



Critical factors and hurdles in leveraging E-Government to fight corruption: A comprehensive review

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Abstract

Political and bureaucratic corruption may take many different shapes. Numerous scholarly and professional forums have documented the causes and impacts of corruption. Developing nations struggle to implement reforms to reduce and fight the widespread corruption that is a result of a number of economic, cultural, social, and regulatory reasons. Systems for e-Participation and e-Government may significantly reduce corruption. We analyse the many theoretical models, empirical data, and findings linked to e-government and its role in thwarting corruption via a thorough literature study of over 100 published publications. We analyse and compile the review to develop four main topics on the correlation between e-government and corruption, and we provide a comprehensive model of the same. We also look at the difficulties related to each subject. We think that this model can be verified by researchers in many settings, and practitioners might see possible solutions differently with the aid of such a comprehensive knowledge.

Keywords: Bribery, re-engineering, Public administration

Introduction

Using information technology and the Internet by government agencies is called "e-Government." The World Bank discusses how e-Government may use new technology to improve how government agencies engage with individuals, companies, and other government agencies. This kind of change frequently increases efficiency, citizen-centricity, transparency, engagement, and political system trust. However, government transaction corruption hinders programmes success and service delivery. Nye (1967) defines it as "a behaviour that departs from the customary responsibilities of a public position due to private-regarding financial or social advantages or transgresses regulations prohibiting the use of specific forms of private-regarding power." Misappropriation, nepotism, and bribery are included. E-Government supporters and implementers say it may reduce corruption (Dada, 2006; Wescott, 2001; Basu, 2004; Heeks, 2005) ^[3, 6, 4]. Social media may reduce corruption with traditional ICT methods (Bertot, Jaeger, & Grimes 2012) ^[1]. The capacity to reduce corruption distinguishes e-Government efforts. Citizens might benefit from lower transaction costs. Effective resource allocation for everyone will help a country eradicate economic disparity. A nation's e-Government environment may reduce corruption. However, other factors may help reduce corruption (Heeks, 2005) ^[4]. E-Government projects may increase corruption (Dada, 2006; Wescott, 2001) ^[3, 6]. Some of these new forms of corruption are caused by the digital divide in developing countries like Brazil and India. One disadvantage of e-Government anti-corruption programmes is that they emphasise on receipt rather than providing (Bertot, Jaeger & Grimes 2012) ^[1]. The literature also questions whether e-Government reduces corruption. Despite digitalisation observe government contract corruption. They say imprecise specifications in government projects indicate wrongdoing. Staff resistance, legal infrastructure gaps, and leadership support hinder the effectiveness of e-Government projects in reducing corruption. After early acceptance, the eGovernment initiative reduced corruption, but staff resistance hampered its sustainability. Due to conflicting findings in the literature, the research on the impact of e-Government activities on corruption must be assessed to see whether it hinders the adoption of e-government systems. A rigors literature study will reveal common themes.

These themes will include study analysis and findings, common methodologies, theories drawn from, shared context features, diverse data sources, and variety of subjects addressed in numerous research. This essay aims to achieve things. The literature review isolates research with comparable issues for a more in-depth synthesis and examination of theoretical abstraction and empirical facts. Second, by examining and synthesising the chosen material, we identify the broad debates about using e-government to combat corruption and the challenges of implementing it. The remainder of the paper follows this format. The following part discusses finding, selecting, and assessing e-government and corruption studies. Four significant topics from the literature on e-government and corruption are described here. Most research publications have searched for a connection, although others have examined the challenges of utilising e-government platforms to prevent corruption. We discuss some of these topics from the literature. We show how the themes, e-Government, and perceived corruption link using the themes. We conclude by briefly discussing this research's primary findings and implications.

