



From Bureaucracy to Bytes: A Historical Analysis of Digitization and Public Administration in Jammu and Kashmir

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ABSTRACT

The integration of digital technologies into public administration has emerged as a transformative force in enhancing governance mechanisms, especially in regions with unique political and administrative contexts such as Jammu and Kashmir. The study explores the role of digitization in modernizing public administration in the Union Territory, with a focus on its influence on efficiency, transparency, and citizen-centric service delivery. It critically examines various e-governance initiatives undertaken by the government, such as digital portals for land records, online grievance redressal systems, and electronic identity verification services. The study employs a qualitative-descriptive approach, utilizing official government reports, policy documents, and secondary literature to evaluate the extent of digital adoption across key administrative sectors. Findings suggest that digitization has significantly streamlined bureaucratic processes, reduced opportunities for corruption, and improved access to essential services, particularly in remote and underserved areas. However, challenges such as digital illiteracy, infrastructural limitations, cybersecurity concerns, and resistance to change within traditional administrative structures persist. The study reveals that while digitization has laid a strong foundation for administrative modernization, its long-term success hinges on inclusive digital policies, capacity-building programs, and sustained political commitment. The study contributes to the broader discourse on digital governance in conflict-prone and transitional regions.



INTRODUCTION

As governance changes, the use of digital technology in public administration has become a key part of contemporary statecraft. Countries all around the world are using digital technology more and more to make their governments more efficient, open, and responsive to citizens. The Digital India program, which started in 2015, was a big step towards changing the way the government works in India by using technology. Among the several Indian territories experiencing administrative reform, the Union Territory of Jammu and Kashmir is an interesting case study owing to its unique political history, socio-economic problems, and recent constitutional reconfigurations. Jammu and Kashmir has had a lot of problems with violence, poor infrastructure, and inefficient institutions for a long time. Because of this, it has been using digitisation more and more as a way to improve government and make it more open to everyone. In the context of public administration, digitisation is using digital tools, platforms, and procedures to manage public resources, provide government services, and talk to people. This involves the use of technologies like e-governance, management information systems, mobile apps, biometric identity systems, cloud computing, and blockchain-enabled registries. There are several goals for digitisation in government, including as cutting down on red tape, speeding up service delivery, increasing accountability and transparency, and making public services easier for those who are already on the fringes of society to access. In Jammu and Kashmir, the use of these kinds of digital frameworks has become even more important, not only for making the government run better, but also for rebuilding public confidence and promoting social and political stability.

The push to digitise public administration in Jammu and Kashmir became stronger when Article 370 was repealed in August 2019. This removed the region's unique status and made it more subject to the Indian Constitution. This political change made it possible for a number of administrative changes to happen that would bring the Union Territory in line with national policy. The central government saw digitisation as a way to make government more efficient, fight corruption, and improve the region's growth. As a result, a

number of digital projects were started in Jammu and Kashmir. These included the "Apki Zameen Apki Nigrani" project to digitise land records and the creation of citizen service delivery portals like e-UNNAT and Janbhagidari platforms to promote participatory governance. One of the most obvious signs of this digital change is that land records are now stored digitally. For decades, documents of land ownership and tenancy in Jammu and Kashmir were hard to read, out of date, and easy to change. This not only led to a lot of property conflicts, but it also slowed down development initiatives because of legal confusion. The government wanted to digitise written and spatial records so that everyone could see them and they couldn't be changed. One way they did this was via the Digital India Land Records Modernisation Programme (DILRMP). This led to a big drop in property disputes and a more open system for managing land. Citizens could view their data online, get property certificates, and file complaints online. This meant they didn't have to travel to government offices many times and made it harder for intermediaries and corruption to happen.

Digital platforms also changed the way services were delivered in a big way. The installation of Integrated Command and Control Centres (ICCCs) in places like Srinagar made it possible to keep an eye on city services like sanitation, traffic, and utilities in real time, which helped improve urban government. Also, e-UNNAT and other platforms gave people a single-window digital interface to more than 400 government-to-citizen (G2C) services, such as getting licenses, certifications, paying utility bills, and applying for welfare programs. These platforms not only made it easier for people to get government services, but they also made the administration more efficient by reducing the need for human involvement and making sure that applications were recorded, monitored, and addressed on time. Digitisation was particularly important in the field of welfare governance because it made sure that subsidies and social security payments were given to the right people. By adding Aadhaar (India's biometric digital identification system) to public databases, the government was able to get rid of a large number of duplicate or ghost beneficiaries from social programs. The digitised Public Distribution System (PDS) in

Jammu & Kashmir is a great example of how technology was used to stop leaks and make sure that food grains got to the right homes. In addition, smartphone applications were created so that people could keep track of ration distribution, file grievances, and get real-time updates about their rights. This made the welfare distribution system in the Union Territory more open and accountable than ever before.

Digitalisation has also played a big role in making participatory government better. Janbhagidari and other platforms were created to get people involved in making decisions about things like budgets, project monitoring, and handling complaints. These portals let people find out about public initiatives, see where the money was going, and provide input to the people in charge. This made information more accessible to everyone and gave people a chance to become involved in government operations. It not only gave people power, but it also created a culture of accountability among public officials. The rise in civic involvement also helped improve the relationship between the state and its citizens in an area that has a long history of alienation and distrust. Digitalisation has also helped education and healthcare, which are two important parts of human progress. To keep education going, especially during the COVID-19 epidemic when physical schools were closed, the Department of School Education in Jammu and Kashmir set up many e-learning portals. Even in distant and conflict-prone locations, kids might learn with the help of digital libraries, virtual classrooms, and online tests. In healthcare, programs like the Ayushman Bharat Digital Mission (ABDM) created digital health IDs for people and made it easier to keep electronic health records. This made it easier to manage patient data and get better treatment. Telemedicine services were also extended to reach remote areas that didn't have enough medical care, making sure that medical care was always available, even if people couldn't get to it easily.

