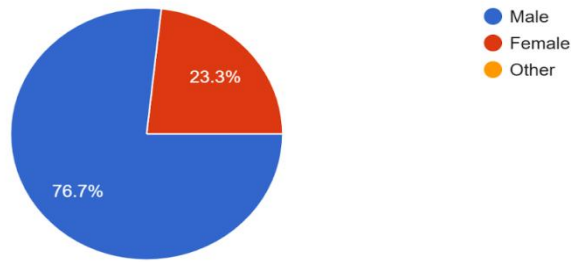


Fig 6.4: Gender distribution of respondents.

2. Age Profile

The respondents' age ranged from 20-75 years, with an **average age of 44.74 years** (SD±13.45). This suggests a predominantly **middle-aged base**, which may indicate that they find DigiLocker beneficial for document management.

3. Educational Qualification

70% of respondents held **Graduation & More than graduation** qualification, suggesting that the survey participation was more prevalent among the **educated demographic** (Fig 6.5). This may indicate that individuals with advanced degrees are more receptive to using digital platforms for document management.

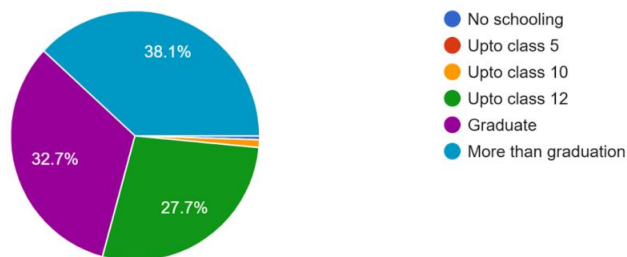


Fig 6.5: Educational levels of respondents

4. Background Analysis

The majority of respondents came from an **Urban** background (Fig 6.6). This indicates a higher participation with digital platforms/studies in urban areas, which is expected, given better digital infrastructure & literacy, and awareness in cities compared to rural settings.

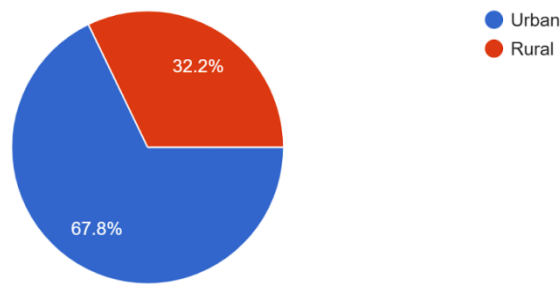


Fig 6.6: Urban & rural background distribution of respondents.

5. Occupational Analysis

A significant portion of respondents were **Salaried** (26.7%), indicating that the participation was majorly by **working professionals and salaried individuals** (Fig 6.7). This suggests that digital platforms, official document storage and retrieval are key motivations for working citizens.

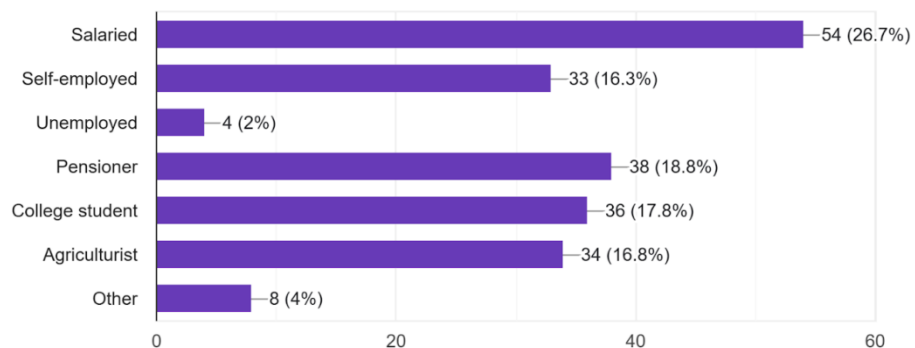


Fig 6.7: Occupational distribution of respondents.

6. Income Distribution

Most respondents fell within the ‘**Upto 2 lakh**’ monthly income category (40.1%), suggesting that **lower to middle-income groups** were among the primary respondents (Fig 6.8). This could highlight the role of government-backed digital services in providing convenience and cost-effective solutions for document management among economically diverse groups.

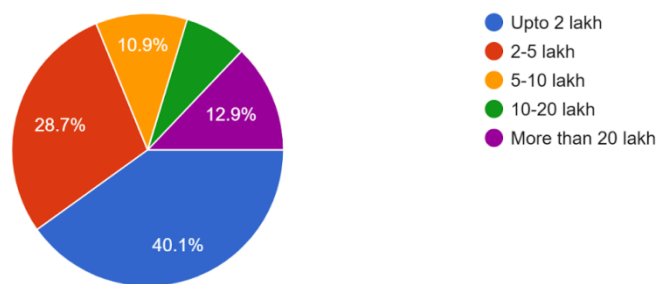


Fig 6.8: Monthly household income distribution of respondents.

7. Internet availability

98.5% respondents had shown internet availability, indicating adequate internet infrastructure availability in the study areas (Fig 6.9).

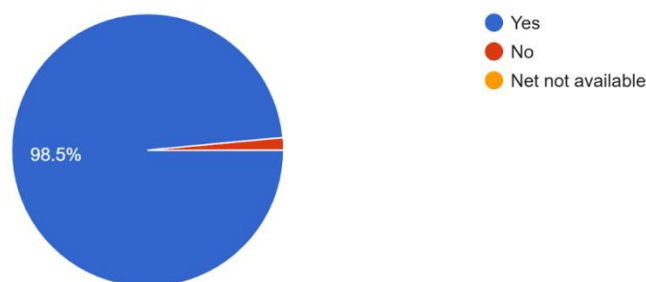


Fig 6.9: Internet availability of respondents.

The demographic trends of this study suggest that **urban, middle-aged, and educated salaried individuals** form the core base of respondents. This may have implications for future policy decisions and targeted awareness campaigns, particularly in encouraging adoption among rural populations, lower-income groups, and non-salaried individuals.

DigiLocker Awareness and Usage

Table No 6.1 depicts the urban-rural strata-wise and gender-wise awareness and usage data of this study.

Table No 6.1: Strata- & gender-wise DigiLocker awareness and usage.

	Respondents		Respondents 'Aware' of DigiLocker app		Respondents 'Aware' if someone in family/friend is using DigiLocker app		Respondents 'Using' DigiLocker	
	Male	Female	Male	Female	Male	Female	Male	Female
Total	202 (100%)		164 (81.2%)		131(64.9%)		128 (63.4%)	
	76.7%	23.3%	78%	22%	77.9%	22.1%	81.2%	18.8%
Strata-wise								
Urban background	137 (67.8%)		128 (93.4%)		111 (81%)		104 (75.9%)	
	73%	27%	75%	25%	76.6%	23.4%	78.9%	21.1%
a) College students	32 (23.4%)		28 (87.5%)		20 (62.5%)		20 (62.5%)	
	40.6%	59.4%	42.9%	57.1%	45%	55%	40%	60%
b) Working citizens	75 (54.7%)		73 (97.3%)		66 (88%)		60 (80%)	
	77.3%	22.7%	78%	22%	77.3%	22.7%	83.3%	16.7%
c) Pensioners	30 (21.9%)		27 (90%)		25 (83.3%)		24 (80%)	
	96.7%	3.3%	100%	0	100%	0	100%	0
Rural background	65 (32.2%)		36 (55.4%)		20 (30.8%)		24 (36.9%)	
	84.6%	15.4%	88.9%	11.1%	85%	15%	91.7%	8.3%
a) Agriculturist	33 (50.8%)		16 (48.9%)		08 (24.2%)		11 (33.3%)	
	96.7%	3.3%	100%	0	100%	0	100%	0
b) Others	32 (49.2%)		20 (62.5%)		12 (37.5%)		13 (40.6%)	
	71.9%	28.1%	80%	20%	75%	25%	84.6%	15.4%

Fig 6.10 is a graphical representation of the strata & gender-wise DigiLocker awareness and usage responses of this study.

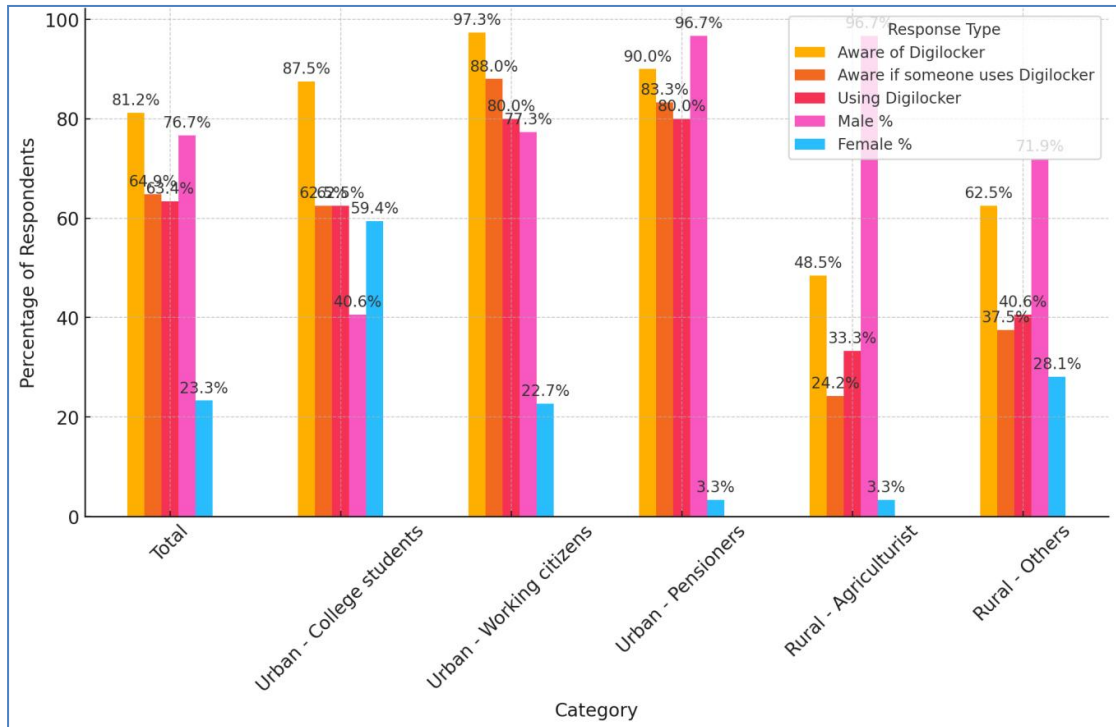


Fig 6.10: Strata- & gender-wise DigiLocker awareness and usage.

