Towards E-compliance

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Towards e-compliance:

Exploring the role of compliance and

e-governance initiatives

in the case of Bhutan

TOWARDS E-COMPLIANCE:
Exploring the Role of Compliance and E-Governance Initiatives in the Case of Bhutan

DISSERTATION

To obtain the degree of Doctor at Maastricht University, on the authority of Rector Magnificus Prof. dr. Rianne M. Letschert, in accordance with the decision of the Board of Deans, to be defended in public on Tuesday, 16 November, 2021 at 10:00 hours

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My decision to pursue research was not out of necessity. It was rather my curiosity and conviction that we as ICT for development practitioners should do better. We have many questions but few answers. I believe that ICT can solve many development challenges we face, but we also face unexpected and unexplained obstacles in implementing ICT initiatives, such as e-governance. Can we really leave it at that, or shall we better challenge ourselves to find an answer, one answer at a time, to untangle the mysterious challenges and move forward? So my answer to that was, yeah, why not?

Like all the other brave researchers, I encountered changes, challenges, surprises and setbacks in the process. A happy note in this regard was that I was appointed as the Regional Director of the International Telecommunication Union (ITU) Regional Office for Asia and the Pacific in April 2020 in the middle of this journey. But this happened at the height of COVID-19 lockdown, which complicated my transition, and pushed my research to the backburner at the time. Soon after my transition, I then had to undergo a serious eye operation. I still remember the day when I couldn't see well enough but needed to present this research to an international academic conference in June 2020. The organizer was kind enough to arrange my presentation to be pre-recorded; so I managed.

Like many would-be researchers, I could have given up my research and move on to "life". But these were not unsurmountable challenges, because, in all honesty, I enjoyed the journey itself and doing research. I was also encouraged and inspired by a lot of colleagues in the UN who deeply care about people and countries around the world.

I am hoping that this research, although a small step, will pave the way and stimulate debates and actions to carry forward the research agenda to make the world a better place.

Thank you all, and Tashi Delek!

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LIST OF ABBREVIATIONS AND ACRONYMS

ACC	Anti-Corruption Commission
ACAB	Anti-Corruption Act of Bhutan
AD	Asset Declaration
ADB	Asian Development Bank
ADA	Asset Declaration Administrator
ADS	Asset Declaration System
AFIS	Automated Fingerprint Identification System
ATR	Action Taken Report
BBSC	Bhutan Broadcasting Service Corporation
BDBL	Bhutan Development Bank
BIG	Basel Institute on Governance
BNBL	Bhutan National Bank
BOB	Bank of Bhutan
BTI	Bhutan Transparency Initiative
BTR	Backward Tracing Research
BUP	Budget Utilization Plan
CADA	Central Asset Declaration Administrator
CC	Control of Corruption
CCA	Central Coordination Audit
CIRT	Cyber Incident Response Team
CSIS	Civil Service Information System

CSO	Civil Society Organisation
DA	Disproportionate Asset
DCRC	Department of Civil Registration and Census
DITT	Department of Information Technology and Telecommunication
DNB	Department of National Budget
DOI	Diffusion of Innovation
DoIM	Department of Information and Media
DPA	Department of Public Accounts
DPNB	Druk Punjab National Bank
DRC	Department of Revenue and Customs
DV	Dependent Variable
EFT	Electronic Fund Transfer
e-GIF	eGovernment Interoperability Framework
EGOV	E-government Survey
EID	Employee Identification Number
e-PEMS	*Electronic* Public Expenditure Management System
EU	European Union
FCPA	Foreign Corrupt Practices Act
FMIS	Financial Management Information System
FTMA	Fiscal Transfer and Monitoring Division
G2B	Government to Business
G2C	Government to Citizen

GAM	e-Government Adoption Model
GIFT	Global Interchange for Financial Transaction
GIS	Geographic Information System
GNH	Gross National Happiness
GNHC	Gross National Happiness Commission
HR	Human Resources
ICM	Information Communications and Media
ICT	Information and Communication Technology
IMF	International Monetary Fund
IS	Information Systems
ISS	Delone and McLEAN IS Success Model
IT	Information Technology
IV	Independent Variable
JV	Journal Voucher
LC/PLC	Letter of Credit/Project Letter of Credit
MERCOSUR	Mercado Común del Sur
MoE	Ministry of Education
MoEA	Ministry of Economic Affairs
MoF	Ministry of Finance
MoAF	Ministry of Agriculture and Forests
MoH	Ministry of Health
MoHCA	Ministry of Home and Cultural Affairs
MoIC	Ministry of Information and Communication

MoLHR	Minitry of Labour and Human Resources
MoWHS	Ministry of Works and Human Settlement
MYRB	Multi-Year Rolling Budget
NACS	National Anti-Corruption Strategy
NC	National Council
NGO	Non-Governmental Organization
Nu	Ngultrum
LDC	Least Developed Countries
OAG	Office of Attorney-General
OECD	Organisation for Economic Cooperation and Development
OPEN	Online Procedures Enhancement for Civil Applications
PEFA	Public Expenditure and Financial Accountability
PLaMS	Planning and Monitoring System
RAA	Royal Audit Authority
RAMIS	Revenue Administration Management Information System
RBG	Royal Body Guard
RCSC	Royal Civil Service Commission
RIM	Royal Institute of Management
RMA	Royal Monetary Authority
RO	Religious Organisation
RSTA	Road Safety and Transport Authority
SDC	Swiss Agency for Development Cooperation
SRS	System Requirement Specification

TAM	Technology Acceptance Model
TBANK	Tashi Bank
TCB	Tourist Council of Bhutan
TI	Transparency International
TMD	Treasury Management Division
TOE	Technology-Organization-Environment Framework
TPB	Theory of Planned Behavior
TPN	Taxpayer Number
TRA	Theory of Reasoned Action
TWAN	Thimphu-wide Area Network
UN	United Nations
UNDESA	United Nations Department of Economic and Social Affairs
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNODC	United Nations Office on Drugs and Crime
US	United States
UTAUT	United Theory of Acceptance and Use of Technology
WGI	Worldwide Governance Indicators

> *"That is my biggest emphasis to government from Prime Minister down to every-one; ICT is not about technology, it's about people. We have to change the way we think, particularly the way we do things. Otherwise, ICT or technology helps you to do the wrong things more efficiently".* (G1)

1.1 E-GOVERNANCE AS ANTI-CORRUPTION VEHICLE

E-governance initiatives are increasingly seen as a vehicle to tackle corruption across the globe. They offer an unprecedented amount and visibility of data and information which can be aggregated, disaggregated, and analyzed to identify patterns of fraudulent practices and help improve policies, procedures, and processes to curb corruption. Such e-governance systems include tax management (Al-Madi, Al-Shraideh & Khrais 2016), public service transactions and process management (Kim, Kim & Lee 2009; Kumar & Best 2006), online public information services (Bearfield & Bowman 2017), public grievance system (Rana, Dwivedi, Yogesh & Michael 2015), monitoring system (Xinli 2015) and transportation systems (Samuel & Lowen 2010).

But the systems alone are insufficient to reduce corruption (Bertot, Jaeger & Grimes 2010; Benson, Torres, Royo & Flores 2012; Kumar & Best 2006; Jun, Wang & Wang 2014). Otherwise, we would have seen corresponding decreases in corruption along with the increasing number and scale of e-governance initiatives worldwide. Furthermore, despite the fact that similar e-governance functions and initiatives have been implemented around the globe, the evidenced outcomes seem to vary markedly from country to country (Lee 2010; Kumar & Best 2006; Jun, Wang & Wang 2014; Bolivar, Perez & Lopez-Hernandez 2015).

A related consideration is how the the context in which e-governance initiatives are implemented influences their outcomes. The few successful cases, such as the Online Procedures Enhancement for Civil Applications (OPEN) in the Republic of Korea which evidenced "positive impact on the reduction of corruption" (Kim, Kim & Lee 2009, p.48), were implemented in a context where technology, govern-ance, and social enablers already exist. However, e-governance initiatives are par-ticularly important in the context of developing countries where governance defi-cits and resource constraints are more pronounced and systemic corruption widely observed (Grindle 2007; Srivastava, Teo & Devaraj 2016). In such countries, simply

enabling access to government information and data may not be enough for citizens to hold governments accountable and lead to a reduction in corruption (Bertot, Jaeger & Grimes 2010).

By contrast, an overload of government information on a website may lead to increased inefficiency. (Halachmi & Greiling 2013) The role of e-governance in reducing corruption has been touted in qualitative and quantitative studies (Kim, Kim & Lee 2009; Shim & Eom 2009; Lio, Liu & Qu 2011; Elbahnasawy 2014; Krishnan, Teo & Lim 2013), but how that reduction actually happens has not been adequately researched (Andersen 2009; Starke, Naab & Scherer 2016), especially from the perspectives of government employee users of e-governance systems.

An increasing number of people are resorting to additional innovative measures, including social media campaigns and online leaks, to shed light on corruption (Mazzarella 2006; Fenster 2012; Starke, Naab & Scherer 2016). But we do not yet know the magnitude, conduit and level of influence of social media and its impact on government officials who are the users of e-governance systems and who contemplate corrupt behaviors. It could be that officials now feel cornered by the increasing transparency, visibility, and traceability of their acts in e-governance systems and potential scrutiny on social media. They may be less inclined to bend rules for their own personal benefits. Alternatively, it could be that they always find a way to circumvent such visibility and scrutiny, convinced that impunity and invincibility will continue to protect them (Starke, Naab & Scherer 2016). That is possible given that technology has been regarded as favoring those in power (Bertot, Jaeger & Grimes 2010; Aladwani 2016; Samuel & Lowen 2010). Indeed, technology may be the key in empowering those government employees in both scenarios when they comply or circumvent the rules for their personal benefits

Against this background, this exploratory, inductive research studies the concept of compliance among government employee users in the implementation of e-governance initiatives. More specifically, this research answers the questions on how compliance manifests in e-governance implementation and what are the determinants of compliance among the government employee users in a digitally mediated environment. It is expected that corruption would be eventually reduced once the government employee users comply with the requirements of e-governance systems which are designed to control corruption, especially systemic corruption.

The findings of this research provide evidence of e-governance implementation in the case of Bhutan and offers an analysis on the unfolding dynamics among technology, institution and human agency which constitute a compliance mechanism.

1.2 COMPLIANCE AS A CONDUIT TO ANALYZE E-GOVERNANCE INITIATIVES

This section explains the rationale of choosing compliance as a conduit to analyze e-governance implementation. E-governance implementation is typically accompanied by new policies, regulations and/or organisational setups to integrate new functions, processes and procedures in the existing organisational context. An example could be a new financial management system, which is designed to increase transparency and reduce unauthorised transactions in financial management. The new financial management system may require the use of e-signatures in authoring payments through updated financial management policies and regulations with new functions, processes and approvers. When government employee users comply with the new policies, regulations and organisational setups and duly process all transactions in the system, it is likely that the e-governance initiative succeeds in addressing the pre-existing challenges, increases transparency, and reduces unauthorised transactions.

The assumption is that when government employee users comply with e-governance policies and system requirements, which are designed to curb corruption, their compliance will lead to eventual control of corruption. In a country where corruption level is low, compliance in e-governance implementation will not likely bring a change in the level of corruption (in which case it could be considered prevention). Conversely, if government employee users decide not to comply where a corrupt practice is not prevalent, introduction of an e-governance system may lead to an eventual increase in corruption. In a country where corruption is already rampant, the compliance of government employee users is expected to lead to a decrease in corruption. If the users decide to not comply with e-governance initiatives in a corruption rampant environment, it will not bring any change in the level of corruption. Understanding compliance and identifying the determinant factors of compliance among government employee users, therefore, is expected to provide a new avenue to explain the mechanism between e-governance implementation and eventual changes in the level of corruption.

As the literature review in Chapter 2 elaborates, the concept of compliance has not been systematically researched in e-governance literature. It becomes clear that the compliance literature does not yet include explorations to the effects of technology or e-governance in a comprehensive manner either. Therefore, my study contributes evidence to the existing literature on e-governance and compliance, while simultaneously, stimulating academic discourse on the validity of using compliance as

a conduit to analyze e-governance implementation. By understanding such discourse in the case of Bhutan and potentially more case studies in other global contexts and situations, this research may assist in designing and implementing effective e-governance initiatives for better results and impact in controlling corruption.

1.3 CONCEPTS AND DEFINITIONS

This section defines the key concepts of this study, highlighting specifically the way the terms are used in this research. The below section builds on the concepts and definitions developed and presented in a conference paper on e-compliance (Okuda 2020a)

Banniter and Connolly (2012) define **e-governance** as "the use of ICT in government in ways that lead to genuinely different structures or processes a consequence of which may be the greater effectuation of or changes in norms and public values" (p. 21). With emphasis on various stakeholders' involvement, the United Nations Educational, Scientific and Cultural Organization or UNESCO (2005) defines e-governance as "the application of ICT to the system of governance to ensure a wider participation and deeper involvement of citizens, institutions, NGO[1]s as well as private firms in the decision-making process". E-governance, therefore, covers a wider scope than e-government (Radhikaashree & Balakrishnan 2015).

My research uses the extended terms, **e-governance policies, regulations and organisational setups**, to denote the policies, regulations and organisational setups, which are newly established or are updates to the existing ones, due to the implementation of e-governance initiatives. In the afore-mentioned example of a financial management system, an e-governance policy introduces the objective and use of an e-signature as the legitimate means of financial transactions in the government. E-governance regulations could indicate responsible agencies, where and how an e-signature could be used, including types of transgressions, monitoring and reporting, among others. E-governance organisational setups could include the new workflow, assignment of e-signature approvers, technical support functions, project management team, oversight, and reporting lines. However, there could be e-governance initiatives, which are successfully implemented without codified policies, regulations and organisational setups. This exploratory study will investigate such cases in an adaptable manner so as to understand how compliance takes place with determinant factors in such a situation.

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[1] Non-governmental organisation

Government employee users in my research refer to government officials, who directly or indirectly use the e-governance system under investigation. They could include heads of government organisations, managers of administration functions, such as human resource, finance and budget, ICT officials, e-governance project managers and users, who enter and retrieve data and information as part of their daily work.

Compliance is defined as "the mutual consistency of legal requirements and enterprise requirements" (Hassan & Logrippo 2008) with "the target acting in accordance with an influence attempt from the source" (Payan and McFarland, 2005). Sundstrum (2016) equates non-compliance to legal violation, as both denote deviation from formal rules. Compliance is also expressed as a degree of adherence, in such cases as not complying with all the rules (only some) or not complying all the time (only sometimes). Compliance may contrast with enthusiastic commitment or reluctant obedience (Yukl, 1989) and may convey a negative connotation associated with involuntary action (Gelderman, Ghijsen & Bruman 2006). The term "willing compliance" (Navarra & Cornford 2011) and "voluntary self-compliance" (Avgerou, Ciborra, Cordella, Kallinikos & Smith 2005) are used to describe the voluntary nature of action.

As detailed in Chapter 7, compliance also takes the form of value-based/dispositional compliance and rule-based compliance (Batory 2012 and Webb 2012). According to several scholars (Webb 2012; Van del Wal, Graycar & Kelly 2016; Alon and Hageman 2017; Williams and Horodnic 2015), both types of compliance are needed to ensure sustainable compliance in society. Building on the general definitions of compliance by Hassan & Logrippo (2008) and Payan and McFarland (2005), in this present research, compliance in e-governance implementation is defined as "adherence to new policies, regulations and/or organisational setups, or updates to existing ones, and performing new functions, processes and procedures when e-governance systems are introduced and implemented".

Corruption is defined as "the abuse of public power for private benefit" (Tanzi 1998, p. 8). Søreide (2009), Tjen & Evans (2017) add that corruption is, in essence, trade which should not be for sale, including extortion, bribery, collusion and negligence. Based on the typology of corruption defined by Bryne (2007), this present research focuses on systemic corruption within government entities and does not cover other types of corruption, such as ad hoc, petty, grand, political or legal/moral corruption. Systemic corruption within the government may have a wider impact than isolated, ad hoc corruption (Boisvert, Dent & Quraishi 2014; Byrne 2007; Aladwani 2016), because it tends to undermine formal institutions when enforcing their own policies, rules and regulations and trying to achieve public policy goals for the public good (Coicaud 2016).

In this inductive exploratory research, compliance is used as a conduit and part of the mechanism to explain the phenomena of e-governance implementation. When government employee users comply with e-governance system requirements, it is expected that the system will achieve the objectives the system is designed for and contribute to overall control of corruption in the government. The research questions of this study are:

How does compliance manifest in e-governance implementation?

What are the determinants of compliance among government employee users in e-governance implementation?

The relationships explored are shown in Figure 1. The unit of analysis is an e-governance initiative, and the level of analysis is the institutional level. My research will use a comparative case study as a research method and select e-governance initiatives which aim to reduce corruption in a purposefully selected case study country. Although there are references to eventual change in the level of systemic corruption as a result of compliance, it is not the main aim of this research to understand how compliance influences corruption. The focus is to better understand what drives and holds compliance.

Figure 1: The Relationship of compliance and corruption in e-governance initiatives

E-governance implementation

Determinants which influence compliance

Compliance among government employee users

Change in the level of systemic corruption

In the investigation, it is important to understand the context of the e-governance initiatives, the reasons why the e-governance initiative has been initiated as well as the identified challenges and opportunities at the time of initiation. Determinants

which influence compliance among government employee users are expected to include e-governance policies, regulations and organizational setups, in addition to technological functionalities and capabilities; these factors were identified based on the literature review detailed in Chapter 2. However, it is also possible for an e-governance initiative to be successfully implemented with more informal arrangements. Some of the determinant factors may be specific to the organization where e-governance implementation takes place or the country as a whole where similar factors are identified across organizations and initiatives.

Chapter 2 is a literature review, identifying the existing research and evidence on compliance in e-governance implementation and role of ICT in compliance efforts. Chapter 3 discusses the methodological orientation chosen to answer the research questions, including the criteria used for the selection of case study country, Bhutan, and two case study initiatives. Chapter 4 and 5 present the findings emanating from the examination of the two case study initiatives and identification of compliance drivers, followed by the cross-case synthesis and analysis in Chapter 6. The findings of this present research are contrasted with the existing literature and evidence, which then leads to theorizing in Chapter 7. Based on the empirical evidence in this present research and lack of existing literature, evidence and compliance model, a new conceptual framework of *e-compliance* is proposed. The empirical and theoretical contributions of this present research is summarized, together with policy recommendations, in Chapter 8.

CHAPTER 2: LITERATURE REVIEW

"I think everyone in the world including Bhutan wants a corruption free society. We want a society where we can be free, where we can be happy with each other, where we don't have to fear". (O2)

2.1 LITERATURE REVIEW STRATEGY

In this chapter, through a systematic literature review, I identify relevant research and research gaps with regards to where and how compliance manifests in e-governance implementation and what have been identified as the compliance determinants. Bryman (2016) lists the following 5 iterative steps to conduct systematic review: 1) statement of scope and purpose; 2) search for existing studies; 3) review of the studies; 4) appraisal of quality and quantity and 5) extraction and synthetization. The systematic review was enabled with access to electronic databases, such as the Web of Science, assisted with keywords, citations, and parameters to narrow the search.

In order to identify the relevant research and research gaps, two rounds of systematic literature review were conducted. The first round aimed to identify instances of compliance and compliance determinants in the Information Systems (IS) and, more specifically, e-governance literature. This round of literature review focused on research and implementation of e-governance initiatives which were designed to control corruption. As the first round of review found little evidence and research done on compliance in the IS and e-governance literature, the second round of literature review explored the compliance literature and how ICT and e-governance initiatives appeared in the context of discussing general compliance and compliance determinants.

The main findings of the first round of systematic literature review are synthesized and analyzed around the key topics of this research in Section 2.2. The findings of the second literature review are then analyzed and presented in Section 2.3. Section 2.4 consolidates the findings of both rounds of literature review and concludes with the combined results of what was found in the literature review as well as the identified research gaps.

2.2 LITERATURE REVIEW: E-GOVERNANCE, COMPLIANCE AND CORRUPTION

Based on the research questions posed in this present research, the first round of systematic literature review identified relevant research and research gaps on where and how compliance was evidenced to manifest in the implementation of e-governance initiatives and the compliance determinants.

In order to develop an overview of the topic and conduct an initial round of literature review, the Web of Science Core Collection was accessed on 2 April 2017. The key words, "e-governance", "e-government", "corruption" and "government*", were used to elicit a broad overview of the topic from the perspectives of governance, institutionalism, information system (IS), and compliance. This search resulted in a selection of 187 articles published since 2005 in selected disciplines of social sciences. The 187 articles were then ranked by the level of citation and screened by the relevance with focus on e-governance/e-government, corruption, compliance, as summarized in Annex 1. Backward and forward referencing was also used to obtain critical case studies, additional research findings and related IS theories.

