

# Envisioning Accountability through a Mobile Application: a Theoretical Framework

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## Abstract

**Purpose:** The accountability of public officials is a cornerstone of democratic systems; however, citizens often struggle to oversee delegated authorities effectively because of population growth and governance complexity. This study proposes a mobile application designed to bridge this gap by enabling direct citizen engagement, real-time oversight, and transparency through an autonomous accountability committee.

**Methods:** This theoretical study employed a qualitative, hypothesis-driven approach that integrated governance principles, technological feasibility assessments, and comparative analyses.

**Results:** The proposed framework enables structured citizen participation in accountability processes through features such as complaint submission, voting, data audits, oversight, and investigative reporting. By aligning governance processes with democratic principles, the system fosters transparency, trust, and public administration responsibility.

**Conclusion:** The framework for an accountability mobile application leverages technology to improve transparency, citizen engagement, and government oversight. It addresses inefficiencies in traditional systems while overcoming challenges such as data security and legal recognition. Compared with existing digital tools, this system offers stronger engagement and enforcement. Future research should focus on pilot implementations to assess their impact on governance and public trust.

**Limitations:** As the research is entirely theoretical, practical challenges such as government adoption, cyber security risks, legal compliance, and technological scalability remain untested. The feasibility of implementation depends on institutional cooperation and regulatory adaptation.

**Contributions:** This research advances the discourse on democratic oversight, digital accountability, and citizen empowerment in public administration. Key features include AI monitoring, blockchain security, decentralized participation, and technology-based digital mechanisms, along with existing methods to ensure an effective accountability system.

**Keywords:** *Accountability, Autonomous Accountability Committee, Citizen Participation, E-governance, Mobile Application, Transparency.*

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## **1. Introduction**

### ***1.1. The Role of Accountability in Governance***

Accountability is a cornerstone of democratic governance, ensuring that public officials and government institutions operate in the best interests of the people. It establishes a system where authorities must justify their decisions, be transparent in their actions, and remain responsive to the public. Without accountability, democratic institutions risk inefficiency, corruption, and a disconnection between the government and the governed. However, ensuring effective accountability remains a significant challenge in many political systems, particularly as governments become larger and more complex. The traditional methods of ensuring accountability, such as elections, parliamentary inquiries, and judicial oversight, often suffer from structural inefficiencies that hinder their effectiveness.

In a democratic system, citizens act as the principals who delegate power to elected representatives, government officials, and administrative agencies, who function as agents. This delegation of authority creates a relationship where the agents are expected to act in the best interests of the principals. However, the absence of direct and continuous monitoring mechanisms often leads to a power imbalance, where the agents may act in ways that serve their own interests rather than those of the public. This problem is further exacerbated by bureaucratic inefficiencies, lack of transparency, and limited public access to decision-making processes. Consequently, citizens frequently find themselves unable to hold their representatives accountable in a timely and effective manner.

### ***1.2. The Need for Technological Solutions in Accountability***

Information and Communication Technologies (ICTs) used in democratic processes have radically transformed the face of political engagement, increased transparency, and improved governance effectiveness (Asimakopoulou, Antonopoulou, Giotopoulos, & Halkiopoulos, 2025). Digital tools can be applied to promote governance and expand public service delivery and public policy capacities. Artificial intelligence and algorithmic governance increasingly dictate public sector governance decisions (Filgueiras & Almeida, 2021). The adoption and use of mobile technologies has transcended exponentially around the world in recent years, therefore, the great challenge for public organizations is to successfully implement technological initiatives that fall within the framework of digital government (Castilla, Pacheco, & Franco, 2023). Governments around the world, on the other hand, face a number of challenges in promoting e-government initiatives (Aldiabat, Harb, & Gharaibeh, 2025). The emergence of new information and communication technologies (ICTs) has not only revolutionized the way business is conducted but also transformed the delivery mechanism of governmental services. Since the 1990s, public-sector organizations across the globe have been applying Internet technology and other ICTs in innovative ways to deliver services, engage citizens, and improve efficiency: a set of practices commonly known as electronic government (e-government).

An explosion in the use of mobile technologies (m-technologies), such as mobile phones, laptops, and personal digital assistants (PDAs) to connect to wireless networks has enabled governments to transit from e-government to mobile government (m-government) (Trimi & Sheng, 2008). The mobile government (m-government) represents a distinct paradigm shift from the electronic government (e-government), offering a new avenue for governments worldwide to deliver services and applications to their customers (Pham, Dang, Hoang, & Yoon, 2025). The rapid advancement of digital technology has transformed various aspects of governance, providing new opportunities to enhance transparency and public participation. Using ICTs to increase citizen engagement makes the citizens empowered to participate in openness initiatives and to promote cultural support for transparency (Fukuyama, 2001, Johnston, 1998). Many governments have embraced digital governance initiatives to improve service delivery, streamline administrative processes, and increase accessibility to government information. However, despite these advancements, there remains a gap in the integration of technology into accountability mechanisms. Most e-governance initiatives focus on improving governmental efficiency rather than ensuring that officials remain accountable to the public.

A significant challenge in governance is that traditional accountability mechanisms often operate reactively rather than proactively. Investigations into misconduct or inefficiency typically occur after

significant delays, and redress mechanisms are often inaccessible to the general public. In contrast, technology has the potential to create real-time accountability systems that allow citizens to report concerns, oversee government actions, and demand transparency without bureaucratic delays. Along with Organizational Accountability as a legal entity (Corporate Accountability), Hierarchical Accountability, Collective Accountability, Individual Accountability, Social Accountability, Financial Accountability, and other forms of Mixed Accountability, this approach to accountability will bring a revolutionary transformation to the system. By leveraging mobile technology, governments can implement citizen-driven accountability mechanisms that enable direct engagement in monitoring governmental activities.

