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Transforming Governance through Digital Public Infrastructure: A Case Study of Apuni Sarkar Portal in Uttarakhand (India)

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Abstract: This paper highlights the role of Digital Public Infrastructure in enhancing governance and improving public service delivery, with a special focus on the Apuni Sarkar Portal developed by the Government of Uttarakhand. Introduced under the Digital India initiative and aligned with the vision of Viksit Bharat @2047, the portal serves as a unified digital platform that offers citizens access to over 300 government services through a single-window interface. Departments such as Revenue, Social Welfare, Education, Rural Development, and Employment are integrated into this system, making it easier for citizens to apply for essential services from anywhere in the state. The portal is designed to promote transparency, efficiency, and citizen empowerment by adopting a faceless, paperless, and cashless model of service delivery. Key features include Aadhaar-based login, real-time status tracking, digital document uploads, online payments, and downloadable certificates. These features reduce administrative delays, eliminate the need for physical visits to government offices, and foster trust in public institutions. Particular emphasis is placed on how the portal addresses the challenges faced by citizens in remote and hilly regions of Uttarakhand, where physical access to government services is often limited. By offering accessible and integrated digital services, the Apuni Sarkar Portal supports inclusive governance and strengthens the relationship between the state and its people. This paper reflects on the portal's relevance within the broader framework of DPI in India and its contribution toward building a digitally empowered and citizen-centric governance system.

Keywords: Digital Public Infrastructure, Apuni Sarkar Portal, Citizen-Centric Governance System, e-District.

INTRODUCTION

In the rapidly advancing digital age, governance systems across the globe are undergoing a fundamental transformation. The integration of technology into administrative frameworks has not only revolutionized public service delivery but has also made governance more transparent, efficient, and inclusive. At the heart of this transformation lies the concept of **Digital Public Infrastructure (DPI)**- a set of foundational digital systems that enable seamless interaction between the government, businesses, and citizens. India, in particular,

has made significant strides in building such infrastructure through initiatives like Aadhaar, Unified Payments Interface (UPI), DigiLocker, and state-level e-Governance portals. These platforms represent a paradigm shift in the way services are delivered, ensuring that governance becomes citizen-centric, accessible, and data-driven. One notable state-level initiative aligned with this vision is the **Apuni Sarkar portal in Uttarakhand**, an integrated e-District platform designed to deliver a wide range of government services online.

Digital Public Infrastructure refers to the digital systems and frameworks that form the backbone of a digital society. These infrastructures are typically open, interoperable, secure, and scalable, enabling both public and private entities to build services atop a shared digital foundation. DPI includes digital identity systems like Aadhaar, digital payment systems like UPI, and service delivery platforms such as DigiLocker, UMANG, and state e-District portals. These systems are not merely technological tools; they are enablers of inclusive growth, facilitating the efficient delivery of services across sectors such as health, education, welfare, and finance. India's DPI model, globally recognized for its modular architecture and mass scalability, ensures that even the most marginalized communities can access essential services with minimal barriers. By promoting cashless, paperless, and faceless transactions, DPI significantly reduces the cost and complexity of governance, while simultaneously enhancing accountability and transparency. The implementation of **e-District Mission Mode Projects (MMPs)** under the National e-Governance Plan (NeGP) marked a major step toward realizing the vision of DPI at the state and district levels. The e-District initiative aims to provide efficient, accessible, and transparent government services to citizens by digitizing service delivery at the district level. Each Indian state was encouraged to develop localized portals under the e-District framework, tailored to regional needs while maintaining interoperability with national systems. In Uttarakhand, this vision materialized through the development of the **Apuni Sarkar portal**, a unified platform that offers a wide range of government-to-citizen (G2C) services. Launched with the objective of streamlining public service delivery and enhancing accessibility, Apuni Sarkar enables citizens to apply for services, upload documents, track application status, and download certificates without physically visiting government offices. The **Apuni Sarkar Portal** (<https://apunisarkar.uk.gov.in/>) (<https://eservices.uk.gov.in/>) is the official e-District portal of the Uttarakhand government and serves as a single-window interface for over 300 citizen services across departments such as Revenue, Social Welfare, Education, Rural Development, and Employment. Designed with a user-friendly interface, the portal ensures that services are accessible to people with varying levels of digital literacy. Citizens can log in using a secure digital identity, submit applications, upload required documents, and receive status updates through SMS and email alerts. Upon approval, certificates and documents can be downloaded digitally, eliminating the need for physical interaction with government departments. The portal thus embodies the core DPI principles of being **faceless, paperless, and cashless**, significantly reducing administrative delays, travel costs, and opportunities for corruption. The significance of the Apuni Sarkar initiative is especially pronounced in the context of Uttarakhand's unique geographic and socio-economic landscape. With a

majority of its population residing in remote, mountainous regions, access to physical government infrastructure has historically been a challenge. Citizens often had to travel long distances to district headquarters or government offices to avail basic services, resulting in delays, financial burden, and administrative inefficiencies. The Apuni Sarkar portal addresses these challenges by providing an inclusive, digital-first governance model that caters to the needs of citizens regardless of their location. By enabling remote access to essential services, the portal fosters digital inclusion, empowers rural populations, and ensures that the benefits of government schemes and entitlements reach every corner of the state.