Figure 2: Overview of the first round of systematic literature review
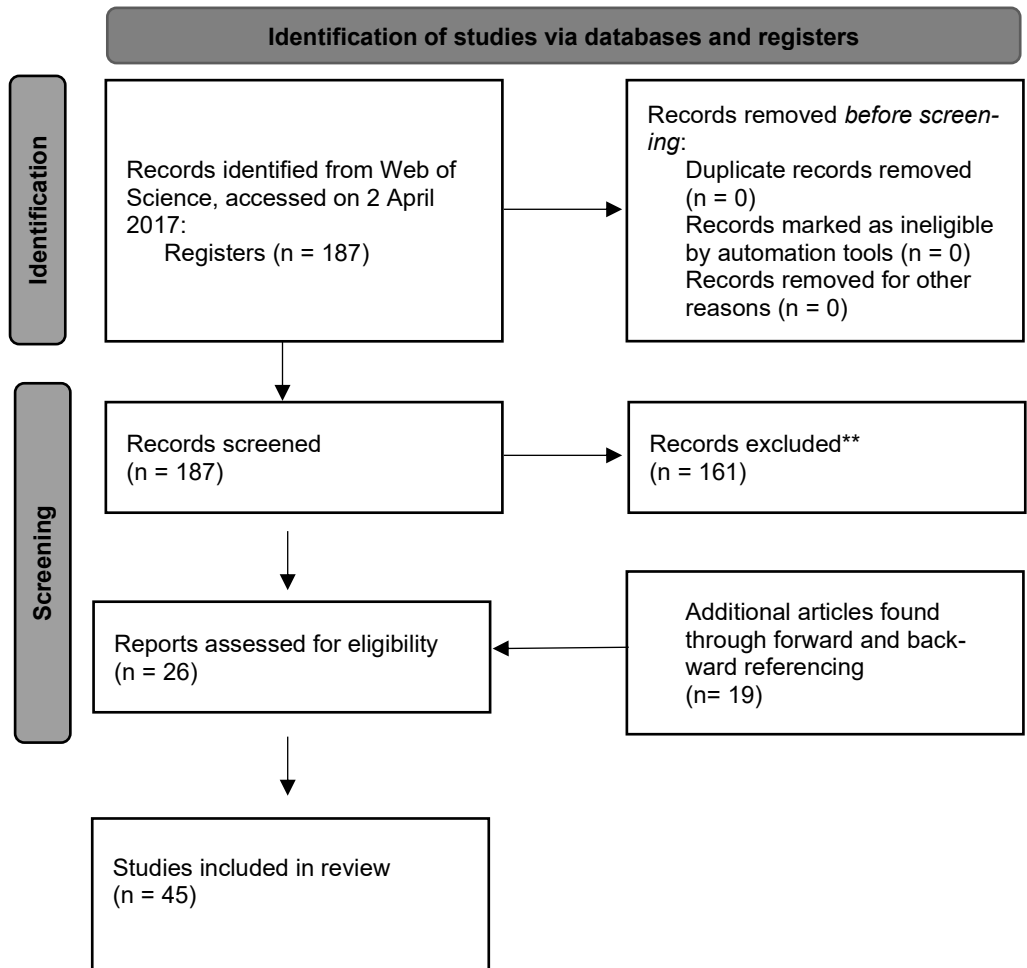
This section groups the relevant articles based on thematic, methodological and theoretical similarities and linkages and presents the findings around the topics of 1) e-governance as a vehicle to reduce corruption in government organizations (Section 2.2.1), 2) empirical evidence between e-governance and corruption (Section 2.2.2), 3) e-governance case studies (Section 2.2.3), 4) openness and e-governance implementation (Section 2.2.4), 5) e-governance and institutions (Section 2.2.5), 6) existing Information Systems (IS) theories (Section 2.2.6) and 7) ownership in IS development (Section 2.2.7). The section concludes with a synthesis of research gaps emanating from the first round of literature review in Section 2.2.8.

2.2.1. E-GOVERNANCE AS A VEHICLE TO REDUCE CORRUPTION IN GOVERNMENT ORGANIZATIONS

This section groups the existing studies and research which demonstrated thematic similarities around the implementation of wide-ranging e-governance initiatives which were designed to reduce corruption. Some articles also investigated the emerging influence of social media on corruption.

On the topic of e-governance as anti-corruption measures, Bertot, Jaeger & Grimes (2010) concluded that ICT-enabled initiatives, such as e-governance, were evidently successful in reducing corruption, especially in areas of taxation and government contracts in larger and wealthier countries. They identified three effective anti-corruption approaches; administrative reform, regulation, and social change. The authors acknowledged that e-government approaches of providing public information as a means to holding government to account would not work in places where censorship and online information filtering were in place. They also stated that "ICT can reduce corruption by promoting good governance, strengthening reform-oriented initiatives, reducing potential for corrupt behaviors, enhancing relationships between government employees and citizens, allowing for citizen tracking of activities, and by monitoring and controlling behaviors of government employees" (p. 265). However, they did not adequately explore the perspectives of government employees in this research. Government officials were not portrayed as active players, despite the bureaucratic acceptance being cited as a key success factor, together with leadership and political will.

Another study by Benson, Torres, Royo & Flores (2012) provided an overview of the use of social media by local administrations in EU countries, emphasizing the importance of corresponding changes in leadership and governance with ICT introduction. Starke, Naab & Scherer (2016) emphasized the importance of social media in putting pressure on government and mobilizing people. The potential exposure of misconducts, as exemplified by the Panama Paper and WikiLeaks, was also identified as an example of the power of social media (Fenster 2012). Bannister & Connolly (2014) noted the emergence of literature on the impact of e-government and the Internet on government corruption, but concluded that it was still at an early stage and expected different ways ICT could have transformative impacts. He then cautioned that not all ICT-inspired transformations were for the better and concluded that there was scope for extensive research into this subject.

The reviewed articles provided the evidence of e-governance initiatives, Internet and ICT which were found effective to control corruption. They also indicated possible factors and channels through which such effects were transmitted. However,

the e-governance initiatives covered in the reviewed articles were mostly imple-mented in OECD countries and with specific e-governance functions. Furthermore, the perspectives of government employee users were found largely missing. Future research could shed light on different contexts and e-governance functions to deepen our understandings.

2.2.2. EMPIRICAL EVIDENCE: RELATIONSHIPS BETWEEN E-GOV-ERNANCE AND CORRUPTION

Another group of articles used similar methodological approaches and provided empirical evidence of the relationships between ICT and corruption. This section reviews the findings of the existing quantitative studies and where and how ICT, and e-governance initiatives, were found effective in reducing corruption.

Shim & Eom (2009) examined ICT and social capital as major factors in reducing corruption in their quantitative study, while another empirical study by Lio, Liu & Ou (2011) analyzed the relationship between ICT and corruption using panel data of 70 countries from 1998 to 2005. The latter concluded that the Internet had statis-tically significant effects on corruption reduction, but the potential was not yet fully realized.

On a similar vein, Elbahnasawy (2014) analyzed the relationships between e-gov-ernment, Internet adoption and corruption using a large panel data. Krishnan, Teo & Lim (2013) also validated their assumption in their quantitative research that e-government initiatives were evidenced to reduce corruption. The relationship was not unidirectional: Aladwani (2016) empirically examined the impact of corruption on e-government implementation through various government institutions, while Starke, Naab & Scherer (2016) analyzed free media, Internet and e-government in addressing corruption.

Andersen (2009) assessed the impact of e-government on control of corruption, us-ing the Worldwide Governance Indicators (WGI) panel data of 149 countries in 1996 and 2006, and found that improvements in e-government had correlating im-provements in the corruption indicator. At the same time, he pointed out the limi-tation of quantitative approach in that there might be general equilibrium effects. E-government was not reducing corruption at the macro level and may be shifting the effect to some other parts of society. The research confirmed that the Organisa-tion of Economic Cooperation and Development (OECD) countries had less cor-ruption with a larger number of e-government implementation than non-OECD countries. Therefore, the importance of analyzing OECD and non-OECD countries

separately was underlined, as e-government seems to have clearer impact on non-OCED countries between 1996 and 2006.

The reviewed articles empirically evidenced the effects of ICT, e-governance and Internet on reducing corruption, using longitudinal and panel data of various sources. However, they also revealed some limitations of quantitative approaches. The empirical evidence of the impact of e-governance on corruption was still scant and the mechanisms of how ICT or e-governance initiatives reduced corruption are not yet fully understood, in particular in non-OECD countries.

2.2.3. E-GOVERNANCE INITIATIVES AND CASE STUDIES

Another group of articles used case studies as research methods and analyzed e-governance implementation in various contexts, including in non-OECD countries. The reviewed case studies provided rich descriptions and contexts where e-governance initiatives were implemented.

A single case study conducted by Kim, Kim & Lee (2009) examined the case of the Online Procedures Enhancement for Civil Application (OPEN) of the Seoul Metropolitan Administration in the Republic of Korea. The authors concluded that regulatory/coercive factors were found most effective to the success of this anti-corruption initiative, guided by the political leadership of the mayor. Other success factors included enabling IT infrastructure, training, resources and Internet literacy among citizens. The case study on OPEN was most interesting, as it illustrated the struggle between the organization's leadership and employees in the introduction and implementation of the system.

In addition, the following e-government case studies were conducted in the developing country context: India by Rana, Dwivedi & Williams et al (2015); Lebanon by Alaaraj & Hassan (2016); Jordan by Al-Madi, Al-Shraideh & Khrais (2016); Cyprus by Sari (2016) and China by Jun, Wang and Wang (2014) and Xinli (2015). While successful case studies have emerged, Heeks (2002) pointed out a high rate of failure in implementing e-government initiatives in developing countries, which he argued was caused by mismatch between design and local user actuality, as evidenced in an example in India (Kumar & Best 2006). Aladwani (2016) argued that corruption itself could be a source of e-government failures, while Kalsi and Kiran (2015) identified resistance by political leaders and bureaucrats as a major challenge.

While providing insights, success factors and evidence in e-governance implementation including in non-OECD contexts, the review also elicited research gaps. Despite the fact that corruption often involves government officials, there was little systematic research found to understand government employee users' perspectives and internal mechanisms of where and how e-governance was effective to reduce corruption.

2.2.4. OPENNESS AND E-GOVERNANCE IMPLEMENTATION

Several articles embedded the discussions of e-governance implementation in various societal factors, such as openness and democracy, which were considered as essential to reducing corruption. The thematically linked articles identified conditions and prerequisites for e-governance initiatives to be effective and successful.

Bhuiyan (2011) pointed out that some regimes in developing countries were not fully open to public scrutiny and engagement. In such a circumstance it is expected that the e-governance introduction would be resisted because it can promote unintended flow of information and openness. Elbahnasawy (2014) noted that the empirical evidence of the impact of e-government on corruption was scant, despite micro-level evidence such as the case of OPEN in the Republic of Korea. Furthermore, citing the reference to the United Nations Development Programme (UNDP), Elbahnasawy asserted that the e-government cases which evidenced a reduction in corruption were largely anecdotal. He suggested for future research to investigate "alternative forms of e-government in combating corruption and the extent to which democracies are likely to create these forms of e-government" (p. 123) as well as the impact of e-government on various forms of corruption independently.

The review identified important considerations and several gaps in the existing literature. Where openness and access to information are limited and people can not hold governments accountable, the effect of e-governance initiatives on control of corruption may also be limited. Future research should take into account the societal factors, such as openness and access to information, especially in the context of non-OECD countries when discussing where and how e-governance initiatives are effective.

2.2.5. E-GOVERNANCE AND INSTITUTIONS

Another group of articles analyzed the existing IS and e-governance research which developed theoretical frameworks to understand and analyze e-governance within organization and institution.

Heeks & Bailur (2007) analyzed 84 articles on e-government and identified several research gaps, such as predominant IS focus, lack of philosophical and epistemological underpinnings, limited empirical studies and general methodological weaknesses. In relation to IS-based e-government models, Heeks (2002) highlighted "relatively poor conception of organizational change" (p.103) in the existing literature. Fountain (2007) noted that existing literature focused on government's efforts to make information public, provide public services online and citizen's reactions to the information and services. She then called for more research into internal mechanics of government through the lenses of formal and informal institutions and advocated for an approach to examine mediating factors between formal and informal institutions, such as "management practices, task structures and operating routines" (p. 3). The organizational, institutional and technological change across various layers of government was termed as "the technology enactment framework" by Fountain. Based on her work, Cordella and Iannacci (2010) developed the e-government enactment framework to examine the interplay among ICT, e-government policy and organizational form/bureaucratic network, while the need for taking into account institutional dynamics was stressed by Lanzara (2009).

E-governance-related organizational and institutional factors which were evidenced effective in reducing corruption included leadership (Kim, Kim & Lee 2009; Kumar & Best 2006; Aladwani 2016; Xinli 2015), quality of managers (Fukuyama 2004; Aladwani 2016), organizational culture (Fountain 2007; Bertot, Jaeger & Grimes 2010; Alaaraj & Hassan 2016), anti-corruption drive (Bhargava 2006), enforcement capacity (Kim, Kim & Lee 2009), internal control (Fountain 2007; Shim & Eom 2009) and regulation (Bertot, Jaeger & Grimes 2010). ICT also developed capacity of staff who performed new tasks and duties for compliance (Giesbrecht, Scholl & Schwabe 2016; UNDESA 2016; Kumar & Best 2006; Jun, Wang & Wang 2014), including what Heeks (2002) called hybrid and improvisation capacity.

The review highlighted the need for more research into internal mechanisms within organization and government as well as the interactions of e-governance initiatives with government employee users. The review also confirmed that there was little research done on compliance in the IS and e-governance literature.

2.2.6. EXISTING INFORMATION SYSTEMS THEORIES

In addition to the above literature, I reviewed the existing IS theories and research which may explain the determinants for using the IT systems among the users by applying back and forward referencing. Rad, Nilashi & Dahlan (2017) conducted a review of literature and classification of research which focused on IT adoption, in particular rejection and acceptance of information systems by users. The authors found that the majority of the research between 2006 and 2015 covered theoretical frameworks, such as technology acceptance model (TAM), diffusion of innovations (DOI), united theory of acceptance and use of technology (UTAUT), theory of planned behavior (TPB), technology-organization-environment framework (TOE), theory of reasoned action (TRA) and Delone and McLean IS success model (ISS) among other theories.

While TAM focuses mainly on technology adoption by users through ease of use and usefulness, DOI emphasizes innovation characteristics. UTAUT has been used to assess technology adoption from 7 main channels, including performance expectancy, social influence, price value and habit. Dwivedi, Rana et.al (2017) found that attitude was a critical factor for IT adoption in their study using UTAUT. TPB is a model which investigates user intention and perceived behaviors (Jokonya 2017), while ToE underlines the importance of innovation, organization and technology. The ISS Model, on the other hand, integrates new dimensions of impact of information systems, delivery of meanings as well as user satisfactions. Acknowledging the popularity of TAM and other theories, Rad, Nilashi & Dalhan (2017) urged the development of new theories to deepen understandings of complex challenges the IS researchers witnessed, including the measurement and assessment of actual system uses, instead of intension to use.

Some of the research applied TAM to determine voluntary and non-voluntary use of technology among users. Hwang, Al-Arabiat & Shin (2015) conducted a critical literature review of studies on mandatory use of technology and acceptance. In a non-voluntary environment, normative influence, attitude, interpretation of mandate were found effective for user's technology adoption, but it was acknowledged that IS literature has not fully accounted for the role of leadership. Based on TAM, DOI and TPB, Shareef, Kumar et.al. (2011) developed the e-Government Adoption Model (GAM) in an empirical study in Canada to assess adoption of technology at different service maturity levels among user citizens.

However, the existing IS models aim to understand and analyze technology acceptance in various environments, which may or may not materialize in action and outcomes beyond intention. Compliance in e-government implementation is more

complex than mere technology adoption among users, which is often seen as linear, causal relationships. If a user accepts prescribed technology with corrupt intent, such technology acceptance and adoption in fact may result in an increase in fraud cases. Furthermore, context and dynamics evolve over times. The existing theories, therefore, do not provide adequate tools to account for dynamic evolution of e-governance implementation and compliance.

2.2.7. OWNERSHIP IN INFORMATION SYSTEMS DEVELOPMENT

For this present research, the case variation is determined by the ownership of e-governance systems. The ownership, defined in this study as funding source (local or donor funding) and development (local or external expert development), was identified as an important factor during a case selection visit to Bhutan between July and August 2019. This section synthesizes and presents the existing literature and empirical evidence of where and how the concept of ownership was found effective in e-governance implementation.

The existing research has evidenced effects of some elements of ownership on system development projects. Gu, Hu & Hemple (2021) analysed the effect of psychology ownership among software development teams on team performance. Similarly, the sense of ownership among users and system development teams was evidenced to have impact on the adoption of various information system (Paré, Sicotte & Jacque 2006; Maruping, M. L., Zhang, X. & Venkatesh, V. 2009). In discussing country ownership and sustainability of health information management systems, Watson-Grant, Xiong & Thomas (2017) identified four dimensions of country ownership (partnership, commitment and responsibility, capacity and accountability). Based on the findings, it is concluded that the concept of ownership is an effective factor in information systems development among system development teams and users alike.

2.2.8. RESEARCH GAPS: E-GOVERNANCE, COMPLIANCE AND CORRUPTION

The first round of systematic literature review aimed to answer the research questions on where and how compliance was evidenced to manifest in the implementation of e-governance initiatives and associated compliance determinants. As Section 2.2 detailed, very few studies were found to have investigated the topic of compliance in the existing IS and e-governance literature.

This first round of literature review identified relevant studies conducted on e-governance and corruption in OCED and non-OECD countries. Although the literature review so far provided valuable evidence, case studies and insights and confirmed the importance of certain factors in implementing e-governance initiatives in government organizations, several research gaps emerged in relation to my research questions:

- Few studies systematically analyzed compliance as a mechanism to explain the phenomena of e-governance implementation (Rana, Dwivedi and Williams et al. 2015; Alaaraj and Hassan 2016; Al-Madi, Al-Shraideh and Khrais 2016; Sari 2016);
- Government employee users of e-governance initiatives are important actors but their perspectives were not adequately researched in existing studies on e-governance (Kim, Kim & Lee 2009; Rana, Dwivedi and Williams et al 2015; Alaaraj and Hassan 2016; Al-Madi, Al-Shraideh and Khrais 2016; Sari 2016; Kumar & Best 2006; Kalsi & Kiran 2015), especially from the compliance perspective;
- Heeks (2002), Fountain (2007), Lanzara (2009), Srivastava, Teo & Devaraj (2016) and Bearfield and Bowman (2017) pointed out a greater need to take into account internal mechanisms and organizational structures to explain the phenomana of e-governance implementation;
- Some of the above cited articles (Kim, Kim & Lee 2009; Rana, Dwivedi and Williams et al 2015; Bearfield and Bowman 2017) assumed that providing access to government information through e-governance initiatives would empower citizens to hold government officials accountable but the existing literature does not fully explain how this happens in developing countries with less institutional and individual capacity (Fukuyama 2004; Grindle 2007).
- Insufficient research has been conducted on how e-governance initiatives could bring about changes within governments without fully functional democratic oversight mechanisms (Andersen 2009; Bertot, Jaeger & Grimes 2010).
- Limitation of quantitative approach was recognized, as there might be general equilibrium effects (Andersen 2009) and we do not know the mechanics of how ICT or e-governance initiatives reduced corruption: in addition, empirical evidence on the impact of e-governance on corruption was scant and anecdotal (Elbahnasawy 2014);
- Insufficient research was conducted systematically on e-governance, compliance and corruption in non-OECD contexts (Bertot, Jaeger & Grimes 2010; Andersen 2009);

- Research on the impact of e-governance and Internet on corruption was at an early stage and more research is needed on different transformative factors (Bannister & Connolly 2014)

The identified research gaps were instrumental in designing the second round of systematic literature review, discussed in Section 2.3, as well as in developing research design, data collection and analysis, detailed in Chapter 3.

2.3 LITERATURE REVIEW: COMPLIANCE AND TECHNOLOGY

The first round of systematic literature review was not successful in identifying relevant research on compliance in the existing IS and e-governance literature in Section 2.2. Based on the identified research gaps, a second round of systematic literature review was conducted with the aim to discern the effect of ICT and e-governance on compliance and where and how such ICT-enabled compliance was evidenced in the existing compliance literature.

In this literature review, an institutional instrument is used as a basis for general compliance and is defined to "lay(s) down the general rules governing the functioning of the organisation". (Amr 2003, p. 129) In explaining institutional instruments, Mingaleva & Mirskikh (2014) identified 1) legislation activities, 2) creation and development of organisations and 3) effective systems for regulation as the constituting factors.

In order to identify the institutional instruments (policies, regulations, strategies, and organizational setups) and the compliance determinants, the Web of Science was accessed for the second round of systematic literature review. The findings of the review are synthesized in Section 2.3. The Section first outlines the strategy for the literature review in Section 2.3.1, followed by the overview of identified articles and studies by region and sectors/functions in Section 2.3.2. Using framework analysis, Section 2.3.3 analyzes the institutional instruments and the associated compliance determinants identified in the existing literature and presented the findings. Section 2.3.4 then discusses the role and effect of ICT and e-governance in the existing compliance literature, which led to the identification of research gaps.

2.3.1. STRATEGY FOR SECOND LITERATURE REVIEW

Using the Web of Science with key words "compliance" and "corruption", 142 relevant articles were found among the relevant categories of journals as of 20 June 2018. The assumption was that a search with specific and narrow key words will not produce any meaningful results and could miss important findings. As my research is inductive in nature, the purpose of this systematic review was to capture a wide range of institutional instruments and compliance determinants which are relevant to my research questions. The overview of the second round of literature review is found in Figure 3.

Figure 3: Overview of the second round of systematic literature review
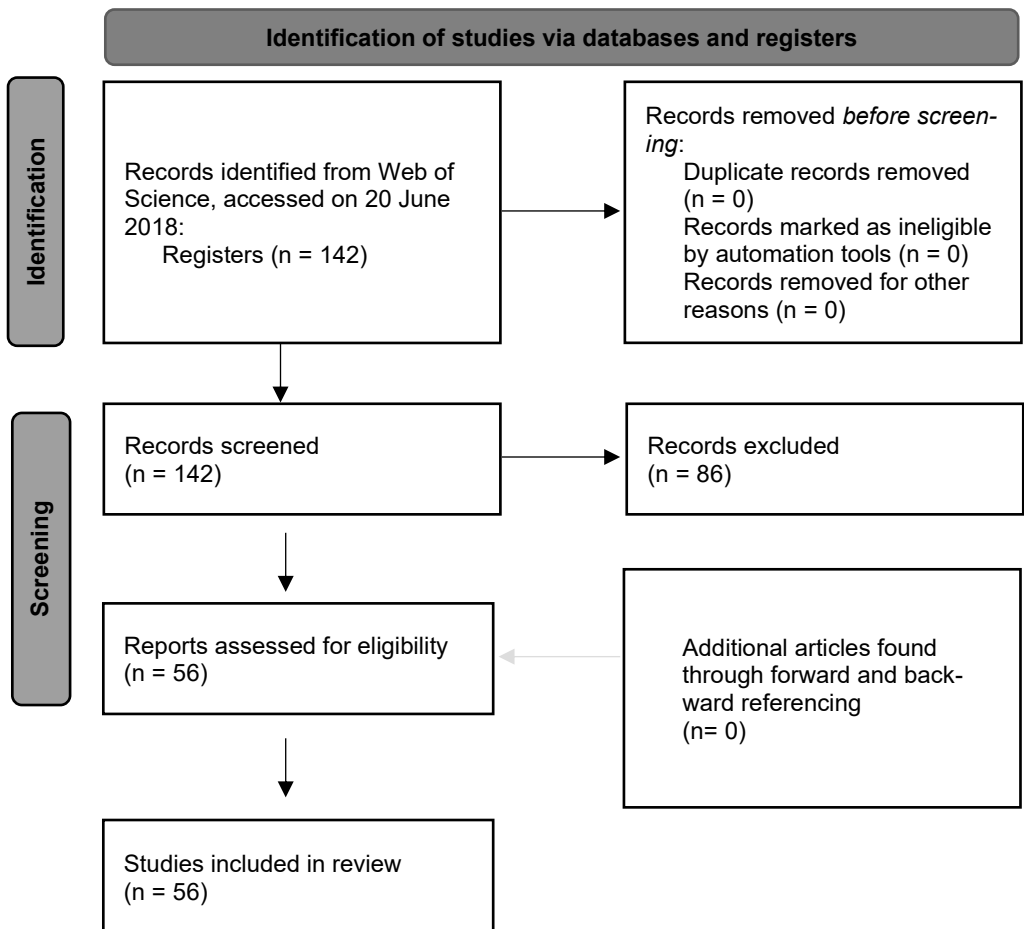
The detailed parameters for the search as well as the comprehensive list and summary of the articles are attached as Annex 2: Literature Review: Compliance and Technology. The 142 articles were manually screened to identify articles which contained the above-mentioned institutional instruments relevant to my research questions and compliance determinants. The manual screening was done based on the review of abstract of each paper and their focus on public sector, compliance, corruption and institutional instruments. Articles, which focused primarily on the private sector and specific technical and legal issues, and those without reference to compliance, government or corruption, were excluded.