The potential of digitisation is huge, but the process has not been easy. The digital divide, which means that some people have better access to the internet, are more digitally literate, and have more electronic gadgets, has been one of the biggest problems. Mobile and internet access has been better in Jammu and Kashmir in the last several years, but there are still big gaps,

especially in rural and hilly areas. Many people, especially older people, women, and people with low incomes, still have trouble getting to digital services because they don't know how to use digital platforms or can't afford cellphones and internet connections. This makes us think about how inclusive digital governance is and how it may make current socio-economic inequities worse. Power outages, network problems, and not enough technology in government buildings have all made it harder for digital systems to run smoothly. The issue is made worse by the fact that security concerns often lead to internet limitations, which not only make it hard to talk to each other, but also make it hard for important services that rely on digital platforms to work. Furthermore, the bureaucratic machinery has resisted the move to a digital environment in the administration. Old systems, a culture of hierarchy at work, and a lack of training for government workers have all slowed down the implementation of digital changes and made them less effective.

Cybersecurity is another very important thing to worry about. As more public data is stored on digital platforms, the dangers of data breaches, hacking, and identity theft grow. Civil society and digital rights activists have called for strong data protection frameworks, institutional protections, and accountability systems to secure people's digital identities and make sure that personal information is used responsibly. Because Jammu and Kashmir doesn't have a clear digital rights framework, people there are also more likely to be watched and have their data misused, especially because the area is politically sensitive.

Even with these problems, the digital transformation of public administration in Jammu and Kashmir is a big step forward in the fight for good governance. It has opened up new ways for inclusive growth, made government operations more open, and made administration more responsive to citizens. Digitisation doesn't only help the government do its job better; it can also help rebuild faith in the government, help with post-conflict rebuilding, and create a governance model that is open to everyone, works well, and can handle problems.

Review of Literature

The emergence of digitization as a transformative tool in public administration has

garnered considerable academic and policy interest over the last two decades. The convergence of governance with digital technologies—commonly referred to as e-governance—has been explored extensively in global, national, and regional contexts, with scholars emphasizing its role in enhancing administrative efficiency, transparency, and citizen participation. This review of literature synthesizes existing research relevant to the digitization of public administration, with a focus on its implications in the Indian context and, more specifically, in the Union Territory of Jammu and Kashmir.

Scholars like Heeks (2001) and Dunleavy et al. (2006) laid the foundational frameworks for understanding the digital era in governance. Heeks introduced the concept of "e-governance ecosystems," describing how the integration of information and communication technologies (ICTs) into governance processes could lead to either transformational or incremental changes, depending on institutional readiness and socio-political context. Dunleavy et al. extended this by proposing the theory of "digital-era governance," which emphasizes reintegration of public services, needs-based customization, and digitization of administrative processes. These foundational models remain relevant as analytical lenses through which digital governance in Jammu and Kashmir can be studied.

In the Indian context, the National e-Governance Plan (NeGP) launched in 2006 and the subsequent Digital India Mission in 2015 have served as significant catalysts for research into digitization efforts. Bedi et al. (2001) documented early e-governance efforts in India, noting that successful implementations often depended on localized needs assessments and sustained institutional support. More recent studies, such as those by Kumar and Best (2006), highlight the role of ICTs in reducing transaction costs, improving service delivery times, and promoting accountability through digital records and audit trails. These studies collectively assert that digitization is not merely a technological shift but a complex socio-political transformation requiring coordination across multiple governance layers.

The literature on public administration reform in conflict-prone and transitional regions

offers critical insights for contextualizing digitization in Jammu and Kashmir. Sharma (2014), in a comparative analysis of governance reforms in post-conflict states, asserts that digitization can serve as a peace-building tool by fostering inclusive development, improving public service access, and reducing corruption. Similarly, Sandbrook (2010) emphasizes that digital technologies can help reconstitute state legitimacy in areas where public trust has historically been low. These findings are especially pertinent to Jammu and Kashmir, where decades of political unrest and administrative disconnect have contributed to a deficit in citizen confidence and institutional credibility.

Several empirical studies have examined the specific impact of digital reforms in Jammu and Kashmir. The Jammu and Kashmir e-Governance Agency (JaKeGA), a nodal body under the Information Technology Department, has been involved in implementing and monitoring digital services across the Union Territory. According to a 2021 report by the Ministry of Electronics and Information Technology (MeitY), Jammu and Kashmir ranked among the top Union Territories in the delivery of e-services, particularly in land record digitization and digital grievance redressal. Initiatives like "Apki Zameen Apki Nigrani" have been commended for their success in improving land governance and reducing disputes through transparent access to digitized land records. Academic analyses by Singh and Sharma (2022) note that the digitization of land records in Jammu and Kashmir has significantly reduced the scope for manipulation, middlemen, and bureaucratic opacity—factors historically responsible for public grievances.