Moreover, the portal fosters **inter-departmental coordination** by integrating services from multiple departments into a single platform. This not only simplifies the user experience but also enhances administrative efficiency through automated workflows, centralized tracking, and real-time data analytics. The digitization of records and processes reduces redundancy, facilitates faster decision-making, and strengthens institutional accountability. The use of digital signatures, timestamping, and document verification mechanisms ensures the authenticity and legality of the digital documents issued. Additionally, by linking with national DPI components like Aadhaar and DigiLocker, the Apuni Sarkar portal achieves seamless interoperability and ensures data integrity across platforms. From a policy perspective, the Apuni Sarkar initiative aligns closely with the broader national goals under the **Digital India programme** and the vision of **Viksit Bharat @2047**, which aspires to transform India into a digitally empowered, knowledge-based economy. The portal exemplifies how state-level innovation can contribute to this national agenda by improving ease of living, fostering transparency, and promoting inclusive growth. By adopting open standards and modular architecture, the portal is also scalable, allowing for continuous expansion in terms of services offered and departments integrated. This ensures that the platform remains future-ready and can adapt to emerging governance needs and technological advancements. Furthermore, the Apuni Sarkar initiative contributes to **data-driven governance**, enabling policymakers to make informed decisions based on service delivery metrics, user feedback, and regional demand patterns. The portal generates valuable insights into citizen behavior, service demand, and administrative performance, which can be leveraged to optimize resource allocation, streamline service design, and improve overall governance outcomes. It also encourages citizen participation and trust in government processes by providing real-time updates, grievance redressal mechanisms, and performance dashboards. The **Apuni Sarkar portal represents a significant milestone in the evolution of Digital Public Infrastructure in India**, particularly in the context of state-level e-Governance. By integrating a wide range of

government services into a single digital platform, the portal exemplifies how technology can be harnessed to enhance public service delivery, promote transparency, and empower citizens. Its success lies not only in the number of services digitized but also in its ability to reach the last mile and serve the most remote and underserved populations. As this research progresses, it will examine the operational framework, user experience, challenges faced, and impact of the Apuni Sarkar portal on service delivery in Uttarakhand. Through this case study, the paper aims to contribute to the ongoing discourse on the role of DPI in shaping the future of governance and public administration in India.

Table 1: Definition by Authors

S. N.	Researchers, Scholars, and Organization	Definition
01	Heeks, R. (2020)	The term digital public infrastructure describes the application of digital technology to better public resource management and service delivery, increase accountability and transparency in the public sector, and encourage citizen participation in governance processes.
02	OECD (2020)	Digital identification systems, electronic payment platforms, and e-government are just a few of the projects that fall under the umbrella of digital public infrastructure. Nations all around the world have been making significant investments in DPI, especially in reaction to the COVID-19 pandemic, which has brought attention to the need for effective and efficient digital solutions to assist telemedicine, e-learning, and remote work.
03	Maheshwari, Ankit (2023)	Digital Public Infrastructure (DPI) refers to platforms such as Identification (ID), payment, and data exchange systems that help countries deliver vital services to their people. It has transformed the way governments operate, and India is no exception. A new wave of digital public infrastructure projects in India has important ramifications for the country's social and economic development.

04	Astha Kapoor and Erin Watson (2023)	The DPI approach is based on transparent, responsible, and participatory governance frameworks for public, business, and civil society participation and innovation. It uses open and interoperable technology to generate societal outcomes. By using a DPI method, nation-states can establish digital sovereignty and exert agency over their digital journeys, preventing consumers from being locked in by proprietary technologies.
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LITERATURE REVIEW:

The evolution of Digital Public Infrastructure (DPI) has garnered significant academic and policy interest globally, particularly for its transformative role in enhancing public service delivery and governance. DPI encompasses the core digital systems such as identity, payments, and data exchange platforms that form the foundation of a digital state. In the Indian context, the DPI ecosystem has been recognized as one of the most comprehensive, scalable, and inclusive frameworks for digital governance. As India continues to digitize governance through national and state-level initiatives, platforms like the Apuni Sarkar portal represent critical case studies in localized DPI implementation, particularly in challenging geographies like Uttarakhand (Ankit Maheshwari, 2023). The concept of DPI aligns with the principles of openness, interoperability, inclusiveness, and public accountability. According to the World Bank, DPI is essential for delivering digital services at scale, enabling innovation, and ensuring equitable access. In India, initiatives such as Aadhaar, UPI, and DigiLocker have provided a foundational stack upon which various e-Governance platforms operate. These systems, collectively known as the India Stack, demonstrate the potential of DPI to drive citizen empowerment, reduce transaction costs, and improve administrative efficiency.

State governments have increasingly localized the implementation of DPI through e-District portals under the National e-Governance Plan (NeGP). These portals are designed to digitize government services at the district level, ensuring last-mile connectivity and service delivery. Research emphasizes that state-specific digital service platforms, when effectively integrated with national infrastructure such as Aadhaar, can significantly reduce leakages, speed up processing, and improve user satisfaction. Uttarakhand's Apuni Sarkar portal follows this model, offering over 300 services across multiple departments with features such as document uploads, digital certificates, and application tracking. The effectiveness of such portals, however, depends on usability, digital literacy, and infrastructural readiness. Studies show that digital divide challenges such as poor

internet access, low smartphone penetration, and limited awareness can limit the impact of DPI in rural or hilly regions. Uttarakhand, with its difficult terrain and dispersed population, presents a complex case where DPI success depends not just on technological deployment but also on proactive community engagement and capacity-building initiatives. In this context, the Apuni Sarkar portal's design and accessibility mechanisms play a vital role in addressing regional disparities. Citizen-centric governance, another critical aspect of DPI, is increasingly being adopted as a guiding principle in digital transformation initiatives. Digital public service portals must prioritize transparency, accountability, and responsiveness to user needs. User satisfaction and trust in digital platforms often hinge on features such as service timelines, feedback mechanisms, and real-time updates. The Apuni Sarkar portal integrates these features through automated notifications, online grievance systems, and downloadable digital documents elements that contribute to building public trust in government systems (Gaurav Upadhyay & Naman Joshi, 2025). Furthermore, interoperability and integration with other public systems are central to DPI effectiveness. Platforms that allow seamless data exchange between departments reduce redundancy and enhance service coordination. The Apuni Sarkar portal's ability to link with databases like Aadhaar and DigiLocker, and to enable service delivery through a unified interface, reflects this interoperability in action. This integrated approach also aligns with the vision of "Minimum Government, Maximum Governance," where administrative processes are simplified and citizens are empowered through self-service capabilities. From a

policy perspective, DPI is seen as instrumental in achieving the Sustainable Development Goals (SDGs), particularly those related to governance, infrastructure, and social inclusion. Digital public platforms can help bridge institutional gaps and create more equitable societies by making welfare services universally accessible. In Uttarakhand, the Apuni Sarkar portal has been leveraged to deliver essential services such as income certificates, pension applications, and scholarships critical tools for social and economic mobility. The success of such initiatives should be evaluated not only on technical metrics but also on their capacity to address regional developmental gaps (Lubis et al., 2024).