As a result of the manual screening, 56 articles were found containing relevant institutional instruments and compliance determinants as summarized in Annex 3. The findings of the included articles were then categorized by theme, attributes of institutional instruments and elements of compliance determinants emanating from the literature review. The selected 56 articles covered national/international compliance cases, different industries/functions and institutional instruments, which are summarized in Table 2 in Section 2.3.3. The reference to ICT is highlighted and marked in red in Annex 3.

2.3.2. OVERVIEW OF SELECTED LITERATURE

The 56 articles cover various geographical regions. It was found that 29% of the articles focused on Europe (16 articles), 21% on Asia (12 articles), 11% on Americas (6 articles), 7 % on Africa (4 articles) and 4% on Oceania (2 articles), thus covering evidence of compliance in wide geographic areas. In addition, 29% (or 16 articles) investigated global and theoretical matters in their articles (Okuda 2020a).

As Table 1 shows, the identified articles investigated various aspects and functions of public administration (41% or 23 articles), enforcement (11% or six articles), international instruments (7% or four articles), taxation (20% or 11 articles) and migration and energy, extractive industry and labour (4% or two articles each). The review also included one article (2%) each on correctional services, military, fisheries, conservation, health and education (Okuda 2020a). Thus, the reviewed articles cover a wide range of regions, functions and incidences of compliance with a likelihood of finding e-governance and ICT effects on compliance, where and how compliance manifests and the associated compliance determinants.

Table 1: Article breakdown by function

Sector (#)	Function (authors)
Cross-cutting functions in public administration (5)	• Public service and administrations (Darden 2008, Batory 2012), • Public procurement (Rodriguez-Arana 2017, Popescu, Onofrei & Kelley 2016) • Dispositional trust in institutions (Alon & Hageman 2017)
Access to information (4)	• Information disclosure (Garcia-Tabuyo et al. 2016, Camaj 2016, Garcia-Tabuyo, Saez-Martin & Caba-Perez 2015, Kotzian 2011)
Anti-corruption control and regulation (14)	• Regulations and red tape (Mendez & Sepulveda 2013) • Audit (Kantsir & Plekan 2017) • Fight against corruption (Tavits 2010, Ozarslan 2016, Rodriguez 2016), • Administrative control at local level (Osipian 2010) • Institution and corruption (Schlenther 2017, Tjen & Evans 2017) • Anti-corruption infrastructure and bodies (Hough 2017, Villagrasa 2016, Bina & Yinghong 2016) • Public official non compliance (De Figueiredo 2013, Samuel & Lowen 2010) • Code of conduct (Michael 2012)
Enforcement (6)	• Cartel (Sokol 2012) • Enforcement and persecution (Galiot 2017) • Rule violations (Akerlof 2016) • Bribery and enforcement (Cleveland et al. 2009, Berghoff 2018, Gilbert & Sharman 2016)
International instruments (4)	• Compliance with European Union (EU) anti-corruption requirements (Yilmaz & Soyaltin 2014) • Foreign Corrupt Practices Act (FCPA) compliance and implementation (Weismann, Buscaglia & Peterson 2014, Jiang 2017) • Special Data Dissemination Standard (Vadlamannati, Cooray & Brazys 2018)
Taxation (11)	• Tax compliance (Ali 2014, Alon & Hageman 2013, Schueth 2012, Rosid, Evans & Binh 2016, Baum, Gupta, Kimani & Tapsoba 2017)

	• Tax evasion (Williams & Horodnic 2015) • Corruption reporting (Timmons & Garfias 2015) • Gender (D'Attoma, Volintiru & Steinmo 2017) • Culture (Varvarigos 2017) • Tax morale (Williams & Krasniqi 2017, Cyan, Koumpias & Martinez-Vazquez 2016)
Migration and energy (2)	• Anti-corruption (Ademmer & Börzel 2013), • Anti-trafficking policies (Cho, Dreher & Neumayer 2014)
Extractive industry (2)	• Compliance with international standards (Sovacool 2016, Papyrakis, Rieger & Gilberthorpe 2017)
Labour (2)	• Wages and harassment (Bac 2018) • Undeclared work (Perez-Magro et al. 2017)
Correctional services (1)	• Prison management (Webb 2012)
Military (1)	• Conscription (Lokshin & Yemtsov 2008)
Fisheries (1)	• Regulation and compliance (Sok 2014)
Conservation (1)	• Regulation and corruption (Sundstrom 2016)
Health (1)	• Compliance with aid requirements (Dietrich 2011)
Education (1)	• Perception of corruption (Van der Wal, Graycar & Kelly 2016)

Source: Okuda 2020a

2.3.3. INSTITUTIONAL INSTRUMENTS AND COMPLIANCE DETERMINANTS

This section analyzes the findings of the second-round literature review, more specifically instances of compliance and compliance determinants. In addition to the instances of general compliance, compliance determinants, associated institutional instruments and the effect of e-governance and ICT were discerned when reviewing the identified articles and studies. The comprehensive list and narratives are found in Annex 3 which highlighted compliance determinants in bold and the effects of ICT and e-governance in red and Table 2 presents the summary of the findings.

For this exercise of categorizing compliance determinants, I selected framework analysis as the method. As Silvermann (2016) mentioned, framework analysis is one of the methods where "close inspection is used to discover, explore and generate an increasingly refined conceptual description of the phenomena" (p.332). The method enables a researcher to collect data (the level of description and summary) and then move on to "exploring and explaining what is 'underlying' or 'broader' (mechanism) or to 'distil' essence, meaning, norms, orders, patterns, rules, structures etc. (the level of concepts and themes)" (p. 332). The method also enables a researcher to establish a thematic and sub-thematic cluster which is to be refined through increasingly abstract codes in an iterative manner.

Using this framework analysis strategy, I categorized institutional instruments (themes) and compliance determinants associated with the identified institutional instruments (sub-themes) in a progressively abstract and iterative manner as presented in Table 2.

Table 2: Summary of institutional instruments and compliance determinants in anti-corruption efforts

Institutional Instruments	Compliance determinants
Access to information	• Collecting and disseminating information about corrupt practices (Cleveland, Favo, Frecka, et al. 2010; Webb 2012; Garcia-Tabuyo, Saez-Marin, Caba-Perez 2015; Alon and Hageman 2017) • Disseminating information on public services (Batory 2012; Schlenther 2017; Ali, Fjeldstad, Sjursen 2014; Camaj 2016; Garcia-Tabuyo, Saez-Marin, Caba-Perez 2016) • Organising public campaigns against corruption (Schlenther 2017; Sokol 2014; Bina and Yinghong 2016; Akerlof 2017)
Anti-Corruption policy, legal and regulatory frameworks	• Anti-Corruption policies, laws and regulations (Schlenther 2017; Tjen and Evans 2017; Webb 2012; Travits 2010; Batory 2012; Popescu, Onofrei & Kelley 2016; Schueth 2012; Yilmaz 2014; Ozarslan 2016)

	• Administrable compliance guidelines and code of conduct (Sokol 2014; Van del Wal, Graycar & Kelly 2016) • Anti-Corruption programmes (Van del Wal, Graycar & Kelly 2016; Tjen and Evans 2017) • Risk assessment and management (Van del Wal, Graycar & Kelly 2016; Cleveland, Favo, Frecka, et al. 2010; Tjen and Evans 2017) • Monitoring programme (Schlenther 2017)
Anti-Corruption-centered organisational reforms	• Anti-Corruption bodies and compliance and disciplinary offices (Schlenther 2017; Tjen and Evans 2017; Van del Wal, Graycar & Kelly 2016; Bina and Yinghong 2016; Villagrasa 2016; Baum, Gupta, Kimani et al. 2017; Hough 2017; Ozarslan 2016) • Resource allocation (Webb 2012; Van del Wal, Graycar & Kelly 2016) • Internal accounting and audit (Kantsir & Plekan 2017; Van del Wal, Graycar & Kelly 2016; Akerlof 2017) • Reducing compliance costs (Tjen and Evans 2017; Bac 2018) • Anti-Corruption Tools (Tjen and Evans 2017; Schlenther 2017; Camaj 2016; Popescu, Onofrei & Kelley 2016; Samuel & Lowen 2010)
Anti-Corruption reporting and enforcement	• Whistle-blower protection (Sokol 2014; Schlenter 2017; Webb 2012; Batory 2012; Gilbert and Sharman 2016; Michael 2012) • Confidential reporting (Schlenther 2017; Akerlof 2017; Ozarslan 2016; Van del Wal, Graycar & Kelly 2016) • Rewards and penalties (Sokol 2014; Batory 2012; Berghoff 2018; Akerlof 2017; Jiang 2017; Galiot 2017; Sokol 2014) • Control of violations (Batory 2012; Tjen and Evans 2017; Bac 2018; Alon and Hageman 2017; Akerlof 2017; Ali, Fjeldstad, Sjursen 2014; Gilbert & Sharman 2016)

	• Detection, investigation and prosecution (Sokol 2014; Webb 2012; Cleveland, Favo, Frecka, et al. 2010; Gilbert and Sharman 2016; Ozarslan 2016)
Public sector reforms	• Efficient judiciary (Williams and Horodnic 2015; Ozarslan 2016; Sundstrum 2016) • Less interactions with government officials, including automation (Baum, Gupta, Kimani et al. 2017; Schlenther 2017; Tjen and Evans 2017) • Institutional and individual capacity (Schlenther 2017; Popescu, Onofrei & Kelley 2016; Sok 2014; Akerlof 2017; Cho, Dreher & Neumayer 2014; Ozarslan 2016; Camaj 2016; Sokol 2014) • Simpler procedures (Tjen and Evans 2017; Schlenther 2017; Popescu, Onofrei & Kelley 2016) • Sectoral reforms (Schenther 2017; Ali, Fjeldstad, Sjursen 2014; Cyan, Koumpias & Martinez-Vazquez 2016; Van del Wal, Graycar & Kelly 2016) • Introducing value-based approach (Webb 2012; Van del Wal, Graycar & Kelly 2016) • Civil service reform (Webb 2012; Cleveland, Favo, Frecka, et al. 2010; Michael 2012; Schueth 2012; Osipian 2010) • Less organisational complexity (Camaj 2016; Mendez & Sepulveda 2013; Darden 2008)
Trust and social norms	• Trust in government (Tavits 2010; Timmons and Garfias 2015; Webb 2012; Williams and Horodnic 2015; Alon and Hageman 2017; Ali, Fjeldstad & Sjursen 2014; Cyan, Koumpias & Martinez-Vazquez 2016; Akerlof 2017) • Trust heuristics (Tavits 2010; Sundstrum 2016) • Peer influence and stigma (Batory 2012; Tavits 2010; Akerlof 2017; Cyan, Koumpias & Martinez-Vazquez 2016; Kotzian 2011;

	Rosid, Evans & Binh 2016; Sundstrum 2016; Ali, Fjeldstad & Sjursen 2014) • Leadership (Webb 2012; Schlenther 2017) • Individual motivation (Tavits 2010; Webb 2012; D'Attoma, Volintiru & Steinmo 2017: De Figueiredo 2013; Rosid, Evans & Binh 2016; Williams & Krasniqi 2017) • Organisational culture (Sokol 2014; Webb 2012; Schlenther 2017; Osipian 2010) • Training and education (Schlenther 2017; Cleveland, Favo, Frecka, et al. 2010; Tjen and Evans 2017; Cyan, Koumpias & Martinez-Vazquez 2016)
International instruments	• Role of foreign entities, such as companies (Schlenther 2017; Dietrich 2011) • International conventions and foreign laws and legislations against corruption (Schlenther 2017; Jiang 2017; Cleveland, Favo, Frecka, et al. 2010; Gilbert and Sharman 2016; Ozarslan 2016; Popescu, Onofrei & Kelley 2016; Buscaglia & Peterson 2014) • International standards (Papyrakis, Rieger and Gilberthorpe 2017; Sovacool et al. 2016; Vadlamannati, Cooray & Brazys 2018; Camaj 2016; Garcia-Tabuyo, Saez-Marin, Caba-Perez 2015)

Source: Okuda 2020a

The thematic analysis identified seven institutional instruments, which are broadly categorized into six domestic and one international institutional instruments and associated compliance determinants. The domestic institutional instruments were found inter-linked with each other, and focus on institutional and organizational setups, policy and regulatory frameworks, enforcement, reporting, and general reforms, supplemented with more social aspects of trust and norms. The international institutional instrument is associated with the implicit and explicit presence of foreign entities, interactions, frameworks in the country. In the case of e-governance implementation, the international instrument may manifest in the form of donor funding as well as the use of external experts in system development.

There were 32 compliance determinants identified with domestic institutional instruments, while there were three compliance determinants associated with the international institutional instrument. Among them, ICT-enabled compliance determinants, such as the role of Internet in disseminating information on public services as well as IT systems such as financial management, payment, procurement and taxation, were referenced in some studies, but e-governance initiatives and ICT did not appear as a main compliance determinant based on the findings of this second round of literature review.

The identified compliance determinants will inform the selection of case study initiatives and help develop interview instruments, which will be discussed in more detail in Chapter 3 on the methodological orientation. Furthermore, the compliance determinants in Table 2 will be used to compare the findings of case study initiatives against the existing literature and determine the uniqueness and salient features of case study country and initiatives in Chapter 7.

2.3.4. RESEARCH GAPS: ROLE OF ICT AND E-GOVERNANCE IN COMPLIANCE LITERATURE

This section elaborates how ICT and e-governance were featured in the existing compliance literature, which again confirmed the lack of literature and evidence to answer my research questions. Several compliance studies made references to ICT and e-governance, which are found in Annex 3 and discussed in Section 2.3.3, but there were few studies which conducted systematic review on the subject.

DeNardis (2010) examined legal and executive instruments which need to be put in place to ensure operational compliance for e-governance interoperability. Other means to enhance compliance were identified as budgets, incentives/bonuses, peer working group and compliance monitoring by chief executive officers in the article. Peristeras & Tarabanis (2004) emphasized the control aspect of compliance in the implementation of Governance Enterprise Architecture of e-government initiatives and how to treat non-compliance. Based on the assumption that ICT improves government efficiency and reduces corruption by curtailing the discretionary power of government officials, Samuel & Lowen (2010) examined the relationships between bribery, compliance and social welfare through a Principal-Supervisor-Agent model. Based on the findings, the authors concluded that ICT can substitute or complement anti-corruption policy.

The existing literature thus helped provide initial insights into compliance and the linkage between compliance and ICT/ e-governance. However, the existing articles focus more on technical compliance of e-governance initiatives, such as interoperability and enterprise architecture (DeNardis 2010; Peristeras & Tarabanis 2004) than internal mechanisms of e-governance implementation, although the studies were conducted in relation to corruption.

The second round of literature review was instrumental in obtaining valuable insights, instances of general compliance, institutional instruments and compliance determinants. However, it also revealed that there was little evidence and literature which help answer my research questions, namely where and how compliance manifests in e-governance implementation and associated compliance determinants.

2.4 RESEARCH GAP SUMMARY

Based on the discussions in Section 2.2 and 2.3, this section synthesizes the research gaps identified in the first and second rounds of systematic literature review.

The first round of literature review analyzed 45 articles and studies on compliance and corruption in the existing IS and e-governance literature. The literature review found that few studies investigated compliance in the IS and e-governance literature, although there was a sizeable body of studies which evidenced the effect of e-governance and ICT on reduction in corruption through empirical research and case studies. In particular, there was a lack of research on internal mechanisms, government employee perspectives and understanding of non-OECD contexts in discussing e-governance and corruption.

The second round of literature review then focused on 52 relevant articles from the existing compliance literature and identified general compliance determinants as well as some effects of ICT and e-governance on compliance. Against the seven domestic and international institutional instruments, 35 compliance determinants were identified, as listed in Table 3. While these determinants will be useful in selecting case studies and developing interview instruments, the second round of the literature review did not find systematic and relevant studies on compliance in e-governance implementation.

The empirical research of this present research will use the concept of compliance among government employee users to understand the internal mechanisms of e-governance within the overall framework of anti-corruption efforts. The case study

50

country will be purposefully selected from non-OECD countries. Based on the research gaps identified in Chapter 2, Chapter 3 discusses research methodology, method and design in more detail.

> "For a small country, as we function within limited resources, the efficiency of our governance will diminish should we not counter the prevalence of corruption." – Mr. Lotey Tshering, Prime Minister of the Royal Government of Bhutan (Anti-Corruption Commission 2019, p. 4)

This chapter explains the methodological orientation and research design, which enables to answer the research questions:

How does compliance manifest in e-governance implementation?

What are the determinants of compliance among government employee users in e-governance implementation?

Section 3.1 presents a methodological orientation of this present research and justification for the selection of research method, followed by research strategy and design using comparative case study in Section 3.2. The selection criteria for case study country are then discussed in Section 3.3. Based on the criteria, Bhutan was selected as the case study country. Section 3.4 then describes Bhutan in more detail. The case study initiatives are selected among the 30 initiatives listed in the Bhutan E-government Master Plan (Ministry of Information and Communication 2014) based on the pre-set criteria. The Asset Declaration System (ADS) of the Anti-Corruption Commission (ACC) and the *electronic* Public Expenditure Management System (*e*-PEMS) of the Ministry of Finance (MoF) are selected based on the criteria in Section 3.5. Section 3.6 then discusses the methods and procedures used to conduct the research. The chapter concludes with the discussion on steps and approaches to be taken for data analysis and interpretation in Section 3.7.

3.1 METHODOLOGICAL ORIENTATION

This exploratory research uses qualitative inductive methods, based on constructivist/interpretivist approach (Bryman 2016; Moses & Knutsen 2012; Matthews & Ross 2010). The phenomena of compliance are not always materially observable and "should be considered social constructions built up from the perceptions and actions of social actors" (Bryman 2016, p.28). Furthermore, compliance is not static:

it is constructed and reconstructed as determinants and actors evolve in dynamically evolving context to focus on "people's interpretations and understandings of social phenomena and their own actions" (Matthew 2010 p. 28).

The phenomena surrounding e-governance compliance among government officials is complex and relevant empirical data are not readily available. An inductive research strategy is suitable to "establish limited generalizations about the distributions of, and patterns of association amongst, observed or measured characteristics of individuals and social phenomena" (Blaikie 2010, p. 83). Additionally, the literature review in Chapter 2 revealed that the mechanism of how e-governance initiatives work through the lens of compliance has not been sufficiently researched, in particular, from government employee users' perspectives and in the context of non-OECD country. According to Blaikie (2010), "(e)xploratory research is necessary when very little is known about the topic being investigated, or about the context in which the research is to be conducted" (p.70).

3.2 RESEARCH STRATEGY AND DESIGN

The research questions aim at identifying possible multiple determinants of compliance and use multiple sources of evidence. A case study approach is selected as the research design. According to Yin (2013), a case study is appropriate when the inquiry "copes with the technically distinctive situation in which there will be many more variables of interests than data points, and as one result relies on multiple sources of evidence, with data needing to converge in a triangulation fashion" (Yin 2003: p. 13-14).

Additionally, comparative case study fits the criteria developed by Goodrick (2014) as it is:

- exploratory, inductive research with little empirical evidence;
- a complex phenomenon, where the boundary between context and phenomenon is not known;
- research, which benefits from rich description and an in-depth interpretation of the case, and;
- intended to explain why and how in addition to the outcomes.

More specifically, a synchronic comparison for cross-case variation at one point in time (Panke 2018) is found suitable. In my research, a multiple case study will help provide a detailed description of each case and theme within a case and across cases (cross-case analysis) for interpretation (Creswell & Poth 2016, p.100). Cross-

case questions for a multiple case study could help contrast differences and identify similarities across cases, initiatives and organisations under investigation (Yin 2013). In each case, converging evidence is sought from facts and conclusions, which will then inform the conduct and focus of the other cases (Okuda 2020a).

3.3 CASE STUDY COUNTRY SELECTION CRITERIA

As Chapter 2 has shown, the existing literature has not produced sufficient empirical evidence on e-governance implementation in non-OECD, developing countries to answer my research questions. Non-OECD countries are generally characterized by a lower level of control of corruption than OECD countries, as demonstrated in Table 3. For this present research, it is important to understand the level and nature of compliance and the determinant factors in a non-OECD country, where institutional, human and financial resources are more constrained and phenomena of compliance can be observed in e-government implementation (Okuda 2020a).