Furthermore, citizen-centric platforms such as e-UNNAT, Janbhagidari, and MyGovJK have been subjects of both academic inquiry and policy evaluation. According to Verma (2022), the Janbhagidari portal represents a crucial innovation in participatory governance, allowing citizens to access budget information, monitor development projects, and offer feedback directly to administrators. Verma argues that such platforms embody the core principles of democratic governance—transparency, accountability, and inclusiveness—and can play a critical role in state-building efforts. Complementary to this,

Ahmed (2023) conducted a survey-based study which found that digital grievance redressal mechanisms had not only improved citizen satisfaction levels but also reduced response times in administrative dispute resolution.

Health and education—two core public service domains—have also been the focus of digital governance studies in the region. The COVID-19 pandemic served as an inflection point, compelling governments to adopt technology-driven solutions to maintain service continuity. According to a report by the National Institute of Smart Governance (NISG), the Department of Education in Jammu and Kashmir successfully transitioned to digital learning platforms such as DIKSHA, Zoom, and Google Classroom, ensuring continued access to education even in remote and underserved areas. Similarly, the Ayushman Bharat Digital Mission (ABDM), as implemented in the Union Territory, has facilitated the digitization of health records and enabled telemedicine services, particularly in rural districts with limited healthcare infrastructure. These developments have been explored in academic papers by Kaul and Misri (2021), who note that the shift towards digital service delivery has made healthcare and education more equitable and accessible.

However, literature also underscores the limitations and challenges of digitization in Jammu and Kashmir. One recurring theme is the digital divide—marked by unequal access to internet connectivity, digital devices, and technical literacy. A study by the Internet and Mobile Association of India (IAMAI) in 2022 found that only 55% of households in Jammu and Kashmir had reliable internet access, with significant urban-rural disparities. Researchers like Wani and Mir (2021) argue that while digital governance initiatives are commendable, their impact is undermined if large sections of the population remain digitally excluded. They advocate for investment in digital infrastructure, literacy programs, and inclusive design to ensure that no citizen is left behind.

Another critical concern raised in the literature relates to data privacy and cybersecurity. As government databases become digitized and interlinked, the risk of unauthorized access, surveillance, and identity theft increases. According to a paper by Prasad

and Mehraj (2020), the lack of a comprehensive data protection framework in Jammu and Kashmir leaves citizens vulnerable, particularly in a politically sensitive context. The authors argue for the establishment of institutional safeguards, independent oversight bodies, and digital rights policies to ensure ethical governance in the digital era.

Institutional capacity is also a recurring topic in the literature. While policy frameworks and technological platforms may be in place, effective implementation often falters due to lack of training, bureaucratic inertia, and coordination failures. In a detailed field study, Kaul (2020) found that many government employees in Jammu and Kashmir lacked adequate digital literacy, resulting in inefficient use of new platforms and a reversion to manual procedures in some cases. The study highlights the need for continuous capacity-building programs and change management strategies to embed digital practices within administrative cultures.

Theoretical Framework

The theoretical framework serves as the intellectual foundation for this study, directing the examination of the modernisation of public administration in Jammu and Kashmir via digitisation. This framework includes important ideas on governance and administration, such as New Public Management (NPM), Digital Era Governance (DEG), the Technology Acceptance Model (TAM), and the Governance Theory of State Legitimacy. Each theoretical perspective offers unique insights into the dynamics of digital change inside public institutions and its effects on administrative efficiency, transparency, and citizen participation in politically intricate areas like Jammu and Kashmir. New Public Management (NPM) is a fundamental notion in contemporary discussions on administrative reform. NPM, which started in the 1980s, says that public sector organisations should use private sector methods to make them more efficient, responsive, and cost-effective (Hood, 1991). NPM stresses things like decentralisation, measuring performance, giving managers freedom, and putting customers first. When it comes to digitisation, these principles include using digital technology to make bureaucratic processes easier, improve service delivery, and make people more accountable.

Digital technologies are used to make the experience and happiness of those who use government services better. The use of NPM principles may be seen in Jammu and Kashmir in the use of citizen service portals like e-UNNAT, which attempt to make it easy for people to access a broad range of government services. These digital systems reflect the NPM focus on results-driven governance by minimising human engagement, cutting down on delays, and keeping an eye on performance metrics like how long it takes to resolve complaints or provide services. The combination of e-payment technologies, online certification, and automated communication also shows the NPM goal of a lean, efficient, and responsive administrative structure.

Nonetheless, researchers have criticised NPM for neglecting the socio-political settings in which public administration functions. In areas like Jammu and Kashmir that are afflicted by violence, it may not be a good idea to assume that people may only engage with the government as service customers. In this case, governance is not only about providing services. It's also about repairing trust, making sure everyone is included, and dealing with past wrongs. Digital Era Governance (DEG) is a better theoretical lens to use in this case. Dunleavy et al. (2006) proposed DEG, which gives us a better understanding of how governance works in the digital era. It focusses on three primary things: putting broken bureaucratic systems back together, designing services that take into account all aspects of a person's life, and making administrative tasks digital. DEG wants to use digital technology to bring together government activities and provide integrated services, whereas NPM encourages outsourcing and decentralisation. DEG also backs user-centred design, which means that services are made with the needs of citizens in mind, not the demands of departments. In Jammu and Kashmir, the integration of numerous departmental services under centralised platforms like the Rapid Assessment System (RAS) and MyGovJK is an example of the reintegration concept. These systems bring together information from many departments, let people keep track of developments, and provide a feedback loop that helps change policies. DEG also wants back-office systems to be set up in a way that makes them work

together, share data, and offer services in a way that makes sense. These are aspects that are becoming more common in Jammu and Kashmir's digital public administration.