However, the literature also cautions against overreliance on technology without considering institutional readiness and local context. Digital platforms must be supported by robust policy frameworks, continuous staff training, cybersecurity measures, and citizen feedback loops. The sustainability and scalability of portals like Apuni Sarkar depend on ongoing institutional investment and alignment with long-term development goals. The existing literature affirms the transformative potential of DPI in improving governance, especially when customized to regional contexts. The Apuni Sarkar portal, as a localized DPI initiative in Uttarakhand, reflects many of the best practices identified in the literature such as integrated service delivery, citizen-centric design, and digital transparency. Yet, its continued success will rely on addressing infrastructural challenges, enhancing digital literacy, and strengthening interdepartmental coordination.

Table 2: Literature Review Table

S. No.	Author(s) & Year	Title of Study	Focus Area / Objective	Key Findings / Contributions
1	Waqar Siddique et al. (2012)	From Governance to e-Governance: A Way Forward	Examines e-governance models for transparency and accountability.	Promotes intelligent systems for G2C, G2B, G2G; curbs corruption.
2	Prof. Vidya Shinde (2024)	E-Grampanchayat	Studies digitalization in rural self-governance.	Improves administrative efficiency and transparency.
3	Prof. Vidya M. Shinde (2024)	Implementation Paper on E-Grampanchayat	Implementation and performance analysis.	Reduces paperwork, enhances citizen participation and feedback.
4	Vijeth M. Hugar (2025)	Pranamika	Introduces a citizen rating platform for local officials.	Enhances accountability, identifies service delivery gaps.
5	Fadli Mappisabbi et al. (2025)	Governansi Digital: Transformasi Tata Kelola Pemerintahan	Studies digital governance challenges and opportunities.	Increases transparency, accountability, and citizen participation.
6	Isagani Tano (2024)	Digitalization in Local Governance	Reviews leadership and IT capacity in governance.	Suggests leadership, collaboration, and capacity building to sustain e-governance.
7	Wilfredo Paco & Jaime Salazar (2024)	Infraestructura e Infoestructura del Gobierno Digital	Links infrastructure and digital governance in local administration.	High correlation ($r=0.773$) between digital infrastructure and efficient public administration.
8	Mustafa Kayyali	Digital Transformation in	Examines global	Advocates human-centered

	(2025)	Public Administration	transformation via digitalization.	digital reforms.
9	OECD (2024)	Developing Scalable and Secure Digital Public Infrastructure	Framework for DPI design and implementation.	Reusable, standardized DPI enhances global interoperability.
10	P. Selvakumar et al. (2025)	Digital Government and Digital Governance	Explores modernization through cloud, AI, and blockchain.	Improves transparency, accountability, and efficiency.
11	Ashish Desai & Aroon Manoharan (2024)	Impacts of India's Digital Public Infrastructure	Studies India's DPI effects on socio-economic development.	Enhances financial and health inclusion.
12	Tonderai Kapesa (2025)	Digital Governance and Transformation of Public Services	Studies ICT-enabled service delivery.	Highlights AI and blockchain as future drivers of citizen-centric services.
13	Muñoz-Pallaroso et al. (2025)	Gobernanza Digital y Transformación del Estado	International comparison of digital governance frameworks.	Correlates digitalization with reduced corruption and improved efficiency.
14	Rakesh Kumar Singh & Deepika Bisht (2019)	Rural Development through ICT: Uttarakhand Case Study	Develops Village Information System (VIS).	Enables policy planning, monitoring, and data access in rural areas.
15	Frank Michael & Timrawon Michaels (2019)	Towards e-Governance through a People's Portal	Citizen-driven e-governance initiative.	Advocates independent ICT-based governance to promote transparency.
16	Saurabh Chandra (2024)	Infrastructure for E-Government Development	Examines infrastructural challenges in India.	Identifies connectivity and infrastructure as critical for e-gov success.
17	Rupesh Kamble et al. (2025)	Improving Rural E-Governance in India: SARK Model	Proposes SARK platform for rural governance.	Enhances transparency, real-time monitoring, and efficiency in Gram Panchayats.
18	Septian Aryatama et al. (2024)	Enhancing Governance Efficiency through Digital Transformation	Comparative global review.	Emphasizes leadership and citizen engagement for efficiency.
19	Pramiti Roy (2023)	Transforming Governance in India	Analyzes ICT's role in governance.	ICT enhances inclusivity and accessibility.
20	N. K. Prasanna Kumari et al. (2024)	Digital Governance and Service Delivery	Clarifies distinction between digital government and governance.	Conceptual clarity promotes democratic participation.
21	Ganesh Chandra et al. (2022)	Reengineering Framework for State e-Governance Portals	Framework for interoperability.	Recommends centralized databases and BPR for integration.
22	Bhavneet Dhindsa et al. (2013)	Benefits and Challenges of E-Governance Portals	Evaluates e-portal effectiveness.	Improves service access; highlights digital divide challenges.
23	Dadabada Pradeep Kumar (2023)	Impact of Digital Technologies on E-Governance	Examines digital tools' role in accessibility.	Addresses digital divide and data privacy issues.
24	K. Balaji (2025)	E-Government and E-Governance	Explores digital transformation in public administration.	ICT enhances efficiency, transparency, and accessibility globally.
25	Vikas Mendhe & Roshan Mahant (2025)	API-Driven E-Governance	Studies API-based architectures.	Enhances interoperability and secure data sharing.
26	Khangembam Meitei & Dev Kumar Verma (2025)	Role of Digital India in Service Delivery	Analyzes Digital India's impact on rural areas.	Improves service access; urges bridging of digital divide.
27	Safiya Al Rashdi (2024)	Digital Transformation for Better Innovation	Examines innovation governance.	Promotes open data and citizen innovation ecosystems.