Analysis of tabulated data

1. General Awareness and Usage Trends

One of the most promising takeaways from the dataset is that **81.2%** of respondents were **aware** of DigiLocker. While this indicates a strong reach, awareness alone does not guarantee adoption. The data showed a **significant drop** when it comes to actual usage, with only **63.4%** of respondents actively using the platform.

Further, when asked if someone in their family or social circle uses DigiLocker, only **64.9%** responded affirmatively. This suggests that while the initiative has gained

recognition, a considerable portion of the population is yet to experience its benefits firsthand.

Gender-based Insights

One of the most striking disparities in this study data was **the gender gap** in DigiLocker awareness. Men outnumbered women in all three parameters:

- **Awareness:** 78% male vs. 22% female.
- **Knowing a DigiLocker user:** 77.9% male vs. 22.1% female.
- **Actual usage:** 81.2% male vs. 18.8% female.

This trend highlights a **digital gender divide**, reinforcing the need for targeted outreach programs to encourage more women to use digital government services.

2. Urban vs. Rural Divide

The contrast between urban and rural adoption rates is another crucial insight. Urban respondents exhibited significantly higher awareness and usage rates compared to their rural counterparts.

- Urban Awareness: 93.4%
- Rural Awareness: 55.4%
- Urban Usage: 75.9%
- Rural Usage: 36.9%

Several factors may contribute to this stark contrast in adoption rates:

- (a) **Digital Literacy:** Rural communities often lack adequate exposure to digital platforms, making it harder for them to navigate apps like DigiLocker.

- (b) **Trust in Digital Platforms:** Many rural citizens may prefer physical documents over digital formats, often due to unfamiliarity or skepticism regarding online security.
- (c) **Need-Based Usage:** Urban professionals require digital documentation more frequently (for job applications, bank verifications, etc.), while rural citizens may not encounter such frequent use cases.

Bridging this gap may require region-specific strategies. Rural-focused digital literacy campaigns and simplified mobile-friendly interfaces in vernacular languages could be game-changers.

3. Occupational Patterns in DigiLocker Adoption

Urban Demographics

- (a) **College Students:** 87.5% awareness, but only **62.5% were users.** Many students may not require government documents frequently, leading to lower engagement.
- (b) **Working Professionals:** 97.3% awareness, **80% active usage.** Reason for high engagement could be regular requirement of government documents for employment, tax filing, and compliance.
- (c) **Pensioners:** 90% awareness, 80% usage. Interesting fact was that 100% of male pensioners used DigiLocker, but no female pensioners reported using it in this study. Potential reason could be that the elderly women may not have personal government-issued documents requiring storage in DigiLocker and its usage.

Rural Demographics

(a) **Agriculturists:** 48.9% aware, **33.3% used DigiLocker & 100% of users were men.**

(b) **Other Rural Occupations:** 62.5% aware, **40.6%** usage, which was better than agriculturists, but still **lower than urban** groups. **Male dominance in usage persists** (84.6% male vs. 15.4% female).

The findings highlight the **need for customized interventions based on occupation type.**

4. Key Challenges Hindering Wider Adoption

Gender Disparity in Usage

Despite increasing internet penetration, the gender gap in digital adoption remains a significant concern.

Trust Issues & Low Awareness in Rural Areas

Rural respondents may hesitate to store critical documents digitally due to:

- Fear of hacking or government surveillance.
- Lack of awareness about the security measures of DigiLocker.
- Preference for physical documents, which they perceive as more tangible and reliable.

Limited Use Cases for Certain Demographics

For many respondents, DigiLocker **wasn't perceived as a necessity**—especially in rural and non-working populations. If a digital platform doesn't fit into their daily lives, they are less likely to engage with it.

The data revealed that while **urban professionals have embraced DigiLocker**, rural citizens, women, and certain occupational groups lag in adoption. The gender divide and the urban-rural gap highlight the need for a multi-faceted strategy—combining awareness, accessibility, and incentives to boost adoption.

Sources of Awareness

Fig 6.11 depicts the sources of awareness of respondents who themselves are aware about the DigiLocker initiative by the Government of India.

Since respondents had the ‘**Multiple Choice**’ selection from the options given, many respondents have chosen more than one option for single question, hence the **No. of responses are more than the No. of respondents**

Analysis of Awareness Sources for DigiLocker

Fig 6.11 highlights the various channels through which people learnt about DigiLocker and how the sources differ across urban and rural demographics. The findings provide valuable insights into effective communication strategies for increasing adoption.

1. Mobile Messages (34 Responses)
 - Urban males (53.1%) were the primary recipients of DigiLocker awareness through mobile messages. Urban females (17.6%) and rural males (26.5%) had moderate engagement, while rural females (2.9%) were the least aware.

- This suggests that mobile-based campaigns, such as SMS alerts and push notifications, are more effective among urban populations.

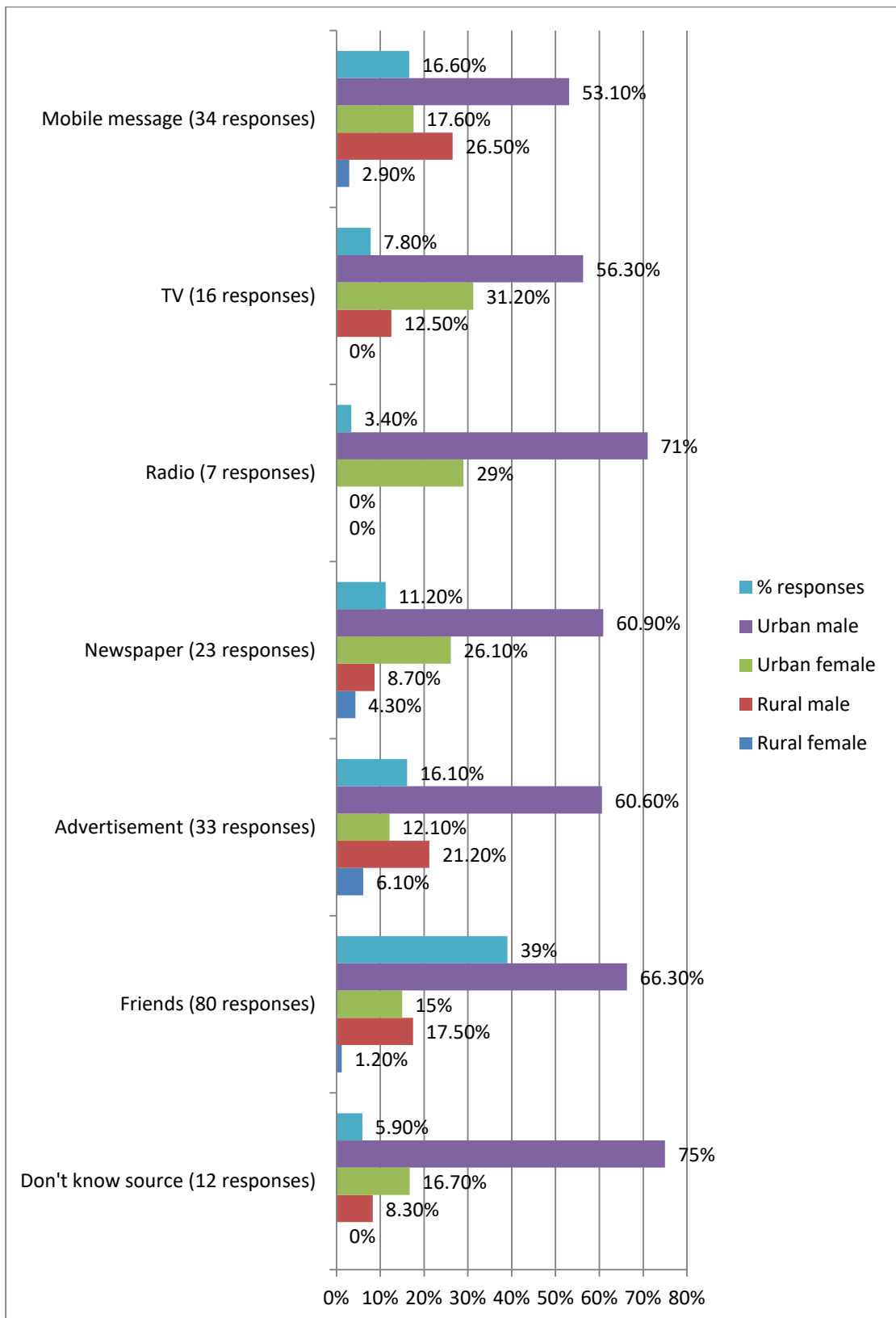


Fig 6.11: Sources of awareness about DigiLocker of 164 aware respondents.

2. TV Advertisements (16 Responses)

- Urban males (56.3%) dominated awareness through TV ads, followed by urban females (31.2%). Rural males (12.5%) show minimal engagement, while rural females were entirely absent.