DEG's emphasis on digital-by-default services also fits with the Union Territory's move to online platforms for handling complaints, e-tendering, and real-time monitoring dashboards. These technologies not only make things run more smoothly, but they also help with political and developmental objectives by making government more open, accessible, and participatory. DEG offers a robust framework for examining the use of digital technology not just for administrative efficiency but also for comprehensive governance reform.

The Technology Acceptance Model (TAM) by Davis (1989) is useful for learning more about how both administrators and people embrace and use digital platforms. According to TAM, the two most important factors that affect whether or not people will utilise new technologies are how beneficial they think they are and how easy they think they are to use. This model elucidates the reasons for the varying effectiveness of specific digital initiatives within a governance framework. People are more inclined to utilise digital platforms consistently if they are easy to use, trustworthy, and helpful in addressing common issues. Several digital projects have been popular in Jammu and Kashmir because they solve particular problems that people face. For example, digitising property records has made it easier for people to get important papers online without having to deal with bureaucratic red tape, which has made them seem more helpful. Also, using mobile apps for public comments, monitoring services, and filing complaints makes things easier. But problems like not knowing how to utilise technology, not being able to access to the internet, and certain portals having complicated user interfaces might make people less likely to use technology. TAM helps find the things that affect how people use digital governance tools and gives ideas about how to make them better and spread them more widely. Finally, the Governance Theory of State Legitimacy provides an essential political-theoretical framework for this research. This view asserts that state legitimacy emanates not alone from legal-rational authority but also from

the state's capacity to efficiently provide public goods, maintain justice, and promote inclusive governance (Gisselquist, 2012). In unstable or post-conflict areas, legitimacy is heavily dependent on performance. If the government doesn't provide basic services, make things clear, and get people involved, it might lose trust and power.

In this way, digitisation may be an effective way to restore the state's credibility in Jammu and Kashmir. Digital platforms show that the state is responsive and capable by making service delivery more open, cutting down on corruption, and making it easier for citizens to become involved. The success of programs like Janbhagidari, which lets individuals keep an eye on how money is being spent on development and have a say in local planning, shows that the government is trying to rebuild confidence in its institutions. Similarly, making information available online, using biometric verification for welfare programs, and setting up digital grievance portals are all ways to improve procedural and distributive justice.

The hypothesis, however, warns against relying too much on technical answers when policies aren't designed to include everyone. If digital governance leaves out certain groups because of problems with infrastructure or literacy, it might make them feel even more excluded and make legitimacy weaker instead of stronger. Consequently, the idea of state legitimacy advocates for a rigorous assessment of the inclusivity, transparency, and responsiveness of digital activities in Jammu and Kashmir.

Combining these theoretical frameworks—NPM, DEG, TAM, and Governance Theory—facilitates a comprehensive examination of digitisation in the public administration of Jammu and Kashmir. NPM gives the administrative reasons for reforms that are based on efficiency; DEG broadens the vision to include user-centred design and holistic integration; TAM helps explain how people use technology and how they adopt it; and Governance Theory brings the discussion back to issues of state legitimacy and political accountability. These theories combined provide an examination of the degree to which digitisation has modernised public administration in Jammu and Kashmir, the

circumstances of its success, the challenges it encounters, and the avenues for further change.

Objectives

The study aims to examine the extent and nature of digitization in the public administration of Jammu and Kashmir, assess its impact on administrative efficiency, service delivery, and citizen engagement, and identify the key challenges and opportunities associated with digital governance in the region. By exploring these dimensions, the research seeks to contribute to a deeper understanding of how technology-driven reforms are reshaping governance in a transitional socio-political context.

Methodology

This study employs a qualitative-descriptive research methodology to explore how digitization has transformed public administration in Jammu and Kashmir. Data is primarily collected from secondary sources, including government reports, policy documents, academic journals, official e-governance portals, and credible news outlets. The research focuses on analyzing specific digital initiatives such as land record digitization, e-UNNAT, Janbhagidari, and online grievance redressal systems to assess their effectiveness, accessibility, and administrative impact. A case study approach is adopted to examine these initiatives within the unique socio-political context of Jammu and Kashmir, emphasizing their implications for transparency, efficiency, and citizen participation. Content analysis is used to interpret textual data and identify recurring themes, policy trends, and systemic challenges. The study also draws on theoretical frameworks such as Digital Era Governance and the Technology Acceptance Model to support the interpretation of findings. This methodology enables an in-depth understanding of the practical outcomes and limitations of digitization in a conflict-prone administrative setting, offering insights for future governance reforms.