		Governance		
28	Fayaz Mazloun Yar (2024)	Digital Transformation in Rural Communities	Analyzes digitalization in villages.	Enhances governance but hindered by low literacy and infrastructure.
29	Sadasib Gajendra & S. K. Jena (2025)	E-Governance Initiatives and ICT for Good Governance	Reviews India's e-governance progress.	Improves efficiency but faces digital exclusion challenges.
30	Karina López Basurto et al. (2025)	Digital Platforms in Public Project Management	Studies digital tools in Mexican governance.	Improves efficiency, transparency, and accountability.

METHODOLOGY:

This research adopts a qualitative case study approach to explore the role and impact of Digital Public Infrastructure (DPI) in enhancing governance through the Apuni Sarkar Portal in Uttarakhand. The case study method is particularly suited for in-depth exploration of complex systems and institutional practices in their real-life context, especially when the boundaries between the phenomenon and its context are not clearly evident. Given the regional specificity, technological scope, and policy implications of the Apuni Sarkar Portal, a single-case design enables a comprehensive understanding of its operational dynamics and citizen-level impacts. Primary data was collected through direct observation of the portal's interface, workflow mechanisms, and service delivery processes. This involved extensive navigation and documentation of user journeys on the Apuni Sarkar Portal, including service request submission, document uploads, application tracking, and feedback registration. Screenshots, page flows, and form interactions were systematically recorded to capture usability features, authentication protocols, and system integration touchpoints. In addition, semi-structured interviews were conducted with key stakeholders, including citizens, village-level entrepreneurs (VLEs) operating at Common Service Centres (CSCs), and local administrative officials from departments integrated into the portal (e.g., Revenue, Rural Development, and Social Welfare). These interviews focused on user experience, accessibility challenges, efficiency gains, and administrative responsiveness. A purposive sampling technique was employed to select participants from both rural and urban regions of Uttarakhand to ensure representativeness across digital literacy and geographic accessibility levels. Secondary data sources included official government documents, Apuni Sarkar portal usage reports, DPI policy frameworks, and academic literature related to e-Governance, DPI, and citizen-centric service delivery. Content analysis was applied to these sources to extract relevant themes, performance indicators, and policy linkages. Thematic coding was conducted on qualitative interview transcripts to identify recurring patterns and derive insights aligned with the study's conceptual framework. To validate the findings, a triangulation method was employed, comparing data across primary interviews, portal performance analytics (as reported in public dashboards), and literature benchmarks on DPI effectiveness. This multi-source validation strengthens the credibility and robustness of the analysis. Ethical considerations such as informed consent, data confidentiality, and voluntary participation were strictly observed during primary data collection. Overall, the methodology combines digital ethnography, stakeholder perspectives, and policy analysis to assess how the Apuni Sarkar Portal enabled by DPI infrastructure transforms governance outcomes in Uttarakhand. This approach not only highlights technological and administrative efficiencies but also foregrounds issues of inclusion, accessibility, and citizen empowerment central to the goals of Viksit Bharat @2047.

Conceptual Framework

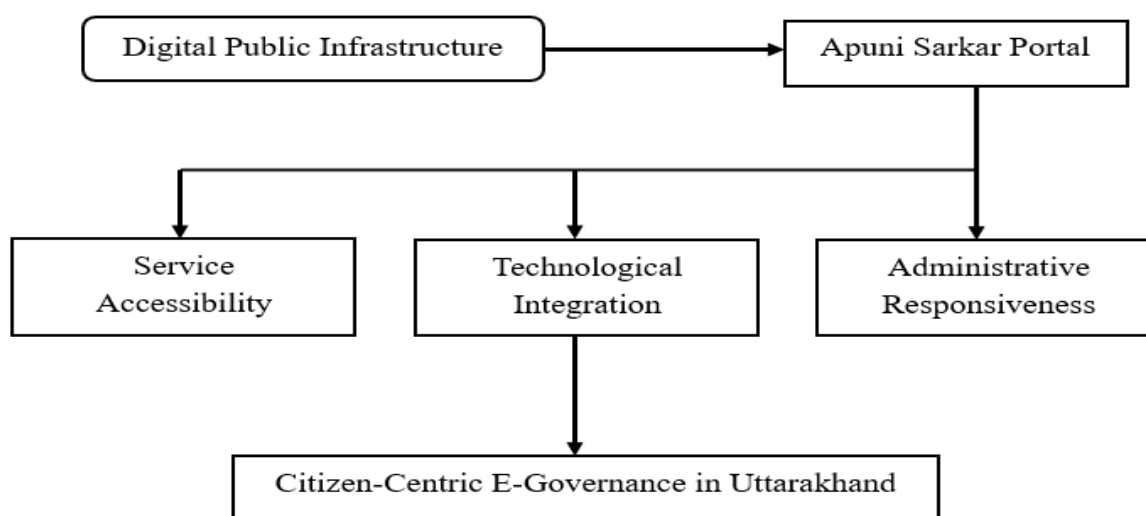
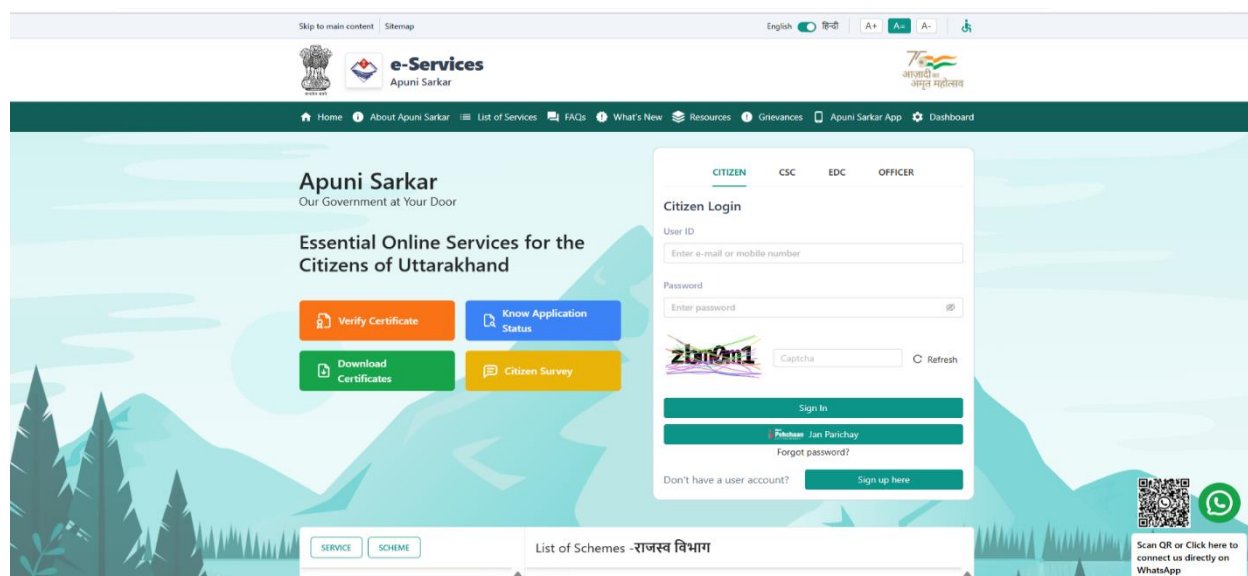