Methodology

We searched "e-Government" and "corruption." in the E-Government Reference Library (EGRL) Version 11.5 (which includes 7,899 peer-reviewed eGovernment references) and Google Scholar. Publications' titles or abstracts listed keywords. Between 1999 and 2016, 139 articles were published in journals, 24 in conference proceedings, and 9 as book chapters or reports. Eighty-three of the 139 publications came from EGRL and thirty from Google Scholar. The only search word used in this case was "corruption," since all EGRL publications are relevant to e-Government. The top 200 Google Scholar results were considered. The Google Scholar search included the paper's content, abstract, and title. This was not possible in EGRL. The twenty-six remaining publications in our original collection were found using a cascade search. The authors' opinion of their value allowed us to include articles despite their ad hoc character. One or more writers first evaluated all publications' names, keywords, and abstracts to remove unnecessary ones. The research includes papers that covered corruption or related concerns as an implication or influence but not as the main focus. Also included were writings that implicitly discussed corruption and similar topics. We also rejected novels owing of their wide topic matter, however we incorporated book portions where possible. This produced 130 peer-reviewed scholarly publications. The next step required one or more of the four co-authors examining each publication to identify its relevance to our study of e-government and corruption. This technique removed irrelevant documents. Comprehensive reviews were performed on 105 publications. Three randomly selected graduate assistants confirmed categorisation and classification. Analysis of evaluated literature yielded these findings. To save space, expensive furniture is not provided. The documents were analysed using many categories, which we merged.

Preliminary Analysis

The majority of papers have two to three writers. The 105 publications evaluated average 30 citations, totalling over 3000 references. Few citations repeat. About 50% of evaluated publications are 2012 or later. Less than 20

publications before 2005. Nature of Study: 25% of the publications examined focused on Argentina, Bangladesh, Brazil, China, Hungary, India, Indonesia, Kenya, Romania, and South Africa. Few publications were descriptive and conceptual, but most validated the theoretical model with actual evidence. Most publications examined hypothesised models in a multi-country environment using UN, World Bank, and Transparency International country-level indices. Theories: Most research described the theoretical lens used to study e-Government's influence on corruption. Sociology, organisation theory, strategy, MIS, and criminology underpin our evaluated publications. Diffusion of Innovation, Institutional theory, UTAUT, Theory of Procedural Fairness, Modernisation theory, Transaction Cost Theory, Principal-Agent-Client theory, Economics of Crime, Structuration theory, TAM, and New Institutional theory were used in our reviewed articles. E-Government Systems: The four stages of evolution or maturity of e-Government systems—Informational, Interactional, Transactional, and Networked (Integrated) [sometimes replaced with Participation or Decisional]—dominantly classify applications in this area. Some publications cited e-participation and others emphasised analysis or decision support in poor nations, where many systems are informational or interactional. Most papers on e-government in industrialised nations focused on the last two phases. Used Research Methods: We discovered few studies that specifically mentioned the study paradigm despite a recent request. We grouped studies by their main research technique and data sources: secondary data, survey, case study, ethnography, or a combination. About 10 publications were conceptual or theory development, 25 were primary case studies, and 30 were questionnaire-based data collection and analysis. Country-level metrics of transparency, corruption, freedom of the press, human development, and e-Government maturity were not included in our first categorisation. About 20 items were in this category. The studies evaluated analyse citizen, stakeholder, business, civil society, other government agencies and private partners, project, nation, transaction, or multiple units, with country, project, and individuals being the most prevalent. Type of Analysis: We divided research paper analysis into qualitative and quantitative areas. Some of the publications we studied employed textual, content, and theme analysis to create theories. Most quantitative analysis used regression, although descriptive statistics, inferential statistics, path modelling, correlation, and structural equation modelling were also used.

Dominant Themes

A systematic evaluation of literature aims to synthesise major results from multiple studies and uncover common research topics to help construct a comprehensive model. This research consolidates e-Government and corruption viewpoints. We developed four main topics via in-depth and iterative paper examination. The themes reflect the studies' quantitative and qualitative focus rather than a full mapping of all variables of interest. The four themes address higher-order structures operationalized via lower-level aspects related to e-government and corruption. We explain the four topics, categorise the research works examined under each subject, and provide short descriptions. Space limits make the studies provided indicative of the issues, but not typical. Next, we draw the comprehensive e-government and corruption model.