In this research, the following factors determined the selection of a case study country (Okuda 2020a):

- Country with High Control of Corruption (CC) Indicators of the Worldwide Governance Indicator (WGI): compliance was found associated with the existence of various CC frameworks, instruments and infrastructure, such as anti-corruption infrastructure and bodies (Hough 2017, Villagrasa 2016, Bina & Yinghong 2016) and enforcement (Cleveland et al. 2009, Berghoff 2018, Gilbert & Sharman 2016), as detailed in Chapter 2.
- Country in the category of medium-level e-government development, with the assumption that the majority of high-level e-government countries are OECD countries with many other compliance determinants in place and their compliance level may be high with or without e-governance initiatives, while low-level e-government countries may not have a sufficient number of operational e-government initiatives in place where compliance can be observed.
- Case study country should be implementing a variety of e-governance initiatives for at least 5 years to enable the examination of compliance determinants.
- Case study country should have improved ranking in various corruption indices and surveys, such as Transparency International perception surveys, which indicates the likelihood of finding instances of compliance.

- This qualitative research intends to select an English-speaking country which is accessible and open to research and provides a safe environment, without the need for interpretation.

Table 3 mapped all countries included in Worldwide Governance Indicators (WGI) 2016 on the vertical column and United Nations Department of Economic and Social Affairs (UNDESA) E-government Survey (EGOV) 2016 on the horizontal row. Countries were categorised either in WGI CC High (with scores higher than 0.5) or Low (with scores lower than 0.5). The EGOV categorization of countries followed the approach used in the UNDESA Survey (UNDESA 2016) for the selection of case study country in this present research (Okuda 2020a).

Table 3: Matrix of countries along WGI CC and EGOV

	WGI CC High	WGI CC Low
EGOV Very High	AUS, AUT, BHR, BEL, CAN, DNK, EST, FIN, FRA, DEU, ISL, IRL, ISR, JPN, KOR, LTU, LUX, NLD, NZL, NOR, SGP, SNV, ESP, SWE, CHE, ARE, GBR, USA	ITA
EGOV High	ADO, BHS, BRB, BRN, CHL, CRI, HRV, CYP, CZE, GEO, GRD, HUN, JOR, LVA, LIE, MYS, MLT, MUS, OMN, POL, PRT, QAT, SAU, SYC, SVK, UGY	ALB, ARG, ARM, AZE, BLR, BIH, BRA, BGR, CHN, COL, ECU, GRC, KAZ, KWT, LBN, MEX, MNG, MNE, MAR, PER, PHL, MDA, ROM, RUS, SRB, ZAF, LKA, THA, MKD, TTO, TUN, TUR, UKR, UZB, VEN, VNM
EGOV Medium	ANT, BTN, BWA, CPV, CUB, DMA, KIR, LSO, FSM, NAM, RWA, WSM, SEN	DZA, AGO, BGD, BLZ, BOL, KHM, CMR, DOM, EGY, SLV, ETH, FJI, GAB, GHA, GTM, GUY, HND, IND, IDN, IRN, IRQ, JAM, KEN, PRK, KGZ, LAO, LBY, MDV, MHL, NRU, NPL, NIC, NGA, PAK, PLW, PAN, PRY, SDN, SUR, SWZ, SYR, TJK, TZA, TMP, TGO, TON, TKM, TUV, UGA, VUT, ZMB, ZWE

	AFG, BEN, BFA, BDI, CAF, TCD, COM, CIV, DJI, GNQ, ERI, GMB, GIN, GNB, HTI, LBR, MDG, MWI, MLI, MRT, MOZ, MMR, NEG, PNG, STP, SLE, SLB, SOM, SSD, YEM
EGOV Low	

Source: compiled by author (Okuda 2020a) based on data from WGI 2016 at https://datacatalog.worldbank.org/dataset/worldwide-governance-indicators and from UNDESA E-government Survey 2016 at https://publicadministration.un.org/egovkb/en-us/Reports/UN-E-Government-Survey-2016

Out of 13 countries in the category of Medium EGOV/High CC in Table 3[2], Bhutan, Botswana, Lesotho and Samoa meet the criteria in the order of suitability, also based on the country ranking of Transparency International Perception Survey 2019[3] and language requirements. All countries were considered carefully against the pre-set criteria, before the case study country was selected. According to the Bhutan E-government Master Plan (Ministry of Information and Communication 2014), the country has been implementing e-government initiatives for more than five years, with the objective of promoting ICT for good governance. Botswana has developed its e-government strategy 2015-2021[4], while Samoa and Lesotho do not have approved e-government strategies. Unlike the master plan in Bhutan, Botswana's e-government strategy does not focus on anti-corruption or good governance as an objective, which makes Botswana less compelling as a case study country for this present research. The Bhutanese government provided access and supported the research design. Based on suitability and feasibility, the case of Bhutan was selected.

3.4 BHUTAN AS A CASE STUDY COUNTRY

This section describes Bhutan as the case study country and provides the overall context. Bhutan is a kingdom, clasped in the Himalayan mountains, with a population of about 736,000 people (National Statistical Bureau 2018) that are governed under the constitutional democratic monarchy. It is categorised as a Least

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[2] These 13 countries are Netherlands Antilles, Bhutan, Botswana, Cape Verde, Cuba, Dominica, Kiribati, Lesotho, Federated States of Micronesia, Namibia, Rwanda, Samoa and Senegal.

[3] The improvements in ranking is most pronounced in Bhutan (25th), Botswana (34th), Lesotho (85th) and Samoa (NA)

[4] Available at https://www.ellipsis.co.za/wp-content/uploads/2016/07/Botswana.pdf

Developed Country (LDC), on the path to graduation from the LDC status in 2023 (Bhutan Broadcasting System 2018).

His Majesty the King, Jigme Khesar Namgyel Wacngchuck, assumed the throne as the fifth King in 2008 (Wangchuck 2017). His father, the fourth King, Jigme Singye Wangchuck, initiated various modernization efforts, including the concept of Gross National Happiness (GNH) to guide the government's development efforts, instead of Gross National Income or Gross National Product (Mitra & Jeong 2017). Introduced in 1972, GNH aims to view development in a holistic manner, encompassing "(1) equitable socio-economic development; (2) preservation and promotion of culture, (3) environmental conservation and sustainability and (4) good governance" (Allay 2016, p.119).

What is also unique about Bhutan is that democratization was initiated by the monarchy. The fourth King devolved his executive power to the elected cabinet in his Royal Edict called Kasho in 1998, which led to the first National Council election in 2007 and National Assembly election in 2008 (Sebastian 2015). The country's constitution was enacted in the same year 2008 (Gallenkamp 2013). The latest national election of 2018 led to the formation of Cabinet under the current Prime Minister, Dr. Lotay Tshering. Under the leadership of the Prime Minister, there are 10 ministries in the government: Agriculture and Forest, Economic Affairs, Education, Finance, Foreign Affairs, Health, Home and Cultural Affairs, Information and Communications, Labour and Human resources, and Works and Human Settlement. (Wachgchuk 2017)

The national language of Bhutan is Dzongkha and English is widely spoken and used in township and schools. In addition to Dzongkha, there are three dominant languages: Bumthangkha in central Bhutan, Tshanglakha in eastern Bhutan and Lhotshamkha, or Nepali, in the South (Wangchuk, 2017).

Bhutan has 20 districts called Dzongkhag as shown in Image 1. Each Dzongkhag is then divided into block or Gewog and sub-district of Dungkhag. The district administrator is called Dzongda. Dzongda is responsible for government officials in each sector, such as administration, finance, education, agriculture and health. The second level local administrative unit is called Thromde. The Bhutanese parliament consists of three pillars: His Majesty, National Council and National Assembly. (Wancghuk 2017)

Image 1: Map of Bhutan
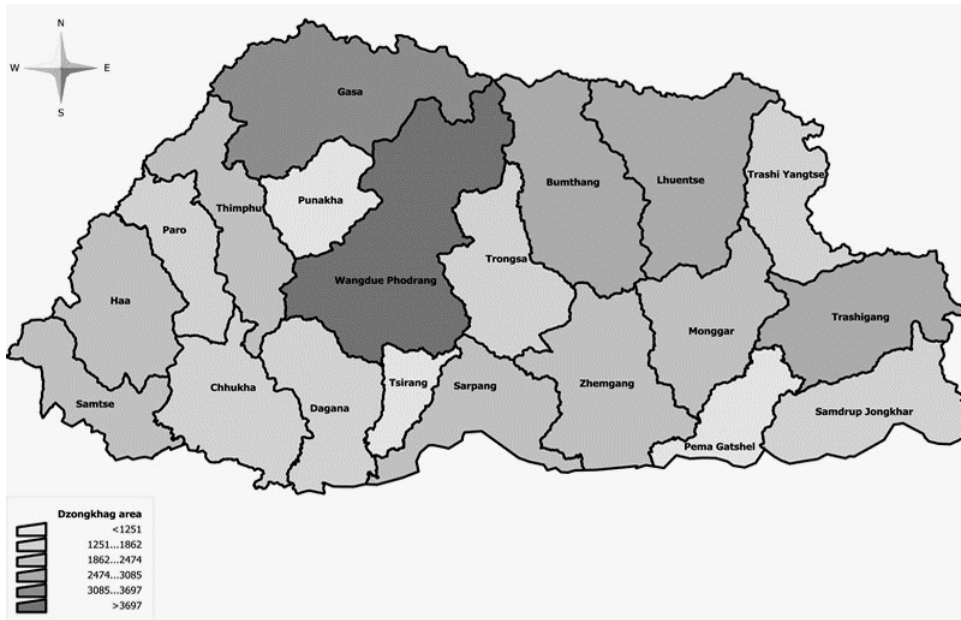
Source: National Statistics Bureau of Bhutan at http://www.nsb.gov.bt/map/the-matic/dzongkhag.php?id=26

Based on the data from the corruption perception surveys of Transparency International (TI), it is clear that Bhutan scores high on the ranking. Despite being an LDC, Bhutan is ranked 25th out of 180 countries assessed in the 2019 TI Corruption Perceptions Index[5]. In TI's regional analysis, Bhutan was compared with five other countries in the region (Bangladesh, Indonesia, Maldives, Pakistan and Sri Lanka) on the strength of their anti-corruption agencies (Transparency International 2017). Bhutan was scored the highest among the six assessed countries in four out of the eight indicators of legal independence, financial and human resources, detection and investigation, prevention, education and outreach. What it scored low was in the public perceptions and accountability and oversight (Okuda 2020a).

In terms of the ICT infrastructure, Bhutan has expanded the Internet usage, fixed and mobile broadband networks across the countries despite the mountainous terrain. However, while Internet users and mobile subscribers have increased dramatically, the fixed broadband networks are only slowly expanding as shown in Table

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[5] https://www.transparency.org/en/cpi/2019/index/btn, accessed on 17 February 2021.

4, 5 and 6 (Okuda 2020). The lack of sufficient Internet connectivity was mentioned as a bottleneck by users of the ADS, as detailed in Section 4.5.

Table 4: The number of Internet users in selected countries in South Asia from 2000 to 2017

	Percentage of Individuals using the Internet					
	2000	**2005**	**2010**	**2015**	**2016**	**2017**
Bangladesh	0.07	0.24	3.70	14.40	18.02	15.00
Bhutan	0.40	3.85	13.60	39.80	41.77	48.11
India	0.53	2.39	7.50	17.00	22.00	34.45
Nepal (Republic of)	0.20	0.83	7.93	17.58	19.69	34.00
Sri Lanka	0.65	1.79	12.00	12.10	16.40	34.11

Source: ITU world telecommunications indicators, at https://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx, accessed on 10 February 2020

Table 5: The number of mobile-cellular telephone subscribers per 100 in selected South Asian countries, 2000-2018

	Mobile-cellular telephone subscriptions per 100 inhabitants						
	2000	**2005**	**2010**	**2015**	**2016**	**2017**	**2018**
Bangladesh	0.22	6.47	46.03	84.08	86.08	94.53	100.24
Bhutan	0.00	5.55	57.52	92.84	94.80	98.00	93.26
India	0.34	7.85	60.94	76.41	85.15	87.32	86.94
Nepal (Republic of)	0.04	0.88	34.04	101.85	117.81	130.63	139.45
Sri Lanka	2.29	17.20	85.68	114.31	122.72	133.47	142.65

Source: ITU world telecommunications indicators, at https://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx, accessed on 10 February 2020

Table 6: The number of fixed broadband subscribers per 100 inhabitants in selected South Asian countries, 2000-2018

	Fixed-broadband subscriptions per 100 inhabitants					
	2005	2010	2015	2016	2017	2018
Bangladesh		0.28	3.13	4.17	4.57	6.34
Bhutan		1.27	3.83	2.24	2.24	1.43
India	0.12	0.89	1.29	1.41	1.33	1.34
Nepal (Republic of)		0.22	1.12	0.82	1.82	2.82
Sri Lanka	0.11	1.13	2.99	4.24	5.78	7.27

Source: ITU world telecommunications indicators, at https://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx, accessed on 10 February 2020

When the implementation of e-government initiatives started, government employee users raised various concerns. Some of the reported concerns here form the context and are related to challenges the case study initiatives were expected to address (Okuda 2020a). They ranged from the need for reliable Internet connectivity, back up of sensitive online documents and cybersecurity to proper infrastructure in offices in earlier years (Kuensel 2016b). Other issues emerging in the course of e-government implementation included lack of coordination for implementing ICT initiatives, low adoption rate among government agencies, lack of sufficient budget and human resource capabilities. A policy was suggested to be developed to provide clear guidance in coordination and implementation of e-government initiatives. Such a guidance was expected to enable the government to leverage existing and emerging technologies and avoid multiple and redundant investments and infrastructure (Kuensel 2017a).

During the course of conducting this present research, I found only one research paper on e-governance conducted on Bhutan. Miyata (2011) examined the vehicle registration system developed by the Road Safety and Transport Authority (RSTA) of the Ministry of Information and Communication (MoIC) of Bhutan and its

impact, including on corruption, in the country. She concluded that governance benefits outweighed cost efficiency, as computerisation in a small LDC such as Bhutan is costly. While the system was not evidenced to reduce costs, survey respondents stated that the time needed for registration was reduced and adherence to rules increased significantly (Okuda 2020a).

Due to the fact that there is an academic gap and Bhutan is a good case to study e-governance and compliance, this present research is expected to make a good scholarly contribution. Since there are very few studies conducted on e-governance in Bhutan before, it adds value both academically to deepen an understanding of e-governance and compliance, and societally as it informs the government of Bhutan and ICT for development practitioners of compliance as an important conduit to consider.

3.5 CASE STUDY INITIATIVES

This section discusses the selection criteria and process of selection of case study initiatives in Bhutan. The Royal Government of Bhutan developed its first E-government Master Plan in 2014 (Ministry of Information and Communication 2014), but some e-governance initiatives dated earlier than 2014. The Master Plan was developed with the objective of achieving Gross National Happiness (GNH) and promoting ICT for information society, good governance and sustainable socio-economic development in the country (Okuda 2020a).

For this present research, the case variation is driven by the ownership of systems. The factor was identified during a case selection visit to Bhutan between July and August 2019. Several key informants indicated that the ownership of the initiatives in the forms of 1) government or external funding and 2) local or external system design and implementation of e-governance initiatives could be the key determinants of compliance, with possible influence of size and complexity of implementing and user organizations. Based on the literature review presented in Section 2.2.7, the use of two dimensions of ownership (funding and design/implementation) in this research as case study initiative selection criteria is aligned with the existing research findings and therefore is justified.

Therefore, the case study initiative selection was finalised, taking into account the ownership factor, as shown in Figure 4.

Ownership	
Local	Case 1
Donor-funded	Case 2

Constant factors in the environment include political stability, national development plan, general ICT connectivity, macro-level fiscal stability, quality of overall political leadership.
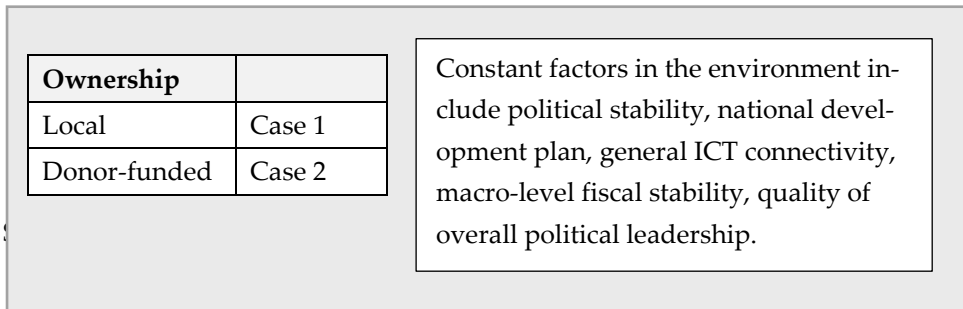
Source: Okuda (2020a)

This case study design maintains constant several factors, such as political stability, national development plan, general ICT connectivity, macro-level fiscal stability and quality of overall political leadership. With the introduction of ownership as a case selection criterion, the case study presents a most similar systems design with most different ownership structure. The compliance levels of the case study initiatives are first assessed, based on which compliance drivers are inductively explored (Panke 2018) to identify the most likely factors which explain the phenomena of compliance.

To fit the most similar systems design, we select one case with local ownership and one case with donor ownership, within the most similar government setting of Bhutan. The case study initiatives were selected from the 30 e-government initiatives listed in the Bhutan E-government Master Plan. The initiative had to have the following elements to be eligible as a case study initiative to ensure a most similar system, with most different case, from which one local and one donor funded case would be selected (Okuda 2020a):

1) Initiatives which are not for policy or strategy development;
2) Initiatives which are not infrastructure, facilities or hardware-related;
3) Initiatives with an objective of increasing transparency and reducing corruption;
4) Initiatives which are not designed for the entire government, so as to identify e-governance managers and government officials within a ministry or agency at the institutional level;
5) Initiatives which process transactions within the government;
6) Sectors where corrupt behaviors were evidenced in the literature review in Chapter 2;

7) One initiative implemented with national and local resources (local ownership) and the other with donor funds (donor-funded ownership);

8) The implementing agencies agree to take part in the research.

In this context, the below Table 7 tabulates the steps taken to identify eligible initiatives out of the 30 e-government initiatives listed in the Bhutan E-government Master Plan (Okuda 2020a);

- 22 initiatives relate to cross-sectoral, infrastructure, data and service facility and policy development, identified in column (1), and therefore eliminated as not relevant to my research questions.

- The remaining 8 sectoral initiatives focus on providing applications and services for transactions in various sectoral ministries, as show in column (2) and

- Further reviewed against the findings of the literature review on compliance, as detailed in Chapter 2, in column (3) which resulted in 5 initiatives.

Table 7: List of 30 e-government initiatives listed in the Bhutan E-Government Master Plan

Name	Responsible Agency	Cross-sec-toral (1)	Sec-toral ser-vices (2)	Lit re-view (3)
P1. National Broadband Network (last mile)	DITT/MoIC[6]	x		
P2, Government Intranet (TWAN[7])	DITT/MoIC	x		
P3. BhutanCIRT*	DITT/MoIC	x		
P4. e-Government Policy	DITT/MoIC	x		
P5. Telecom and Broadband Policy	DITT/MoIC	x		
P6. ICM[8] Act	DoIM[9]/DITT/MoIC	x		
P7. Parenting of ICT Professionals	DITT/MoIC	x		
P8. Development of Leadership and non-ICT Professionals	DITT/MoIC, Chiphen Rigpel**	x		
P9. ICT Masterplan for MoE	MoE[10]	x		
P10. ICT Masterplan for MoF	MoF[11]	x		
P11. ICT Masterplan for Health	MoH[12]	x		

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[6] Department of Information Technology and Telecommunication, Ministry of Information and Communications
[7] Thimphu-wide Area Network
[8] Information communications and Media
[9] Department of Information and Media
[10] Ministry of Education
[11] Ministry of Finance
[12] Ministry of Health

P12. ICT Masterplan for Agriculture	MoAF[13]	x		
P13. ICT Masterplan for Tourism	TCB[14]	x		
P14. e-GIF[15]	DITT/MoIC	x		
P15. Common Data Hubs	DITT/MoIC	x		
P16. Common Systems (Govt email, e-Procurement etc)	Respective System Owners	x		
P17. Government Data Centre	DITT/MoIC	x		
P18. G2C Services	G2C***, DITT/MoIC	x		
P19. G2B[16] Services	MoEA[17]	x		
P20. Natl. e-Commerce Framework	MoEA	x		
P21. Public Financial System (MYRB[18], PEMS[19], PLaMS[20])	MoF		x	x
P22. E-Medical Records, Health Mgmt Info System	MoH		x	x
P23. Civil Registration System (AFIS[21], bilingual)	DCRC/MoHCA[22]		x	
P24. Labornet, Job Portal (Enhancement)	MoLHR[23]		x	
P25. GIS[24] Digitised Road Network Map& GIS-based maps	MoWHS[25]	x		
P26. Intelligent Transport System	RSTA[26]/MoIC		x	
P27. Corruption Compliant Mgt System	ACC[27]		x	x
P28. Terrestrial Network	BBSC[28]	x		
P29. Audit Information Mgt System	RAA[29]		x	x
P30. e-Filing System for Judiciary	Royal Court of Justice		x	x

Source: Okuda 2020a

* Cyber Incident Response Team

** This is a project supported by the Government of India for human capacity development in all sectors.

*** Government-to-Citizen (G2C) project located in the Cabinet Secretariat: available at https://www.citizen-services.gov.bt/home

From the eligible cases, when exploring the possibilities for the fieldwork, the Royal Court of Justice, Ministry of Health and Royal Audit Authority could not be approached to provide access to examine their systems and therefore the initiatives

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[13] Ministry of Agriculture and Forests
[14] Tourism Council of Bhutan
[15] eGovernment Interoperability Framework
[16] Government-to-Business
[17] Ministry of Economic Affairs
[18] Multi-Year Rolling Budget
[19] Public Expenditure Management System
[20] Planning and Monitoring System
[21] Automated Fingerprint Identification System
[22] Department of Civil Registration and Census, Ministry of Home and Cultural Affairs
[23] Ministry of Labour and Human Resources
[24] Geographic Information System
[25] Ministry of Works and Human Settlement
[26] Road Safety and Transport Authority
[27] Anti-Corruption Authority
[28] Bhutan Broadcasting Service Corporation
[29] Royal Audit Authority

are not included in the Table 8 for comparison. In this context, my research selected two initiatives (P21 and P27 in the Table 7), namely 1) online ADS[30] of the Anti-Corruption Commission (ACC) and 2) *e-PEMS* of the Ministry of Finance (MoF) which held the required variation in terms of ownership. While the government funded and managed ACC's online ADS, a multi-donor fund, administered by the World Bank, funded and technically supported *e*-PEMS (Okuda 2020a). The ADS was developed by the government employees, while the *e*-PEMS recruited an external expert to advise the system design and assist the development.

