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Digital-Governance as an imperative of good governance: A study of covid-19 vaccination in India

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ABSTRACT

The concept of governance, rooted in the Greek term 'kubernao' meaning to steer, is fundamental to Prime Minister Narendra Modi's philosophy of "Minimum Government, Maximum Governance." This research examines India's digital governance approach in its COVID-19 vaccination efforts, with a focus on efficiency.

On March 11, 2020, the World Health Organization officially declared COVID-19 a global pandemic. In response, India introduced the CoWIN platform on January 16, 2021. This digital system managed vaccine registrations, appointments, and certification processes, ultimately facilitating the world's largest vaccination campaign, administering over 2 billion doses. CoWIN's integration with the Aarogya Setu app further enhanced transparency and accountability in the vaccination process. India's extensive internet and smartphone penetration enabled rapid adoption of these digital tools. This approach exemplified the government's guiding principle of "Collective Effort, Inclusive Development, Mutual Trust, and Everyone's Endeavor" (a translation of "Sabka Sath, Sabka Vikas, Sabka Vishvas aur Sabka Prayas").

Keywords: Digital Governance, Good Governance, Covid-19, Vaccination, COWIN

INTRODUCTION & REVIEW OF LITERATURE

Over the past decade, India's global perception has undergone a remarkable transformation. Once stereotyped as the land of snake charmers, it is now recognized as a hub of skilled human resources, particularly in software

engineering. The country has emerged as a leader in scientific innovation, economic development, and societal progress. This shift in perception is attributable to several success stories, such as space missions, entrepreneurial achievements, and effective health governance during the challenging phases of COVID-19. These accomplishments underscore India's robust research and development capabilities, which extend beyond scientific boundaries to enrich human and societal welfare. A prime example of this digital trajectory is the CoWIN platform, where governance, people, and science converge. Prime Minister Narendra Modi has emphasized the seamless integration of the Digital India Mission with urban renewal initiatives. Recent years have witnessed concerted efforts to implement digital governance and transition towards a paperless government. The Government of India launched the National e-Governance Plan in 2006 to enhance accessibility, reliability, and transparency of government services at affordable costs through common service delivery points. This initiative is part of a broader digital governance strategy that encompasses various interactions: government-to-government (G2G), government-to-citizens (G2C), government-to-business (G2B), and government-to-employees (G2E).

Digital governance utilizes information and communication technology (ICT) to optimize government processes and foster sustainable development. E-government, a component of digital governance, aims to boost administrative efficiency and reduce corruption. As noted by Batra & Kapoor (2012), India has successfully employed digital governance to deliver integrated services efficiently to its citizens.

The importance of this digital transformation is reflected in the substantial increase in IT budget allocation, rising from ₹11,000 crore in the 11th Five-Year Plan to ₹30,000 crore in the 12th Five-Year Plan (Dr. Sangit Sarita Dwivedi, 2015). However, realizing the full potential of digital governance across the nation requires ongoing strategic planning and significant resource investment.

Kofi Annan, the former Secretary-General of the United Nations, made a powerful assertion in 1998 that has since been widely referenced. He stated that effective governance may be the most crucial element in eliminating poverty and fostering progress. This declaration highlights the universal importance of governance improvement, regardless of a nation's development status. Annan's words emphasize that both established and emerging economies must persistently work towards enhancing their governance practices. This ongoing effort is seen as essential for addressing socio-economic challenges and promoting overall national development.

The United Nations Development Programme (UNDP) equates good governance with democratic governance, defining it as governance that ensures meaningful and inclusive political participation. Helen Clark, when serving as UNDP Administrator, emphasized that improving governance should focus on empowering individuals to have greater influence over decisions that impact their lives (as stated in her remarks in Istanbul on May 11, 2011). However, good governance faces significant obstacles in the form of corruption, violence, and poverty. These challenges undermine crucial aspects of governance such as transparency, security, participation, and fundamental freedoms, as noted on the UN's website section on governance.

In its approach to good governance, the Organization for Economic Co-operation and Development (OECD) has identified several key elements. These components form the foundation of their understanding of effective governance practices. The OECD's framework particularly emphasizes:

The OECD highlights six key principles of good governance:

Accountability: Governments must clearly demonstrate how their actions correspond to set goals.

Transparency: Government decision-making and actions should be open to examination by various stakeholders.

Efficiency and effectiveness: Public services should be delivered cost-effectively and with high quality, fulfilling the original intentions of policymakers.

Responsiveness: Governments need to quickly adapt to societal changes, consider expectations of civil society, and continually reassess their roles.

Forward vision: Using current data and trends, governments should anticipate future challenges and develop policies that account for expected changes.

Rule of law: Governments must consistently enforce clear and transparent laws and regulations.

Together, these tenets establish the groundwork for promoting efficient leadership and lasting progress within various nations.