Transparency Factors

At least 34 research agreed that e-government technologies increase openness in governance and government procedures, lowering perceived corruption. Access to information may promote transparency provide a skeleton architecture for e-Government service discovery that may bundle similar services to enable users to access information and services via a single interface. The authors believe a single interface might minimise corruption in public e-service delivery by enhancing openness suggests two prerequisites for transparency to reduce corruption. First, stakeholders need publicity to gather and digest information. Second is accountability, which lets stakeholders act on new information. However, the authors found that the government websites they analysed failed to harness exposure. Other studies use financial openness to create accountability. Domestic political issues including fair elections, rent reliance, and natural resource income affect fiscal disclosures and openness. This argument suggests that budget and allocation openness reduces governance corruption. This logic is supported by transparent government, which exposes bureaucratic machinery to public examination, notably via financial transparency and audits. Investigative journalism and civil society efforts have been shown to increase government transparency by defending public interest and increasing freedom of information. Voice and accountability also contribute to transparency. Public voice, or people's participation in governance, mediates the link between internet spread and government corruption, particularly in developing countries like Africa and South America. Indexes and assessments from third parties have dominated these factors in the literature. Relationships may be validated by alternate operationalization using the EU Scoreboard, Transparency International Corruption Index, and UN uses Transparency International's country-level corruption index to measure government corruption at the municipality level in Spain, combining it with local government website information. The Corruption Perception Index (CPI) is also used often in literature showed that transparency increased eGovernment maturity (measured by an eGovernment readiness index) using CPI. Thus, transparent nations use e-Government platforms more added that openness and public corruption should be considered while assessing e-Government capabilities. Sharing data with stakeholders reveals decision-making reasoning and reduces government discretion. Automating government processes is increasingly technologically sophisticated. Automation may minimise corruption. They think e-Government makes government operations more open and accountable by automating procedures. Although procedure and decision support promote openness, data and information exchange is becoming more widespread. E-Government technologies may minimise government corruption by increasing information availability. Information in the economy and the contact between people and the government are two routes that allow corruption, which ICT may eradicate. Researchers have also noted that certain e-government efforts have sought to promote openness and minimise corruption compares two e-Government programmes in Argentina and India that sought to reduce corruption. She claims that openness centred on anticorruption and accountability was one of seven key possibilities of e-government programmes highlight digitisation programmes that aimed to tackle corruption. E-Government may lead to more openness and less corruption,

These two advantages are greater in underdeveloped nations. This is supported by Indian and Indonesian examples.

Technology Imperatives

Many research assumed technology was needed to understand how e-government projects impact corruption. Some scholars believe that e-government systems reflect people's opinions of openness and corruption because they make information more accessible. Other studies examine the technological imperative and its impact on social media, mobile, the internet, and e-government systems more carefully. Below is a summary of some studies on this topic. Many studies have examined how social media might improve e-participation, government transparency, public engagement, and co-production of solutions for shared challenges. Authors employ many theoretical frameworks to describe how social media influences corruption believe that publicly and jointly watching public officials and policy makers helps prevent corruption, whereas ^[1] believe that social media improves government transparency and reduces corruption. Social media platforms like YouTube and political will for change may improve local government openness and community involvement, according to. This is particularly true by speeding up, expanding, and making government information and interactions more transparent. This was done by analysing 250 government YouTube videos. Bertot, Jaeger, and Grimes (2010) ^[1] review studies and published examples to discuss how social media and e-Government technology may increase transparency and reduce government corruption. When discussing the challenges of implementing this, Bertot and others emphasise the need to build a transparent culture, promote technology literacy, and ensure e-government platform accessibility and functionality. The H1N1 pandemic, the Australian prime ministerial election, Wikileaks, US crime maps, e-procurement systems in Chile and the Philippines, and others demonstrate how social media promoted openness via information sharing. In contrast, utilise social media to build trust and reduce corruption. The technological imperative includes technology dissemination, which is cascaded via the internet, mobile technologies, and other infrastructure. Mobile and wireless technologies affect procedural rule transparency, information accuracy, and voice opportunity. These traits may promote procedural fairness and reduce corruption. People consider the internet strong examined South Africa's position as a pioneer in international law and whether the Internet might fight corruption throughout Africa. Some studies suggest a two-way causal link between internet adoption and corruption. Modern research on internet use, corruption, and other economic factors is equally important. Internet use and corruption tend to be linked to economic growth. A country's ICT capacity and economic development appear to be mediated by national corruption and development, as assessed from a social perspective using consumer inflation. These two constructs appear to reinforce each other. Internet, social media, mobile, and wireless technologies that allow wide data access have been suggested to combat corruption. Open Government Data (OGD) may minimise corruption. A study of a website commonly used by Brazilians during the 2014 elections indicated that Open Government Data (OGD) websites were more useful than official government websites. They also believed OGD reduced corruption. However, the authors caution that it may be difficult to measure corruption and that transparency may