- This suggests that TV remains a strong medium in urban areas but lacks penetration in rural regions, possibly due to lower exposure to digital-focused advertisements.

3. Radio (7 Responses)

- Urban males (71%) had the highest engagement with radio-based awareness. Urban females (29%) follow, while rural groups had zero participation.

- The low reach among rural users is surprising, given that radio is often an accessible medium in villages.

4. Newspaper (23 Responses)

- Urban males (60.9%) primarily learnt about DigiLocker through newspapers, followed by urban females (26.1%). Rural males (8.7%) and rural females (4.3%) showed limited exposure.

- The data suggests that print media is still relevant for urban populations but has limited rural reach.

5. Advertisements (33 Responses)

Urban males (60.6%) were the biggest respondents to general advertisements, followed by rural males (21.2%) and urban females (12.1%). Rural females (6.1%) engage the least, again showing low exposure to promotional campaigns.

6. Friends– 80 Responses

- The most common source of awareness was through **friends (word of mouth)**, with urban males (66.3%) leading. Urban females (15%), rural males (17.5%), and rural females (1.2%) rely on peer recommendations.
- This indicates that social networks play a major role in DigiLocker adoption.

7. Don't Know Source (12 Responses)

- 75% of urban males couldn't recall how they first learned about DigiLocker. Urban females (16.7%) and rural males (8.3%) also showed some uncertainty.
- This indicates that awareness campaigns might not be leaving a lasting impression.

Types of document usage through DigiLocker

Fig 6.12 depicts the various types of documents being used by the users through DigiLocker. The various options included :

Education related (Marksheets, Degree, Migration, Admit Card etc.), Transport related [Driving license (DL), vehicle Registration Certificate (RC) etc], Insurance policy (Life insurance, Vehicle insurance, Health, Travel etc), Financial documents (Account statements, Loans, Mutual Funds, PPF), Agriculture/Farming related (Certificates like Agriculture Income , Agri Labour, Crop, Agriculturist, J-Form, License for seed/fertilizer sale etc), Aadhaar, PAN verification, ABHA health card, Ration card, Income certificate and Other.

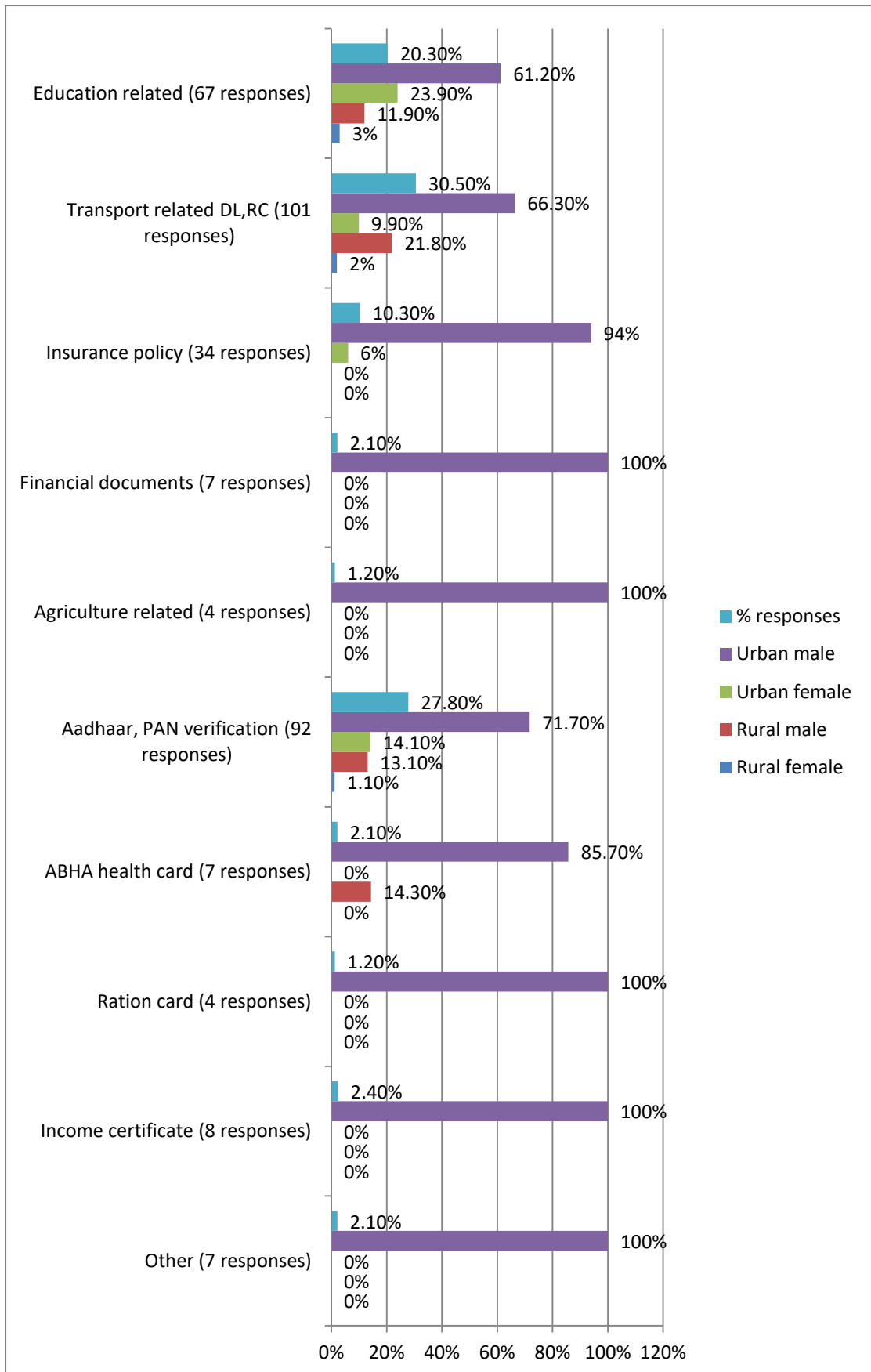


Fig 6.12: Types of document usage through DigiLocker.

Since respondents had the ‘**Multiple Choice**’ selection from the options given, many respondents have chosen more than one option for single question, hence the **No. of responses are more than the No. of respondents.**

Analysis of Document Usage on DigiLocker

1. Education-Related Documents (67 Responses)

- The majority of users accessing education documents were urban males (61.2%). Rural females had the lowest participation (3%), while urban females (23.9%) and rural males (11.9%) contributed to a smaller share.
- This suggests that urban populations, especially males, rely more on DigiLocker for academic certificates, possibly due to higher awareness, and familiarity with digital services.

2. Transport-Related Documents – 101 Responses

Transport-related documents (Driving License, Registration Certificate) emerged as the most used category. Urban males dominated this category at 66.3%, followed by rural males (21.8%) and urban females (9.9%). Rural female participation was negligible (2%), indicating a lack of awareness or reliance on traditional methods.

3. Insurance Policy Documents (34 Responses)

A vast majority (94%) of urban males used DigiLocker for insurance-related documents. Other demographics showed very low engagement, suggesting that

rural populations and women may not be using digital tools for insurance storage.

4. Financial Documents (7 Responses)

Interestingly, only urban males (100%) reported using DigiLocker for financial documents. No urban females or rural respondents engaged with DigiLocker for this purpose.

5. Agriculture-Related Documents (4 Responses)

Only urban males (100%) had used DigiLocker for agriculture-related records. The absence of rural users is surprising, given that farmers could benefit significantly from digital access to land records, subsidies, and crop insurance.

6. Aadhaar/PAN Verification (92 Responses)

Urban males (71.7%) were the primary users of Aadhaar/PAN services on DigiLocker. Urban females (14.1%) and rural males (13.1%) contributed moderately. Rural female engagement was negligible (1.1%).

7. ABHA (Ayushman Bharat Health Account) Health Card (7 Responses)

Urban males (85.7%) dominated this category. Rural males (14.3%) were the only other group using DigiLocker for health-related documents. Zero participation from urban and rural females.

8. Ration Card (4 Responses) & Income Certificate (8 Responses)

Only urban males (100%) used DigiLocker for these documents. No participation from other demographic groups.

9. Income certificate (8 responses)

Only urban males (100%) reported using DigiLocker for income certificate.

10. Other Documents (7 Responses)

Again, only urban males (100%) reported using DigiLocker for unspecified "other" documents, not listed in the answer options of the survey. The absence of rural and female users suggests a limited perception of DigiLocker's utility beyond mainstream documents.

Key Insights

1. Urban males dominate DigiLocker usage across nearly all document categories, suggesting higher digital literacy and trust in the platform.

2. Rural adoption is significantly low, especially for financial, insurance, and government scheme-related documents.

3. Women, particularly in rural areas, are underrepresented in DigiLocker usage, indicating a gap in digital awareness and access.

4. Most-used categories are transport-related documents, Aadhaar/PAN verification, and education certificates.

5. Least-used categories include agriculture, financial, and health-related documents, despite their high relevance for various demographic groups.

Usage Frequency Trends

Respondents were asked about the frequency of usage of DigiLocker in the last 3 months and in the last one year. Fig 6.13 depicts the frequency instances of the responses for the last 3 months usage.