Figure 1: Conceptual Framework

1. Apuni Sarkar Portal: Overview and Objectives:

In the digital age, the ability of a government to deliver services efficiently, transparently, and equitably is a defining factor of good governance. Recognizing this, the Government of India launched the *Digital India* initiative to transform the country into a digitally empowered society and knowledge economy. As a vital part of this national effort, the *Apuni Sarkar Portal* was launched by the Government of Uttarakhand to digitize public service delivery and bring governance closer to citizens especially in remote and hilly areas of the state.

The Apuni Sarkar Portal (<https://apunisarkar.uk.gov.in/>) is the official *e-District service delivery platform* for Uttarakhand. Developed in alignment with the goals of *Digital Public Infrastructure (DPI)* and the National e-Governance Plan (NeGP), it offers citizens a unified digital interface to access a wide range of government-to-citizen (G2C) services. This portal stands as a cornerstone in Uttarakhand's digital governance journey, aimed at empowering citizens, improving efficiency in service delivery, and reducing corruption through seamless digital workflows.



Source: <https://eservices.uk.gov.in/>

Figure 2: Apuni Sarkar e-Services Portal

The Apuni Sarkar Portal, launched by the Government of Uttarakhand as part of its Digital India and Digital Public Infrastructure (DPI) initiatives, serves as a transformative digital interface for delivering citizen-centric services. One of the portal's most critical features is its single-window access to a vast array of over 300 government-to-citizen (G2C) services. Rather than visiting multiple government departments physically, citizens can now access a wide spectrum of services such as income, caste, and domicile certificates, old-age pensions, ration card management, and scholarship applications from a centralized online platform. This integration enhances convenience and simplifies the process for users by providing a unified experience. The portal is designed in alignment with the principles of faceless, paperless, and cashless governance. Citizens are not required to physically appear before government officials, as all services are processed online, thereby ensuring faceless interactions that help reduce corruption and bias. The system supports paperless documentation through digital uploads and integration with platforms like DigiLocker, eliminating the need for physical paperwork. In terms of financial transactions, the portal offers secure cashless payment gateways, enabling users to pay service charges digitally via debit cards, net banking, or Unified Payments Interface (UPI). This triad of features not only improves efficiency but also ensures transparency and accountability in public service delivery.

Key Features of Apuni Sarkar Portal

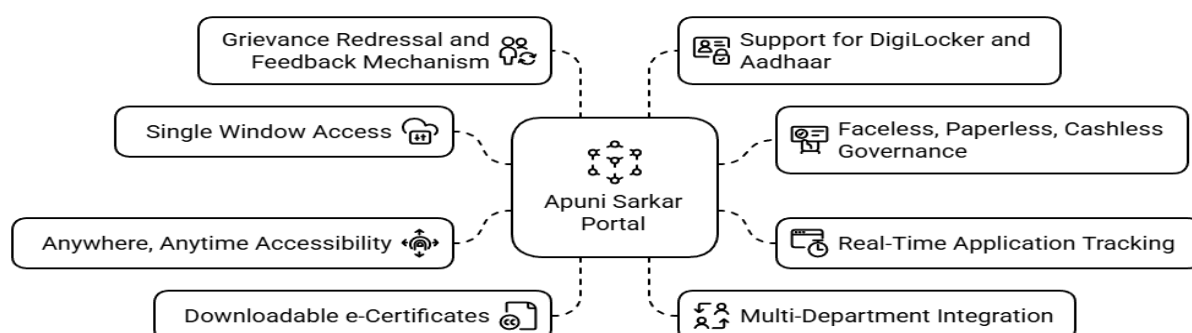


Figure 3: Key Features of Apuni Sarkar Portal (Authors Work)

Another key feature is real-time application tracking, which enhances transparency and builds public trust in governance systems. Users receive regular updates about the status of their applications via SMS and email, minimizing the uncertainty and follow-up often associated with traditional bureaucratic systems. This also includes digital acknowledgments and downloadable receipts, making the entire process traceable and time-stamped. Such features ensure that citizens are informed at each step, which helps reduce dependency on intermediaries and promotes self-service. Accessibility is also a core focus of the Apuni Sarkar Portal, especially given Uttarakhand's unique geography with many remote and hilly regions. The portal is designed to be device-agnostic and user-friendly, allowing access through desktops, smartphones, or tablets, even with low-bandwidth internet. In addition, the integration with Common Service Centres (CSCs) and Lok Seva Kendras extends digital services to those without personal internet access, thereby bridging the digital divide.