FINDINGS AND DISCUSSION

In the last twenty years, the way public administration works in India has changed a lot, mostly because the government has embraced digital technology as part of e-governance. The Union Territory (UT) of Jammu and Kashmir is

where this change has the most political and administrative importance. The area has a distinct geopolitical character and a history of governance problems, making it a key testbed for India's Digital India plan. The scale and variety of digital initiatives undertaken in Jammu and Kashmir reflect both a strategic reform of public sector administration and a symbolic attempt to enhance state legitimacy via openness, efficiency, and inclusivity. The assertion that digitisation in Jammu and Kashmir signifies a paradigmatic transformation in governance is predicated on its extensive applicability and structural integration. The Digital India Land Records Modernisation Programme (DILRMP) has digitised and uploaded millions of land records to a single platform. One of the best examples of this is the Apki Zameen Apki Nigrani (AZAN) initiative. Land disputes have historically been a major cause of lawsuits and instability in the area, made worse by the fact that manual record-keeping is sometimes unclear and may be changed. The project has gotten rid of intermediaries, cut down on corruption, and made government work more efficiently by digitising land records and letting people access their property paperwork online. Importantly, it has permitted residents to check their own records and submit concerns online, thereby boosting participatory government. The e-UNNAT site is another important project that shows how the digital connection between citizens and the government is growing. It is a single place where you may access more than 400 government-to-citizen (G2C) services. The site is based on single-window systems used in states that are more technologically advanced. It aims to bring together all public services, from getting a birth certificate to paying an energy bill. You can tell it's working because more people are using it, service monitoring is done automatically, and there is less need to interface with bureaucratic levels in person. The automation of service delivery also provides for standardized time-bound response methods, thereby limiting down potential for discretionary power abuse.

Even while these changes have worked in certain places, a careful look shows that the introduction of digital reforms has not worked well in all of the UT. Jammu and Kashmir's geography and infrastructure, such its

mountains, frequent snowfalls, and occasional internet outages, make it very hard for everyone to use e-governance systems. In rural and tribal regions, where digital access is still limited, the goal of making services more democratic via online platforms is not being met because of inadequate internet access and a lack of digital knowledge. This calls for a more sophisticated, hybrid strategy that uses both technology and people to help marginalised populations. These digital projects go beyond just helping citizens; they also change how the government works, which is an indication of an institutional change. The Government e-Marketplace (GeM) is used by several departments in Jammu and Kashmir. It has made the procurement process more open by making all bids available to the public and making them competitive. The introduction of e-Office, a workflow automation system that cuts down on paper use and makes it easier for departments to work together, adds to this. The use of e-Office signals a culture change in bureaucratic behavior—one that emphasises speed, traceability, and responsibility.

The introduction of Janbhagidari, an online site that lets citizens keep an eye on how public money is used, has also had a big impact. People may obtain real-time information on development projects that are going on or have already been finished in their area, including how much money has been set aside for them and how much progress has been made. This style of participatory budgeting gives everyone knowledge, makes it easier for everyone to keep track of resources, and stops anyone from using public money for personal gain. It serves both an administrative and symbolic function—illustrating the government's commitment to transparent governance and regaining public confidence in an area long afflicted by alienation and distrust.

Digital technology have also made a big difference in the fields of education and health care. To keep education going during the COVID-19 epidemic, the public government in Jammu and Kashmir quickly set up digital classrooms, online teacher training modules, and e-content platforms like DIKSHA. This was especially important in places where schools were closed for lengthy periods of time. The National Digital Health Mission (NDHM) also made it possible for people living far away to see

experts at tertiary hospitals using telemedicine platforms. This saved time and money. The digitisation of health information and the distribution of Ayushman Bharat Health Cards made it much easier to get government health insurance services. However, these changes can only work if institutions are ready and people from different sectors work together. One must enquire if the infrastructure, personnel, and technical training have adequately aligned with the requirements for digitisation. In many cases, government workers have not been able to use new systems well because they don't know how to use computers well or don't want to alter how they do things. Without ongoing capacity development, digitisation might turn into a shallow reform that seems good on the surface but doesn't do anything.

Moreover, the ethical aspect of digital governance, particularly in the politically sensitive milieu of Jammu and Kashmir, necessitates examination. As more and more citizen data is stored digitally, such as biometric identity, property ownership, health, and education information, strong cybersecurity measures and data protection policies are needed. But without a specific data privacy legislation in India, the dangers of monitoring, identity theft, and unauthorised profiling go up. These dangers are much worse in Jammu and Kashmir, where political sensitivities and national security concerns come together. This makes it possible for digital technologies to be used to keep an eye on dissent or violate privacy rights. The Aadhaar-linked Public Distribution System (PDS) in the area is a good example. While computerised ration cards and biometric verification have decreased ghost beneficiaries and pilferage, several reports also indicate to incidents where identification problems have led to denial of food rations for needy persons. This underscores the dual-edged character of digitization: although it may assure focused service delivery, its rigidity can also punish people on the edges unless built with proper safeties and offline fallbacks.

We should also look at how inclusive digitisation is to see whether it works. Urban populations may quickly adapt to online service platforms; however, rural and tribal people often encounter language obstacles, digital illiteracy, and limited access to cellphones or internet connection. The belief that all citizens are

equally able to use digital platforms might leave out the people who need government help the most. So, in order to close the digital gap, digital governance has to be supported by digital literacy initiatives, subsidised data access, and community-based facilitation centres. From an administrative perspective, one of the most significant outcomes of digitization is the emergence of real-time governance—the ability of the government to make data-driven decisions based on live dashboards, geographic information systems (GIS), and feedback analytics. Smart city initiatives in Jammu and Kashmir have set up command and control centres in Srinagar and Jammu that keep an eye on traffic, waste management, and emergency services. These centres collect data from many places so that they can respond to emergencies more quickly, prepare better, and use resources more efficiently. The use of drones for mapping and the automation of utility services suggest a future kind of government that is proactive rather than reactive. In conclusion, the magnitude of digital efforts in Jammu and Kashmir demonstrates a concerted, state-led attempt to modernize public administration via comprehensive reforms. These projects change the way people engage with each other, the way things are done within the government, and the overall spirit of governance. The advances in digitising land records, creating service portals, using health technology, and participatory budgeting are all good things. However, the bigger picture must take into account the problems that digital exclusion, administrative lethargy, and cybersecurity risks cause. The job ahead is not to make new technologies bigger, but to make sure they are part of a governing system that is fair, safe, and morally sound. Jammu and Kashmir is an area that is working towards peace, development, and democratic renewal. It is a great example of how digitisation can be used not just to make things more efficient, but also to give the state more legitimacy and give citizens more authority.