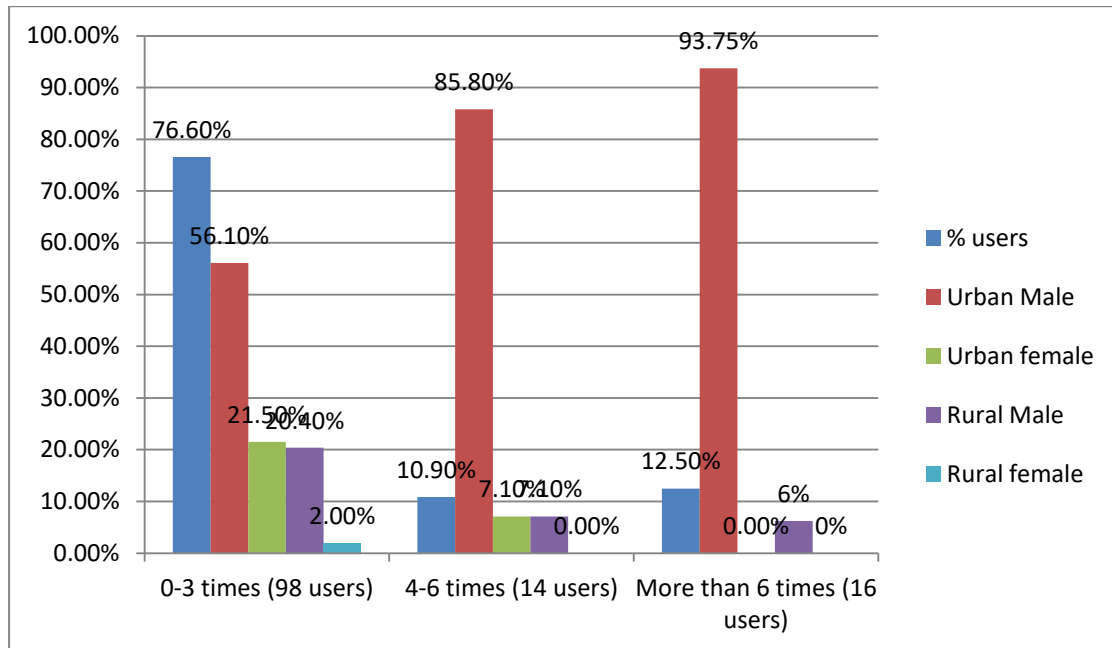


Fig 6.13: Usage frequency in last 3 months by 128 users.

Analysis

1. Majority of Users fell in the Low-Usage Category (0-3 Times)

Around 76.6% of total users fell in this category, indicating that most users engaged infrequently. Among urban males, 56.1% were in this bracket, a relatively high number. Urban females (21.5%) and rural males (20.4%) show lower participation in this range. Rural females had the lowest engagement at just 2%, suggesting minimal involvement.

2. Moderate Usage (4-6 Times) is Dominated by Urban Males

85.8% of users in this range were urban males, showing a clear trend that this group engaged more frequently than others. Urban females (7.1%) and rural males (7.1%) contributed minimally, while rural females had 0% presence.

3. Frequent Usage (More Than 6 Times) is Urban Male-Dominated

93.75% of users in this category were urban males, reinforcing the trend that they are the most engaged group. A small fraction of rural male users (6%) belong to minority. Females again recorded **0%**, indicating almost no high-frequency participation from these groups.

Key Insights

1. **Urban males are the most active users**, with a significant portion moving from moderate to frequent usage.
2. **Urban females and rural males show limited engagement**, with numbers tapering off as usage increases.
3. **Rural females are the least engaged demographic**, with near-zero presence in higher usage categories.

Fig 6.14 depicts the frequency instances of the responses for the last 1 year usage.

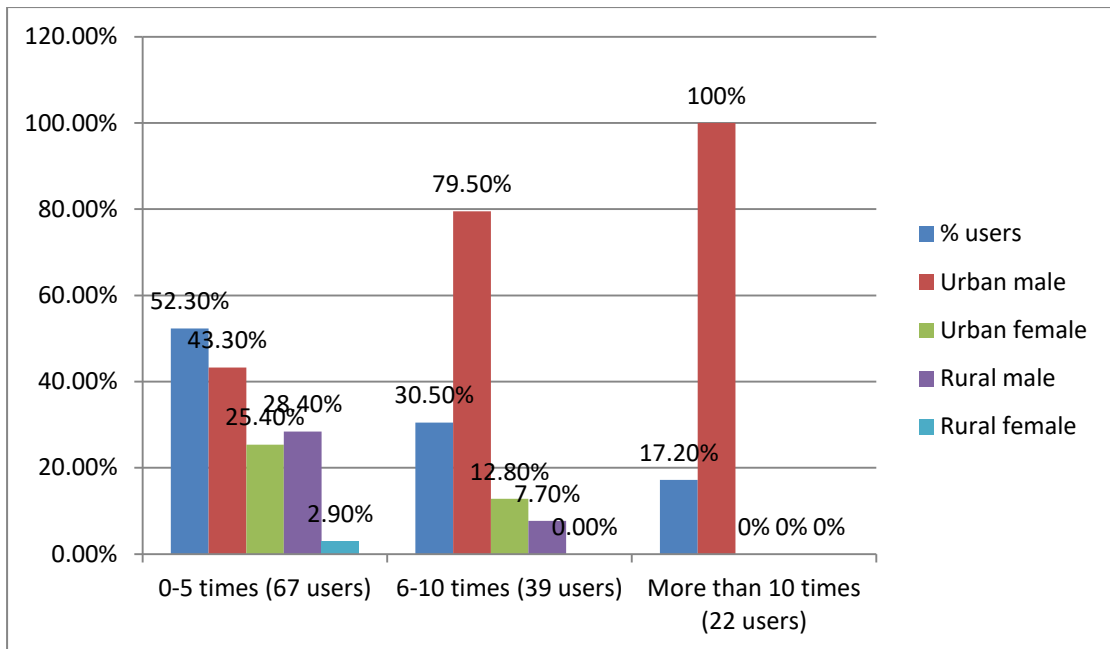


Fig 6.14: Usage frequency in last 1 year by 128 users.

Analysis

1. Most Users Engage Infrequently (0-5 Times)

A majority (52.3%) of users fell in this low-usage bracket, showing that engagement remains limited for a large number of individuals. Urban males (43.3%) had a strong presence in this category, but their percentage was lower compared to the previous dataset. Interestingly, rural males (28.4%) and urban females (25.4%) showed significant engagement, suggesting a broader user base in the early stages of interaction. Rural females (2.9%) continued to have the lowest participation, indicating possible access or digital literacy barriers.

2. Moderate Usage (6-10 Times) Still Skews Toward Urban Males

79.5% of users in this range were urban males, further reinforcing their dominant engagement pattern. However, there was some representation from urban females (12.8%) and rural males (7.7%), hinting at slightly improved

participation. Rural females again register 0%, showing they were not active in this category.

3. **Frequent Users (More Than 10 Times) Are Exclusively Urban Males**

100% of users in this category were urban males, meaning no other group is engaging at such a high frequency. This complete dominance suggests that heavy users belong to a specific demographics, while others do not exhibit sustained engagement. Urban females, rural males, and rural females had 0% presence, reinforcing the digital divide in consistent usage.

Key Insights

1. **Urban males continue to dominate user engagement**, with a clear shift from moderate to high-frequency use.
2. **Urban females and rural males show some presence in the mid-range (6-10 times), but not beyond.** This suggests they engage to an extent but do not transition to heavy usage.
3. **Rural females remain the least engaged**, with negligible participation across all usage levels.
4. **The gap in high-frequency usage is stark, with urban males being the only heavy users.** This indicates that outreach efforts might be necessary to encourage participation from other groups.
5. **The exclusivity of high-frequency users** suggests that certain services or features may be more appealing to urban males, which could be re-evaluated to ensure broader accessibility.

DigiLocker Usage to avail benefits of Government schemes

The user respondents were asked whether they have any time used DigiLocker to avail any Government scheme/benefits. Fig 6.15 depicts the user responses.

Analysis

1. Urban Males were the Dominant Users

A staggering 78.4% of the users belong to the urban male category, showing that they are the primary adopters of DigiLocker for government schemes. This could be due to higher digital literacy, better awareness, and understanding of Government schemes in urban settings.

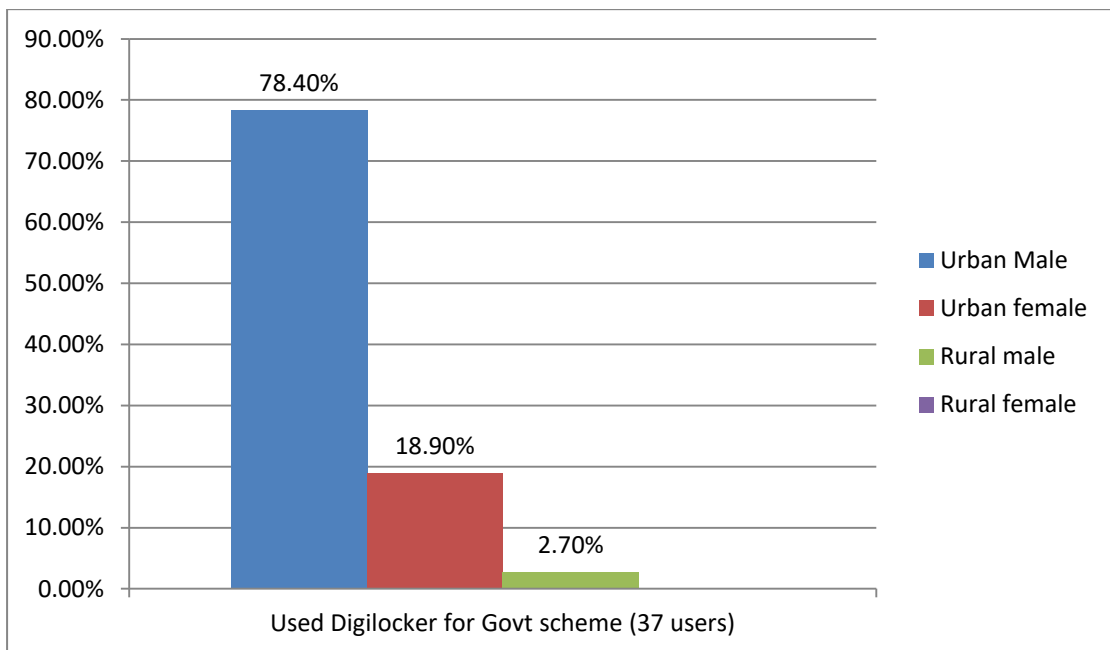


Fig 6.15: Used document for Government scheme/benefit through DigiLocker.