### ***1.3. Conceptualizing a Mobile-Based Accountability Framework***

In digital era, access to information has become increasingly convenient through smartphones (Salat et al., 2024). This research proposes a mobile-based accountability application that would serve as a direct interface between citizens and governmental oversight mechanisms. The application aims to empower citizens by providing a platform through which they can:

- a) Submit complaints regarding governmental actions, service failures, or corruption.
- b) Vote on key issues related to governance, ensuring that citizen voices are considered in decision-making.
- c) Oversee public officials and government institutions in a structured and transparent manner.

To strengthen the effectiveness of the system, an autonomous accountability committee will be integrated within the framework. This independent entity will be responsible for reviewing complaints, issuing investigative directives, and requesting data audits to ensure that public officials remain answerable for their actions. By decentralizing the accountability process and reducing reliance on traditional bureaucratic structures, this model aims to enhance transparency and responsiveness in governance.

### ***1.4. Theoretical Foundation of the Research***

This study is theoretical in nature, focusing on conceptualizing an innovative accountability mechanism rather than empirically testing an existing system. The research develops a structured model supported by conceptual frameworks and user flow diagrams to illustrate how the proposed accountability system would function in practice. Through this theoretical exploration, the study aims to establish a foundation for future empirical research and potential policy implementation. The theoretical approach enables a comprehensive analysis of the principles, challenges, and potential impacts of integrating mobile technology into accountability mechanisms. By examining existing governance structures, accountability challenges, and digital governance advancements, this research provides a systematic framework for understanding how a mobile-based accountability system can enhance democratic governance.

### ***1.5. Contribution and Relevance of the Study***

The proposed accountability mobile application represents a significant advancement in digital governance, addressing key limitations in existing oversight mechanisms. This study contributes to the broader discourse on democratic accountability, transparency, and citizen participation by introducing a scalable, technology-driven model for improving governmental oversight. The potential benefits of the system include:

- a) Strengthening citizen engagement in governance by providing an accessible and structured accountability mechanism.
- b) Enhancing transparency through real-time tracking and public visibility of government actions.
- c) Creating an efficient and decentralized complaint resolution system, reducing bureaucratic inefficiencies.
- d) Ensuring autonomous oversight through an independent accountability committee, minimizing political interference.

As democratic institutions worldwide continue to face challenges related to corruption, inefficiency, and lack of responsiveness, the integration of digital accountability tools presents a practical and necessary solution. This research, therefore, lays the groundwork for a new paradigm in governance,

where technology facilitates continuous and proactive citizen oversight, ensuring that public officials remain accountable at all times.

### **1.6. Objectives of the Theory**

The primary objective of this theory is to develop a structured accountability framework where citizens, as the principals in a democratic system, can hold public officials accountable in a direct, transparent, and systematic manner. Traditional mechanisms often rely on periodic elections, judicial interventions, and bureaucratic oversight, which are not always effective in addressing real-time governance failures. This study aims to bridge this gap by conceptualizing a mobile-based accountability application that enables citizens to actively monitor, report, and assess governmental performance at all administrative levels. The key objectives of this theoretical research are given below:

1. The theory aims to establish a citizen-centric accountability framework that allows direct and transparent oversight of public officials.
2. It seeks to enhance public participation in governance by enabling continuous citizen engagement through complaints, voting, and oversight mechanisms.
3. The objective is to strengthen transparency using digital mechanisms to provide open access to government data, responses, and investigative findings.
4. It focuses on reducing bureaucratic barriers by simplifying complaint submissions, automating processes, and ensuring swift resolution.
5. The theory ensures independent oversight by establishing an autonomous accountability committee to review complaints, conduct audits, and issue directives.
6. It aims to create a scalable and adaptable accountability model that can be implemented at various levels and integrated into existing governance structures.

### **1.7. Key Focus Areas:**

#### **1. Empowerment:**

Transforming citizens from passive observers into active overseers.

#### **2. Trust-Building:**

Using transparency to rebuild public confidence in institutions.

#### **3. Efficiency:**

Streamlining bureaucratic processes through automation and real-time communication.

#### **4. Equity:**

Ensuring marginalized communities can participate meaningfully.

### **1.8. Definition of Key Terms**

To establish a clear understanding of the theoretical framework proposed in this research, it is essential to define key terms related to accountability, governance, and digital technology. These definitions provide clarity on the concepts underpinning the accountability ecosystem and the mobile application designed to facilitate transparency and citizen engagement.

#### **1.8.1. Accountability**

Accountability refers to the obligation of public officials and institutions to explain, justify, and take responsibility for their decisions and actions. Traditionally, accountability has been conceptualized as a hierarchical chain that runs opposite to the chain of delegation (De Boer, 2023). It ensures that those in power remain answerable to the citizens they serve. In the context of governance, accountability mechanisms include audits, public reporting, oversight committees, and legal frameworks. Ieraci (2007) expresses most succinctly in noting that “Responsibility involves doing; accountability involves reporting”. There are four key elements of an accountability relationship which include setting standards, acquiring information about actions, making decisions about appropriateness and identifying and sanctioning unsatisfactory performance (Joshi, 2010). The confusion between responsibility and accountability can be characterized as a failure to separate the obligation to satisfactorily perform a task (responsibility) from the liability to ensure that it is satisfactorily done (accountability) (McGrath & Whitty, 2018). That is why the equitable and appropriate distribution of information is very necessary in ensuring accountability.

In this research, accountability is facilitated through a mobile application that enables citizens to file complaints, vote on governance issues, and oversee government actions. The system also integrates an Autonomous Accountability Committee (AAC) to ensure enforcement and compliance.

#### *1.8.2. Transparency*

As an international issue, transparency came to prominence after World War I in the post-war negotiations (Braman, 2009). Transparency is the principle that governmental operations, decision-making processes, and financial activities should be open and accessible to the public. It allows citizens to scrutinize and evaluate the actions of government officials, reducing corruption and mismanagement. According to Ball (2009), "Transparency is about the ease of access and use of government and nonprofit information. The more open and easy it is for the public to obtain information, the greater the transparency".

The proposed accountability mobile application promotes transparency by providing real-time updates, access to reports, and mechanisms for public oversight. Through the app, government branches must publish periodic transparency reports, ensuring citizens are informed about ongoing initiatives, expenditures, and policy implementations.