not necessarily reduce corruption challenge the discourse on e-Government, IT, and misbehaviour. They say corruption impacts a country's ICT usage, economic performance, demographic patterns, and human development. This is shown by ICT spending, ICT spending per person, Internet users per 1000 people, and mobile phone subscribers per 1000 people. A substantial association exists between corruption and greater ICT skill across all four dependent variables. Mobile, the Internet, social media platforms like blogs and departmental websites, YouTube, and certain e-government systems have all been studied for their effects on corruption. Many disagree that more must be done than technologically. Another common topic is the requirement to comprehend basic government processes' issues notes that technology's benefits to society are restricted if inefficient government processes stay unaltered.

Administrative Imperatives

Four main areas of research have looked at perspectives on administrative imperatives: improving government process efficiencies through re-engineering and administrative reforms; institutionalising e-government systems; enhancing the quality of regulations and the rule of law; and bolstering the efficacy of government machinery through improved decision-making. We provide a preview of a few of the articles that address these requirements.

Reengineering and Administrative

Changes Public administration literature has helped us understand how public service reforms might reduce corruption. The research has also stressed the need to reengineer government processes before using e-government technology. Lack of process change has caused several e-government system failures in literature examines a land record registration system in an Indian state and finds that while computerisation increased efficiency, corruption remained unchecked due to a lack of process and cultural reform explains the public sector procurement process and how clients must choose between re-engineering business processes and customising software. In addition to process re-engineering, eGovernment projects may succeed by strengthening legislative support and government commitment.

Institutionalization Institutionalization

Has two meanings in this literature. Information technology and systems institutionalisation is first. Studies from this approach suggest that institutionalising an e-government system may go beyond enforcement and information access to empowerment, corruption prevention, and capacity development note this in the example of a Seoul e-Government implementation that publicly sought to fight corruption. This technology was used for a countrywide e-Government system dubbed "Saeol" after its success in Seoul. The authors suggest that institutionalization through regulatory or coercive influence, cognitive or mimetic methods, and/or normative approaches may help spread advanced e-government technologies to shape social order. The second notion is bureaucratic quality institutionalisation. Institutionalising government quality, together with rule of law, enforcement, and professionalism, has helped conventional anti-corruption tactics contain corruption.

Rule of Law

According to Krishnan and Teo (2012)^[7], the degree to which stakeholders uphold and accept societal norms—like property rights and law enforcement—is known as the rule of law. Rule of law, according, foretells corruption. On the other hand, Krishnan and Teo (2012)^[7] contend that complementary elements that support the longevity and effectiveness of e-government projects include political structures, the rule of law, voice and accountability, and corruption control. Although e-government systems and the rule of law are not directly related, corruption is impacted by trust and the application of the law and regulations. Election fraud in India is committed by politicians and police, and there is a dearth of transparency, accountability, and public engagement. Lawfulness is essential. Legislators who examined India, underutilize ICT assistance. Olasina contends that e-parliament, or e-participation, is a useless instrument for citizens and legislators (politicians) to interact and fight corruption.