2. Urban Females Participate but at a Much Lower Rate

Only 18.9% of users were urban females, indicating that while this group engaged with the platform, their adoption was significantly lower than that of urban males. Possible reasons could include lack of awareness, digital hesitancy, or dependence on family members for handling official digital services.

3. Rural Males had Minimal Representation

With just 2.7% usage, rural males were barely engaging with DigiLocker for government schemes. This low percentage may be linked to limited awareness about Government schemes, or lack of exposure to such digital services.

4. Rural Females were Completely Absent

The absence of rural females (0%) suggests significant digital exclusion. Factors like socio-cultural barriers, lack of digital awareness, and lower financial independence could be limiting their ability to engage with DigiLocker.

Key Insight

The digital divide is evident – urban males lead the way, while rural users, particularly women, remain largely disconnected.

Perception of improvement in ‘Quality of Life’ by DigiLocker

User respondents were asked about their perception whether use of DigiLocker has brought in any improvement in their ‘Quality of Life’ (QoL). Fig 6.16 depicts the responses.

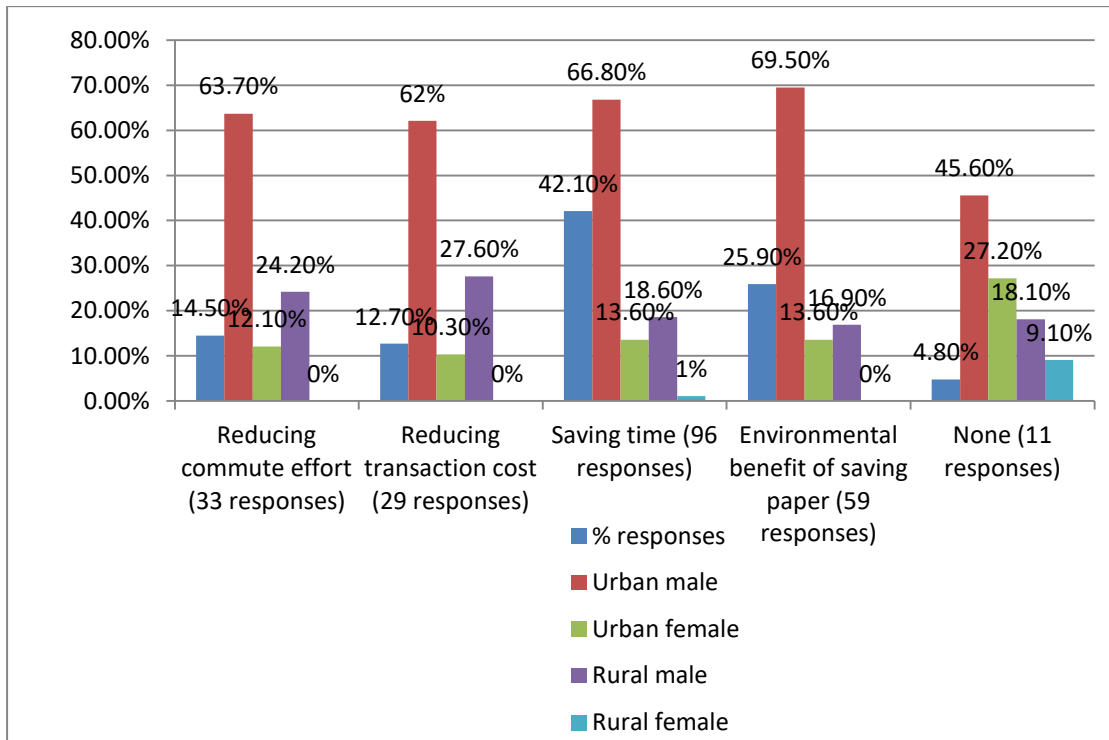


Fig 6.16: Perception of improvement in ‘Quality of Life’ by DigiLocker.

Since respondents had the ‘**Multiple Choice**’ selection from the options given, many respondents have chosen more than one option for single question, hence the **No. of responses are more than the No. of respondents.**

Analysis

1. Reducing Commute Effort (33 Responses)

- Urban males (63.7%) formed the majority of those who appreciate DigiLocker’s ability to reduce travel for document-related tasks.

- Rural males (24.2%) and urban females (12.1%) showed moderate recognition of this benefit.

- Rural females (0%) did not cite this as a major advantage, possibly due to limited digital adoption or lower involvement in administrative processes requiring physical visits.

2. Reducing Transaction Costs (29 Responses)

- Urban males (62%) also dominated this category, indicating that they were more likely to recognize cost savings associated with digital document management.

- Rural males (27.6%) and urban females (10.3%) also acknowledged this benefit.

- Rural females (0%) showed no recognition, suggesting that transaction costs may not be a primary concern or that they are unaware of the financial advantages.

3. Saving Time (96 Responses)

- Urban males (66.8%) cited time savings as a key advantage. A smaller portion of rural males (18.6%) also recognized this, suggesting that they value convenience in accessing digital documents.

- Rural males (18.6%) and urban females (13.6%) showed lower awareness. Since time savings is an attractive feature, marketing efforts should highlight real-world scenarios—such as instant verification of ID proofs, online education certificates, and vehicle documents—to encourage greater adoption.

4. Environmental Benefits – Saving Paper (59 Responses)
 - Urban males (69.5%) were the most aware of DigiLocker’s role in reducing paper usage. Rural males (16.9%) and urban females (13.6%) acknowledged this benefit.
 - Rural females (0%) again had the lowest awareness, possibly due to less exposure to environmental discourse. More communication is needed to promote DigiLocker’s role in sustainability, particularly in rural areas where paper-based documentation is still the norm.

5. None (No Perceived Benefits) (11 Responses)
 - 45.6% of urban males felt that DigiLocker does not provide any specific benefit. 27.2% of urban females and 18.1% of rural males also shared this perception.
 - Only 9.1% of rural females responded this way, but this could be because of low adoption rather than awareness of benefits.
 - The relatively high percentage of users who see no value in DigiLocker suggests a gap in communication about its full range of features. Providing real-world use cases and success stories may help change perceptions.

Key Insights

1. Urban males recognize the most benefits, indicating higher digital literacy and frequent use of DigiLocker.
2. Rural males acknowledge some advantages, particularly in saving time and money, but still lag behind urban users.

3. Women (both urban and rural) show lower engagement, suggesting that targeted awareness campaigns for female users are needed.
4. Environmental benefits are less appreciated in rural areas, highlighting the need for eco-conscious messaging in DigiLocker promotions.
5. A notable percentage of users do not see any benefit, showing the need for better outreach and user experience improvements.

Non-Acceptance of DigiLocker by Departments

User respondents were asked whether they ever faced a situation where any Department or agency did not accept a document produced through DigiLocker. Fig 6.17 depicts the responses to the same.

Analysis

1. Urban Males Encounter the Most Rejections (42.8%)

Among the **14 users (10.9%) who reported this issue**, urban males form the largest group. This could be attributed to their higher engagement with DigiLocker, which naturally increases the likelihood of encountering non-acceptance. Their digital reliance may also mean they expect smoother integration with government processes, making rejections more noticeable.

2. Urban Females and Rural Males Report Similar Levels of Rejection (28.6% Each)

- It is interesting that both these groups faced equal instances of DigiLocker non-acceptance. Urban females may be experiencing issues due to certain

government departments being slow to adopt digital documentation for services they frequently use (e.g., education, banking, or property transactions).

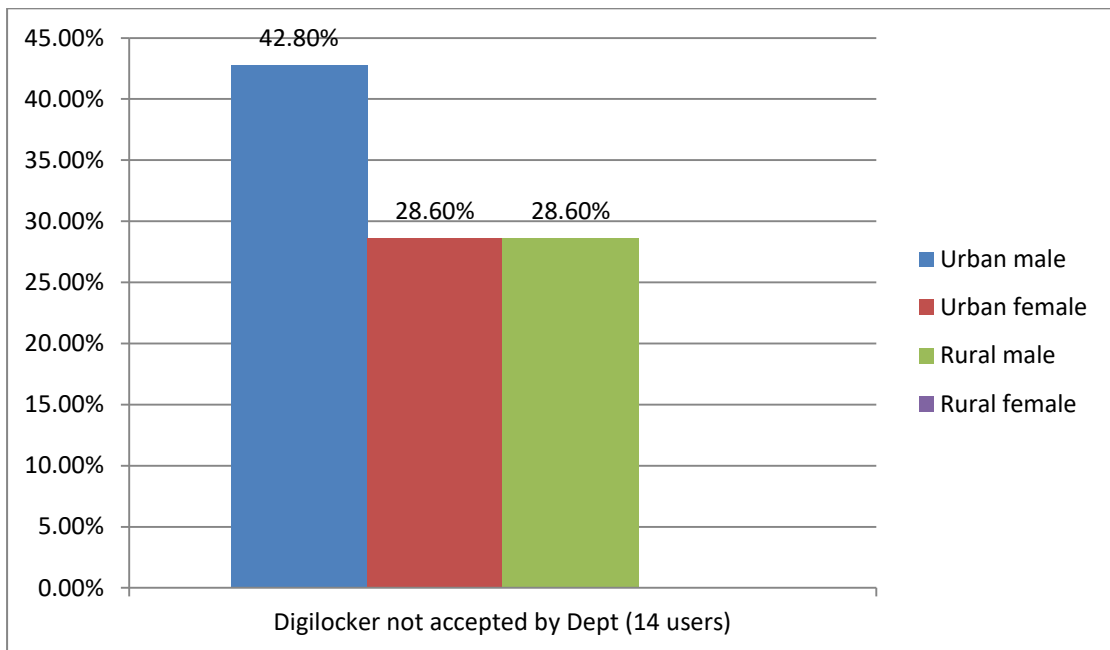


Fig 6.17: DigiLocker not accepted by some Department/agency.