#### *1.8.3. Public Officials (Agents)*

Public officials, also referred to as agents, are government representatives, elected officials, civil servants, or any individuals holding authority within public institutions. Their responsibilities include policy-making, law enforcement, administration of public services, and financial management.

In this study, public officials are the primary subjects of accountability. The mobile application serves as a tool for monitoring and assessing their actions, ensuring that they adhere to ethical and legal standards.

#### *1.8.4. Citizens (Principals)*

Citizens, also known as principals, are individuals who delegate authority to public officials through elections, policy support, and civic engagement. In a democratic system, citizens play a crucial role in holding the government accountable, voicing concerns, and ensuring that policies align with public interests. The proposed application empowers citizens by providing a platform for complaints, voting, and oversight, ensuring that their voices contribute directly to governance and decision-making.

#### *1.8.5. Autonomous Accountability Committee (AAC)*

The Autonomous Accountability Committee (AAC) is an independent oversight body responsible for auditing government actions, investigating complaints, and ensuring compliance with transparency standards. The committee operates separately from governmental influence, ensuring impartiality in decision-making. In this research, the AAC interacts with the accountability mobile application by receiving data audit requests, issuing investigation directives, and ensuring that government officials respond to transparency demands.

#### *1.8.6. Voting System*

The voting system in the proposed application allows citizens to express opinions on policies, rate government performance, and collectively decide on pressing accountability issues. This participatory feature ensures that public sentiment is reflected in governance decisions.

#### *1.8.7. Feedback System*

A feedback system allows users to receive responses regarding complaints, votes, or oversight activities submitted through the application. This ensures that citizens remain informed about the status of their concerns and can track the impact of their engagement. The accountability application incorporates a feedback mechanism that updates users on complaint resolutions, policy changes, and government responses, fostering trust and participation in the democratic process.

## **2. Literature Review**

In recent years, e-government has been promoted as a panacea to restore declining public trust in government, which has been observed in most developed countries (Li & Shang, 2023). Adopting digital technology in government processes is believed to improve a state's administration (Mukhlis, Makhya, Yulianto, & Aviv, 2025). The concept of accountability in governance has been widely explored in political science, public administration, and digital governance studies. This section reviews existing literature on accountability mechanisms, transparency initiatives, the role of technology in governance, and mobile applications as tools for civic engagement.

### ***2.1. Theoretical Foundations of Accountability***

Accountability is a fundamental principle in democratic governance, ensuring that public officials remain answerable to the people they serve. According to Bovens (2007), accountability consists of three core elements:

- Information – Public officials must provide reports on their activities.
- Justification – Officials must explain and justify their decisions.
- Consequences – There must be rewards for good governance and sanctions for misconduct.

Other scholars, such as Mulgan (2003), emphasize the need for both horizontal accountability (checks and balances within government institutions) and vertical accountability (citizen oversight mechanisms). The proposed accountability mobile application integrates both aspects by allowing citizens to monitor officials while enabling an Autonomous Accountability Committee (AAC) to oversee government actions independently.

### ***2.2. Challenges in Traditional Accountability Mechanisms***

Traditional accountability mechanisms include audits, parliamentary oversight, judicial reviews, and public reporting. However, studies have identified several limitations:

#### ***2.2.1. Bureaucratic Inefficiencies:***

Kaufmann, Kraay, and Mastruzzi (2011) highlight that complex bureaucratic structures delay accountability processes. Fernández-i-Marín, Hinterleitner, Knill, and Steinebach (2024) suggest that constant policy growth can overburden bureaucracies if implementation capacities are not expanded in lockstep with policy production.

#### ***2.2.2. Limited Public Participation:***

Citizens often face barriers such as lack of access to government data, legal complexities, and procedural delays (Fox, 2007).

#### ***2.2.3. Weak Enforcement Mechanisms:***

Many anti-corruption agencies and accountability bodies lack enforcement power (Rose-Ackerman & Palifka, 2016). The proposed mobile application seeks to address these limitations by providing a direct and efficient platform for citizen engagement, real-time oversight, and enforcement support through an independent accountability body.

### ***2.3. The Role of Technology in Enhancing Accountability***

Digital governance has been increasingly recognized as a solution to improve transparency and civic engagement. Studies on e-governance initiatives demonstrate how technology can bridge gaps in accountability:

#### ***2.3.1. Mobile Governance (m-Gov):***

Bertot, Jaeger, and Grimes (2010) found that mobile applications increase accessibility, facilitate real-time reporting, and empower citizens in governance processes.

#### ***2.3.2. Open Data and Digital Transparency:***

Meijer (2015) highlights that open government data initiatives allow citizens to monitor government activities, detect inefficiencies, and report corruption.

### *2.3.3. Crowdsourced Accountability:*

Studies on platforms like Ushahidi indicate that mobile-based crowdsourcing enables citizens to report incidents of corruption, vote on governance issues, and demand policy actions (Goldstein & Rotich, 2008). The proposed mobile application builds on these findings by integrating a citizen-driven complaint system, a transparency reporting mechanism, and a voting feature to assess government performance.

## **3. Methodology**

This research follows a qualitative, hypothesis-driven approach to conceptualize the Accountability Mobile Application. The methodology integrates theoretical frameworks, comparative analysis, and technological feasibility assessments to establish a structured foundation for the proposed system. Since the study is entirely theoretical, it does not involve empirical data collection but relies on secondary research, governance principles, and technological evaluations to develop the model.

### **3.1. Research Approach**

#### *3.1.1. Nature of the Research*

The study adopts a qualitative and theoretical approach to explore the feasibility and implications of a digital accountability system. It focuses on analyzing governance models, existing accountability technologies, and legal frameworks to establish the need for a comprehensive mobile application.

#### *3.1.2. Justification for Theoretical Methodology*

Since the research does not involve primary data collection, surveys, or interviews, it emphasizes secondary data analysis, theoretical reasoning, and comparative studies. The methodology ensures that the proposed system is conceptually sound, technologically feasible, and aligned with governance principles.