Socio-Economic Factors

E-government systems that deliver citizen services are vulnerable to socioeconomic factors, including corruption, due to their nature. This includes a nation's development indices, such as literacy and healthcare, social factors, such as trust in democracy, political factors, such as its willingness to fight corruption and promote good governance, demographic variables, and economic conditions, such as GDP. Several studies have examined public confidence in government bureaucracy. E-Government altered government process services and policies, and DiRienzo, Das, Cort, and Burbridge Jr. found that process-based and institution-based trust were significant in 2007. Political components and views have been studied, although seldom found that left-wing and absolute majority municipalities are more open. Access to citizen-relevant information on the official website was the study's transparency proxy. Lack of complementarities, such as political will and poor democracy, in the socio-political environment may reduce the impact of internet usage on corruption found that political characteristics including stability, faith in the court, press freedom, good administration, and the number of internet users and hosts in the country greatly affect lower corruption levels. There was no compelling evidence relating a nation's economic health to less corruption.

The Challenges

Despite the growing number of studies, a parallel set expresses concern, worry, and deep sarcasm, arguing that there are many challenges in ensuring that e-government systems and information technology can reduce corruption in various forms. Technology, socio-economic, administrative, and anti-transparency obstacles exist. Here are several studies that stressed the need for new viewpoints on the subject. Technology issues originate from security weaknesses like those in e-voting systems. Even an Open Source e-voting system like Scantegrity has the potential for corruption, fraud, and security weaknesses, according. These sensitive technology solutions balance privacy and verifiability. These two system goals are often seen as opposed. The possibility of hacking even the most powerful e-voting system exists, notwithstanding its minimal likelihood. The literature has

also examined other causes for e-government and corruption. Could corruption in the legal, political, economic, or cultural sectors produce widespread e-government failure? Aladwani classifies e-Government project failures in developing countries as service, social, content, and technological failures. Project failure seems to revolve on corruption. Resistance to e-Government programmes is ascribed to the need to "upskill" oneself to understand the new corrupt conduct options the system presents. Those who grasp the new processes benefit from these "new" corruption chances. Wescott calls this an intergenerational corruption transfer caused by technology "up-skilling" corrupt conduct. E-government systems' incapacity to eliminate corruption is a socio-cultural problem. We believe e-government apps increase process openness, but they may reduce frontline officer authority. Distributing key services to middlemen might create a new type of corruption, according to, Schuppan cautions that closeness to private organisations may create additional wrongdoing agrees with Schuppan that

e-Government programmes reduce discretion (limited arbitrary acts) and enable corruption monitoring and linkage, but they only partially solve the problem. E-government has sometimes led to new corruption. Thus, two implications result. First, context is crucial for transferring developed-country solutions to poor nations. Second, the system must actively include application features that expedite operations or involve citizens. Kenya's contradictions are interesting. Wachira use Kenya to demonstrate e-Government's ineffectiveness. Kenyan high schools lack ICT facilities despite e-Government's 2004 conception. However, Kenya may be proud of its 2007 Mobile Money Transfer (M-Pesa) scheme. By allowing cashless transactions and invoicing, this approach reduced corruption and tax evasion. However, government rules like Kenya's "Official Secrets' Act" encourage anti-transparency and may undermine e-Government projects. Kenya and Zimbabwe had far more corruption. They say eGovernment may help hide such conflicts.