- **Rural males'** relatively high percentage was surprising, given their lower overall engagement with DigiLocker. This suggests that **even when they do use it, they still face hurdles** in its official recognition.

3. Rural Females Do Not Report Any Rejections

- The absence of rural females in this dataset likely reflects their minimal engagement with DigiLocker in the first place, rather than an actual lack of issues. Their limited interaction means they aren't reaching the stage where they might face rejection.

- The users were further asked to mention the Department/agency which did not accept their document through DigiLocker. Since the question was not mandatory, not all 14 respondents answered.

The following table (Table No 6.2) lists their responses, not in any particular order.

Table No 6.2: DigiLocker not accepted by Department/agency

S. No.	Department/agency that did not accept DigiLocker document	No. of responses
1	Traffic Police	4
2	Court	1
3	Home Department for Gun Licence	1
4	ICICI Bank for KYC	1
5	Passport office	1

Respondents were further asked to mention then what did they do when some Department/agency did not accept their DigiLocker document. Since the question was not mandatory, not all 14 respondents answered. 11 responded by mentioning that they provided a hard copy of their document, and 1 respondent mentioned that - **‘Traffic challan’ had to be paid.**

Key Insights

1. **Institutional adoption of DigiLocker still faces roadblocks**, as shown by the fact that multiple user groups have reported non-acceptance, more so with the **Traffic Police.**

2. **Urban males**, the most engaged demographic, are also the **most affected by rejections**, suggesting frustration with the system's inconsistency.
3. Rural users encountering this issue indicates that digital exclusion is not just about access but also about **institutional readiness to accept e-documents**.
4. Government departments need to ensure uniform adoption of DigiLocker, possibly through policy mandates or awareness programs for officials.
5. Educating users on where DigiLocker is accepted and advocating for wider recognition could enhance trust and adoption rates.

Reasons for NOT using DigiLocker by non-users

There were 74 (**36.6%**) respondents who did not use DigiLocker (non-users). The study survey included a 'multiple choice' question to those non-users respondents, as to what were their reasons for not using DigiLocker. Fig 6.18 depicts the responses for reasons for not using DigiLocker.

Since respondents had the '**Multiple Choice**' selection from the options given, many respondents have chosen more than one option for single question, hence the **No. of responses are more than the No. of respondents**.

Analysis of User Barriers to DigiLocker Adoption

1. Perceived Lack of Usefulness (26 Responses)
 - A significant proportion (61.6%) of rural males expressed that they do not find DigiLocker useful.

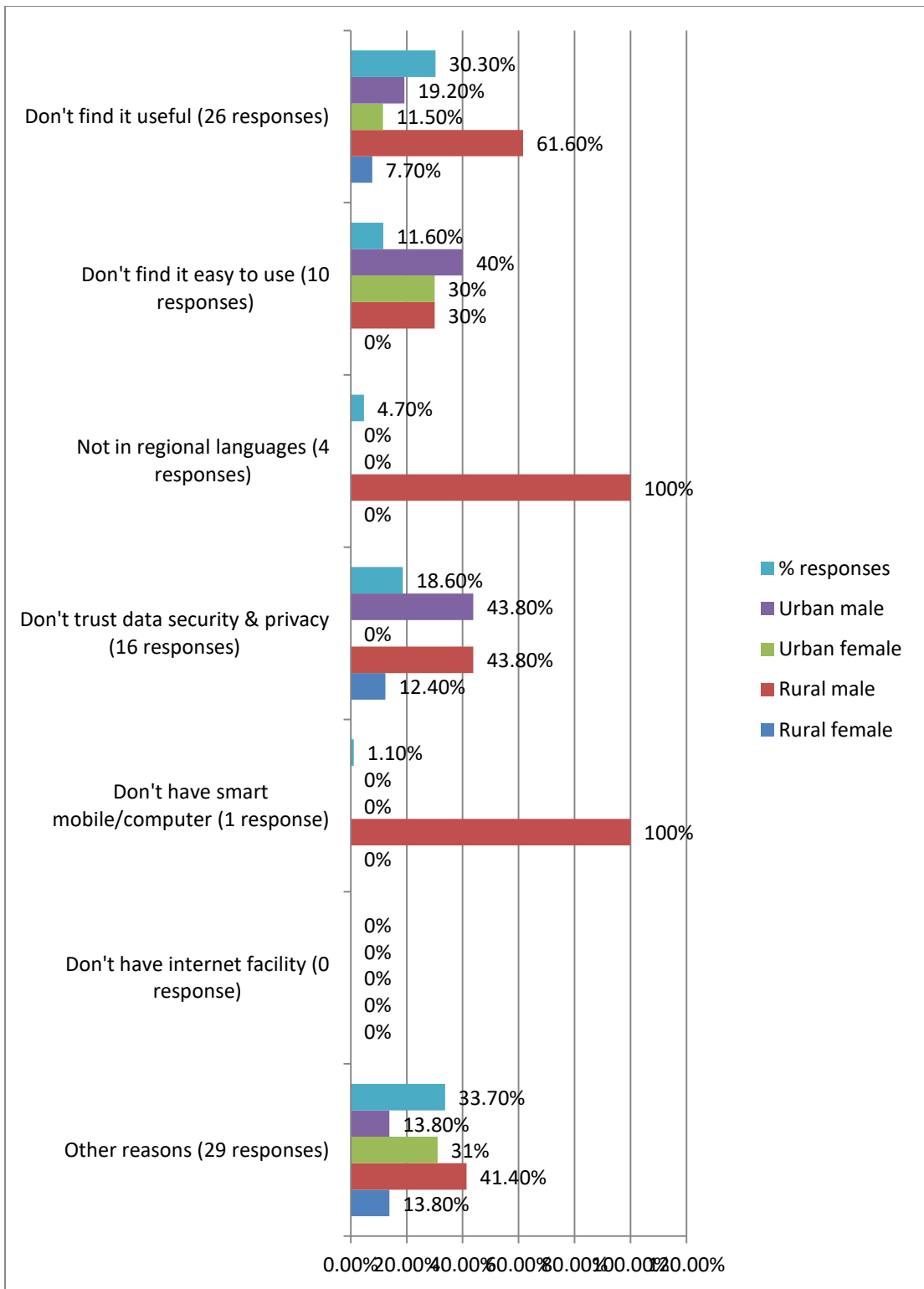


Fig 6.18: Reasons for NOT using DigiLocker by 74 non-users.

- Urban males and females had lower percentages (19.2% and 11.5%, respectively), suggesting that individuals in urban areas may have a better understanding of its benefits.

- This highlights the need for targeted awareness campaigns, particularly in rural areas, to demonstrate practical applications of DigiLocker.

2. Difficulty in Usage (10 Responses)

- Usability issues were reported by 40% of urban males and 30% each of urban females and rural males.

- Rural females reported no input, but this could also indicate lack of exposure rather than ease of use.

- Simplifying the interface and providing step-by-step guidance in multiple formats (video tutorials, helplines, etc.) could improve accessibility.

3. Language Barriers (4 Responses)

This was an issue exclusively among rural males (100%), indicating that lack of regional language support discourages adoption.

4. Data Security & Privacy Concerns (16 Responses)

- A notable 43.8% of urban and rural males did not trust DigiLocker's data security, while 12.4% of rural females also shared this concern.

- Urban females did not report security concerns, suggesting that privacy fears are more prevalent in rural populations.

- Addressing Trust Issues and strengthening public awareness of government-backed security measures, encryption, and privacy safeguards can help overcome hesitation.

5. Lack of Access to Technology (1 Response)

The only reported case of not owning a smart device came from a rural male respondent.

6. Internet Access Issues (0 Responses)

- Interestingly, no respondents reported lack of internet access as a barrier.
- This indicates that DigiLocker adoption is not significantly hindered by internet availability, at least within the surveyed sample/study area.

7. Other Reasons (29 Responses)

- A broad category, rural males (41.4%), urban females (31%), and urban males (13.8%) reported other reasons for non-adoption.
- This suggests that there might be personal, cultural, or situational factors beyond the survey options.

Key Insights

1. **Bridging the Awareness Gap:** Many users, particularly in rural areas, do not perceive DigiLocker as useful. Public outreach initiatives should emphasize real-life applications, such as using DigiLocker for government services, academic documents, and legal verification.

2. **Improving User Experience:** Since a significant portion of users find the system difficult to use, a simplified design, along with regional language support, could enhance usability.

3. **Building Trust in Security:** Privacy concerns remain one of the biggest barriers. Strengthening transparency about data protection policies and conducting security awareness programs can help boost confidence.

4. **Expanding Language Accessibility:** The lack of regional language options is a critical barrier in rural areas. DigiLocker should include more Indian languages and offer customer support in multiple dialects.

5. **Personalized Adoption Strategies:** The "Other Reasons" category indicates that barriers to adoption may vary by age, education level, or exposure to digital services. Further qualitative research (interviews, focus groups) may be needed to decode these challenges.

Suggestions by responders

1. The respondents were asked to suggest **whether they would want any more service(s) or document(s) to be included in DigiLocker**. These are listed in the Table No 6.3.