### **3.2. Conceptual Framework Development**

#### *3.2.1. Theoretical Foundations*

The accountability application is structured based on principal-agent theory, participatory governance models, and digital transparency frameworks. It draws from best practices in e-governance, AI-driven monitoring, blockchain transparency, and other available advanced technological resources to ensure an effective system by an autonomous accountability committee.

#### *3.2.2. Core Research Questions*

- a) How can technology bridge the gap between citizens and public officials to enhance accountability?
- b) What are the limitations of existing accountability mechanisms, and how can they be addressed through a mobile application?
- c) What legal, institutional, and technological prerequisites are necessary for implementing a nationwide accountability system?

#### *3.2.3. Identifying Key Components of the Application*

- a) Real-time Complaint Tracking: Citizens can report government misconduct with live updates.
- b) AI-Based Fraud Detection: Automated systems analyze irregularities in governance activities.
- c) Blockchain-Enabled Transparency: Secure, tamper-proof data storage ensures integrity.
- d) Citizen-Government Interaction: Direct engagement channels for feedback and redressal.
- e) An Autonomous Accountability Committee: For complete oversight, investigation and control.

### **3.3. Theoretical Analysis and Justification**

The study reviews global e-governance models, mobile reporting platforms, and open data initiatives to identify strengths and weaknesses. Case studies include:

- ❖ Estonia's E-Governance System : A model for digital governance and transparency.
- ❖ India's MyGov Platform: A citizen engagement tool for participatory governance.

❖ Kenya's Ushahidi App : A mobile-based crisis-mapping tool for accountability. Conventional mechanisms like public hearings, parliamentary oversight, and anti-corruption commissions are analyzed. Their limitations in terms of accessibility, efficiency, and transparency are compared against digital solutions. The potential integration of AI, blockchain, cloud computing, and mobile platforms is evaluated. Security, scalability, and accessibility challenges are examined.

### **3.4. Legal and Institutional Considerations**

#### **3.4.1. Regulatory and Policy Frameworks**

The study examines Right to Information (RTI) laws, data protection policies, and anti-corruption legislations to ensure compliance. It identifies the need for legal safeguards against misuse, privacy breaches, and political manipulation.

#### **3.4.2. Cyber Security and Privacy Protection**

The application must comply with GDPR, national cyber security policies, and encryption standards to protect user data. Anonymous reporting mechanisms should be embedded to encourage whistleblowing.

#### **3.4.3. Institutional Integration and Government Adoption**

The study explores strategies for government cooperation and institutional partnerships to ensure the application's effectiveness. Incentives such as international funding, transparency rankings, and civil society support are considered to encourage governmental adoption.

### **3.5. Development of a Hypothetical Model**

#### **3.5.1. Structure of the Application**

The proposed system includes user roles, data flow mechanisms, security protocols, and governance structures.

#### **3.5.2. Operational Workflow**

A step-by-step outline of how citizens file complaints, data is processed, and government agencies respond.

#### **3.5.3. Evaluation Metrics**

Citizen engagement levels, response time of authorities, and impact on transparency serve as performance indicators for the application's effectiveness. This methodology ensures a systematic and theory-driven approach in case of designing the Accountability Mobile Application. By integrating governance principles, technological advancements, and institutional frameworks, the study establishes a strong theoretical foundation for a digital accountability system. The research lays the groundwork for a transparent, participatory, and legally enforceable mechanism to enhance government accountability through technology.

## **4. Results and Discussion**

### **4.1. Existing Technology in Ensuring Accountability**

Technology has significantly improved accountability mechanisms by enabling real-time monitoring, transparency, and public participation in governance. The following are key technological tools currently in use:

#### **4.1.1. Mobile Applications for Civic Engagement**

Mobile applications allow real-time reporting of corruption, service inefficiencies, and governance issues:

- a) Ushahidi (Kenya): A crowdsourced reporting platform that enables citizens to document and report incidents of corruption, electoral fraud, and service failures in real time.
- b) I Paid a Bribe (India): A digital platform where users anonymously report bribery incidents, helping expose corruption in public service.
- c) FixMyStreet (UK): An application allowing citizens to report infrastructure problems directly to local government authorities.



#### 4.1.2. Open Government Data (OGD) Platforms

Open Government Data (OGD) initiatives provide public access to crucial government information, ensuring transparency and reducing corruption risks:

- a) data.gov (USA): A platform offering open access to government datasets, including spending records and procurement data.
- b) data.gov.uk (UK): Publishes government spending, contracts, and policy documents for public scrutiny.
- c) India's RTI Portal: Allows citizens to file Right to Information (RTI) requests to demand government accountability.

#### 4.1.3. Artificial Intelligence (AI) and Data Analytics in Governance

AI-driven tools have improved fraud detection, predictive analytics, and automated oversight by:

- a) Detecting financial irregularities through AI-powered fraud analysis in government transactions.
- b) Identifying patterns of corruption using machine learning algorithms.
- c) Providing automated transparency reports based on real-time data analysis.

AI-based anomaly detection systems are widely used in tax departments, procurement offices, and anti-corruption agencies to flag suspicious financial activities.

#### 4.1.4. Blockchain Technology for Transparent Transactions

Blockchain technology enhances accountability by ensuring:

- a) Tamper-proof records: Transactions and government contracts are permanently recorded, reducing fraud.
- b) Decentralized oversight: Prevents single-entity control, ensuring transparency and security.
- c) Smart contracts: Automates governance processes, improving accountability in service delivery.

Estonia is a leading example, using blockchain for secure digital governance, public records, and fraud prevention.

#### 4.1.5. Social Media as a Watchdog Tool

Platforms like Twitter, Facebook, and WhatsApp have been widely used for digital activism and demanding government accountability. Social media platforms contribute to public accountability by allowing citizens to:

- a) Expose corruption and governance failures.
- b) Engage directly with policymakers and government officials.
- c) Organize civic movements for policy changes.