Table 8: Comparison of identified case study initiatives

	Local ownership	Donor-funded ownership
Initiative/Implementing agency	Online ADS/ ACC	e-PEMS/ MoF

Source: Okuda (2020a)

3.6 DATA COLLECTION

This section details the methods and procedures of collecting the data. Data collection was planned through document analysis, observations and semi-structured interviews, which are expected to render a broader account of events and behaviours and develop a converging line of inquiry (Yin 2013). The data collection will be split into three components: 1) information system descriptions based on document analysis and observations; 2) obtaining evidence of compliance among government employee users through semi-structured interviews and observations; and 3) data triangulation using document analysis (newspaper articles, project documents, information on the Internet among others) and external expert views (Okuda 2020a).

3.6.1. DATA COLLECTION METHOD OVERVIEW

This section presents the overview of data collection method used to answer the research questions, supplemented by details on respective data collected for document analysis, observations and semi-structured interviews.

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[30] As part of ACC's corruption management system which has evolved into several systems since the inception of the Bhutan E-government Master Plan of 2014.

For document analysis, secondary data, such as e-governance policy and strategy documents, project documents, problem analysis reports, evaluation reports, user feedback and articles of various newspaper companies were gathered to be used. The collected data helped enhance an understanding of the country and organisational context, nature of the identified e-governance initiatives, political and socio-economic environment and settings where the identified two initiatives are implemented. The document analysis is also used to triangulate data collected from semi-structured interviews (Okuda 2020a). The overview of collected documents are listed in Table 9.

Table 9: Summary of collected documents for document analysis

Agency	No of items	Summary of collected documents
ACC	45	ACC annual reports, NACSF[31], workshop reports, NIA[32], procedures to report corruption, compliance reports since 2012, ACC annual reports, asset verification protocols, penal codes
MoF	49	Project reports, budget reports, national revenue reports and manuals, tax system related instructions, *e*-PEMS user manuals, brochures, system requirements specification documents, financial rules, public finance act, *e*-PEMS notifications
MoIC	2	E-government Master Plan and performance agreement
RAA	16	Audit reports, strategic plan, handbook on quality assurance, audit manuals

ACC: Anti-Corruption Commission; MoF: Ministry of Finance; MoIC: Ministry of Information and Communication; RAA: Royal Audit Authority

In addition, 185 news articles were collected from main newspapers and broadcasters in Bhutan as follows: Kuensel (63 items), BBS (2), Bhutan Times (1), Business Bhutan (26), Daily Bhutan (4), The Bhutanese (89).

This present research used unstructured observation to "record in as much detail as possible the behavior of participants with the aim of developing a narrative

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[31] National Anti-Corruption Strategy Framework

[32] National Integrity Assessment

account of that behavior" with focal sampling (Bryman 2016 p. 270). I observed interactions as a non-participating observer in both case study organisations to obtain evidence of how the systems were actually used and managed. I visited the ACC and MoF in October and November 2019. My observations took place at management meetings, IT team rooms and users' offices in ACC, MoF and various agencies where interviews took place. In total, approximately 40 hours were spent to observe office environments, interactions of the teams with users and how systems were used and integrated in their daily operations. Such observations were helpful to identify factors which did not appear in documents and semi-structured interviews and triangulate data from other sources, and notes on my observations were constructed. During the observation sessions, participants were informed of my role as researcher and observer. For example, I observed that *e*-PEMS users kept a large number of folders in their respective offices, while finance officers and accountants were constantly coming and going from each other's offices to obtain signatures on hard copy papers. The fact that a paper trail was still needed to process e-payment did not appear in *e*-PEMS documentation, and my observation was helpful to refine semi-structure interview questions and explore the lack of system functions further.

Thirty three semi-structured interviews were conducted with interviewees identified based on their roles and functions in organisations implementing the identified e-governance initiatives and the Ministry of Information and Communication (MoIC), which coordinates and oversees the overall implementation of e-governance initiatives in Bhutan. They included e-governance project managers, ICT team members and functional managers among others (Okuda 2020a). The details of the interviewee profiles are found in Section 3.6.3.

Additionally, I conducted 7 semi-structured interviews with opinion leaders in society, who played an instrumental role in promoting, developing and implementing e-governance initiatives. During the case selection visit in July-August 2019, I introduced the research plans and goals to key focal points and influential individuals in the country. As a result, access to documents, interviewees and case study initiative implementers was obtained, including access to pertinent insights needed to deepen understanding of the current political, social and economic context. Based on this visit, the actual data collection visits were carried out in September 2019 – January 2020 (Okuda 2020a).

3.6.2 SEMI-STRUCTURED INTERVIEW AS DATA COLLECTION METHOD

This section details the design of semi-structured interview method used in my research. The semi-structured interview as a data collection method lends the flexibility to identify new determinants, which the current literature or research might not have identified yet.

Data collection by means of semi-structured interview was guided by the interview protocol developed for this research[33]. The protocol articulated interviewees' rights, questionnaires for interviews and interview guide to ensure the same topic is covered in a similar format (Annex 4). Questionnaires were developed based on the research questions, roles and functions of interviewees, literature reviews, observations, document analysis and the initial visit to Bhutan in July-August 2019. The interview protocol was tested on 21 September 2019 on a Bhutanese ICT professional who was not interviewed for this present research to identify any unclear language and question formulation. The interview protocol was accordingly revised based on feedback and suggestions received during the pilot testing (Okuda 2020a).

The interview questions were sequenced from introductory general questions to questions aligned with research objectives, leading to consolidation questions, as per the interview protocol. Interviews were conducted in the natural environment of offices, except when interviewees requested other venues such as café, or interviews needed to be conducted outside office hours. The interview reports also contain researcher's observations and descriptive notes, open to all perspectives to gain insights. The questions were updated after each interview to focus on emerging and recurrent topics, while ensuring comparability across interviews. Interviews were carried out after obtaining informed consent from the interviewees. I explained the confidentiality requirements, set forth in relevant Dutch research codes of conduct, in addition to the provision that a copy of my research could be provided (Okuda 2020a).

The semi-structured interviews were sequenced to obtain data and information and gradually narrow down the scope of possible determinants in a logical manner. First, semi-structured interviews were conducted among four officials involve in the development and implementation of the E-Governance Master Plan in MoIC and four opinion leaders/experts outside the government to gain deeper insights on political, economic and technological contexts in which the two initiatives were

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[33] The Ethics Committee approval from the University of Maastricht (UM) was obtained in June 2019. The UM ethics board requirements are available at https://www.maastrichtuniversity.nl/research/integrity-ethics/ethical-review/ethical-review-committee-inner-city-faculties-ercic

implemented. In particular, the latest information on the status of E-government Master Plan implementation, ICT infrastructure, programme, regulations and capacity was helpful to understand and inquire some of the phenomena (Okuda 2020a). They were also the users of the ADS. Furthermore, I gained more nuanced accounts to what I had found in the document analysis, together with the information on corruption perceptions and government's anti-corruption efforts.

Second, semi-structured interviews were conducted among government officials involved in the implementation and use of the two case study initiatives based on their roles and functions (e-governance project manager, functional and ICT team members and users of the systems). I started the semi-structured interviews at ACC and then proceeded to MoF. This sequence was intended to start with a locally owned initiative and identify possible determinants. The preliminary findings then guided the subsequent semi-structured interview questions for the MoF initiative, which is more complex with donor-funded ownership (Okuda 2020a).

In the case of ADS of ACC, primary users were human resource officers (Asset Declaration Administrator, or ADA) and secondary users were Schedule I and Schedule II officers of ministries[34], autonomous agencies[35] and constitutional bodies[36] (Okuda 2020a). Schedule I public servants include leaders of monastic bodies, Prime Minister, Ministers, Justices, Members of National Assembly, heads of agencies and army, among other high-level position holders. Schedule II public servants include those on contract longer than one year and in position level of civil service P5 and above, except teachers. In the case of *e*-PEMS of MoF, the users were over 700 finance officers and accountants of ministries and agencies, called budgetary agencies[37] who process financial transactions in all ministries and agencies (Okuda 2020a).

The government users for both initiatives were selected from ministries and agencies, based on the criteria of size and complexity of organization (measured by budget size) as well as its statute (autonomous or constitutional body). Size and complexity of user organisations were identified as a possible compliance determinant during my case selection visit to Bhutan in July-August 2019. In addition to ministries, a constitutional body[38] which also promotes compliance was selected for the likelihood that it has evidence of compliance drivers. Among the 10 ministries of Bhutan, the education sector received the largest share of national budget

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[34] The list of all 10 ministries can be found at http://www.bhutan.gov.bt/government/ministries.php.

[35] They can be found at https://www.nlcs.gov.bt/?page_id=103.

[36] Online ADS covers other entities, such as religious organizations, army, police, corporations and civil society organizations, but for the purpose of this research, I included only government agencies relevant to my research questions.

[37] All the government agencies covered by the government budget, except the Army.

[38] All the constitutional bodies can be found at https://www.nlcs.gov.bt/?page_id=115.

(16%), while the sector covered by MoIC received the smallest[39] (3%) (Ministry of Finance 2019c, p. 43). However, a sizeable number of officials submit their asset declarations through Dzongkhag (district) administrations and, therefore, the Ministry of Education in the capital may not have a comprehensive picture of asset declaration compliance of all the government employee users under the Ministry. Therefore, the second largest budgetary agency, the Ministry of Agriculture and Forests (MoAF), was selected for the government user interviews. In terms of the constitutional body, the Royal Audit Authority (RAA) is selected for the relevance of the agencies' work to compliance. Therefore, MoAF, MoIC and RAA were selected for the semi-structured interviews intended for end users (Okuda 2020a).

The data saturation was considered to be reached when there was no new information and coding which can be obtained from interviews (Fusch & Ness 2015; Saunders, Sim, Kingstone, et al 2017). Furthermore, this research adopted the thematic relevance approach in which the number of interviewees expressing their independent opinions is considered more important than the number of times the idea was expressed and coded per interviewee (Guest, Bunce & Johnson 2006).

3.6.3 INTERVIEWEE PROFILE

In total, 32 officials and experts were interviewed for this research, which resulted in 33 interview transcripts. One official was interviewed twice for verification and additional information at the end of fieldwork. Out of the 32 interviewees, 23 were male and 9 were female. As to the occupational category of the interviewees, 13 worked in the ICT sector, 5 engaged in the ADS and as the asset declaration administrators (ADA), 8 were finance officers and accountants, while 6 belonged to other categories representing public corporation, civil society and private sector. In terms of the user categories, 11 were e-PEMS users, while 31 were the ADS users. The asset declaration is also submitted by users outside the government, and therefore the below number includes the total number of ADS users inside and outside the government. Due to the sensitivity of the topic and confidentiality and privacy reasons, Table 10, 11 and 12 present a high-level summary of the interviewee profiles.

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[39] Energy received 1%, but both Energy and Mining/Manufacturing (3%) are covered by the Ministry of Economic Affairs. In combination, the budgetary share of the ministry is larger than that of the Ministry of Information and Communication (MoIC).

Table 10: Number of interviewees by sex

Sex	Male	Female
Number	23	9

Table 11: Number of interviewees by profession

Profession	Number
ICT	13
ADA	5
Finance	8
Others	6

Table 12: Number of interviewees by initiative

Initiative	E-PEMS	ADS
Number	11	31

In order to maximize internal reliability (to avoid a time lapse and impact of additional development and events during the interval between interviews), all the semi-structured interviews were conducted during the same period of September 2019 to January 2020 to hold constant the factors in the environment, as discussed in Section 3.5. Any discrepancy or divergent views within the case study initiative were addressed as much as possible within the same time frame, before moving on to the next unit data collection. I completed all the data collection for the ADS at ACC on 30 October 2019, and then started collecting data for the e-PEMS on 5 November 2019. The data collection for the e-PEMS built on what emerged from the previous data collection for the ADS, taking into account agency specific conditions and circumstances.

The first unit analysis on the ADS helped produce preliminary findings, which were subsequently validated or expanded in the second unit analysis on the e-PEMS. While the collected data on the ADS was used to refine and narrow the interview questions on e-PEMS, the data collection was conducted separately. By using the same/similar set of questions across the units, common and differing factors were identified.

All interviews, except 2, were conducted in their offices or nearby offices in the same building. The two interviews took place outside their offices, due to the convenience (at a hotel business center) and the fact that an interview needed to be organized over the weekend (in a cafe). Two interviews took place in their offices over Skype, due to the fact that the interviewees were not available at the time I conducted the field research. The interviews were sometimes interrupted due to urgent matters which required interviewee's immediate attention, but otherwise, the interviews took place in a safe, secure and natural environment. In order to reduce social pressure to answer the interview questions, I asked interviewees to feel free not to answer any questions they didn't feel comfortable and correct my understandings if they didn't represent their views. Most of the semi-structured interviews exceeded the allocated time.

Detailed notes were prepared for interviews. The note was used to distill learning after each interview and to adjust questions in the following interview so as to systematically narrow down to key factors. Enough materials were considered to be collected when no new item came up and there was an agreement on the situations.

All the interviewees agreed on the recording of the interviews. All interviews were conducted in English. Due to the confidential nature of the interviews, the transcription was conducted using the machine-led transcription of NVIVO from October 2019 to August 2020. I checked each transcript and the audio recording against the set criteria of transcription process for this interview, as listed in the transcription guide (Annex 5).

3.7 DATA ANALYSIS

This section provides steps and approaches to be taken for data analysis and interpretation, including the use of multiple triangulations to verify findings (Denzin & Lincoln 2012). Triangulation refers to "using more than one method or source of data in the study of social phenomena" (Bryman 2016, p.386). Yin (2013) notes that data triangulation will increase the concept validity with the use of different data sources to evidence the same phenomenon. The results of semi-structured interviews in my research were triangulated by information and data obtained from document analysis and observations (Okuda 2020a). By comparing the results, common and differing elements across case study initiatives emerged as discussed in Chapter 6.

The interview results were coded to identify emerging patterns of compliance determinants. Coding is considered as "a transitional process between data collection

and a more extensive data analysis" (Saldana 2015, p. 5) and is a cyclical act. The first cycle coding process involves coding a single word to an entire paragraph, followed by the second cycle coding process for generating categories, themes and concepts. Coding helps identify different patterns, such as similarity, difference, frequency, sequence and causation, while taking into consideration the complexity of social reality (Saldana 2015, p.7), which was applied to the inductive coding in this present research (Okuda 2020a). I developed the Code Book to capture the definition and parameters of each code, as attached in Annex 6. All the codes were developed in vivo.

The documents, such as laws, policies, newspaper articles and evaluation reports, as well as interview transcripts were included in the coding. The first round of coding helped to develop an initial set of compliance drivers and define the parameters, attributes and forms which describe the compliance drivers. In contrast to the term, compliance determinant, used in the two rounds of literature reviews in Chapter 2, the concept of compliance driver is used for operationalization in the investigation of the phenomena in the case study initiatives. In this present research, a compliance driver is defined as a group of inter-linked factors and attributes which are evidenced to have direct impact on compliance of government employee users in using e-governance systems.

Some interviewees repeated one driver several times for emphasis in the interviews, while several interviewees mentioned same driver only once. Both accounts were included and used if corroborated by other data sources, including document analysis and observations. The importance was placed on the accounts which were corroborated by interviewees' accounts from other organizations and functions and from experts outside the government, such as private sector and media, supported by document analysis. This phase of coding established and fine-tuned the categories of compliance drivers and the coherence of accounts and attributes across different data sources within a compliance driver for each case study initiative independently.

Due to the sensitivity of the topic, not many interviewees may have felt confident to speak up during the interviews. Therefore, in this present research, a compliance driver was developed using triangulation of data from multiple sources. Even if only one interviewee mentioned a factor several times as an important factor, it was taken into account as far as it was triangulated with analyzed documents and observations. When two interviewees mentioned them and they were triangulated with other data sources, they were taken in. Additionally, factors, attributes and conditions were taken into consideration when more than three interviewees mentioned the same without any conflict.

In the second round of coding, partial pattern matching (Sinkovics 2018; Almutairi, Gardner & McCarthy 2014) was used to identify emerging commonalities and divergence across the two cases. Cross-case synthesis was developed based on the thick description emanating from each case study initiative, which provided sufficient details to determine similarities, dissimilarities and transferability to the other context and setting (Guba & Lincoln 1994; Miles, Huberman & Saldana 2018; Okuda 2020a).

In analysing data, stakeholder analysis and process tracing methods were applied to establish more nuanced perspectives of various actors and understand institutional dynamics. Hermans and Thissen (2009) analysed 18 actor analysis methods. Out of the 18 methods, stakeholder analysis was found suitable for this present research, as it is applied to analyse "stakeholder environments to assess cooperative potential and threat of obstruction" with the assumption that stakeholders exist with influence on and interest in the success of the initiatives. (p. 811) (Okuda 2020a) In this present research, accounts of different functional groups, such as ICT, finance, and HR officials, were carefully analysed, taking into account their organizational contexts and functional interests in the success of the cases study initiatives. Taking into account possible resistance to compliance and relationships between the government employee users and the case initiative management teams, the method was also useful to disaggregate and analyze challenges which emerged in the document analysis, semi-structured interviews and observations. For instance, the lack of consultation in the design phase was mentioned by several *e*-PEMS users and therefore was added as a challenge in Section 5.5.3. In building the narratives, stakeholder analysis and institutional dynamics were taken into account, so as to provide a more nuanced account of the phenomena at hand. Interview accounts of experts as external stakeholders were also applied to validate the accounts of government employee users of the selected case study initiatives.

Bennett and Checkel (2014) underlined the use of process tracing method as a means to provide explanations in some cases and cast doubts in others. This method was instrumental in connecting the compliance levels to compliance drivers in the two case studies. For example, several interviewees mentioned that organizational setup, more specifically the appointment of additional ADA, was an effective compliance driver. I could trace the intervention and an increase in compliance level in the organization where the intervention was introduced, using document analysis (Okuda 2020a).

> *"Gasa NC (National Council) member Sangay Khandu said that fighting cor-*
> *ruption should not occur only when complaints are lodged but must begin sys-*
> *tematically. "ACC's access to information on transaction of assets indiscriminate*
> *of private and public servants is a must to fight and curtail corruption,""*
> (Kuensel 2016a)

One of the e-governance systems identified in my research is the Asset Declaration System (ADS) of the Anti-Corruption Commission (ACC) of Bhutan. In this chapter, I discuss the background in which the ADS is situated in Section 4.1. The background information includes a brief introduction of the ACC, type of corruption reported in various ACC reports, legal frameworks, asset declaration (AD) objectives, type of declarants, asset declaration management functions, processes and timelines. Section 4.2 then explains the ADS as ICT system innovation and how it was designed and deployed to address the challenges. The level of ADS compliance is discussed in Section 4.3, followed by the identified compliance drivers in Section 4.4. The semi-structured interviews, observation and document analysis also revealed challenges associated with the ADS as a system as well as compliance among government employee users, detailed in Section 4.5. The chapter concludes with a summary in Section 4.6.

In this present research, a compliance driver is defined as a category and group of inter-linked factors, attributes and conditions which are evidenced to have direct impact on compliance of government employee users in using e-governance systems. Each compliance driver is explained with data from semi-structured interviews, document analysis and observations. The quotes which best describes the factors, attributes and conditions of a compliance driver was added to the narrative as the evidence[40]. The data derived from document analysis, including the newspaper articles of Kuensel and Business Bhutan, was used for the purpose of triangulation.

While the preliminary results of the semi-structured interviews on the ADS informed some of the questions used later during the examination of the *electronic*

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[40] Some quotes contained grammatical errors, repetitions and unclear terms. Such errors, repetitions and unclear terms were corrected in this Chapter to enhance the readability.

Public Expenditure Management System (*e*-PEMS), the data collection and analysis on each initiative was conducted separately and independently.

4.1 BACKGROUND OF THE ASSET DECLARATION SYSTEM

This section describes the background in which the ADS was developed and implemented. The ADS was developed internally by the ACC. The Commission was established in 2006 under a Royal decree as an independent authority, reporting to the National Assembly. With a total of 106 staff, the ACC is mandated to carry out three core functions of educating the public, preventing and investigating cases of corruption. The ACC developed the National Integrity and Anti-Corruption Strategies (NIACS) 2014-2018 and 2019-2023, which aligns the Commission's work with the country's Five-Year Plans (Anti-Corruption Commission 2018; Okuda 2020a).

As narrated in Okuda (2020a), fight against corruption has been a major development agenda and a Key Performance Indicator in the Government Performance Management System (Anti-Corruption Commission 2016). The latter was introduced by the Cabinet and has been managed under the Prime Minister's Office to monitor the performance of ministries and agencies against agreed milestones and deliverables[41]. The reduction of corruption was also a National Key Result Area in the 12th Five-Year Plan (Anti-Corruption Commission 2018) and ICT is seen as key to increasing transparency, efficiency and effectiveness of service delivery on the e-governance platform in the National Integrity and Anti-Corruption Strategy 2019-2023 (Anti-Corruption Commission 2019).

Despite these efforts by the government and high-ranking in the Transparency International's Corruption Perception Survey (25th in 2019), there have been allegations of fraud, embezzlement, mismanagement and abuse of authority. According to ACC's 2018 Annual Report, 141 complaints were submitted to the ACC e-mail account, 109 complaints were submitted by post and 73 by walk-in. Abuse of functions is the most often reported cases (54.7%), followed by alleged embezzlement (6.9%) and other alleged offenses. Complaints against ministries increased from 52 in 2017 to 84 in 2018, out of which most complaints were lodged against the Ministry of Education (28) and Ministry of Agriculture and Forests (23) during the reporting year (Anti-Corruption Commission 2018). According to an evaluation conducted in 2013 by the Basel Institute on Governance (BIG) and the Royal Institute of Management (RIM) of Bhutan, while the public perception on cash-based petty

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[41] The site is found at http://www.gpms.gov.bt/

corruption improved, more sophisticated forms of corruption were emerging, which was difficult to prove (Anti-Corruption Commission 2013), as narrated in Okuda (2020a).