Table No 6.3: Suggestions for inclusion in DigiLocker

S. No.	Service(s) or document(s) to be included in DigiLocker	No. of responses
1	Vehicle PUC certificate	1
2	Passport	2
3	Proof of casting vote	1
4	All educational institutions	1
5	Marriage certificate	2
6	PPF	1
7	Educational documents pre-year 2000	1
8	Land records & Registry	1
9	Birth certificate	1
10	Pension Paying Order (PPO) & ECHS card of Ex-Servicemen	1
11	Jeevan Praman Patra/Life Certificate	2
12	Income Tax related documents	1

2. Further, respondents were asked to **suggest measures for improving the DigiLocker** initiative to increase its usage. These are listed in the Table No 6.4.

Table No 6.4: Suggestions for improving DigiLocker

S. No.	Suggestions to improve DigiLocker	No. of responses
1	Auto-retrieval without need of data/net	1
2	Facial Recognition/Face ID Lock	1
3	More safety/security measures	2
4	State-wise classification of documents	1
5	Wide publicity to increase awareness	5
6	App speed to be increased to avoid long loading/fetching time	3
7	Voice search	1
8	Voter ID inclusion	1
9	Elderly-friendly user interface	1

FINDINGS FROM INTERACTION WITH OFFICIALS AND GROUPS

Following issues emerged from the interactions with various stakeholders, like bank officials, officials in college admission office, Regional Transport officials, state agencies and groups of people:

Urban area

1. Bank officials

- (a) Banks' back-end softwares had their own way of KYC verification.
- (b) It is not known whether bank's back-end software pulls any data from DigiLocker.

(c) For cross-verification of customers, bank accepts documents like Aadhaar/PAN/Driving Licence (DL) “issued” in DigiLocker, if the customer produces so, but not the “uploaded” documents by the customer.

(d) Financial documents were issued in DigiLocker by the bank’s back-end software and there is no provision with the bank’s officials to issue any document from their upfront desk.

(e) Banks were “issuers” and NOT “requesters”.

(f) Most of the bank staff was using DigiLocker.

2. College Admission Office.

(a) DigiLocker was integrated in admission process.

(b) It formed a part of a candidate’s college admission application form where candidate has an option to allow verification through DigiLocker or separately through Aadhaar Number.

(c) After the admission, candidates need to link their Academic Bank of Credits (ABC) ID to the college portal where his/her degrees would get credited.

(d) Such credits can automatically be fetched by the subsequent colleges where the student seeks admission in future for higher studies.

(e) Most of the college staff was aware and using DigiLocker.

3. Regional Transport Office

(a) Vehicle Registration Certificate (RC) and Driving Licence (DL) in the ‘issued’ section of DigiLocker were accepted by the RTO and Traffic Police.

(b) Concerns of 'Non-acceptance' of the same by Traffic Police, as reported by certain survey respondents, were conveyed. It was clarified that it is very much accepted but these could be some isolated incidents which should have been reported by such aggrieved persons to the higher authority.

4. NeGD & MeitY officials (DigiLocker implementers)

(a) Inception of DigiLocker was based on the pillars of providing citizens with space in the data cloud and to provide door-step delivery of services.

(b) It evolved from a mere cloud storage space to a valid entity under the IT Act 2000.

(c) It has shown a constantly upward trend in the number of its users, 'issuers' and 'requesters'.

(d) It is working on onboarding more services especially the '**Life certificate**'/'**Jeevan Praman Patra**'.

(e) A **positive and receptive** attitude of the developers and implementers reinforces its wider applications and citizen services, that would lead to its better future.

5. College students

(a) All participant college students, pursuing graduation degree under Delhi University college, were aware of DigiLocker.

(b) All (100%) were using DigiLocker, mostly for academic documents and some for DL.

(c) All have used it at least once in a year.

(d) One student suggested that there could be an added security feature of Face ID lock too.

6. Pensioners

Only 50% of respondents were aware of DigiLocker, hence lack of awareness was evident. But the other **non-aware pensioners showed instant interest.**

(a) Only 33.3% pensioners were using DigiLocker, mainly for DL and vehicle Registration Certificate (RC).

(b) Suggestions included more advertisements, multilingual interface and to include 'Jeevan Praman Patra/Life certificate', pre-2000 years' academic documents like degrees & marksheets, which indicated '**receptive**' attitude.

Urban study respondents did not show any 'behavioural' or 'technological' barriers, but lack of awareness was observed.

Rural area

1. Panchayat officials

(a) The majority of officials at the Block 'Panchayat Samiti' office were not aware of the DigiLocker initiative.

- (b) As the Block officials did not show any curiosity to know about it and those who knew about it, took no efforts to make others aware of DigiLocker, it reflected a **behavioural and attitudinal barrier**. Smart mobiles and net were available, hence, **technological barriers were not observed**.
- (c) Gram Panchayat (GP) members, who were aware and were using DigiLocker, took no efforts to spread the awareness about DigiLocker amongst the villagers. This again emphasizes on their '**behavioural barrier**'.
- (d) GP where '**E-Mitra**' centre was there, **exhibited wider usage of DigiLocker** among the younger villagers, especially for academic entities.

2. Villagers

- (a) It was encouraging to learn that most of the young villagers in the age group of 15-30 years, were aware of DigiLocker and many of them were using it, though primarily for academic documents and vehicle Driving Licence (DL) only, which was directly affecting their job of transportation.
- (b) The young villagers did not exhibit enthusiasm to explore other wide utilities of DigiLocker.
- (c) Many of the villagers between 30-50 years, were aware of DigiLocker but were using it for their primary job-related aspect only, which was the use of DL, as they were engaged in transportation of agricultural produce.
- (d) There was indifference in their attitude towards other utilities of DigiLocker apart from their primary job.
- (e) Villagers above the age of 50 years were not aware about DigiLocker. In addition, they did not feel that there is any need for such a platform.

(f) Officials/GP members and villagers, who were aware of or were using DigiLocker, were not using it for any agriculture-related document despite being in the business of agriculture in a majorly agrarian region, as they were not aware that DigiLocker could be used for agriculture-related documents also.

Lack of awareness and behavioural challenges, but not technological challenges, impede the wider adoption of DigiLocker in the rural study area, was the inference of this study.

7. WAY FORWARD

Based on the research findings of the study undertaken and their analysis, following are the **Recommendations** to increase the DigiLocker adoption.

1. Strategies for Enhancing Awareness

It would form the backbone for wider DigiLocker adoption, as **18.8%** study respondents **were not aware** of DigiLocker and **30% non-users did not find it useful**. It would give a booster to **overcome the ‘behavioural challenges’** that hinder the adoption of DigiLocker, since **‘techological challenges’ were non-significant** in this study. **Elderly rural** study respondents felt that there is **no need for such a platform**.

(a) Multi-Channel Awareness Campaigns

(i) **Mobile Messages and TV Advertisements:** Study indicated that **SMS notifications and television ads** are among the effective ways to increase digital awareness, both in urban and rural areas.

(ii) **Newspaper and Radio Campaigns:** Rural outreach through **vernacular radio** broadcasts and **regional newspapers** can significantly boost awareness among low-literacy populations.

(iii) **Consistent Branding:** Government and private agencies should undertake consistent messaging across their platforms to establish a strong, memorable presence for DigiLocker, which will **keep reinforcing** the message.

(iv) **YouTube videos/ Instagram reels/ Facebook reels**: Citizens are very much now involved in various Social Media platforms. Releasing **short videos**, from time-to-time, on such platforms to raise its awareness and utility could have **cascading effect**.

(b) Regional Language and Community Outreach programmes

4.7% of non-user respondents, all rural males, cited **reason for not using it as it's not in multiple regional languages**.

(i) Vernacular Language Campaigns: It will ensure promotional content is available **in local dialects** that will make DigiLocker more relatable and comprehensible for diverse population.

(ii) Leveraging Community Networks: Student groups, religious leaders, and village influencers can help spread **awareness within local communities**.

(iii) Referral-Based Promotions: **Offering incentives** for users who successfully invite others to use DigiLocker can drive wider adoption.

(c) Government and Private Sector Endorsements

(i) Ministry-Backed Promotions: Government ministries and agencies should actively promote DigiLocker in programs like **PM-Kisan, MGNREGA**, and the Public Distribution System (PDS) to ensure wide-scale awareness and adoption.

(ii) Integration with Private Sector Services: Collaborating with insurance companies, banks, and transport offices (RTOs) can extend

DigiLocker's application to daily transactions such as **insurance claims and vehicle documentation**.

2. Modifying Digital Infrastructure and Accessibility

Despite significant urban penetration, many older citizens and less tech-savvy users, rural communities, especially females, struggle with using DigiLocker. This digital divide limits its potential reach and impact. To enhance accessibility, DigiLocker could incorporate:

- (a) **A User-Friendly Interface:** As **11.6% non-user** respondents of this study replied that they **didn't find DigiLocker easy to use**, modalities could be worked out to have a simplified navigation with clear labels, visual cues, and an intuitive user experience to help first-time users understand the app effortlessly.
- (b) **Voice-Based Assistance and Multilingual Support:** Implementing voice commands and navigation in multiple regional languages can significantly boost accessibility for people unfamiliar with text-based interfaces.
- (c) **Inclusive Design:** Special features for individuals with disabilities, such as text-to-speech, high-contrast modes, and computer keyboard shortcuts for visually impaired users, can ensure universal access to DigiLocker.

3. Enhancing Digital Literacy and Outreach

- (a) **Targeted Digital Literacy Programmes** could include the following:

(i) **Women-Centric Initiatives:**

Women in rural and also in urban areas often lack digital literacy and/or awareness, limiting their engagement with digital platforms. Community-driven awareness programs could focus on empowering women by:

- Organizing interactive workshops in **collaboration with NGOs** to demonstrate DigiLocker's features and benefits.
- Providing hands-on training to women **Self-Help Groups (SHGs)** and '**Anganwadi**' workers to help them become 'DigiLocker Ambassadors' within their communities.