Entire political movements now exist and sustain themselves through the capacities of the Internet to disseminate information (Bertot et al., 2010). The wider access to ICTs in a society, the greater connections between different parts of a society (Lin, 2002). Research has shown that the provision of greater access to government information and increased transparency through the use of ICTs increases trust among citizens (Cho & Choi, 2004; Shim & Eom, 2008, 2009). For this reason, any ICT-enabled transparency initiatives will be far more likely to have a broad cultural impact if they are embraced and actively used within the government bureaucracy (Ho & Ni, 2004; Jaeger & Matteson, 2009; Mahler & Regan, 2002). Existing technologies have significantly improved governance accountability through digital platforms, AI-driven oversight, blockchain transparency, and mobile-based citizen engagement. These systems have enhanced transparency, reduced corruption, and enabled public participation in governance. However, despite their advancements, they remain insufficient in establishing a fully integrated and comprehensive accountability mechanism. The international literature on ICTs and digital tools for government does not map easily onto how the public administration literature approaches accountability, despite overlaps and promising new approaches (Lindquist & Huse, 2017).

First, existing systems are often fragmented, with different technologies addressing specific aspects of accountability rather than providing a unified solution. E-governance platforms focus on service

delivery, AI-driven fraud detection targets financial irregularities, and blockchain ensures secure transactions, but none of these systems provide end-to-end oversight covering all aspects of government accountability. Second, many of these technologies rely on government agencies to enforce accountability, which can lead to manipulation, data suppression, or selective implementation. Without an independent, autonomous mechanism, these systems often fail to provide unbiased accountability. Third, public participation remains limited due to the absence of a centralized system where citizens can directly engage in governance oversight. While mobile applications allow for individual reporting, they lack a structured, transparent mechanism for citizen-led investigations, voting, and real-time tracking of government responses. Therefore, a comprehensive accountability mobile application is necessary to integrate these technological solutions into a single, autonomous, and citizen-driven platform. Such an application would bridge the gaps by ensuring real-time monitoring, public participation, independent oversight, and enforcement of accountability mechanisms. By incorporating AI for fraud detection, blockchain for transparency, and an autonomous accountability committee for oversight, this application would provide a complete and enforceable framework for holding public officials accountable. A single, centralized, but spread all over the country as branches, accountability application would not only enhance the effectiveness of existing technologies but also create a transparent, participatory, and legally enforceable accountability system, ensuring that government officials remain answerable to the people at all times.

#### 4.2 Conceptual Framework of the Accountability Application

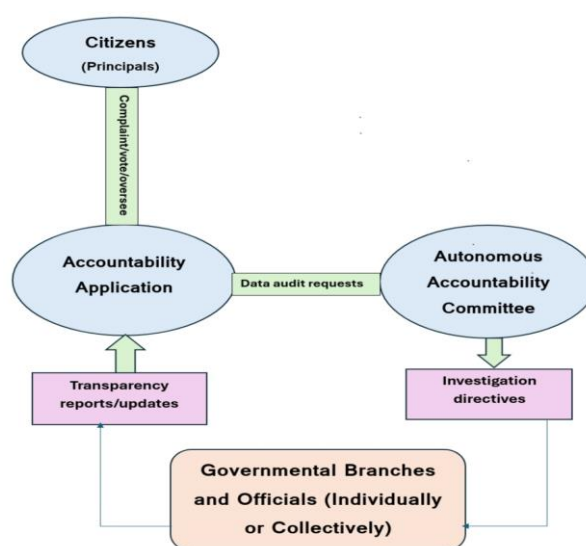


Figure 1. Conceptual Framework of the Accountability Ecosystem

Source: Developed by the Authors

The conceptual framework of the accountability ecosystem is designed to ensure direct citizen participation in governance through a structured technological interface. Figure 1 illustrates how citizens as principals, governmental branches as agents, the accountability application, and an autonomous accountability committee interact to uphold transparency and accountability. This framework is grounded in the principal-agent theory, where citizens delegate authority to government officials but require mechanisms to oversee, audit, and hold them accountable. Since a mobile device is usually used by one user who carries it at all times, it also provides the “identity” of the user thus making it a venue for personalized services and/or for tracking/identification (Trimi & Sheng, 2008).

##### 4.2.1. Structural Components of the Accountability Ecosystem

- a) **Citizens** (Principals) are the primary stakeholders in a democratic system who have the right to oversee, monitor, and evaluate governmental performance through complaints, voting, and oversight mechanisms.

- b) **Accountability Application** is a digital interface that facilitates citizen engagement, allowing complaints, voting, and monitoring while also generating transparency reports and forwarding data audit requests.
- c) **The Autonomous Accountability Committee** is a non-partisan, independent body responsible for auditing governance data and issuing investigation directives for misconduct or inefficiency. Members of the committee must be appointed through a transparent and merit-based process, prioritizing individuals who exemplify patriotism, justice, and a commitment to the nation's interests above all else. The primary functions of this committee will include monitoring the activities of responsible and power-appointed entities and updating the relevant information to the app with the assistance of multiple advanced technologies. If any irregularities or anomalies are identified, the committee will promptly notify the concerned authorities to initiate immediate corrective measures or actions.
- d) **Governmental Branches and Officials** are the agents responsible for implementing policies and responding to transparency requests, complaints, and audit demands.

#### 4.2.2. *Functional Workflow of the Accountability Ecosystem*

- a) Citizens interact with the accountability application by submitting complaints, voting, and overseeing governance activities. These inputs are recorded in the system, categorizing issues for further action.
- b) The accountability application functions as an oversight mechanism by forwarding transparency reports and updates to the citizens from the governmental branches by the investigative role of the Autonomous Accountability Committee, ensuring visibility into unresolved complaints and institutional responsiveness. It sends data audit requests to the Autonomous Accountability Committee for additional scrutiny and the committee work according to these norms.
- c) The Autonomous Accountability Committee plays a vital role in governance oversight by evaluating governance performance and compliance with established standards upon receiving data audit requests. If irregularities are detected, the committee issues investigation directives to relevant governmental branches.
- d) Governmental branches and officials must respond to transparency reports and investigation directives issued by the accountability committee. Their compliance and responsiveness are monitored in real-time through the accountability application.
- e) Citizens receive feedback through the application, allowing them to track progress on complaints, audit results, and government responses. The transparency mechanism ensures that citizens remain informed and engaged in governance oversight.