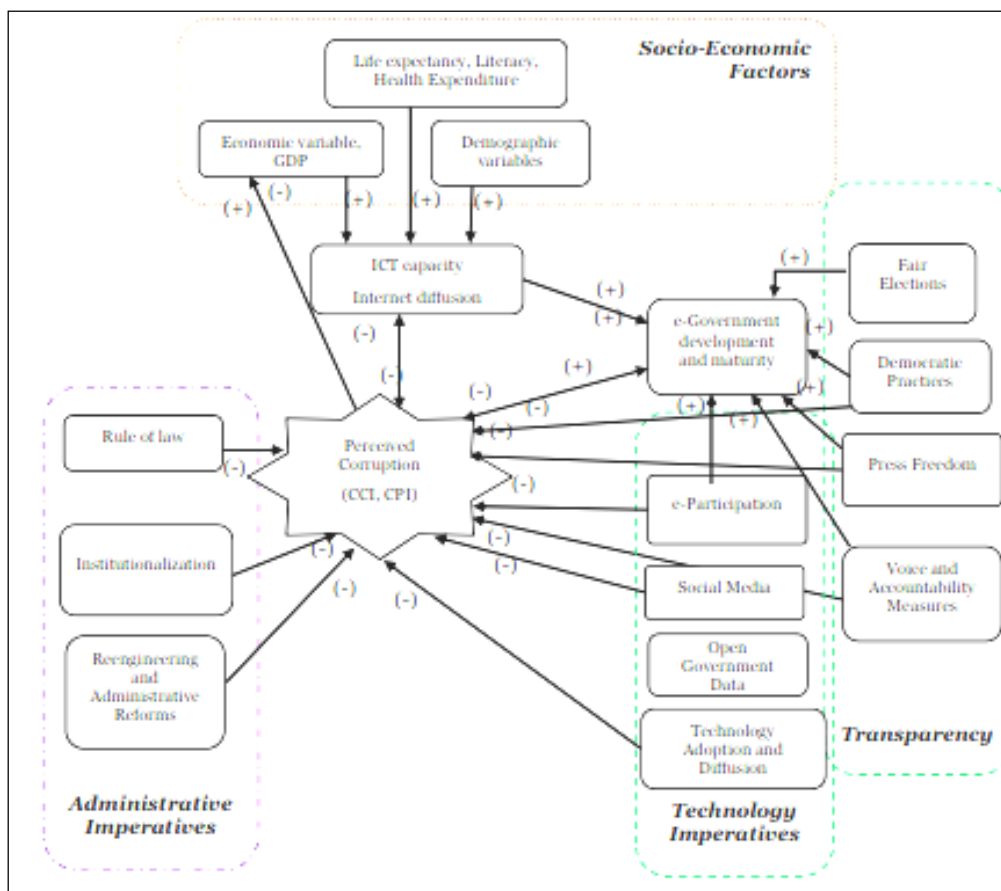


Fig 2: A Holistic Model of E-Government to Combat

Corruption Implications

Technology-based e-Government digitises government procedures and provides citizen-centric services. Such approaches may tackle bureaucratic and political corruption. This study develops a holistic paradigm and four main research topics on e-government, technology, and corruption to give a thorough and systematic literature assessment. Future study might confirm particular elements of the model or add features to reinforce themes. This article briefly mentions the numerous approaches used to examine e-government and corruption, however it may be important to

analyse the results and conclusions of each method models the bribe recipient in a basic economic manner, while most corruption studies have concentrated on the bribe payer. E-Government technologies may affect the corrupt agent's expenses and moral obstacles, hence more comprehensive research are needed. Researchers should focus on this neglected region. Exploring how existing corruption strategies (bribery) make way to new ones that avoid e-Government limitations is another possibility. The literature has mentioned up-skilling and new types of corruption, but it needs additional study, particularly on corruption's shifting character.

Conclusions

Digitalization via e-governance promises efficient and effective governance. Despite various efforts to digitise government operations and citizen services, e-government implementation, usage, and dissemination have remained difficult. Transparency fears have hindered e-government initiatives and prevented their implementation. Writing about public administration ties it to the pervasive societal problem of corruption. Any economy, big or small, must eliminate corruption from all levels of government. A less corrupt government is seen to distribute resources more evenly for all citizens, not only the wealthy. Technology's potential makes digitised government apparatus more important than ever. This research aims there. A thorough literature analysis allowed us develop a holistic model synthesising viewpoints on corruption and e-government utilising themes based on elements and constructs from diverse research in different situations. The report makes two key contributions to e-government and corruption studies. First, it has tried to reconcile the varied views on how eGovernment as a technological and organisational endeavour affects corruption. The systematic assessment of over 100 studies found four main themes: transparency, technology-specific issues, the administrative necessity of e-government, and socio-economic considerations. Second, the assessment found substantial gaps in each area, which we hope will inspire future research.

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