The COVID-19 crisis, deemed humanity's gravest challenge since World War II, was declared a global pandemic by the WHO on March 11, 2020. By March 2021, the virus had infected over 129 million people and claimed 2.8 million lives worldwide, with emerging variants threatening to worsen the situation. Global health bodies and institutions united to monitor the virus, recommend crucial interventions, and distribute vital medical resources. However, the ultimate solution to control and end the pandemic lies in developing, distributing, and widely administering safe, effective vaccines to achieve herd immunity.

About a year into the pandemic, several COVID-19 vaccines, includes those from Pfizer/BioNTech, Moderna, AstraZeneca, Johnson & Johnson, and Sinopharm, entered production and global distribution. In late 2020, India began preparing for one of the world's most extensive vaccination campaigns, aiming to reduce preventable deaths and restore normalcy. The MOHFW established the 'National Expert Group on Vaccine Administration' to synchronize efforts across 19 national ministries, 23 state departments, and various development partners. India's large digital infrastructure, with over 800 million internet users and 600 million smartphone owners, facilitated the rapid adoption of CoWIN, enabling an efficient response to the challenge of vaccinating 1.3 billion people.

The objectives of the COWIN digital application are to:

• Ensure that every vaccination dose is digitally recorded and generates a certificate with a QR code.

• Provide verifiable real-time data on the number of individuals vaccinated in both public and private sectors.

• Facilitate the timely delivery of vaccine doses and ensure the same vaccine product is used to complete the vaccination series.

• Maintain security and minimize the risk of vaccine theft and fraud.

• Generate data to support future pandemic planning and research purposes.

The CoWIN system operates nationwide in India, serving both public and private vaccination centers. Individuals can register online via the CoWIN website or mobile application using their national identification number to select a location and schedule a vaccination appointment. To ensure accessibility, the platform is available in English and 11 regional languages, making it user-friendly for citizens across various states. To address potential digital access issues, up to six individuals can be registered under a single cell phone number. Additionally, an assisted mode is available through over 240,000 Common Service Centres (CSCs) and a dedicated helpline number. Alternatively, individuals can visit vaccination centers in person, where health workers assist with registration.

The system also supports offline data entry at locations without internet connectivity, with data uploaded to the central server once access is available. A key feature of CoWIN is its modularity and open architecture, allowing it to interoperate with other systems in both the public and private sectors. The CoWIN team has been adept at adapting to changing policies and scientific developments, ensuring that the platform did not become a bottleneck or delay the implementation of national vaccination policies. To facilitate quick adoption, CoWIN was integrated with other government mobile applications such as Aarogya Setu, which is used for contact tracing and identifying COVID-19 hotspots, and UMANG, a platform that enables citizens to access various government services.

Aarogya setu:

Aarogya Setu utilizes contact tracing to log interactions with individuals you encounter during daily activities. If any of these contacts later test positive for COVID-19, you receive immediate notification, and proactive medical assistance is arranged. To register on Aarogya Setu, an individual needs an Indian mobile number operating within India. This platform serves the following purposes:

- **Comprehensive Health Services:**
  Aarogya Setu has expanded its scope to become a comprehensive national health application, integrating various digital health services under the Ayushman Bharat Digital Mission (ABDM). The app now facilitates user registration for Ayushman Bharat Health Accounts, also known as Digital Health IDs, which enable secure interactions with authorized healthcare entities. Through this platform, users can efficiently access and manage their digital health records, including laboratory results, medical prescriptions, and diagnostic information, all provided by verified healthcare professionals and service providers.
- **Online Doctor Consultations:**
  Aarogya Setu facilitates the scheduling of online doctor appointments powered by the e-Sanjeevani OPD Application. Users can conveniently schedule consultations with doctors from home, and their e-prescriptions are readily accessible after synchronization.

- **COVID-19 Vaccination:**

The Aarogya Setu application provides users with comprehensive vaccine appointment management, allowing them to book, modify, or cancel their COVID-19 vaccination slots. Additionally, the app facilitates the retrieval of vaccination certificates and submission of correction requests. Once data synchronization is complete, users can access their digital vaccination records through the platform.

OBJECTIVES OF THE STUDY

1. To analyze how digital governance acts as a facilitator of good governance.
2. To assess the effectiveness of the CoWIN platform in enhancing transparency, accountability, and public visibility throughout India's COVID-19 immunization campaign.
3. To investigate the role of digital governance, with a focus on the Aarogya Setu application, in fostering effective administration of India's COVID-19 vaccination program.

CHALLENGES & LIMITATIONS

Despite the benefits, there are significant challenges associated with digital governance in India. Issues such as digital divide, data privacy concerns, and technological infrastructure limitations can hinder effective implementation (Bansal & Sharma, 2021). Furthermore, not all demographic groups have equal access to digital platforms, raising concerns about equity in vaccine distribution (Nanda et al., 2022).