#### 4.2.3. *Key Features of the Accountability Application*

- a) Complaint Submission and Voting System allows citizens to submit complaints, vote on urgent governance concerns, and oversee response timelines.
- b) Data Audit and Transparency Reporting facilitate real-time audit requests and publish governmental performance reports.
- c) Independent Investigation Mechanism ensures objective reviews of misconduct and inefficiency through the accountability committee.
- d) Public Monitoring and Institutional Oversight allow citizens and institutions to track governance compliance through a structured, data-driven interface.

#### 4.2.4. *Governance Impact of the Conceptual Framework*

- a) Citizens actively participate in governance oversight.
- b) Government officials are held accountable in real-time.
- c) An independent body safeguards transparency and integrity.
- d) Technology enables direct, structured, and traceable engagement.

Figure 1 illustrates a systematic accountability mechanism where digital innovation aligns with governance principles, ensuring direct oversight, transparency, and corrective interventions.

### 4.3 User Manual

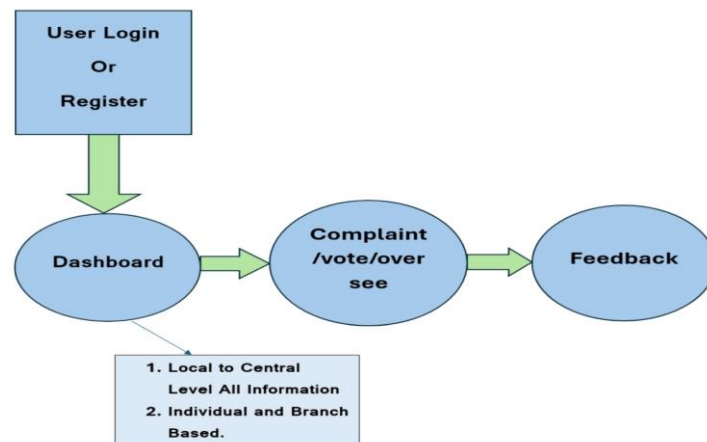


Figure 2. User Flow Diagram of the Mobile App  
Source: Developed by the Authors

The user manual provides a structured guide on how citizens interact with the accountability application to ensure transparency and oversight in governance. Figure 2 presents the user flow diagram, outlining the step-by-step process from user registration to feedback collection. This digital infrastructure empowers users by streamlining complaint submission, voting, oversight, and feedback mechanisms.

#### 4.3.1. User Registration and Authentication

- a) Users begin by either registering or logging in to the application. Registration requires identity verification to prevent fraudulent activities while maintaining accountability.
- b) Upon successful authentication, users gain access to the dashboard, which serves as the central hub for navigation and information access.

#### 4.3.2. Dashboard Functionalities

- a) The dashboard provides users with structured access to accountability features, including complaint submission, voting mechanisms, and oversight functionalities. Governments make forms and publications available online to increase citizens' participation and ask for their opinions. A proposition for a new law or an amendment can be posted on a web site. People with comments, suggestions and questions can send their comments via internet and mobile phones (Kushchu & Kuseu, 2003).
- b) Users can browse transparency reports, track submitted complaints, and monitor governance performance.
- c) The dashboard integrates information from local to central levels, ensuring that governance issues at all administrative levels are accounted for.

#### 4.3.3. Complaint Submission, Voting, and Oversight

- a) Users can submit complaints against governmental misconduct, inefficiency, or policy failures.
- b) A voting mechanism allows users to collectively prioritize complaints, ensuring that critical governance concerns receive prompt attention.
- c) The oversight function enables users to monitor complaint resolution progress and assess governmental responses.

#### 4.3.4. Feedback and Transparency Mechanisms

- a) Government responses to complaints are displayed within the application, providing users with real-time updates on resolution efforts.

- b) Users can provide feedback on how effectively complaints were addressed, ensuring continuous evaluation of governance performance.

#### 4.3.5. Hierarchical Information Structure

- a) The application ensures that all governance-related information is accessible at both local and central levels.
- b) Users can view individual and branch-based accountability data, allowing for comparative assessments of governance efficiency across different administrative units.

Figure 2 illustrates a seamless user flow, reinforcing the application's role in ensuring accountability through structured citizen engagement. The system ensures transparency, oversight, and participatory governance, fostering a culture of real-time accountability.

#### 4.4. Prerequisites of Establishing the Accountability Application System

A common mobile public services framework must first and foremost incorporate the following five principles: Interoperability, Security, Openness, Flexibility and Scalability (Antovski & Gusev, 2005). The successful implementation of a comprehensive accountability mobile application requires several foundational elements that ensure its accessibility, effectiveness, and sustainability. Digital technologies are important tools for supporting economic development and collective action and solving relevant public problems. On the other hand, they have many associated risks, requiring governance mechanisms to protect vulnerable groups of society and to enhance public well-being (Filgueiras & Almeida, 2021). However, it is important to emphasize that, despite the benefits and advances observed, there are still challenges to be faced and overcome, such as the issue of cybersecurity, digital inclusion and also resistance to change by some actors, in the latter case, there is a cultural issue (de Carvalho & Caldas, 2024). The prerequisites for establishing such a system span technological, infrastructural, legal, and social dimensions, all of which must be addressed to create a fully functional and impactful accountability mechanism. The conditions are given below:

##### 4.4.1. Digital Literacy and Public Awareness

- *Bridging the Digital Divide*

A large portion of the population, particularly in developing countries, lacks the necessary digital skills to navigate government platforms effectively. Digital literacy campaigns, workshops, and online tutorials must be introduced to educate citizens on how to use the application efficiently.

- *Civic Education*

Merely knowing how to use the app is not enough; citizens must also understand their rights, responsibilities, and the mechanisms of governance. Educational initiatives should focus on making civic knowledge more accessible so that people can make informed use of the application.