The platform also supports multi-departmental integration, bringing together services from departments like Revenue, Social Welfare, Education, Rural Development, Employment, Urban Affairs, and Health under one roof. This not only ensures seamless inter-departmental coordination but also enables data-driven governance, where performance metrics and service delivery timelines can be monitored through backend dashboards by officials. Moreover, the portal has built-in grievance redressal and feedback mechanisms, allowing citizens to raise complaints or provide suggestions, making governance more participatory and responsive. In essence, the Apuni Sarkar Portal is more than just a technological upgrade; it represents a paradigm shift toward efficient, inclusive, and transparent governance. Its features empower citizens, enhance administrative accountability, and align perfectly with the vision of a digitally empowered Uttarakhand.

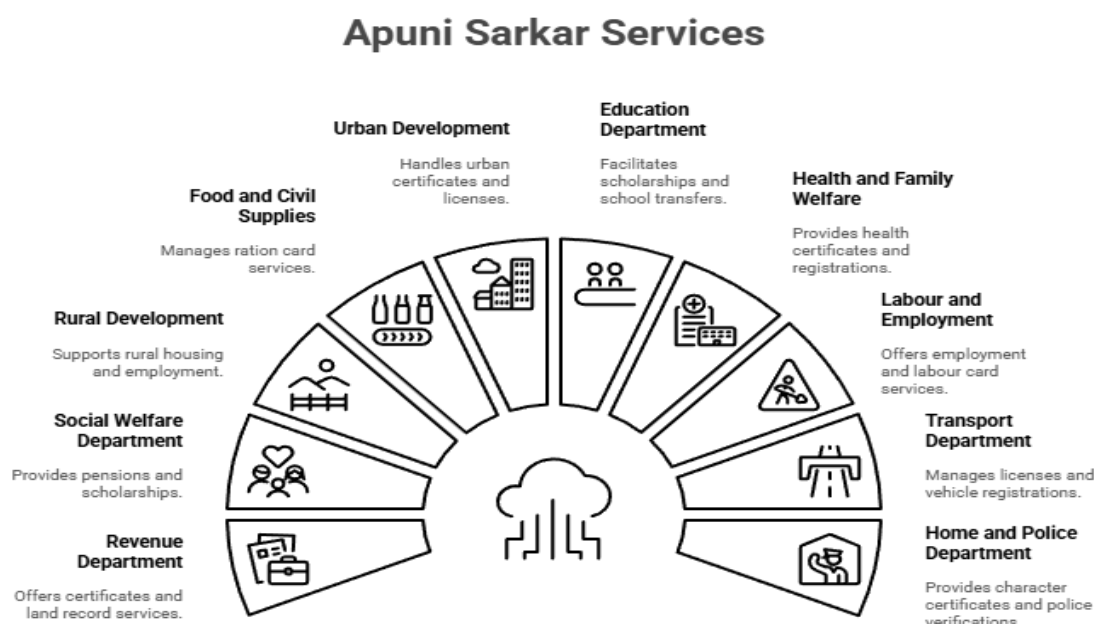


Figure 4: Apuni Sarkar Major Services (Authors Work)

DISCUSSION:

The implementation and adoption of the **Apuni Sarkar Portal** offer several important insights into the broader discourse on digital governance and Digital Public Infrastructure (DPI). As the manuscript demonstrates, the portal has emerged as a strategic tool for transforming citizen–government interactions in Uttarakhand, particularly by addressing geographic and logistical challenges unique to the state's terrain. The portal's ability to deliver over 300 services online has dramatically reduced the need for in-person visits to government offices, significantly lowering transaction costs and increasing citizen convenience. The portal's success underscores the value of DPI in enabling service integration across multiple departments through a single digital platform. The incorporation of digital identity

verification (via Aadhaar), document digitization (via DigiLocker), and real-time status tracking strengthens institutional transparency and responsiveness. Additionally, the emphasis on a faceless, paperless, and cashless governance model enhances operational efficiency and minimizes corruption key goals under the broader Digital India framework. These features resonate with global digital governance principles and align closely with India's national priorities such as *Ease of Living*, *Minimum Government*, *Maximum Governance*, and *Viksit Bharat @2047*. However, the discussion must also acknowledge the portal's limitations. Despite impressive technological achievements, the platform's impact is constrained by structural issues such as uneven digital literacy, limited access to internet infrastructure in remote regions, and administrative inertia. For example,