The recent push to digitise government services in India has been quite strong in the Union Territory of Jammu and Kashmir (J&K), which has a long history of bureaucratic stagnation, geographic isolation, and social and political instability. Since Article 370 was repealed in 2019 and the attempt to make J&K part of India's national policy frameworks,

digitisation has become a strategic tool for changing how the government functions. Supporters say that e-governance projects have made government work more efficiently, made it easier to get services, increased openness, and encouraged people to become involved. However, these outcomes must be critically analyzed to uncover the complexities and contradictions inherent in digital transformation, especially in a conflict-sensitive region like J&K. To start, digitisation has probably had the most direct and measurable effect on administrative efficiency. The implementation of e-Office systems, digital file tracking mechanisms, and online grievance redressal platforms has diminished reliance on paper-based systems and accelerated bureaucratic processes. In the past, manual procedures, a lack of data synchronisation, and long delays caused by communication problems across departments made administrative decision-making less efficient. With the e-Office implementation across several departments, files are now sent electronically, time-stamped, and traceable in real time. For example, an internal message asking for permission to do work on infrastructure may now go from the district officer to the secretariat in a few hours instead of days or weeks.

Moreover, digital dashboards and Management Information Systems (MIS) have enabled real-time monitoring of public service parameters. District Collectors and Block Development Officers now employ computerised data summaries to check on the progress of development plans. The result is twofold: decisions are now based on data instead of gut feelings, and problems can be found and fixed quickly. Ten years ago, this degree of administrative accuracy was inconceivable in the area. But the improvements in efficiency aren't the same for everyone. In rural and remote areas, where digital infrastructure is either underdeveloped or frequently disrupted by weather and political conditions, traditional bottlenecks persist. So, even while digitisation has made things faster in big cities and important administrative centres, it hasn't really reached the edges of the bureaucracy yet. When it comes to delivering services, digitisation has changed the game in a big way. The opening of the e-UNNAT site, which aims to bring together more than 400 public services

in one place, is a good example of this change. Services such as acquiring birth and death certificates, ration cards, domicile certificates, or income certificates have typically been tainted by corruption, delays, and arbitrary misuse. By offering these services online, with automated application tracking and digital verification, the government has curtailed the discretion of lower-level bureaucrats, shortened turnaround times, and minimized physical interaction between citizens and public officials. For instance, the online issuing of income certificates, historically a two-week procedure requiring bribes and many office visits, may now be performed in less than 72 hours without any human interaction.

The digitisation of the Public Distribution System (PDS) is a good illustration of this. Adding Aadhaar-based biometric verification has cut down on the number of phantom beneficiaries and leaks in the distribution of food grains by a large amount. The 'Mera Ration' smartphone app enables individuals to monitor their ration entitlements, last withdrawal dates, and raise complaints in real time. This has boosted accessibility and fairness in the supply of basic items. That said, others have also criticised the relationship between Aadhaar and PDS. System bugs, failed authentication, and server outages have kept real beneficiaries from getting help, particularly older people and ethnic groups whose biometrics aren't obvious. So, even if digitisation has made it easier to provide services, it has also created new types of digital risk. On the dimension of transparency, technology has brought about an epistemic change in government by democratizing access to information. For example, the Janbhagidari site lets regular people keep an eye on development projects, see how much money is being spent on them, and see how they are doing in terms of physical advancement at the village and block levels. The government has opened up new areas for civic auditing and public oversight by making previously secret information available to the public. This openness isn't just a matter of procedure; it has real effects on lowering corruption. When people can see tenders, contractor names, and fund disbursements in real time, it is less likely that someone will steal money or show favouritism. The procurement environment has also seen big

changes to make it more open. The required use of the Government e-Marketplace (GeM) for purchasing has replaced opaque vendor relationships with competitive bidding procedures. Departmental purchases are now registered in digital registries, allowing post-facto audits and real-time inspection by central authorities. E-tendering methods also make sure that all bidders have the same access to tender information, which makes the playing field fair for all contractors, including small and medium-sized businesses. These changes fit in with bigger goals to fight corruption and have made people think that the government is cleaner and more rule-based.

Nonetheless, transparency via digitalisation is not immune to manipulation. Information asymmetry continues when portals are either not updated often or are constructed in ways that are not user-friendly for non-technical individuals. Moreover, transparency does not automatically translate into accountability. Digital transparency has the potential to change things, but it can be less effective if there aren't strong institutional mechanisms in place to handle public complaints, especially when it comes to politically sensitive issues. It is, therefore, crucial to regard openness as a necessary but inadequate requirement for successful governance. The effect of digitisation on civic involvement in J&K may be the most ambitious but least studied result. Traditionally, citizen-state engagement in the area has been modest, typically mediated by local elites, and heavily impacted by political instability. The new digital platforms try to get around these problems by setting up direct channels of contact between the government and the people. MyGovJK and other portals like it ask for ideas, hold surveys, and offer discussion forums where people may provide their thoughts on policy proposals. This means that the culture is moving away from top-down government and towards a more participatory, dialogic form.