- *Simplification of Policy and Governmental Information*

Complex legislative language, budgetary frameworks, and government reports must be converted into user-friendly formats to enhance accessibility. Infographics, short explanatory videos, and summarized reports will enable users to comprehend government actions without specialized legal or administrative knowledge.

##### 4.4.2. Digital Infrastructure and Accessibility

- *Internet Access and Connectivity*

A key challenge in implementing a nationwide accountability application is ensuring internet penetration in rural and underserved areas. Governments must invest in expanding broadband infrastructure, providing free or subsidized public Wi-Fi hotspots, and ensuring affordable mobile data plans.

- *Affordable Digital Devices*

Smartphones and digital devices remain inaccessible to a significant portion of the global population due to cost barriers. Subsidized devices, public digital access points, and low-cost smartphone initiatives can help bridge this gap.

- *Multi-Platform Compatibility*

The application must be available on Android, iOS, and web-based platforms, ensuring that individuals across different technological ecosystems can use it. A USSD or SMS-based version should be available for those without internet-enabled devices.

#### *4.4.3. Transparency and Trust in Governmental Data*

- *Unrestricted Access to Public Information*

For the application to function effectively, all executive decisions, legislative proceedings, judicial rulings, and government expenditures must be fully accessible. Governments must enforce open-data policies, ensuring that the public has real-time access to information without bureaucratic delays or restrictions.

- *Independent Oversight Body*

A neutral and autonomous accountability committee must be in place to verify and authenticate data, prevent political manipulation, and handle reports of misconduct objectively.

- *Citizen-Government Interaction Framework*

The application should not merely be a reporting tool; it should also allow citizens to engage with government officials, file petitions, access voting records, and track government responses to reported issues. An interactive feedback mechanism will help build trust in the system.

#### *4.4.4. Data Security and Privacy Protection*

- *Robust Cyber Security Measures*

The application will handle sensitive data, making it a potential target for cyber attacks. The system must employ end-to-end encryption, multi-factor authentication, and blockchain technology to protect data integrity.

- *Strict Privacy Regulations*

Clear legal frameworks should define how citizen data will be collected, stored, and used. No personal data should be misused for surveillance, discrimination, or political retaliation. The platform should comply with international standards like GDPR (General Data Protection Regulation).

- *Anonymous Reporting Features*

To encourage whistleblowing and safeguard citizens from retaliation, the application should allow users to report corruption and misconduct without revealing their identity based on strong and clear evidence.

#### *4.4.5. Legal and Institutional Frameworks*

- *Legal Mandates for Transparency*

The success of the application depends on a strong legal framework, requiring government agencies to disclose information and be accountable for their actions. Right to Information (RTI) laws should be integrated into the system to give citizens direct access to government records.

- *Government Commitment to Non-Interference*

Governments or opposing forces must not censor or manipulate information within the app. A legal structure should ensure non-partisan, independent management of the system, preventing it from being used for political gains.

- *Integration with Judicial and Law Enforcement Bodies*

The application must have direct channels for legal action against corrupt officials, ensuring that accountability reports lead to real consequences rather than just digital documentation.

#### *4.4.6. Political and Social Will for Adoption*

- *Strong Leadership and Policy Advocacy*

Implementing such an application requires political will at the highest levels. Leaders must advocate for accountability as a national priority, ensuring that the initiative does not face political opposition or bureaucratic inertia.

- *Public Engagement and Civil Society Involvement*

NGOs, media organizations, and advocacy groups should be active stakeholders in the application's development and operation. Their role in oversight, awareness campaigns, and legal follow-ups will enhance credibility.

- *Incentives for Government Adoption*

Governments may resist an accountability mechanism that exposes misconduct. Offering incentives such as international funding, improved global transparency rankings, and public recognition can encourage government participation.

Digital transformation in governance has revolutionized public administration by leveraging emerging technologies such as artificial intelligence (AI), blockchain, big data, and cloud computing to improve efficiency, transparency, and service delivery (Sharmin & Chowdhury, 2025). Moreover, there is no shortcut from the adoption of a novel (digital) initiative to its institutionalization (Royo, Bellò, Torres, & Downe, 2024). Implementing the best practice, therefore, needs to be informed by theoretical understanding (Raudava, 2022). Building a comprehensive accountability application is not just a technological challenge, but a multi-dimensional transformation, requiring social, political, and infrastructural reforms. Bridging the digital divide, ensuring transparency, strengthening legal frameworks, and securing public trust are key to the success of such an initiative. This is not merely a vision but a call to action. By embracing innovation and fostering a culture of openness and public engagement, nations can set a new global benchmark for digital accountability. A transparent, participatory, and legally enforceable accountability system will redefine governance and empower citizens to shape their future through active oversight and digital participation.

## **5. Conclusion**

### **5.1. Conclusion**

This theoretical framework for an accountability mobile application establishes a structured and technology-driven approach in ensuring transparency, citizen participation, and governmental oversight. By integrating digital mechanisms into the democratic process, this system addresses the challenges of traditional accountability structures, which often suffer from inefficiencies, bureaucratic delays, and lack of public engagement. The study highlights that technology serves as an enabler of accountability by allowing citizens to submit complaints, vote on governance issues, oversee governmental actions, and receive real-time feedback. The presence of an autonomous accountability committee further reinforces unbiased oversight by handling data audit requests and issuing investigation directives. This ecosystem ensures that government officials remain answerable to the people, reducing opportunities for corruption and administrative negligence. Furthermore, the hierarchical structure of the application, covering local to central governance levels, guarantees that all administrative units are held accountable. The transparency mechanisms embedded in the system, such as public reports and updates, enhance institutional responsibility and promote trust between the government and its citizens. However, for successful implementation, several critical factors must be addressed, including data security, accessibility, legal recognition, and independent oversight. The recommendations emphasize the need for a user-friendly design, strong privacy protections, a transparent feedback system, and legal mandates to support digital accountability initiatives.