One form of corruption, which characterizes Bhutan's corruption landscape, is policy corruption, developed from land-transaction-based corruption cases. Policy corruption is defined as "the misuse of privileged information or the misuse of office and power by a public official for private gain" (Anti-Corruption Commission 2013, p. 12). The privileged information is then used to influence policy and decision making, which is intended to benefit the involved public officials (Okuda 2020a).

One of the notorious land grab cases was reported by the newspaper, Business Bhutan (2019a). A former Finance Minister was alleged to have converted 10 decimal government land into private property. The anonymous source brought the case to the ACC in 2017, which triggered an investigation. In 2019, the ACC forward the case to the Office of Attorney-General (OAG), after the ACC interviewed the village representatives, examined land records and verified that the conversion appeared not within the government rules and regulations. There have been similar cases involving influential figures, such as Dzongda (district administrator), and transfer of land ownership (The Bhutanese 2016)

Another form of corruption prevalent in Bhutan was identified as nepotism and favoritism, often found in recruitment, promotion, training and any other human resource related matters. It is also linked to conflict of interest in the context of Bhutan, which would require enhanced control and enforcement of standards (Okuda 2020a). An ACC 2013 report underlined the importance of encouraging whistle-blowers to come forward, ensuring checks and balance and establishing quality assurance and control in detecting fraud and corruption (Anti-Corruption Commission 2013).

The prevalent favoritism and nepotism in organizations was corroborated in the semi-structured interviews. The interviewees shared their concerns over what they experience and witness in their daily lives. In particular, Bhutan being a small country and people knowing each other seem to create a futile ground for nepotism and favoritism. Some even felt that such cases were increasing.

> *"Our population is hardly around 800,000, so we knew one another well. The favoritism and nepotism have been the concerning issue, which has been increasing in Bhutan."* (R3)

This view was corroborated in the National Corruption Barometer Report 2020 conducted by Bhutan Transparency Initiative. Increasing corruption was perceived as a growing concern and the most prevalent forms of corruption in Bhutan was identified as trading influence, conflict of interest, abuse of function, bribery and embezzlement. (Bhutan Transparency Initiative 2020)

Such cases of nepotism and favoritism are often found in the construction sector, procurement and HR decisions. As Bhutan is one of the least developed countries, the Bhutanese people do not have many opportunities to travel abroad. Therefore, an opportunity to attend training abroad or obtain a scholarship to study at a foreign university is much sought after among government employees. The screening and selection of government employee applicants for training abroad and scholarships is conducted by various human resources units. Due to the competitiveness, government employees often perceive the influence of nepotism and favoritism. The other sectors associated with nepotism and favoritism were procurement and construction where a large amount of financial transactions are involved.

The competitive process for training and scholarship contributes to the fear captured in Section 4.4.11 "Fear for Punishment". Invariably, the interviewed government employee users expressed their fear for non-compliance and being implicated in an audit case which results in losing the opportunity for training and scholarship.

As discussed in Section 1.3, systemic corruption constrains the government ability to enforce its own rules and regulations, which would then cascade into significant impact on overall control of corruption of a country. To reduce the systemic corruption, the ACC believes that the government needs to strengthen internal control, which consists of systems, policies, procedures and practices. Internal controls are seen as the foundation for adherence to policies, laws, rules and regulations (Anti-Corruption Commission 2016). This recommendation is in line with the findings of the National Integrity Assessment 2016 which was conducted by ACC and the National Statistics Bureau of Bhutan with funding from the Swiss Agency for Development and Cooperation (SDC). The 2016 assessment report noted that available measures for corruption control in Bhutan, such as whistle-blower protection, internal checks and balance and internal audit system, were found ineffective. The report concluded that additional measures, such as e-services and guidelines to manage conflict of interest in the public sector, are needed (Anti-Corruption Commission 2017d). The nature of systemic corruption in Bhutan, findings and recommendations from various assessment reports formed the background to the current configuration and functionalities of the ADS.

The ADS has been in place since the establishment of ACC in 2006 and was developed to implement AD Rules 2008 and 2012 as the legal framework (Anti-Corruption Commission 2015a and 2016). These Rules were further updated to form AD Rules 2017 which was derived from Section 38 (8) and Section 171 of the Anti-Corruption Act of Bhutan (ACAB) 2011. Section 38 of the ACAB 2011 specifically stipulates that civil servants or individuals who consume public funds "shall prepare, declare accurately and truly and file their personal assets, income and liabilities, as well as, those of their spouses and/or dependents" (Anti-Corruption Commission 2017b, p. 1), as detailed in Okuda (2020a).

According to the AD Rules 2017, the ADS is recognized as one of the anti-corruption instruments to

- detect and deter illicit enrichment;
- ensure public trust through accountability;
- manage conflict of interest by monitoring outside positions, post-employment arrangements and assets and income of family members,

among other purposes (Okuda 20201).

The ADS is not intended to be a tool to detect fraud or investigate cases, but rather to enhance transparency and accountability and prevent corruption among the government employee declarants. The positive views towards the ADS were expressed during the interviews, highlighting how the system can help enhance transparency and accountability and prevent corruption, while safeguarding the individuals from unwarranted allegations and consequences.

The ADS is managed by ACC's Prevention and Education Department where the Asset Declaration and Management Division is housed (Anti-Corruption Commission 2019a). The asset declaration function was recently upgraded to a full-fledged division with additional resources which had been approved by the Royal Civil Service Commission (RCSC) – a clear indication of government's commitment to the asset declaration system (Source: own observations and interviews).

Furthermore, Article 9 of the AD Rules 2017 stipulates that concerned government officials register with the ADS, through which he or she can file his or her declaration as per the Rules. The frequency of the filing is mandated as, 1) within three months for those who newly join the office, 2) within one month before leaving the government service and within one month after leaving the service for those who make planned or unforeseen exits and, 3) from 1 February to 31 March annually for government officials, who fall in the category of "covered persons". If a covered person fails to submit the annual declaration within the specified time, he or she

will be allowed to submit from 1 May to 31 May with fines for late declaration. If a covered person fails to submit by 31 May, he or she will be considered a non-declarant with stipulated fines imposed (Anti-Corruption Commission 2017a), as described in Okuda (2020a).

There are two categories of "covered persons" for asset declaration, Schedule I and II. Schedule I public servants[42]. Public servants in certain sectors[43] are required to submit the declaration, irrespective of their levels. The intention is to target sectors, which could provide a potential opportunity for illicit enrichment (Anti-Corruption Commission 2017a).

Schedule I public servants submit the declaration to the ACC, while Schedule II declarants do so to the Asset Declaration Administrator (ADA) of the respective agency he or she belongs to. The Central Asset Declaration Administrator (CADA) monitors the overall administration of AD at the ACC. ADA is the agency focal point in all asset declaration matters and provides support, such as new user registration, regular updates on declarants, receiving and maintaining the submissions. In case the submission to the ADS is not possible, ADA distributes hard copy forms to declarants and enters the information on the hard copy into the ADS. In case fines are imposed, ADA ensures that the decision is properly implemented. ADA supports the head of agency in his or her reporting and implements decisions and actions (Anti-Corruption Commission 2017a), as highlighted in Okuda (2020a)

The CADA is responsible for updating and maintaining the list and information of Schedule I declarants and ensuring that new declarants are registered with the ADS. The responsibilities are similar to ADA, but as the central coordinator of the entire process, he or she also submits the asset declaration report for Schedule I and II to ACC within a set timeframe. CADA is also responsible for identifying and verifying Disproportionate Asset (DA) cases and coordinates meetings of the DA Committee established under the ACC. In case fines are imposed, CADA ensures they are collected and deposited into the Government Revenue Account (Anti-Corruption Commission 2017a), as summarised in Okuda (2020a). In an interview, it was clarified that there are 205 ADAs across ministries, agencies, Dzongkhags, corporations and CSOs where covered persons belong to.

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[42] More details on the definition of Schedule I and II is available in Section 3.6.2.

[43] Administration, agriculture, architecture, engineering, land services, finance, audit, foreign services, forestry, environmental protection, human resource, legal, judiciary, legislative services, media and health services, trade, industry and tourism, transport and aviation services, among others.

The head of agency is responsible for assigning ADA, ensuring that declarations are kept in a secure location and examining asset declaration submissions for possible conflict of interest. The head of agency is also required to integrate disciplinary actions in the agency's code of conduct. In case of breach, he or she imposes penalties in accordance with the Asset Declaration Rules. He or she submits the asset declaration report and the Action Taken Report (ATR) to ACC within a preset timeframe (Anti-Corruption Commission 2017a), as one of the responsibilities of the head of agency in asset declaration (Okuda 2020a).

An asset declaration report contains a list of declarants, late declarants, non-declarants and DA cases with a master list of declarants. The ACC then takes decisions on late declarants, non-declarants and DA cases, which the CADA are to implement. CADA also presents DA cases to the DA Committee during the first week of October and for the ACC's final decisions within the third week of October. CADA then prepares the final asset declaration report by 30 November to conclude a round of the asset declaration. The public can request for information on certain declarant in writing, which is duly reviewed by the ACC according to the Asset Declaration Rules (Anti-Commission Commission 2017a) as part of the asset declaration cycle (Okuda 2020a).

The penalty for late submission is a fine equivalent to daily national minimum wage for the duration between the submission deadline and the date of submission. A non-declarant is asked to pay one-year national minimum wage. In case a government official fails to comply with the imposed penalty, it is considered an obstruction of justice. If ADA, CADA or the head of the agency fails to fulfil his or her duties, a fine of one month's national minimum wage is imposed, and for repeated failures, additional disciplinary actions are taken (Anti-Corruption Commission 2017a), as mentioned in Okuda (2020a).

As described above, CADA and ADAs in agencies and ministries play an essential role and provide an interface between the system requirements and declarants. They need to review the declarations for their correctness, while sending follow-up and reminder e-mail messages and providing hands-on support when the declarants submit their declarations in the system. The work does not end at the time of submission. A proactive ADA conducts an induction programme which includes an explanation on the asset declaration requirements to newcomers. Additionally, they have to be an interface between the agency and ACC in case a penalty is imposed, as corroborated by interviews with ADAs.

Some ADAs were found proactive and keep reminding the declarants of the deadlines until the last day of submission, while others were not. Because of the ineffectiveness of some ADAs, some declarants missed the submission deadline and complained that they did not get an adequate level of information, although the declarants should know the submission deadline which never changes every year.

During the declaration period, the role of ADAs is tested. If an ADA gets to know that a declarant bought a car but did not declare it, what would be the response of ADA? Should he or she ask the declarant to declare the car? What would happen if the declarant is later found guilty of concealing his or her asset? Would the ADA be found guilty too? It was clarified in one interview that the responsibility falls on the declarant and not on the ADA.

The roles of ADA and CADA were evolved in the current form because of the realization on the part of ACC that the asset declaration as a prevention tool would not be effective without the support and good will of the declarants. The Anti-Corruption Act and other legal instruments are not sufficient to garner the cooperation of the declarants, let alone the system.

> *"In prevention (department), we cannot throw the Anti-Corruption Act in your face. I have to get the good will and build the rapport".* (B1)

4.2 THE ADS AS ICT SYSTEM INNOVATION

This section explains the ADS as a system innovation and how it functions in the context described in Section 4.1 and supports the achievement of policy goals described in the Anti-Corruption Act 2017 with the built-in technology.

In order to understand the original design and system development, I searched for documented records but they were not available at the time of my fieldwork in the fall of 2019 and the spring of 2020. The interviewees clarified that it was estimated to have been developed around 2007-2008. After the Asset Declaration Rule 2012 was adopted, the system was then revamped on the .Net programming language and the system design document was accordingly developed by a private sector company, although the document lacks the information on when exactly the document was developed (Anti-Corruption Commission N/A). The system design document has been used as a basis for continuous development until now. The ADS was funded by the government and was developed and is maintained by the ICT

Unit of ACC and the business owner is the newly created Asset Declaration and Management Division of ACC.[44]

Since the revamping of the system after 2012, ACC continuously enhanced the system based on user feedback and received comments. ACC has conducted periodic training for ADAs and users. ACC also plans to share information through system interfaces with oversight institutions, tax authorities and property registration authorities (Anti-Corruption Commission 2016). The system is accessible from the ACC ADS site at http://adsnew.acc.org.bt:88/adsnew/UI/default.aspx (Okuda 2020a).

The system usage starts with user registration. A new user is asked to create an account. Figure 5 illustrates the homepage of the ADS.

Figure 5: ADS entry page
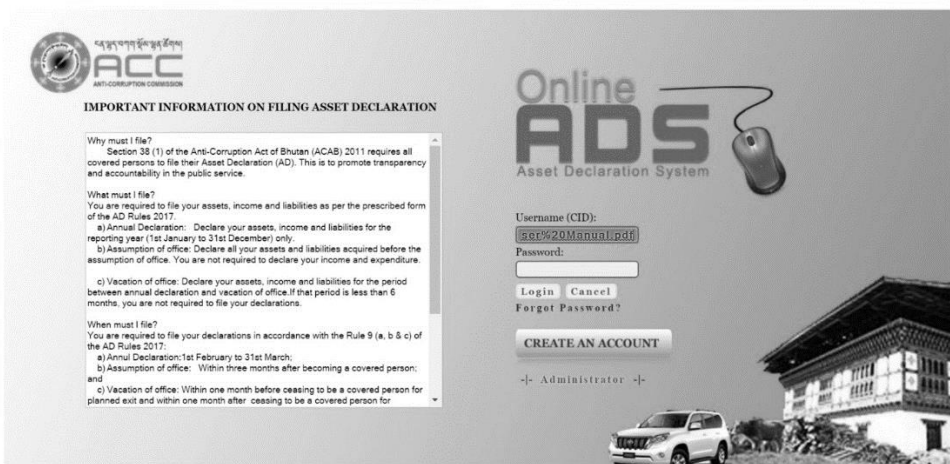
Source: http://adsnew.acc.org.bt:88/adsnew/UI/default.aspx, accessed on 1 October 2019

The user registration example is found in Figure 6.

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[44] Please refer to the ACC organogram at https://www.acc.org.bt/sites/default/files/Organo-gram%20%28Aug%206%2C%202019%29.pdf.

Figure 6: ADS user registration screen

Source: Anti-Corruption Commission User Manual for Asset Declaration (2017b), p. 2 at https://www.acc.org.bt/sites/AD%20User%20Manual.pdf, accessed on 1 October 2019

Once the user completes the form, it is submitted to the ADA of the user's agency and the user receives an e-mail notification on successful registration. When the ADA accepts the registration, another e-mail notification is sent with the user name and default password (Okuda 2020a). Figure 7 is a sample of user personal information screen (Anti-Corruption Commission 2017b).

Figure 7: ADS personal information screen

Once a new declaration is created by clicking the menu bar, the screen as shown in Figure 8 appears to select the reason for declaration. A first-time user will select assumption of office, while officials leaving the office will select vacation of office (Okuda 2020a).

Figure 8: ADS reasons for declaration screen

The system then asks a user to add himself or herself and family members under the created declaration as displayed in Figure 9.

Figure 9: ADS personal and family information screen

Source: Anti-Corruption Commission User Manual for Asset Declaration (2017b), p. 6 at https://www.acc.org.bt/sites/AD%20User%20Manual.pdf, accessed on 1 October 2019

For every individual, employment and income (for outside positions) details will then be asked as displayed in Figure 10.

Figure 10: ADS additional jobs/employment income screen

Source: Anti-Corruption Commission User Manual for Asset Declaration (2017b), p. 8 at https://www.acc.org.bt/sites/AD%20User%20Manual.pdf, accessed on 1 October 2019

The system also asks the user to specify any post-employment arrangements and plans, if applicable (see in Figure 11).

Figure 11: ADS post-employment arrangement and plan screen

Source: Anti-Corruption Commission User Manual for Asset Declaration (2017b), p. 9 at https://www.acc.org.bt/sites/AD%20User%20Manual.pdf, accessed on 1 October 2019

The system requires users to enter details of immovable properties, such as land and building, including transaction status and payment made as in Figure 12.

Figure 12: ADS immovable property entry screen

Source: Anti-Corruption Commission User Manual for Asset Declaration (2017b), p. 10 at https://www.acc.org.bt/sites/AD%20User%20Manual.pdf, accessed on 1 October 2019

Similar information is requested for ownership of shares and stocks, vehicles/machineries, personal savings, convertible assets, commercial activities and intellectual properties. The system then requires the user to enter income statement, liabilities, educational expenditures and other expenditures (Okuda 2020a). If the declaration is correctly entered, the final submission page in Figure 13 allows the user to submit the declaration.

Figure 13: ADS submission screen

A successful declarant receives an acknowledgement e-mail. In case of an error or correction, the declaration is returned to the declarant, who then updates the information as per the reasons for return specified in the e-mail notification. Common errors observed in submissions include calculation of salary by month instead of year, following old rules and spelling mistakes. These errors are pointed out by ADA and CADA against the user guide which derives from the Asset Declaration Rules 2017 and ACC orders. Once the declaration is accepted and verified, the declarant receives the final confirmation e-mail (Anti-Corruption Commission 2017b; Okuda 2020a).

The ADS is also used to flag potential DA cases by detecting a sudden increase in asset and income. In the 2016 ACC Annual Report, 157 declarations, or 34% of the total Schedule I declarations, were flagged by the system for suspected disproportionate asset among the Schedule I declarants for the asset declaration cycle of 2015. These cases were later dropped in the verification process in the same year. The sudden increases were explained as import of vehicles (an entitlement for parliamentarians), increase in property values and typology errors. Among Schedule II declarations, 3,169 cases, or 16% of the total Schedule II declarations, were similarly flagged by the system for the 2015 asset declaration cycle, but only 1,500 could be verified due to shortage of resources. Among the cases, 1,446, or 96.4%, were dropped and 54 cases, or 3.6%, were identified for Discreet Enquiry (DE) or further action (Anti-Corruption Commission 2016; Okuda 2020a).

The ACC Annual Report 2017 reported on the results of the 2016 asset declaration exercise. The report mentioned that 99 disproportionate asset cases were flagged among the Schedule I declarations in 2016, a decrease from 157 the year before. Out of the 99 cases, 97 were dropped and two were forwarded for further inquiry. Among the Schedule II declarations, 4,596 cases were flagged in 2016. Although not all cases were reviewed due to human resource constraints, the reviewed 3,462 cases were dropped. The 54 DA cases which had been identified for further action in the previous year of 2015 were cleared after finding no issues in the subsequent declarations (Anti-Corruption Commission 2017e).

Although most DA cases seem to be dropped, there was a recent case where the DA function played an instrumental role in a large investigation (Okuda 2020a). A former Labour Minister was found to have concealed his asset, income and

liabilities in his asset declaration in 2017 and had solicited and accepted investment from a foreign national to set up a partnership business using proxies (Business Bhutan 2019b; Kuensel 2018c). According to the revised Asset Declaration Rules 2017, if a covered person makes a false statement with the intent to conceal his or her asset, income or liabilities, it is considered an offence according to Section 64 of the Anti-Corruption Act of Bhutan (ACAB) (Kuensel 2017b). The Section 64 stipulates that public servants "shall be guilty of an offence if they knowingly make false declarations with a view to conceal their assets, income and liabilities" and the offense is considered as a misdemeanor (Anti-Corruption Commission 2011a, p. 54), punishable according to the Penal Code (Parliament of Bhutan 2011).

In this particular case of former Labour Minister, I asked interviewees how the information in his declarations helped in the investigation and how the access to his declarations was initiated. As described earlier, interviewees confirmed that the ADS was not an investigation tool but rather for prevention of corruption. Another interviewee elaborated that the data and information collected in the declaration, or intelligence, may be used as evidence when there is an investigation or complaint. The information in the declaration then serves as evidence of concealing his or her asset in a larger investigation effort. Although such illicit asset enrichment could be detected as disproportionate asset, there is another way to detect, as demonstrated in this case of former Labour Minister.

The National Council (NC) members of the Parliament also view the ADS as a way to detect policy corruption and fake asset declaration. They recommended strengthening the ADS and developing an integrated IT system, which enables automatic information sharing on properties, liabilities and tax contributions of government officials and employees (Okuda 2020a). A National Assembly (NA) member from the Gasa Dzongkhag (district) was quoted as saying that "ACC's access to information on transaction of assets, indiscriminate of private and public servants, is a must to fight and curtail corruption" (Kuensel 2016a). The ADS integration with existing systems is expected to enhance information and data consistency and ensure checks and balance. For that reason, ACC's work in using advanced technologies for anti-corruption efforts is expected to expand (Anti-Corruption Commission 2019).

Initially, the ADS encountered wide-ranging challenges in verifying submitted information as the storage of declaration documents was not centralised and the declarants' information not updated in time, in addition to territorialism and lack of information sharing policy (Anti-Corruption Commission NA). In 2013, 12 agencies were reported to have failed in the submission, which is considered a breach of responsibility of heads of agencies and ADAs at that time. Since then, a number

of measures have been implemented, which led to the improved level of compliance (Anti-Corruption Commission 2015a) as reported by Okuda (2020a).

What is unique about the ADS is the well-established and documented change management to the system and responsiveness to the user feedback. Recognizing the need for system improvements, ACC accommodates feedback and suggestions and discusses them at Commission meetings. The decisions, in the form of minutes and meeting records, are the basis for the technical updates in the system. The changes are then channeled to the ICT unit of the ACC for effecting the approved changes, and this workflow and collaboration between the ICT unit and the business owner division were found very smooth.

What also emerged from the interviews was the frequent ACC consultations with users and stakeholders and communication with them. After the Asset Declaration Rule 2012 was revised in 2017 the ADS team initiated a series of consultations with ADAs, heads of agencies and other stakeholders. It was believed that listening to the users would yield insights and good ideas which would then help improve the system for the users. When the ADS team received good feedback and suggestions for improvement, the team reported to the Commission. Upon the approval, the changes were introduced to the system.