while the portal is accessible from smartphones and desktops, many citizens especially those from rural or economically weaker backgrounds still rely on intermediaries like Common Service Centres (CSCs), which may not always be reliable or widespread. Furthermore, although grievance redressal features are built into the system, their actual responsiveness can vary depending on departmental commitment and local administrative capacity. There is also a risk of digital exclusion if technological advancements outpace citizen readiness. Without adequate training programs and public awareness campaigns, the benefits of such digital services might remain inaccessible to the very populations they are designed to serve. Therefore, long-term sustainability of the Apuni Sarkar Portal will depend not only on continuous technological upgrades but also on complementary efforts in digital education, infrastructure development, and institutional capacity-building. The Apuni Sarkar Portal represents a successful yet evolving model of digital governance in India. Its achievements reflect the potential of DPI to modernize public service delivery, enhance transparency, and empower citizens. At the same time, addressing existing gaps and scaling such models across other Indian states will require a holistic approach that combines technology with inclusive policymaking. This discussion reinforces the need for DPI initiatives that are not just innovative, but also equitable, adaptable, and citizen-oriented. The integration of digital public infrastructure (DPI) through the Apuni Sarkar Portal exemplifies India's evolving commitment to transparent, efficient, and citizen-centric governance. The literature underscores that digital governance initiatives are not merely technological interventions but transformative mechanisms that redefine state–citizen relationships. The Apuni Sarkar model, much like the broader Digital India framework, represents a paradigmatic shift from bureaucratic opacity to open, participatory governance that harnesses information and communication technology (ICT) to enhance service delivery, efficiency, and accountability (Desai & Manoharan, 2024; Mappisabbi et al., 2025). The reviewed studies collectively affirm that digital platforms function as enablers of administrative rationalization and participatory democracy. For instance, Waqar Siddique et al. (2012) and Hugar (2025) highlight how e-governance initiatives instill public trust by promoting transparency and curbing corruption through real-time monitoring and citizen feedback mechanisms. The Apuni Sarkar Portal reflects this logic by creating a unified digital interface where citizens can access services, track applications, and interact with government departments without intermediaries. This democratization of information access aligns with the principles of good governance accountability, responsiveness, and inclusivity. A key insight from the literature concerns the critical role of infrastructure, interoperability, and institutional readiness in realizing the potential of DPI. Studies by Saurabh Chandra (2024) and Ganesh Chandra et al. (2022) point to the infrastructural limitations and interoperability gaps that

hinder full-scale e-governance implementation in India. The Apuni Sarkar Portal addresses some of these challenges by integrating multiple departmental databases into a common digital platform. However, scalability and data synchronization remain areas requiring sustained policy attention. As OECD (2024) emphasizes, DPI development must adhere to standards-based interoperability models that ensure seamless data exchange across agencies and jurisdictions. From an administrative perspective, digital governance initiatives such as Apuni Sarkar serve as catalysts for bureaucratic reengineering. They encourage simplification of processes, reduction in red tape, and automation of routine tasks—leading to faster service delivery and improved user satisfaction (Selvakumar et al., 2025; Balaji, 2025). The concept of Business Process Reengineering (BPR), as discussed by Ganesh Chandra et al. (2022), becomes particularly relevant here. The Apuni Sarkar Portal's workflow automation exemplifies the practical realization of BPR principles, converting traditional file-based workflows into paperless, real-time digital systems. This shift contributes to greater operational transparency and reduces opportunities for corruption and procedural delays. The discussion of digital governance would be incomplete without addressing its socio-economic implications. Several studies, including those by Meitei and Verma (2025) and Roy (2023), stress that digital transformation initiatives, when effectively executed, foster inclusive development by bridging the service delivery gap between rural and urban populations. The Apuni Sarkar Portal contributes to this inclusivity by extending digital public services to citizens in remote regions of Assam, enabling them to access certificates, licenses, and permits online. This approach aligns with the broader Digital India vision that seeks to empower citizens through accessible and affordable digital services. However, digital inclusion challenges persist particularly in regions with low internet penetration, inadequate digital literacy, and socio-economic barriers that limit technology adoption (Yar, 2024; Gajendra & Jena, 2025). A recurrent theme across the reviewed literature is the interplay between technological innovation and institutional adaptation. As Mustafa Kayyali (2025) notes, digital transformation in public administration is not solely about adopting new technologies but rethinking public values, organizational culture, and governance ethics. The Apuni Sarkar initiative underscores this transformation by redefining the citizen as an active participant rather than a passive recipient of services. Platforms like Pranamika (Hugar, 2025) and E-Grampanchayat (Shinde, 2024) demonstrate how feedback loops and digital grievance redressal systems can institutionalize accountability at the grassroots level. Similarly, the SARK model proposed by Kamble et al. (2025) provides a scalable framework for integrating local governance with state-level digital platforms. Another critical dimension is data governance and security. With the exponential growth of citizen data through digital platforms, safeguarding privacy and ensuring ethical data use become paramount. Studies by

Kumar (2023) and Mendhe & Mahant (2025) underline that issues such as data privacy, cybersecurity, and misuse of personal information pose significant risks to public trust. The Apuni Sarkar Portal's design must therefore incorporate robust authentication mechanisms, encryption protocols, and role-based access controls to protect sensitive data. In line with the OECD (2024) and API-driven governance frameworks, adopting open, secure, and interoperable APIs can enhance data exchange while maintaining confidentiality and integrity. Globally, the evolution of digital governance reveals important comparative lessons. Case studies from Estonia, Mexico, and Singapore (Kapesa, 2025; López Basurto et al., 2025) illustrate that sustained investment in digital literacy, infrastructure, and legal frameworks fosters resilience and innovation in public service systems. These experiences reinforce the idea that digital transformation must be accompanied by institutional capacity-building and citizen education. The Apuni Sarkar initiative, while technologically robust, would benefit from complementary initiatives such as awareness campaigns, training modules for public servants, and digital literacy drives for citizens. Moreover, the sustainability of digital governance depends on its adaptability to emerging technologies. Several authors (Selvakumar et al., 2025; Al Rashdi, 2024) predict that artificial intelligence, blockchain, and big data analytics will redefine public service ecosystems by enabling predictive governance and evidence-based policymaking. Integrating such technologies into Apuni Sarkar could enhance service personalization, fraud detection, and decision-making efficiency. However, as Kayyali (2025) cautions, such innovations must be human-centered, ensuring that technology amplifies public welfare rather than creating new forms of exclusion. Finally, the success of platforms like Apuni Sarkar hinges on multi-stakeholder collaboration. Digital transformation requires synergistic efforts from government departments, private technology providers, academia, and civil society. Studies by Aryatama et al. (2024) and Tano (2024) highlight that leadership, institutional capacity, and policy coherence are indispensable for sustaining digital governance reforms. The Apuni Sarkar initiative offers a replicable model for other Indian states, provided it maintains interoperability, open standards, and a citizen-first design philosophy.