(ii) **Rural Training and Incentives:**

- **Financial Incentives:** Providing benefits such as '**Mobile Data Credits**' for first-time users can motivate rural population to adopt DigiLocker.
- **Simplified Registration:** A streamlined process with fewer steps, easy authentication, and '**voice-assisted registration**' in **local languages** can improve sign-ups.

(iii) **University and Workplace Integration module:**

- **Educational Institutions:** All Universities (as certain universities are still not onboarded on DigiLocker) should integrate DigiLocker for academic credential storage and verification (**including pre-2000 year documents**), reducing the need for physical document submission and/or verification.

- Corporate Sector: Companies could encourage DigiLocker usage by **emphasizing** it for employment-related documentation, streamlining HR processes, and reducing paperwork.

(b) Expanding Government Collaboration

(i) **Linking Essential Government Schemes:** Integrating DigiLocker as faster and preferential vehicle, with services such as **Direct Benefit Transfer (DBT)**, agricultural **subsidies**, and **pension schemes** will enhance its practical utility and drive higher adoption.

(ii) **Training Government Officials:** Local Government officials, public service employees, and banking personnel could be **trained to assist citizens** in using DigiLocker. This will create a support system that aids ‘non-tech-savvy users’.

4. Improving User Experience and Security

(a) Simplified Design and Navigation through software modifications

(i) **Improving User Interface (UI)/ User Experience (UX):** A minimalistic and visually guided user interface can reduce confusion among first-time users.

(ii) **Onboarding Assistance:** Including tutorial pop-ups, FAQs, and **chatbot-guided walkthroughs** will help users understand DigiLocker’s functionality with ease and comfort.

(b) Strengthening Trust in Security

(i) Data Protection and Privacy: Strengthening security measures, such as biometric authentication, **Face ID Lock** and end-to-end encryption, will assure users of their data's safety.

(ii) Security Awareness Programmes: Conducting workshops and free online webinars to educate users about **data privacy and fraud prevention** will build trust in its security framework.

5. Incentivizing Digital Documentation

(a) Promoting Paperless Transactions

(i) **Gamifying Adoption with Challenges and Rewards:** DigiLocker could have a "**GO PAPERLESS**" initiative where users get rewarded for DigiLocker document usage.

(ii) **Faster Processing for Digital Users:** Institutions can offer incentives such as quicker processing times and **lower service fees** for users who store documents on DigiLocker.

(iii) **E-Governance Incentives:** Encouraging users to submit official documents through DigiLocker, instead of in-person could streamline government processes and reduce bureaucratic inefficiencies, especially in rural setup.

(b) Success Story-Based Marketing measures

(i) **Highlighting Real-World Use Cases:** Showcasing examples where DigiLocker saved users' time and money, such as students retrieving their marksheets online instead of visiting universities, will make adoption more relatable.

(ii) **Video Testimonials:** Featuring real beneficiaries of DigiLocker in promotional campaigns will enhance its credibility and encourage hesitant users to onboard.

6. Addressing Non-Acceptance and Non-Users

(a) Policy Mandates for Government Adoption

(i) **Uniform Adoption in Public Departments:** Emphasizing on DigiLocker for storing government-related documents such as Aadhaar, PAN and income certificates will improve institutional adoption.

(ii) **Training Officials on Usage:** Ensuring that Government officials at all levels are **equipped to guide citizens** in using DigiLocker would bridge the adoption gap.

(b) Overcoming the Awareness and Perception Gap

(i) **Public Outreach Demonstrations:** Setting up DigiLocker help desks in banks, post offices, and Government centers to provide on-the-spot training and registration assistance.

(ii) Awareness about **Cost Savings**: Educating users about how DigiLocker reduces financial burdens related to document procurement, commute efforts and physical storage will encourage wider acceptance.

7. Special Considerations for Rural Adoption

(a) Institutional Awareness Initiatives

(i) **Panchayat and Block Office Campaigns**: Issuing **written directives** to local governance bodies to be aware themselves and promote DigiLocker usage within their jurisdictions.

(ii) **Role of ‘E-Mitra’ Centers**: Training digital service centers to assist rural population in making them aware, signing up and using DigiLocker effectively.

(b) Targeted Awareness for Special Groups

(i) **Elderly Users and Pensioners**: Conducting special DigiLocker awareness and registration drives for people over 50 years old, especially in rural areas, to help them access pension and medical records digitally.

(ii) **Farmers and Agriculture-Related Subsidies**: DigiLocker’s benefits could be well-reaped if farmers are encouraged to store

agriculture-related documents, crop insurance papers, and subsidy-related documents via Krishi Vigyan Kendras and farmer cooperatives.

CONCLUSION

Despite the fact that DigiLocker has the potential to revolutionize document management and digital storage in India, its adoption by the citizens is sub-optimal. This study explored and described the levels of DigiLocker awareness and usage, challenges that prevent its wider adoption, in the selected urban and rural study areas in the Delhi NCR.

The study results indicate a gaping urban-rural divide as well as gender divide amongst the respondents. Urban study population was twice as aware as in rural region. The awareness and usage levels were male dominated, both in urban and rural study areas. Rural females and elderly citizens had lesser engagement with the platform. There exists **behavioural challenge in the rural region**, but not in the urban region. **No technological challenges** were observed in urban and rural study areas.

By strengthening digital literacy, improving software of the app, incorporating multilingual support, voice command features, improving accessibility for the physically challenged citizens and fostering collaborations between the government, private stakeholders, and various communities, widespread adoption can be achieved. Through targeted interventions such as enhanced rural outreach, female-centric programs, involvement of NGOs and SHGs, reinforcing data privacy and security

features, and promotional incentives, DigiLocker can transition into an indispensable tool for governance, businesses, and individual users alike.

As India continues to push towards digital inclusion, ensuring that all citizens—regardless of geography, gender, or digital literacy—would be able to leverage the benefits of DigiLocker, which will be the key to its success.

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DigiLocker

Greetings. Myself, Dr. M.M. Goswami, am presently attending 50th APPPA Course at Indian Institute of Public Administration (IIPA), New Delhi. My research topic is on 'DigiLocker' digital platform. It is a free cloud-based online service provided by Government of India under Digital India initiative. This would allow all Indian citizens to manage important documents (education certificates, DL, RC etc) online instead of carrying their physical copies. This survey is to assess the adoption of Digilocker service.

** Indicates required question*

1. Your name (optional)

2. Your Email / Mobile number *

3. Your age (in years) *

4. Your gender *

Mark only one oval.

Male

Female

Other

5. Your education level *

Mark only one oval.

- No schooling
- Upto class 5
- Upto class 10
- Upto class 12
- Graduate
- More than graduation

6. Your background? *

Mark only one oval.

- Urban
- Rural

7. Your occupation *

Check all that apply.

- Salaried
- Self-employed
- Unemployed
- Pensioner
- College student
- Agriculturist
- Other

8. Your monthly household income (in Rupees)? *

Mark only one oval.

- Upto 2 lakh
- 2-5 lakh
- 5-10 lakh
- 10-20 lakh
- More than 20 lakh

9. Are you using net facility/ mobile data/ broadband? *

Mark only one oval.

- Yes
- No
- Net not available

10. Are you aware of "Digilocker" app, initiated by Govt of India? *

Mark only one oval.

- Yes
- No

11. How did you come to know of Digilocker app? *

Check all that apply.

- Mobile message
- TV
- Radio
- Newspaper
- Advertisements
- Friends
- DON'T know

12. Are you aware if someone in your family or friends uses Digilocker app? *

Mark only one oval.

- Yes
- No

13. Are you using 'Digilocker' app? *

Mark only one oval.

- Yes
- No

14. If NOT, then what are your reasons for NOT using Digilocker?

Check all that apply.

- Don't find it useful
- Don't find it easy to use
- Not available in multiple regional languages
- Don't trust the data security & privacy issues
- Don't have a smart mobile/computer
- Don't have internet facility
- Other

15. If USING, then for what type(s) of documents are you using Digilocker?

Check all that apply.

- Education related (Marksheets, Degree, Migration, Admit Card etc.)
- Transport related [Driving license (DL), vehicle Registration Certificate (RC) etc]
- Insurance policy (Life insurance, Vehicle insurance, Health, Travel etc)
- Financial documents (Account statements, Loans, Mutual Funds, PPF)
- Agriculture/Farming related (Certificates like Agriculture Income , Agri Labour, Crop, Agriculturist, J-Form, License for seed/fertilizer sale etc)
- Aadhaar, PAN verification
- ABHA health card
- Ration card
- Income certificate
- Other

16. How many times did you use Digilocker in last 3 months?

Mark only one oval.

- 0 to 3 times
- 4 to 6 times
- more than 6 times

17. How many times did you use Digilocker in last 1 year?

Mark only one oval.

- 0 to 5 times
- 6 to 10 times
- more than 10 times

18. Have you ever faced a situation where your Digilocker document was NOT accepted by any Dept/ agency?

Mark only one oval.

Yes

No

19. If yes, then which Dept/ agency did NOT accept Digilocker?

20. Then what did you do?

21. Did you use documents for any Govt scheme/ benefit through Digilocker?

Mark only one oval.

Yes

No

22. Has the usage of Digilocker improved your Quality of Life by:

Check all that apply.

- reducing your commute effort
- reducing transaction cost
- saving time
- environmental benefit of saving paper
- None

23. Are there any more service(s) or document(s) that you would want to be included in Digilocker?

24. Any suggestions for improving the "Digilocker" initiative so that it's usage can be enhanced?

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