The ACC and stakeholders are consulted when major changes, such as system enhancements and amendments to the Asset Declaration Rules, take place. The system has evolved as an outcome of the accumulated feedback and suggestions from the users and stakeholders.

> *"We do consultative meetings with the stakeholders. We also collect feedbacks from the users, from the AD focal persons. We incorporate all their feedbacks. In fact, the system (has been developed with) all through their feedbacks".* (B5)

The implementation of the changes also seems well planned and coordinated by ACC in the form of training, media notifications and other notification means. The training is organized for the purpose of raising awareness and building common understanding between ACC, ADA and users, so that later there won't be any disagreement on what entails the declaration submission. Although desirable, it is not possible to train all 24,000 declarants. Therefore, ACC uses the strategy of training ADAs, so that they can then reach all the declarants in their ministries and train them on new functionalities and features in the system, if any.

In addition to training, ACC reaches out to media to notify ADAs and users on the annual declaration cycle. For the media notifications, ACC resorts to the only TV channel in the country, Bhutan Broadcasting Service (BBS), as well as other print media.

4.3 COMPLIANCE IN THE IMPLEMENTATION OF THE ASSET DECLARATION SYSTEM

This section discusses the level of compliance among the government employee users of ADS, based on the data obtained specifically for this present research and compare it with historical data obtained by document analysis. The historical trends narrated in this section seem to verify the effectiveness of incremental measures the ACC introduced to enhance the system and system usage, such as consultations, training, feedback, media notifications, discussed in Section 4.2.

The latest compliance level is high among both Schedule I and II declarants (98.9% and 98.97% respectively, based on the 2018 data), but it was not always the case, judging from the document analysis and interviews. According to the 2012 Compliance Report of Asset Declaration, 85.97% for Schedule I public servants (325 out of 378) submitted their declarations on time, with 27 declarants (8.3%) submitting after the submission deadline in April. Among Schedule I declarants, 204, or 62.77%, submitted their declarations online, while the rest submitted on hard copies. Prime Minister, ministers, secretaries, head of agencies, heads of army and district governors all complied and submitted their AD by the end of April. Nonetheless, 53 Schedule I officials failed to declare their assets and liability within the deadline (Anti-Corruption Commission 2012) as also reported in Okuda (2020a).

Since 2012, the level of compliance improved steadily. According to the 2015 AD compliance report, the compliance rate among Schedule I officials increased to 92.60% in 2015. Out of the 428 Schedule I declarants, 90.58% submitted their declarations online. Out of the submitted declarations, 15 were returned for incomplete information (Anti-Corruption Commission 2015b). Similar trends continued in 2017. (Anti-Corruption Commission 2017c; Okuda 2020a)

For this study, the latest 2018 figures were extracted by the ACC. The Schedule I compliance for the reporting year 2018 was 98.9% and for 2017 it was 94.2%. For Schedule II, compliance in 2018 was 98.97% and an increase form 96.93% in 2017. In total, there were 23,409 covered persons, or declarants, among Schedule II from 209 organisations in 2018. In 2017, the total number was less, 21,640 from 198

organisations (Okuda 2020a). As incomplete submissions are returned to the declarants, properly filled and complete submissions are considered as compliance in the case of ADS. Table 13 summarises the disaggregated compliance rates by type of organisation for 2018 and 2017. The names of agencies under each category are found in Annex 7. The ACC does not publish an agency-wide compliance list.

Table 13: Schedule II compliance rates by type of organisation, 2017 and 2018

SN	Parent Agency	2018			2017		
		No. of Agencies	Total Covered Person	Compliance %	No. of Agencies	Total Covered Person	Compliance %
1	Armed Forces	3	1248	100	3	1149	99.56
2	Autonomous agencies	40	1800	97.67	41	1634	98.71
3	Constitutional bodies	6	519	99.81	6	470	99.36
4	Corporations	55	4957	99.7	51	4533	98.32
5	CSOs/NGOs	35	262	98.47	27	207	100
6	Dzongkhag (district) Administrations	20	4351	97.47	20	3944	94.5
7	Dzongkhag (district) Courts	22	276	99.28	22	247	99.19
8	Financial Institutions	10	2800	99.39	10	2510	98.01

9	Ministries	14	6775	99.11	14	6561	95.67
10	Thromdes (city corporations)	4	421	98.81	4	385	98.18
	Total	**209**	**23409**	**98.97**	**198**	**21640**	**96.93**

Source: ACC. The data was extracted from the ADS by ACC in November 2019; Okuda 2020a

When asked about salient features of the ADS compliance, interviewee noted that declarants from religious organizations, or ROs, tend to submit hard copies which requires typing-in, takes time and may introduce errors, when the data is entered. The system is available only in English, not in the national language (Dzongkha), and there are non-English speakers in ROs. When I asked about a systematic language barrier for non-English speaking declarants outside the capital to submit declarations in English, it was clarified that the technical, infrastructure issue would be a main cause of challenge, not the language issue. Non-English speaking declarants would approach respective ADA and submit the declarations.

Despite the improving compliance rate, there have been late and non-declarants who had to pay fines over the years. According to the ACC Annual Report 2017, Nu. 33,250 ($468) from Schedule I and Nu. 703,106 ($9,888) from Schedule II were collected in fines for late and non-declarations in 2016 (Anti-Corruption Commission 2017e). I asked interviewees their opinions on the reasons for late and non-declarations. According to the interviewees, the reason was not medical condition, or some emergencies, but the carelessness on the part of declarants. One example was explained as a transfer from another region to the capital, but the transfer took place in January, while the declaration started from February to March. Therefore, the transfer was not considered as a valid reason to explain the late submission and waive off the penalty for the late declaration.

It was explained during the interviews that there had been late declarations, but no non-declarants had ever repeated the mistake or offense in the subsequent years. The interviewee speculated that the late declarants work in remote areas with poor Internet connectivity and do not get information on declaration in time. Some ADAs may not be proactive and they themselves may not be informed of the declaration deadlines, as reasons for the late declarations.

These accounts were supported by an explanation by another interviewee who underlined the lack of seriousness on the part of declarants as the reason for late or non-declaration, despite the numerous attempts by ADAs. The reason for this lack of seriousness was then explained as not being aware of the existence and severity of penalty.

> *"Lack of seriousness could be because they are not aware on the penalty that is there".* (B2)

If the declarant is not a first-time declarant, the submission takes about 20 minutes. That requirement of a limited time investment may be the reason why several interviewees considered lack of seriousness as a reason for non-compliance. Another reason was the return of the submitted declaration for correction. The returned declaration and request for updates may not have been acted on in time by the declarants, because they believed that their declarations had been submitted successfully.

Some late declarants asked for an extension of penalty payment until December, based on the action taken report prepared by the concerned ADA and submitted in September. A non-declarant is handled directly by the ACC and the ADA in the concerned agency will not take actions for non-declarants. A letter is issued by the ACC with a copy to the concerned ADA.

During the interviews, it was also explained that 16-17 cases are forwarded to the Office of the Attorney-General (OAG) every year, when late or non-declarants refuse to pay the penalty or the follow up actions did not yield any concrete outcomes, as per the Asset Declaration Rules. Such cases will first be presented to the Disproportionate Committee at the ACC, and then to the ACC Legal team, after which to the OAG for prosecution.

4.4. DRIVERS OF COMPLIANCE AMONG ADS USERS

It is important to understand what drives the 24,000 government employee users to comply with the ADS requirements year after year. This section summarises 13 key compliance drivers found in the document analysis, my observations and semi-structured interviews. The order of these compliance drivers is not intended to imply the importance or any other meaning. In this present research, a compliance driver is defined as a category and group of inter-linked factors, attributes and

conditions which are evidenced to have direct impact on compliance of government employee users in using e-governance systems. The factors, attributes and conditions were identified from interviews, document analysis, such as newspaper articles and reports, and my observations.

In some cases, there were both positive and negative accounts towards the same compliance driver. Positive accounts explained that some factors triggered positive outcomes, while the lack of the same factors led to less compliance. Some accounts were nuanced, reflecting personal experiences and perspectives, which were triangulated with other data sources. The names of compliance drivers were developed using inductive coding. The detailed definition of each compliance driver as well as what it includes and excludes are listed in Codebook in Annex 6.

4.4.1 CREDIBILITY AND TRUST IN ACC

An evaluation conducted on the National Anti-Corruption Strategy (NACS) by the Basil Institute of Governance and the Royal Institute of Management of Bhutan noted that "(t)he ACC and its leadership are highly respected in the Bhutanese society, though also somewhat feared still due to the perceived focus on punishment" (Anti-Corruption Commission 2013, p.5; Basil Institute of Governance 2013). The 2016 National Integrity Assessment report corroborated the findings. Among the respondents, 52% reported that ACC is doing very well and 41% fairly well (Anti-Corruption Commission 2017d).

During the interviews, some ADS users attributed the level of compliance to trust in the ACC as an organization. The Commission is a constitutional body responsible for anti-corruption, because of which people respect and trust the ACC and comply with whatever rules and policies the ACC comes up with. Such high regard by the people extends to the ADS and confidence bestowed in the system.

Corroborating accounts were found in various documents. The Prime Minister of Bhutan referenced to the critical role the ACC plays in the country's anti-corruption efforts in endorsing the National Integrity and Anti-Corruption Strategy (2019-2023) as follows:

> "Today, as the ACC continues to lead the anti-corruption drive in the country, it is critical for all of us to complement the efforts. Therefore, by way of endorsing this strategy, we commit to abide by its objectives." (Anti-Corruption Commission 2019, p. 4)

The trust the users have in the ACC is translated in the information security. The users believe that the information provided in declarations is safe and secure and will not be misused, which contributed to compliance. Additionally, the ACC is an oversight agency with a leverage to enforce other agencies to comply. Such leverage includes naming and shaming, as elaborated in Section 4.4.10.

> *"As an oversight agency, they have, to some degree, leverage over enforcing agencies to adopt certain things, right. And they also have the ability to do naming and shaming"*. (A1)

The credibility and trust in ACC have influenced other compliance drivers, such as fear for punishment, which was expressed vividly by several interviewees, confirmed by my observations during the fieldwork. Fear for punishment as a compliance driver is detailed in below Section 4.4.13.

4.4.2 ORGANIZATIONAL SETUP

Some ministries decided to go beyond what was required by the ACC and make their own organizational arrangements to encourage compliance by employee users. These measures included appointing additional ADAs, organizing annual conferences and allocating resources, which have been implemented by some ministries, such as the Ministry of Agriculture and Forests. Some agencies and ministries have a large number of declarants who are spread out into remote and rural areas. It made sense to the interviewees that these large ministries and agencies appointed additional ADAs. It was believed that such measures had direct and indirect impact on compliance among the government employee users.

In one ministry, over 90 additional asset declaration focal points were appointed. These additional focal points were helpful to manage declarations in central and regional offices. Furthermore, this ministry in question organized annual conferences and conducted training on asset declaration as ministry's own initiative. It may not be a coincidence that this ministry in question recorded one of the highest compliance rates, despite the size and geographical spread.

One ministry requested for training from the ACC, which demonstrated its proactiveness. That ministry in question previously had a poor compliance rate. After

the training was conducted for ADAs, the compliance rate jumped to 100% the following year.

> *"Because prior to that, they had a very low compliance. Then they requested us to give training. So we conducted a series of training for the ADAs. The next year, they had the hundred percent compliance"*. (B4)

One interviewee shared a negative example where lack of such organizational setup was perceived as leading to poor compliance. The Dzongkhag (district) administrations were seen by some interviewees as having lower compliance rates than others, and the reason was explained that there were only one or two ADAs who were busy human resource (HR) officers and covered a large number of declarants, including at the lower gewog, or block, level.

There were other similar accounts without any conflicts. The above-mentioned accounts provided interviewees' view on causal pathways between the organizational setup and level of compliance, across different government entities and functions. Where the organizational setup was instituted, the compliance rate increased, while where it was perceived lacking, the compliance rate was considered low.

4.4.3. PEER SUPPORT

In addition to the organizational setup, peer support emerged as an important factor among the ADAs in fulfilling their function. A ministry established ADA's WeChat group to share updates and information on the ADS, which was reported as effective for ADAs to facilitate declaration submissions among the end users in the ministry. If one ADA had a question on the asset declaration, he or she can quickly ask it and receive an answer from peers in the WeChat group. If no one knew, the group would contact the ACC for clarification. The group was also useful in reminding members of the rules and regulations associated with the asset declaration, how to go about it as ADAs and what to do to prepare for the declaration cycle the following year.

> *"We already have a WeChat group, including all the ADAs of the Ministry. If they have any confusion regarding asset declaration, they can ask in the group. Anybody who knows the answer can answer. If not, we can facilitate. We have even conducted the ADA program. We have made (ADAs) aware of the rules and regulations. And when we have the opportunity to gather all those ADAs*

> *together, we always remind them on the ADA rules for next year, how to go about (it), what to do and all".* (P6)

The secretary of the ministry also participated in the WeChat group, which conveyed the seriousness the Ministry attached to the asset declaration. The secretary monitored what was discussed in the group and was updated on the status of asset declaration of the ministry during the asset declaration period of 2 months. The secretary would then be asked to sign the asset declaration report for the ministry, with the list of who declared, late declarants and non-declarants. If follow up actions needed to be taken, the Action Take Report would also need to be generated and signed by the secretary.

Some agencies and ministries didn't have such a peer support group and do not discuss asset declaration beyond training and meetings, but still managed to achieve high compliance rates. Although such an informal peer support group is found effective in agencies where it existed, it seems that there are other compliance drivers which may be effective in other agencies with high compliance. In fact, there may be multiple drivers which played effective roles in ensuring compliance. However, Bhutan is a small country and personal relationships are often valued in every day social settings. Therefore, peer support seemed effective where it existed.

4.4.4 PERSONAL COMMITMENT

A sizeable number of interviewees in various agencies and ministries identified personal commitment of ADAs as a distinct compliance driver. The interviewees shared positive examples of where such personal commitment ensured high compliance, whereas lack of such personal commitment led to a low compliance rate. There was no disagreement on the importance of ADA's personal commitment among all interviewees.

The fact that ADAs were human resource officers may also have influence on the government employee users, as some may fear negative repercussions of late or non-declaration on their career development, promotion and training opportunities abroad, as described in Section 4.1.

The personal commitment of ADAs was explained as his or her proactiveness and how serious they were towards their responsibilities as ADAs. ADA's attitude may also convey the importance of asset declaration to the declarants. The compliance rates were poor in the agencies where the ADAs did not take the responsibility seriously. Where the ADA is proactive, he or she will take actions, such as conducting sensitization and advocacy. Furthermore, the declarants were notified of the

deadlines and requirements properly and in time. Because the awareness among the end users was high, they tended to file the declarations in time and of good quality. Such proactive ADAs sent the asset declaration report on time and informed the head of the agency of the status and update.

> *"It depends on the proactiveness of the ADA. How serious he takes his roles and responsibilities. Even if he is appointed, if he doesn't take it seriously, compliance will not really be good. So basically, if he performs his roles and responsibilities seriously, compliance will be very high".* (B2)

Personal commitment also applied to other government officials who were involved in the management, upgrade and maintenance of the ADS. One interviewee expressed the heightened anxiety in making sure that the system functioned and performed during the declaration period.

> *"If they say that oh this (system) is not working, then I feel pressured. My system is not working. I can not sleep on Sunday. And I dream about this system (being) not working. Maybe during the declaration period, I will have such tension. Or something may go wrong and I have to be prepared".* (B4)

There was a unanimous agreement that personal commitment was an important compliance driver across functions, organizations and seniority of interviewees. Personal commitment manifested in the work of ADAs, IT support and users at large. Some interviewees shared their views that when the personal commitment was lacking, it inevitably led to late- and non-compliance, as a negative example. The above accounts were corroborated by my observations during the fieldwork.

4.4.5. TRAINING AND AWARENESS

Additionally, several interviewees cited training, advocacy, sensitization and eventual awareness among ADAs and declarants as one of the key compliance drivers. These activities were normally conducted by the ACC. As explained in Section 4.4.2, some proactive organizations and ADAs conducted such activities independently of the ACC or requested for additional support from the ACC.

Several interviewees cited sensitization, awareness raisin and training as a reason for compliance because the declarants would know what to do and when through the ADAs who received the training and sensitization.

> *"(The reason for compliance) will be the public sensitization, awareness, training, the frequent training, and then notification ADA sends".* (B4)

The sensitization included and prioritized the explanation of the consequences and penalties, placing the importance on raising awareness on the implications of being a late or non-declarant.

During the interviews, it was explained that the declarants would not consult the ADS user manuals, although it detailed the steps and requirements of the asset declaration. The demonstration of how the ADS works in a meeting was found more effective than the manuals or just presentation materials. Some declarants claimed that they were not aware of the asset declaration requirements and deadlines, despite the media outreach through the national newspapers, Kuensel, and Bhutan Broadcasting Service (BBS), during the declaration period starting January every year. The importance of sensitizing ADAs was underlined, as they guided the declarants on the submission deadlines and requirements based on the asset declaration rules and regulations. These accounts were closely linked to peer support in Section 4.4.3 and personal commitment in Section 4.4.4.

The efforts by ACC in conducting training, educational and advocacy programs was recognized as effective in the National Corruption Barometer Report 2020 (Bhutan Transparency Initiative 2020). During the fieldwork, several interviewees referred to the training conducted by ACC outside the semi-structured interviews, which evidenced the effectiveness and impact of training on the users' mind.

4.4.6. THE ROLE OF HIS MAJESTY THE KING

The role of His Majesty the King is a very unique feature specific to Bhutan. In several interviews, the reverence towards him and his words echoed loud and clear. His drive to digitization and anti-corruption seemed ingrained in people's minds and had an overarching effect on government officials' belief, attitudes and behaviors.

His Majesty the King's determination to anti-corruption was found in numerous documents analyzed for this present research. One example was his address delivered on the occasion of the 104th National Day in 2014:

> "Corruption is unambiguous- there is no great or small corruption. And no one can be above the law. But there is an even greater threat – ignoring corruption. When the corrupt are not held to account, those who observe due diligence, work hard and professionally are most likely to be discouraged. We mustn't allow the latter to lose morale by rewarding everyone indiscriminately, irrespective of his or her performance. That is why, corruption must be curtailed and, more than ever before, extraordinary

service must be recognized and rewarded." (Anti-Corruption Commission 2019, p. 5)

Several interviewees shared their reverence in their accounts. The head of ACC, the Commissioner, is appointed by His Majesty the King[45], out of 22,000 civil servants. Because His Majesty the King trusted the Commissioner, he or she was trusted by the people.

> *"All these important posts, the heads of RAA (Royal Audit Authority) and ACC, were hand-picked by him among all these 22,000 civil servants and they were given that heavy responsibility. The system (such as ADS) cannot be compromised. These people (ACC Commissioner and other appointees) directly work under HM".* (A2)

His Majesty the King's words were most effective, as he was revered and his selfless service respected by the Bhutanese people. His Majesty the King lived in a humble setting and served the people with the people's welfare in mind, unlike in other countries. He demonstrated the simple lifestyle, while visiting even remote villages across the country and got to know and solved the problems people faced first-hand. It was widely believed that the people in Bhutan were very fortunate to have His Majesty the King and their special relationships.

> *"In my own experience, I don't see anyone who works like His Majesty. Day and night. Always there. One outstanding factor is the special relationship between the public and His Majesty. There is a very special bonding, that is something that is very difficult to describe.* (F2)

Several interviewees across functions and organizations expressed similar views, reverence and respect towards His Majesty the King and the role he played in ensuing compliance among the government employee users. There was no conflict across the accounts and analyzed documents confirmed the same.

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[45] The latest appointment was announced in October 2020, available at https://thebhutanese.bt/ecb-acc-and-raa-get-new-heads/

There was a unanimous agreement on the importance of leadership as a critical compliance driver. In the agencies and ministries where the compliance was high, the leadership was invariably supportive to ADA's work and created an enabling environment for them. This leadership took a variety of forms of verbal encouragement, taking responsibilities, and demonstrated commitment to anti-corruption.

The leader played a pivotal role in supporting ADA's work. Without such support, ADAs would not be able to convince and encourage the declarants to take action as required. According to one interviewee, the formal appointment of ADA sends a clear message to the declarants. In an agency or ministry where an ADA is not formally appointed, the compliance was invariably poor.

> *"If the support is not there from the head, ADA will not be able to do much, because even for appointing ADA, the head has to appoint an ADA.* (B2)

If leaders didn't support ADA's work to conduct sensitization and training within the ministry, there was no incentive for ADAs to do the work or more work. The lack of such support conveyed the message that the asset declaration was not important and was not part of ADAs job. The leadership support and encouragement from the top were critical to the success of ADAs work and compliance.

> *"I think the encouragement from the top is very very crucial".* (P6)

In addition, the leadership in asset declaration took the form of verbal encouragement to staff in regular meetings. Some leaders brought up the asset declaration in regular quarterly and monthly meetings and asked if it was the declaration time, to draw staff attention and stimulate discussions. He or she then provided the rationale and reasons why the staff needed to declare, what happened if they didn't and legal consequences in his or her own words.

Another interviewee went further and cited an example of a leader who explained the concept and root cases of corruption, showing that he or she was serious about fighting corruption. When such determination was demonstrated, it was found effective to encourage compliance among the government employee users. The role of leadership was found particularly important, as the National Corruption Barometer Report 2020 found that corruption was concentrated predominantly at the executive level of all organizations in the case of Bhutan. (Bhutan Transparency Initiative 2020)

Some leaders were also afraid of being caught by the ACC for doing something improperly. Such leaders would make sure that such a situation would not arise and do things right. Leaders were conscious of his or her reputation and what was

reported about his or her organization. The leaders were responsible for what happened in the organizations they were managing. In case of low compliance, the leaders, or heads of organizations, would be impacted and his or her leadership capabilities could be questioned.

However, when asked about technical awareness among the leadership, interviewees invariably responded that the leaders were not keen to go into technical details for decision making, as some leaders may not have had sufficient IT knowledge.

> *"Yes, it is very difficult (to explain technical details). The management do not have the IT knowledge".* (B5)

However, it didn't mean that there was a leadership void on technical and system-related matters. The type of leadership found in the ADS implementation was more enabling than technically managing or leading the initiative themselves. When system updates and changes were needed and presented by the ADS team, the leaders welcomed and were supportive to such proposals.