In conclusion, the comparative analysis highlights that while existing digital governance tools enhance transparency, they lack robust engagement of the citizens as well as enforcement mechanisms. The proposed system addresses these shortcomings by integrating AI-powered monitoring to ensure officials adhere to accountability protocols, blockchain-based data security to prevent manipulation or unauthorized access, and decentralized citizen participation to allow real-time oversight without government interference. Given its reliance on advanced digital infrastructure, the application's feasibility depends on policy alignment, legal adaptability, and cyber security safeguards. Future research should explore case study validations and pilot implementations to assess its real-world applicability. By bridging the gap between theoretical governance models and practical implementation, this framework enhances democratic oversight, institutional integrity, and public trust in government accountability mechanisms. Lastly, this proposed theory demonstrates that an accountability mobile application can significantly improve governance by institutionalizing transparency, fostering civic engagement, and ensuring that public officials remain answerable to the people. By embracing technology as a governance tool, democratic institutions can reinforce their legitimacy and effectiveness in serving the public interest.

## **5.2. Limitations**

### **5.2.1. Theoretical Model without Practical Testing**

This research is entirely theoretical and does not involve real-world testing, pilot studies, or empirical validation. The effectiveness of the proposed accountability application remains unverified in practical governance settings.

### **5.2.2. Challenges in Technological Integration**

The research assumes seamless technological implementation, but real-world factors such as system scalability, cyber security threats, and data processing limitations may pose significant challenges. The integration of AI, blockchain, and mobile platforms in governance requires further feasibility assessment.

### **5.2.3. Institutional and Political Resistance**

The success of the accountability application depends on government cooperation. However, resistance from political actors or bureaucratic institutions could hinder implementation, especially in environments where transparency mechanisms challenge existing power structures.

### **5.2.4. Digital Divide and Public Accessibility**

Although the application is designed for nationwide accessibility, disparities in internet access, digital literacy, and smartphone availability may limit its reach. Rural and economically disadvantaged populations could face challenges in actively participating.

### **5.2.5. Autonomous Accountability Committee's Operational Challenges**

The proposed system relies on an independent Autonomous Accountability Committee to monitor, verify, and act upon reported issues. However, ensuring its neutrality, legal authority, and effectiveness without external interference remains a critical challenge. The study does not fully address potential governance obstacles, funding mechanisms, or legal safeguards necessary to maintain its autonomy.

## **5.3. Findings**

The study of accountability through a mobile application reveals several critical insights into how technology can enhance transparency, citizen participation, and governmental oversight. The findings align with the theoretical framework and user flow, demonstrating the feasibility of a structured digital accountability system.

### **5.3.1. Digital Accountability Strengthens Citizen-Government Interaction**

The accountability application bridges the gap between citizens and government officials by providing a structured platform for complaints, voting, and monitoring. This ensures that governmental actions are continuously scrutinized by the public.

### **5.3.2. Transparency Mechanisms Promote Institutional Responsibility**

The application enforces transparency by making governmental activities publicly accessible. Regular transparency reports and real-time updates create an environment where officials are compelled to act with accountability.

### **5.3.3. Independent Oversight Enhances Governance Integrity**

The presence of an autonomous accountability committee ensures unbiased oversight. By handling data audit requests and issuing investigation directives, this committee mitigates the risk of internal governmental cover-ups or negligence. Moreover, the available information or data works as asset for the civil society organizations or other groups in ensuring accountability in a lucid way.

### **5.3.4. Real-Time Monitoring Increases Public Engagement**

The ability for users to track complaints and receive feedback fosters a sense of participation in governance. The structured system prevents bureaucratic delays and ensures responsiveness from government officials.



#### *5.3.5. Hierarchical Information Access Ensures Comprehensive Accountability*

The application enables citizens to access both local and central-level governance data. This multi-tiered structure prevents localized corruption and ensures that accountability extends to all levels of governance.

#### *5.3.6. Technology-Driven Accountability is Scalable and Sustainable*

The mobile application model is adaptable for various governance structures, making it applicable across different administrative frameworks. The use of digital tracking, automated reporting, and structured complaints ensures long-term sustainability. These findings confirm that integrating technology into governance strengthens democratic accountability, ensures institutional transparency, and enhances citizen participation. The study demonstrates that digital oversight mechanisms can systematically improve governance efficiency and reduce corruption risks.

### **5.4. Suggestions**

Based on the findings, the study suggests several strategic recommendations to ensure the successful implementation and effectiveness of the accountability mobile application. These recommendations focus on improving accessibility, oversight mechanisms, and public trust in digital governance.

#### *5.4.1. Ensure User Accessibility and Inclusivity*

The application should be designed with a user-friendly interface that accommodates all demographics, including individuals with limited digital literacy. Multilingual support and accessibility features should be integrated to maximize user participation.

#### *5.4.2. Strengthen Data Security and Privacy Measures*

Since the application handles sensitive governmental and citizen data, robust encryption and cyber security measures should be implemented. Ensuring anonymity for complainants where necessary will protect users from potential retaliation.

#### *5.4.3. Institutionalize Autonomous Oversight*

The accountability committee should function independently from government influence, with clear legal mandates to oversee investigations, issue directives, and publish audit reports. This ensures unbiased governance monitoring.

#### *5.4.4. Implement a Transparent Feedback System*

Real-time updates on complaint resolutions should be displayed within the application. Government officials must be required to respond within a fixed timeframe to maintain public trust and prevent bureaucratic delays.

#### *5.4.5. Integrate a Reward System for Active Participation*

To encourage civic engagement, the application can introduce incentives such as recognition badges or public acknowledgments for active users who contribute significantly to the oversight process.

#### *5.4.6. Expand the Application's Scope to Cover Multiple Governance Areas*

Beyond complaint submissions, the application should facilitate participatory governance by incorporating features such as budget tracking, public consultations, and policy proposal voting. This enhances democratic participation.

#### *5.4.7. Establish a Legal Framework to Support Digital Accountability*

Governments should enact laws that recognize digital accountability platforms as legitimate oversight mechanisms. This legal backing will ensure that government officials are obligated to respond and comply with public scrutiny. These recommendations aim to optimize the accountability application's functionality, ensure transparency, and foster active civic participation. Implementing these strategies will strengthen governance integrity and enhance public trust in the democratic process.

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