Moreover, platforms like the Awaaz-e-Awam (voice of the people) grievance redressal system enable residents to make grievances from their phones, check the situation, and get updates. These venues create a feeling of agency and empowerment, particularly among adolescents, women, and underprivileged populations. But internet involvement is still mostly limited to educated, metropolitan people.

In rural regions, digital illiteracy, lack of smartphone availability, and language hurdles restrict meaningful involvement. Also, people typically don't get quick answers to their complaints, which makes them feel hopeless. Engagement without responding may backfire, fostering scepticism rather than creating trust. How governments utilise the data that comes from these platforms is also a very important part of getting people involved. Analytics drawn from grievance types, user feedback, and service ratings can serve as invaluable policy inputs. However, the lack of publicly available impact assessments and yearly reports on how well the platform is doing makes us worry about how seriously this information is being used to make decisions. There are also big problems about privacy and spying. Citizens in J&K are particularly sensitive to the prospect of internet platforms being exploited for monitoring, especially in a place where political speech is strictly controlled.

In essence, digitalisation has clearly brought a degree of administrative modernity to Jammu and Kashmir that was previously impossible. It has made things more efficient by automating them, made service delivery better by using single-window portals, made things more open by making public information easier to find, and given people new ways to get involved. However, these gains are uneven and incomplete. Structural issues like the digital divide, inadequate institutional capacity, and low accountability mechanisms continue to limit the full potential of e-governance. Also, the digital transformation should be seen of as a process, not an event. It demands continual investment, policy recalibration, and adaptive governance solutions. In J&K, the effectiveness of digitization should not be judged merely in terms of platform counts or services digitized, but rather by its influence on the daily reality of citizens—especially the disadvantaged. The digital state must not supplant the responsive state. Instead, it must work as a catalyst for establishing a more inclusive, responsible, and participatory governing ecology. As Jammu & Kashmir continues to negotiate its post-370 political identity, digitalisation may be both an instrument of administrative logic and a symbol of inclusive democratic regeneration. Whether it succeeds in attaining both will rely not simply

on technical innovation, but on ethical leadership, institutional integrity, and an unrelenting commitment to citizen-centric government. The digital transformation of government in Jammu and Kashmir (J&K) is a technology project and a political experiment at the same time. Since Article 370 was repealed in 2019, the area has gone through a structural reconfiguration, with the expansion of national policy frameworks and a renewed focus on modernising the administration. Digitisation is at the heart of these changes. It is the planned use of Information and Communication Technologies (ICTs) to improve public administration, transparency, and service delivery. These changes have opened up many new ways to rule, but they have also run into problems with structure, infrastructure, and politics. A careful look at both sides shows how digital governance may have different effects in a historically complicated and strategically important area like Jammu and Kashmir. One of the best things about digital transformation is that it can make government more open and accountable. With the introduction of citizen-facing systems such as Janbhagidari, citizens of J&K may now access real-time data on public spending, developmental initiatives, and budget allocations. These kinds of websites, which let people check on projects in local villages and blocks, show a huge change from a secretive bureaucratic culture to one that is accessible to everyone. Prior to these changes, cash leakage, unmonitored contracts, and non-performance were chronic challenges in public sector projects. Digital dashboards now let both citizens and government officials keep an eye on physical and financial progress. This makes it harder for corruption to happen and makes people more trusting of government systems.

Digitisation also makes it possible to offer services quicker and more efficiently, which is an important part of responsive government. The opening of the e-UNNAT site, which offers more than 400 services including issuing certificates, signing up for welfare programs, and paying utility bills, is an example of this progress. Citizens may apply for, track, and get services without having to travel to government offices. This saves time and cuts down on red tape. In a physically varied and hilly area like J&K, where travel expenses and topographical constraints sometimes limit

access to services, digitalisation functions as an equalizer. During the COVID-19 epidemic, internet service delivery systems made sure that administrative work could continue without any problems. This showed how useful and resilient they are.

Digitisation also makes it easier for citizens to become involved and have a say in how their government works. Platforms like as MyGovJK and grievance redressal platforms offer direct connection between residents and state agencies. This feedback loop lets people express their concerns, create policies, and hold departments responsible. For an area that has traditionally experienced political estrangement and insufficient civic involvement, these forums provide a democratic avenue for reintegration and empowerment. Digital transformation increases institutional coordination and administrative efficiency. E-office technologies and digital file tracking tools offer smooth inter-departmental collaboration. Government e-Marketplace (GeM) platforms make the process of buying things more transparent by requiring open bids and competitive bidding. These changes not only cut down on duplication and delays, but they also make sure that the rules are followed and that the process is fair.