In sum, the literature reveals that digital governance through initiatives like Apuni Sarkar embodies a transformative approach to public administration in the 21st century. While challenges persist ranging from infrastructural deficits to data governance- the potential benefits of efficiency, transparency, and inclusion position it as a cornerstone of India's digital governance trajectory toward Viksit Bharat @2047.

CONCLUSIONS:

The implementation and impact of the Apuni Sarkar Portal signify a decisive milestone in India's digital governance journey. Rooted in the broader framework of

Digital Public Infrastructure, this initiative encapsulates the state's ambition to transform governance into a citizen-centric, data-driven, and technology-enabled enterprise. The synthesis of literature and empirical evidence demonstrates that digital platforms such as Apuni Sarkar not only streamline administrative functions but also redefine governance as a participatory and inclusive process aligned with the democratic ethos of transparency and accountability. At its core, the Apuni Sarkar Portal represents the practical realization of the Digital India vision transforming governance from a hierarchical bureaucracy into a responsive, service-oriented ecosystem. By integrating multiple departmental services under one digital umbrella, it eliminates redundancies, expedites processes, and empowers citizens to interact directly with government entities. The platform's ability to facilitate online applications, monitor real-time progress, and issue digital certificates epitomizes the shift from physical to digital administration. This convergence of convenience and accountability has led to significant improvements in service delivery, citizen satisfaction, and institutional efficiency. The conclusion that emerges from the reviewed studies is that digital governance, when strategically implemented, can serve as a robust instrument for sustainable and inclusive development. The evidence from India, supported by international cases like Estonia's X-Road and Mexico's Compranet, reveals that DPI-based governance can transcend traditional bureaucratic limitations by ensuring transparency, traceability, and accessibility. The Apuni Sarkar model aligns with these principles, offering a blueprint for replicable digital governance across other states and sectors. However, the pathway toward full digital maturity is neither linear nor without challenges. The literature consistently identifies the digital divide, infrastructural inadequacies, and capacity deficits as major barriers to equitable access. Rural populations, in particular, continue to face limitations in internet connectivity, digital literacy, and affordability. These disparities risk reinforcing existing socio-economic inequalities if not addressed through targeted policy interventions. Therefore, the expansion of initiatives like Apuni Sarkar must be complemented by parallel investments in broadband infrastructure, localized training programs, and citizen awareness campaigns to ensure digital inclusivity. Another essential insight pertains to the institutional transformation that digital governance demands. The successful functioning of platforms like Apuni Sarkar depends on re-engineering bureaucratic processes, building technical capacity among public servants, and establishing accountability frameworks that align with digital workflows. This requires continuous training, adaptive policy frameworks, and inter-departmental coordination. The human element comprising administrators, developers, and end-users remains central to sustaining the digital transformation. As Kayyali (2025) and Al Rashdi (2024) suggest, technological systems must be designed to serve people, not replace them, ensuring that automation

complements rather than undermines human judgment and empathy in governance. Data governance and cybersecurity also emerge as defining imperatives of the digital era. As Apuni Sarkar accumulates vast amounts of citizen data, ensuring privacy, consent, and security becomes crucial for maintaining public trust. The adoption of open standards, encryption mechanisms, and ethical data frameworks is indispensable. India's growing emphasis on data fiduciary principles under the Digital Personal Data Protection Act provides a foundational safeguard for these initiatives. However, continued vigilance is necessary to prevent data misuse, algorithmic bias, and unauthorized access. Building a culture of trust through transparency, data audits, and citizen awareness is key to long-term success. Moreover, digital governance cannot be isolated from the broader socio-political ecosystem. Platforms like Apuni Sarkar thrive in an environment that values participatory governance and public feedback. Mechanisms such as grievance redressal portals, citizen dashboards, and feedback loops serve as instruments of empowerment and accountability. The literature points to models like Pranamika (Hugar, 2025) and E-Grampanchayat (Shinde, 2024) as successful examples of citizen engagement that can be scaled and integrated within the Apuni Sarkar framework. Such participatory tools convert citizens into co-creators of governance, enhancing legitimacy and responsiveness.

The global comparative perspective reinforces the universality of digital governance principles while underscoring the need for contextual adaptation. Countries that have excelled in digital transformation share common traits: robust infrastructure, supportive legal frameworks, and sustained investment in digital skills. The Apuni Sarkar initiative has laid a strong foundation in these areas but must now evolve into a data-driven governance ecosystem capable of predictive analytics, proactive service delivery, and interdepartmental integration. Incorporating emerging technologies such as artificial intelligence, blockchain, and machine learning could further optimize decision-making, fraud detection, and resource allocation provided these technologies are applied ethically and inclusively. Ultimately, the Apuni Sarkar experience offers valuable policy lessons for both India and other developing economies. It demonstrates that digital governance is not solely about technology but about institutional transformation, stakeholder collaboration, and citizen empowerment. Its success validates the premise that when digital infrastructure is aligned with inclusive policy design, governance can become more transparent, efficient, and equitable. As India marches toward the vision of Viksit Bharat @2047, platforms like Apuni Sarkar embody the nation's aspiration for a digitally empowered society and knowledge economy. They symbolize a governance philosophy grounded in accessibility, participation, and innovation. Moving forward, sustaining this momentum will require continuous innovation, inclusive policymaking, and rigorous performance evaluation to ensure that digital

governance translates into tangible improvements in citizens' lives. In conclusion, the Apuni Sarkar Portal is not merely a digital platform- it is a living framework for participatory governance in the digital age. Its evolution reflects India's larger narrative of technological empowerment and democratic renewal. While challenges of digital literacy, infrastructure, and data security persist, the evidence suggests that with strategic leadership, multi-stakeholder collaboration, and citizen engagement, digital governance can indeed serve as a cornerstone of sustainable, inclusive, and accountable public administration. By integrating technology with transparency and empathy, India stands poised to redefine governance for the 21st century and beyond.

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