SIGNIFICANCE OF THE STUDY

Digital governance involves incorporating digital technologies into public administration to enhance service delivery, transparency, and citizen engagement. Researchers contend that effective digital governance can result in improved decision-making and resource allocation, especially in times of emergency (Heeks, 2020; Venkatesh et al., 2021). The COVID-19 pandemic highlighted the importance of digital tools in managing public health initiatives. Studies have shown that countries employing digital governance strategies were more successful in their vaccination campaigns (Almeida et al., 2021). In India, platforms such as CoWIN have facilitated vaccine registration, appointment scheduling, and real-time tracking, showcasing the potential of digital governance in health crises.

Enhanced Government Transparency:

This study highlights how digital governance tools, such as the CoWIN platform, have increased transparency in the vaccination process. By making information readily available and accessible, the government has allowed citizens to stay well-informed about vaccination policies and progress.

Efficiency and Accountability:

This study emphasizes how digital governance has enhanced the effectiveness and transparency of public service delivery. Specifically, the CoWIN platform's capacity for instantaneous monitoring enabled precise oversight of vaccine allocation and administration, a crucial factor in orchestrating a nationwide immunization program.

Inclusivity and Accessibility:

The study emphasizes the efforts made to overcome digital literacy and connectivity challenges. Initiatives such as Common Service Centers (CSCs), helplines, and WhatsApp-based registration ensured that even those without internet access could participate in the vaccination drive. This approach promotes inclusivity and equitable access to essential services.

Scalability and Integration:

By examining the CoWIN system, the study demonstrates the potential for digital governance platforms to be scaled and integrated into broader health initiatives, such as the Universal Immunization Programme (UIP). This scalability ensures that the benefits of digital governance extend beyond the pandemic.

Policy Implications:

The findings provide valuable insights for policymakers on the importance of investing in IT infrastructure, training, and public awareness. A strong political commitment and social acceptance are crucial for successfully implementing digital governance initiatives.

Benchmark for Other Nations:

India's experience with digital governance in its vaccination campaign can serve as a benchmark for other countries looking to implement similar systems. The lessons learned from this study can guide global efforts in leveraging digital tools for public service delivery.

Long-term Benefits:

Beyond the immediate pandemic response, the study shows the long-term benefits of digital governance. The continued use of platforms like CoWIN for various health-related services ensures sustained improvements in governance and public health outcomes.

In summary, this study is significant because it offers a comprehensive analysis of how digital governance can promote good governance, especially large-scale public health initiatives like COVID-19 vaccination. It provides practical insights and policy recommendations aimed at improving the effectiveness, inclusivity, and transparency of government services.

RESEARCH METHODOLOGY

This exploratory study investigates the role of digital governance in promoting effective governance practices for COVID-19 vaccination efforts in India. The research methodology relies on secondary data analysis, drawing from a diverse range of sources including academic literature, research papers, peer-reviewed journals, official government websites, private sector resources, and other online materials. This literature review explores the role of digital governance in facilitating effective vaccination efforts in India, drawing on various scholarly sources and empirical studies.

CONCLUSION

In India's democratic system, both central and state governments are tasked with providing various public services across sectors to effectively serve citizens. Digital governance has emerged as a highly effective and reliable method for delivering these services online. This research examines the role of digital governance in facilitating good governance, particularly in the context of India's COVID-19 vaccination efforts. India, with its 29 states, 7 union territories, and a population of over 1.21 billion (the world's second-largest), has utilized the interconnected CoWIN system to significantly improve the visibility, accountability, and transparency of COVID-19 vaccine distribution - key components of good governance.

The CoWIN system streamlined beneficiary registration, improved vaccine access, and supported service delivery planning. This framework has potential for expansion to encompass all vaccines offered under the national Universal Immunization Programme (UIP). While initially developed as a pandemic response, CoWIN is set to evolve into a repurposed digital platform for broader health applications. Anticipating challenges related to low digital literacy and language barriers, the government implemented proactive measures to ensure inclusive access to CoWIN. These included:

- Registering individuals without smartphones or internet access through Common Service Centers (CSCs)
- Establishing a dedicated 1075 helpline
- Enabling registration via WhatsApp through the MyGovIndia Corona Helpdesk

As of July 1, 2022, CoWIN had facilitated the registration of over 1 billion beneficiaries and recorded the administration of more than 1.97 billion vaccine doses across 504,478 vaccination centers, with 73% located in rural areas. The platform allowed real-time monitoring of vaccine distribution and supported walk-in registration and vaccination. In areas lacking internet connectivity, vaccination records were manually prepared and later entered into the CoWIN system. Through these comprehensive measures, the Indian government worked to ensure equitable and accessible COVID-19 vaccination for all beneficiaries. To further enhance digital governance as a tool for good governance, the government must address and mitigate e-governance limitations through targeted awareness campaigns.

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