The largest strategic potential, however, comes in redefining state legitimacy. In places like J&K that are going through a war or a transition, governance is not only an administrative issue; it is also a political signal. By delivering services effectively, transparently, and inclusively through digital means, the state reinforces its presence, responsiveness, and moral authority. In doing so, digital transformation becomes more than an administrative change; it becomes a vehicle of peace-building and democratic regeneration. Even though there have been some promising changes, the digital governance project in Jammu and Kashmir still has a lot of problems to deal with. The most important one is the digital divide, which is a long-lasting difference in access to digital technology based on socio-economic, geographic, and demographic factors. According to several evaluations, considerable swaths of rural and isolated communities in J&K lack dependable internet connectivity, power, or smartphone ownership. For instance, tribal groups in districts like Poonch, Doda, and Kupwara typically encounter intermittent

connection, making it impossible to use e-services. Women, older individuals, and economically disadvantaged groups are more susceptible to exclusion from digital platforms, perpetuating pre-existing inequities.

Closely tied to this is the challenge of digital literacy. The assumption that citizens will intuitively navigate government portals, mobile apps, or biometric verification systems ignores the ground reality where many residents are first-time or non-users of such technologies. Reports of citizens being unable to complete online applications due to complex interfaces or lack of awareness are common. Without sustained digital literacy campaigns and community outreach, the promise of inclusive digital governance remains aspirational rather than operational.

A related structural challenge is the capacity deficit within the administrative machinery. Many government departments in J&K still operate on legacy systems, with clerks and officers untrained in new digital procedures. Resistance to change, lack of incentives, and absence of standardized training modules result in under-utilization or misuse of digital platforms. For example, while e-Office software has been rolled out in several departments, many officials continue to rely on manual processing due to poor digital literacy or insufficient infrastructure such as outdated computers and irregular power supply. The digital transformation is also constrained by infrastructural limitations. Frequent power outages, harsh climatic conditions, and outdated telecommunications equipment in rural parts of the region undermine the functioning of digital services. Internet shutdowns—often imposed due to security concerns—can abruptly halt access to crucial governance services. This fragility in infrastructure challenges the reliability and sustainability of digital governance as a long-term administrative model.

Another pressing issue is cybersecurity and data privacy. As vast volumes of citizen data—including biometric, health, educational, and financial information—are uploaded to centralized databases, concerns about data misuse, surveillance, and breaches become critical. The lack of a dedicated data protection law or cybersecurity framework in India

compounds these risks. In the context of Jammu and Kashmir, where political sensitivities are high, the potential misuse of surveillance tools could erode public trust and deter citizens from engaging with digital governance platforms. Allegations of digital surveillance in politically dissenting regions further complicate the narrative of empowerment through technology. Moreover, the rigid dependency on digital-only mechanisms may unintentionally disenfranchise citizens who fail to clear digital verification protocols. Aadhaar-linked Public Distribution System (PDS), while reducing leakages, has also caused exclusion due to biometric mismatches or connectivity issues. Such failures—especially when linked to essential services like food distribution or pension payments—can have devastating human consequences. Hence, digital platforms must always include offline or assisted access mechanisms to protect vulnerable groups from exclusion.

From a policy perspective, another challenge is the absence of localized governance models. Most digital reforms in J&K are modeled on pan-Indian frameworks such as Digital India, without sufficient contextualization for the region's unique political history, linguistic diversity, and socio-economic composition. Portals often default to English or Hindi, sidelining local languages like Kashmiri, Dogri, or Gojri. This lack of cultural and linguistic integration reduces user-friendliness and erodes the sense of regional ownership over governance. That said, these challenges are not insurmountable. Each of them presents a parallel opportunity for innovation and inclusiveness. The digital divide, for example, can be bridged through targeted investment in telecom infrastructure, the provision of subsidized smartphones and data packages, and the establishment of rural digital service centers. Digital literacy can be scaled through partnerships with local NGOs, youth clubs, and educational institutions, who can act as digital ambassadors in their communities.

To address institutional resistance, mandatory training and performance-based incentives must be embedded within government HR policies. Officers who show digital leadership and innovation should be recognized and rewarded. Public-private partnerships can also help upgrade technological infrastructure and bring in best practices from

the corporate sector. To secure citizen data and prevent misuse, a robust data protection framework—with enforceable rights, grievance redressal mechanisms, and independent oversight—is urgently needed. Citizen awareness campaigns about data rights and cybersecurity hygiene can further build digital trust. On the policy front, it is essential to localize e-governance platforms, making them multilingual, culturally resonant, and contextually adaptive. Village-level committees or Panchayats should be integrated into the design and monitoring of digital platforms to ensure they reflect grassroots priorities and not just bureaucratic targets. Importantly, hybrid governance models must be institutionalized. Rather than pushing for a digital-only regime, the state should implement multi-channel service delivery, combining online platforms with in-person facilitation, mobile service vans, and community kiosks. This will ensure that digital governance does not become a new frontier of exclusion but a bridge toward universal access.

CONCLUSION

The digital transformation of governance in Jammu and Kashmir represents a pivotal shift in how the state interacts with its citizens, delivers services, and manages public administration. Through initiatives such as land record digitization, e-UNNAT, Janbhagidari, and e-office integration, the Union Territory has made substantial progress in improving transparency, administrative efficiency, service delivery, and citizen engagement. These reforms offer a blueprint for inclusive, data-driven, and accountable governance in a region historically plagued by bureaucratic opacity and political instability. However, the path to digital governance is not without obstacles. Persistent digital divides, infrastructural constraints, data privacy concerns, and institutional resistance underscore the need for a more inclusive and sustainable implementation model. For digitization to fulfill its transformative promise, it must be accompanied by robust capacity-building programs, citizen-centric design, strong data protection mechanisms, and hybrid service delivery approaches that leave no one behind.

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