This model seemed to work where there was trust between top-level decision makers and functional and technical teams. The compliance driver around leadership was developed based on various factors, attributes and conditions specific to the case study initiative of the ADS, without any conflicting accounts.

4.4.8. TECHNOLOGY-ENABLED EASE OF USE

The interviews also identified the ease of use as a compliance driver. Unless a declarant had a lot of assets to declare, which was not the case for most of the government officials, it was reported to not take time. This was explained as a reason for the high compliance by several interviewees. Filing the declaration would not take more than 10 minutes according to several interviewees, although the verification of information, such as salary, may take time.

It was widely reported that the system was easy to use and efficient, and the declarants had positive experience in declaring assets.

> *"Yes, we have personally used the online asset declaration of the ACC. And so far the experience has been very good. I think it was quite efficient".* (F2)

In addition, the automated functions, including password generation and notification, and retaining the past declaration records were compliance enabling factors. One of the most frequently encountered problems was that declarants forget their passwords, but the system had the automated function to send the forgotten

passwords without human interventions. The declaration notification was automatically sent by e-mail when the declaration was submitted. Most users didn't have to update the asset records, and therefore, could use the previous records to submit the declarations.

> *"It's mostly automated. When you forget a password, it comes back to you and then after declared, another e-mail comes to you. That's why people go easy. My previous data (is) already there. I just have to say, the same, press, press, imported".* (P4)

Although the ADS was not a tool to catch fraud, the records maintained in the system was expected to serve as evidence and keep users honest. One interviewee had asked the ACC the question on what if declarants were not honest and did not declare their assets. The response of the ACC was that since the record was kept in the system, those who did not declare honestly may be caught in the future, which may be an effective compliance driver.

The ADS was revamped almost 10 years ago. Therefore, despite the challenges government employee users may have encountered at the initial deployment stage, most users were by now accustomed to the system and procedures and there was a familiarity, which were found helpful.

Despite some sense of resignation that all the declarants had to file the declaration, there was a unanimous agreement across accounts and data sources that technology-enabled ease of use contributed directly to compliance of the government employee users. If the system was more complex and required more efforts and data in filing the declarations, it is easy to expect that less declarants would be able to complete the accurate filing in time.

4.4.9. TECHNICAL SUPPORT AND RESPONSIVENESS OF THE ACC TEAM

Lack of responsiveness from the technical team could be discouraging and demotivating to comply with the system requirements. In this regard, there was a unanimous view that the ACC's ICT Team was helpful, accessible and responsive to the questions and feedback from the users.

The responsiveness did not stop at the technical aspects, but the functional team was also found supportive and listened to the problems and concerns of the users. The feedbacks were sought not only from users but also from the ACC staff and Commission. Based on such feedback, the system was updated regularly. This

made the ADS more user friendly and effective and better achieved what the system was intended to do.

> *"The overall objective is to make the system more user friendly, more effective, comprehensive and more practical. So that it serves what it is supposed to do and it enables compliance from the declarants".* (B2)

The ACC also sent e-mail and actively solicited suggestions for system improvements. The above user orientation was corroborated and appreciated by other interviewees and ADS users.

The ACC also organized meetings to discuss system updates and changes. Such meetings further prompted a number of recommendations from the participants. What was found useful by the participants was that the changes could be made to accommodate the recommendations, because the system was developed in-house.

> *"There were a lot of recommendations from the participants. Because of being (developed) in house, the amendments were made (to the system). That was useful to the users in the pursuit of developing the system".* (Q1)

The fact that the system was developed and maintained at the ACC seemed to give the flexibility to make changes when the feedback and requests were received and approved regularly. This is linked to the discussion on ownership in Section 4.6.

There was no conflict across data sources regarding the effectiveness of technical support and their responsiveness as a compliance driver. It was a team effort between the IT and functional teams, supported by the overall guidance and direction by the ACC leadership, as mentioned under Section 4.4.7.

4.4.10. MONITORING, VERIFICATION AND FOLLOW-UP

The ADS users were aware that the ACC reviewed the submitted declarations and identified possible cases of illicit enrichment of asset and sudden increase in assets and incomes. The monitoring, verification and follow-ups by the ACC asset declaration team seemed effective in encouraging compliance among users.

One interviewee bought a house and declared it one year. The interviewee received a letter from the ACC inquiring how the interviewee managed to buy a house with the income he earned. He had to explain in writing indicating that he had gone to study abroad and obtained a loan to buy a house. According to him, such encounter increased his confidence in the ACC and the asset declaration system, because it showed that the ACC did monitor and verify the declarations carefully.

Another interviewee was also contacted by the ACC after the declaration was submitted. The interviewee was convinced that the ACC was carefully checking the declaration. In case of land purchase, for example, the declarant was asked how much, from where the funds came from, among other questions. Such follow ups enhanced the perception of the declarants towards ACC and ADS as effective.

> *"If I don't declare it, how much, how I acquired the land, they question us. It shows that it's being effective, they are using this system effectively.* (P4)

However, a report on ethics and integrity infrastructure noted limitations in the current system, namely, the declarants were unaware that the ACC verified information with concerned authorities, such as the Royal Audit Authority, the National Land Commission Secretariat, the Road Safety and Transport Authorities and banks (Anti-Corruption Commission 2015a). The verification was conducted against the Asset Verification Protocol (Anti-Corruption Commission 2011b), which was published online but not many users were aware of the document nor its verification methodology.

The fact that the ACC monitored, verified and followed up based on the data in the ADS and used the system to identify possible illicit enrichment was found effective. Although there were doubts among the declarants, detailed as a challenge under Doubt in the Effectiveness of ADS in 4.5.2., the compliance driver was found compelling among the government employee users.

4.4.11. NAMING AND SHAMING

Every year, the ACC compliance report published the functions of non-declarants on the ACC website, which produced the "name and shame" effects. The outcomes of the asset declaration, especially the names of non-declarants, were regularly reported in newspapers (Kuensel 2018b). In addition to the penalties and fines, the name and shame effect may be an effective factor in encouraging compliance among government employee users.

The effectiveness of naming and shaming was evident in the fact that the named non-declarants got in touch with concerned ACC offices immediately when the information was made public. Most people were sensitive to the fact that their name appeared negatively in the media, and because of the fear, they complied.

> *"I think, yes, it will impact them very much because as soon as we publish their name as non- declarant on the website, we get a call".* (B4)

As Bhutan is a small country, the naming and shaming effect leads to social stigma, according to interviewees. Because of that, the majority of government officials preferred to remain anonymous and avoid being non-declarants. Famous persons and politicians were particularly sensitive to the naming and shaming effect due to the sensational impact. The fear would remind all that they had to be better, good people and less corrupt. Otherwise, they would be reported in the media and their life would be ruined.

The naming and shaming effect affected not only the concerned non-declarants but also others in the organization, such as the head of agency and ADA, as it implied that the latter failed to ensure compliance. The negative impact on others seemed to be effective and led to improved compliance among the declarants in the following year if one failed to declare on time or did not declare at all.

> *"It would also affect the head of the agency that I was working for. One of his staff has not declared on time and because of that, that employee's name has appeared on the media. That would mean that the head of the agency has failed somehow. That does impact the agency and the ADAs. And overall compliance would have improved the following year onwards".* (B3)

There was no conflict across the accounts regarding the effectiveness of naming and shaming as a compliance driver. Some interviewees commented that the effectiveness was 100% in the context of Bhutan which is a small country and where social stigma is long lasting. The naming and shaming effects are intrinsically linked to the role of media and social media discussed in Section 4.4.12 and fear for punishment in Section 4.4.13. Together they created an effective mechanism to expose and report on non-compliance, which triggered cascading social impact on the lives of government employee users.

4.4.12. THE ROLE OF MEDIA AND SOCIAL MEDIA

In addressing corrupt practices and creating the naming and shaming effect, the role of media and social in Bhutan can't be overemphasized. There was a unanimous view that the media was keeping a check on corruption cases. One interviewee attributed the high ranking of Bhutan in the Transparency International's corruption perception survey to the role of media.

Bhutan has several newspaper companies as well as broadcasting services. The interviews revealed the view that the more media Bhutan has, the more corruption cases can be uncovered, which will deter people from corrupt practices. This present research corroborated the accounts with a number of media reporting by the

Bhutanese media, such as Kuensel and the Bhutanese, on corruptions cases which involved high-level government officials and politicians. One interviewee agreed that the ACC work and media coverage thereof revealed cases publicly that in the past would have been hidden.

While social media was still largely seen as a medium for gossiping by interviewees, it has increasingly become a tool the society and media can not ignore, due to its geographical reach and speed in conveying messages. People started asking government officials questions on social media. As such, social media may be providing additional accountability mechanism and be playing a more important role than traditional media.

> *"I think media including social media is playing a very good role here (in addressing corruption and promoting compliance)."* (F3)

The increasing importance of social media was reported by a newspaper article in The Bhutanese. The article highlighted that with the help of social media and technology, a private media company can compete with the established media companies, better understand people's grievances and reach more people across the countries. (The Bhutanese 2018) The role of media and social media in preventing corruption was also recognized as effective in the National Corruption Barometer Report 2020. (Bhutan Transparency Initiative 2020)

However, the above accounts would need to be placed in the context. The government acknowledged that Bhutan was ranked at 80th out of 180th in the World Press Freedom Index 2019 and there was a call to create a more conducive environment for a free and fair media in the National Integrity and Anti-Corruption Strategy 2019-2023. (Anti-Corruption Commission 2019)

There was no conflicting account across different data sources and different accounts which converged into the important role media and social media played as a compliance driver.

4.4.13. FEAR FOR PUNISHMENT

Fear of sanctions, the ACC prosecution and other punishments associated with non-compliance, especially fines, were some of additional reasons for high compliance rates. A number of interviewees shared various types of fear they had in case they failed to declare in time.

The fear may have originated from the ACC and its investigation, interrogation and prosecution authorities. People knew that the ACC went after people and took them to court. In some cases, those in question were penalized for the crimes. Such news generated fear among the people, much like the fear the police generated. That's the reason why people felt fear when they received a call from the ACC.

> *"A lot of people were taken to the court and even penalized for the crime (by ACC). It generated a fear among the public. A lot of people have this fear when ACC calls".* (F3)

Most cases were dismissed after clarifications were provided by the declarants, but the mere fact that the ACC was checking and verifying the declaration with other systems for disproportionate asset triggered fear in the declarants. The fear also represented what it could mean to one's stable life, jobs and families, if the ACC found him or her guilty by not complying.

The declarants also felt that the ACC may find hidden assets and inaccurate declarations 4-5 years later, if not now, and the penalties would be more severe. In fact, an ACC investigation led to a discovery of past false declaration in the case of the former Labour Minister (Kuensel 2019e). Due to such fear, it was speculated that declarants would be honest in their declarations. This fear for punishment is therefore closely linked to the compliance driver on monitoring and verifying discussed under Section 4.4.10, which provided technological capabilities to detect false or inaccurate declarations in the past.

Fear for penalty, in particular fines, also appeared prominently in the interviews. The fine was introduced in 2017 along with the revised Asset Declaration Rules 2017 (Anti-Corruption Commission 2017a). This monetary punishment was an effective compliance driver among government employee users.

> *"The penalty for the late declarants may not be too much, but for the non-declarant, it's a very high amount, especially in the Bhutanese context. And that does play a very important role on the compliance".* (B3)

Several interviewees confirmed that non and late declarants who had to pay penalties didn't repeat the offence in the following years, which indicates the effectiveness of penalty as a deterrent measures. This fact may explain the improvement in compliance over the years, when declarants learned the hard way after being forced to pay penalties. All the accounts confirmed the effectiveness of fear for punishment as a compliance driver.

4.5 CHALLENGES

The above sections narrated the ADS as system innovation and success in ensuring compliance among the government employee users. Various types of compliance drivers were identified by document analysis, observations and semi-structured interviews. However, it does not mean that the ADS didn't encounter challenges. Unaddressed, the challenges may undermine the legitimacy of the system and asset declaration as a function in the future. The next section identifies some of the major challenges which were identified in the interviews, observations and document analysis.

4.5.1. APPLICATION OF ADVANCED TECHNOLOGY

Several interviewees perceived that the system would benefit from technological upgrades and advancements, which was supported by my observations during the field study. One respondent assumed that the ADS interfaced with other systems and verified the accuracy of submitted data and information against the data stored in other systems, such as vehicle and land registration systems. Systematically interfaced with other systems, the ADS could have compelled declarants to submit comprehensive and accurate information.

In particular, some interviewees believed that the ADS should get data from other systems so that users didn't have to populate assets one by one, and at the same time should be easy to validate the information and further increase transparency.

> *"ACC needs to be high tech. They need all the expertise and they should be able to look into (all systems). If they encourage some of these systems (to interface), their work will be easier". (G1)*

But the above-mentioned integration with other systems has other ethical, legal and data privacy implications. A common policy framework among agencies and systems may be needed to enable data sharing and verifications more efficiently and effectively. Additionally, the ADS declarants encountered Internet connectivity challenges, especially in remote districts, such as Trashi Yangtse and Zemgang. The connectivity problem frustrated the declarants and may impact on the compliance rates in the future.

The need for exploring systems and mechanisms to encourage proactive sharing of information across agencies was recognized in the National Corruption Barometer

Report 2020 (Bhutan Transparency Initiative 2020) and in the National Integrity and Anti-Corruption Strategy (2019-2023) (Anti-Corruption Commission 2019).

4.5.2. DOUBT IN THE EFFECTIVENESS OF ADS

Although compliance was high, some thought that the system was not enough to prevent corruption. Even if the tool was developed for prevention, the users expected corruption to reduce with such systems as ADS, as the users felt that there were still lots of corrupt practices in the country.

The interviewees generally perceived the system and asset declaration as good initiatives, but it was not sufficient to control corruption. There were declarants who did not declare assets and income honestly, while the interviewees felt that they were witnessing a number of corrupt behaviors. Therefore, the asset declaration may be perceived as a mere formality.

> *"Well, it is a good initiative, I must say that. But it is not foolproof system to control the corruption, because despite having the system, there is lot of corruption going on. A lot of people don't declare their assets, income. I feel it is just mere formality to update"*. (R3)

But there was a more nuanced view from another interviewee. Although some directors and managers may not have shared the same level of awareness and motivation, this interviewee felt that some professional groups were more committed to conscientiously submitting their declarations without errors and in time.

In response to my question on the recent arrest of the former Labour Minister partly due to the false declaration in the past, which was maintained in the system, the interviewees felt that the part played by the ADS was not significant. A complaint triggered the ACC investigation which then cross-checked his past declarations. However, he would have been arrested for accepting bribery any way, with or without the charges for false declarations. Without such a complain and investigation, false and inaccurate declaration would remain undetected. In fact, the former Labour Minister submitted the declaration in time and it was accepted at the time of submission.

Another challenge lied in how the verification of submitted declarations was structured. The ADA was expected to examine the submitted declarations and notify the head of agency in case of DA or complaint. However, not all ADAs were equipped to verify DA. The afore-mentioned report on ethics and integrity infrastructure recommended that decentralised verification should be strengthened

with random audits and checks by the ACC. To overcome the challenge and ensure detection of illicit enrichment, the same report suggested the development of relevant indicators, such as disciplinary actions, prosecutions and public requests for asset declaration, in addition to the level of compliance (Anti-Corruption Commission 2015a).

4.5.3. RELUCTANT COMPLIANCE

Although all the interviewee declarants complied with the asset declaration requirements, there was a level of reluctance among some declarants, which may erode confidence and compliance in the future. Some felt that the asset declaration was a burden, and did not take it seriously, because they saw the declaration as a routine, administrative procedure, and were unable to see it as a means to ensure integrity among the government employees and control corruption.

> *"Another reason for poor compliance could be that the civil servants don't take the declaration seriously. It's a mentality issue. They think that it is a routine, administrative procedure, instead of ensuring the integrity among the employees and control corruption".* (R1)

Despite all the listed wide-ranging challenges, the ADS and the ACC managed to achieve a high level of compliance. It could be summarized that the compliance drivers outweighed and outnumbered the challenges. However, unless the challenges are addressed, confidence in the system may be eroded and compliance may reduce in the future.

4.6. SUMMARY: ADS COMPLIANCE DRIVERS

Section 4.4 identified 13 compliance drivers in using the ADS. Guided by a similar structure and logic used in the categorization of compliance determinants in Table 2, the ADS compliance drivers can be grouped into Organizational, Leadership, Social and Technological categories as listed below.

- **Organizational compliance drivers:** credibility and trust in the ACC, organizational setup, training and awareness;
- **Leadership compliance drivers:** the role of His Majesty the King and leadership;
- **Social compliance drivers:** peer support, personal commitment, naming

and shaming, the role of media and social media, and fear for punishment;
- **Technological compliance drivers;** technology-enabled ease of use, monitoring, verification and follow up, technical support and responsiveness of the ACC team.

Interviewees identified formal organizational compliance drivers, such as credibility and trust in ACC, organizational setup and training and awareness, as effective and the accounts were corroborated with document analysis and observations. The ACC was widely respected and at the same time feared for its investigation and prosecution functions. The declarants felt that the ACC was doing a good job and therefore, the ADS as a system was trusted. Some ministries and agencies took initiatives to appoint additional ADAs, while allocating ministry and agency budget to organize conferences and meetings specific to asset declaration. The ACC also organized a series of training, awareness raising and sensitization activities across the government, which was found essential for compliance. The compliance rate was reported low where the ADAs and declarants didn't know asset declaration, the ADS system function and penalties.

Another compliance driver group centered on leadership. The role played by His Majesty the King was significant and agreed upon by interviewees and corroborated by other data sources. His commitments to promote ICT and eradicate corruption resonated across the government employee users as a strong driver of compliance. Leadership in the context of compliance took the form of supporting the ADA's work, encouragement and confirming the importance in meetings. Additionally, some leaders could link the ADS and asset declaration to overall anti-corruption efforts. The fact that leaders owned the asset declaration and responsibilities seemed to have conveyed unequivocal messages to declarants. It was also speculated that leaders didn't want to be seen as failing in ensuring compliance for their own reputation. However, the leadership in the implementation of ADS was not seen technologically aware, but provided an enabling environment for agile and timely system updates and changes.

The fieldwork also found social compliance drivers as important and effective. Peer support was rendered through various mechanisms such as a WeChat group. Equally important was personal commitment of ADAs. Where ADAs were active, the compliance rates were reported to be high. Most interviewees agreed that punitive aspects of asset declaration were found effective in ensuring compliance. The naming and shaming in the media was found particularly compelling, although it may trigger negative emotions by those affected by naming and shaming. If one's name appears in the media, others in the organization, such as the head of the agency and ADAs, would also be affected by the media coverage. In the process, the role of media and social media was found effective as a compliance driver. The declarants were additionally fearful of penalties and fines. The fines for non-

declaration amounted to a significant sum in the Bhutanese context and the fear for fines was palatable during the interviews. The fact that no non-declarants repeated the offence was another indication of the effectiveness of penalty as a compliance driver.

Technology played a critical role in ensuring compliance. Interviewees confirmed that the ADS, as an established system, was easy to use and several functions were automated. Most declarants didn't have many assets to declare, and therefore, the filing did not take more than 10 minutes because past records were made available to declarants. Many users tended to forget their passwords but the retrieval was made automated, and so was the e-mail notification upon submission. Another technological contribution to compliance was monitoring, verification and follow-up. Although the declarants may try to hide assets, the system maintained the records over years, and the declarants feared that the ACC would discover the discrepancies eventually.

Several interviewees commented on the technical support and responsiveness of the ACC ICT and functional teams. In particular, the concerned officials made consistent efforts to reach out to users and ADAs for comments and feedback, for the improvement of the ADS. The interviewees reported that a number of recommendations were made by users and were implemented as system updates. Several interviewees appreciated such efforts by the ACC.

Finally, the chapter ended with the description of identified challenges the ADS faced in ensuring the compliance among the government employee users. While the compliance rates were high, the confidence and compliance may be eroded in a future if the identified challenges were not addressed in time. These challenges included lack of advanced technology to further automate and enhance verification and monitoring, doubts in the effectiveness of ADS and reluctant compliance. Some employee users believed that the asset declaration was a mere formality, because the system was perceived as not effective in reducing corruption in the country.

The case study initiatives were selected with the criteria of local ownership and donor-funded ownership as detailed in Section 3.5. Local ownership was defined with government funding and system development by government employees. Donor-funded ownership was characterized by external donor funding and system development with external experts. The ADS was selected as an example of local ownership, while the *e*-PEMS was selected for donor-funded ownership.

When asked about local ownership of the ADS and how important it was to interviewees, they had mixed responses: several confirmed that local ownership could increase their trust in the system, while the others would have preferred that external experts develop the system. However, all interviewees recognized the

importance of the system having been developed with the government funding and expertise, although they were not aware that the ADS had been developed with local ownership, before the interviews. Therefore, ownership may not have had direct impact on compliance among the government employee users.

However, there were indirect impacts of local ownership. Some indirect benefits of an in-house development included the ability of the ADS IT team to change and update the system flexibly and nimbly as requested by the ADS functional team, users and management, as elaborated under Technical Support and Responsiveness of the ACC Team in Section 4.4.9. The newly introduced feature of automation was appreciated by the interviewees, as detailed under Technology-enabled East of Use in Section 4.4.8. The system was developed by the government employees in the IT team, which demonstrated strong personal commitment to ensure that the system functioned optimally, evidenced under Personal Commitment in Section 4.4.4. The interviewees may not have connected local ownership as a concept and how it impacts different aspects of compliance during the interviews, but the indirect effects of local ownership were wide-ranging and significant.

CHAPTER 5: CASE STUDY INITIATIVE: ELECTRONIC PUBLIC EXPENDITURE MANAGEMENT SYSTEM (E-PEMS) OF THE MINISTRY OF FINANCE

> *"Majesty has been reminding the people that being small is an opportunity that makes the country smart. Technology, according to His Majesty The King, is an indispensable tool necessary to realize this aspiration"*
> *(Kuensel 2019d)*

This chapter discusses the second case initiative, the *electronic* Public Expenditure Management (*e*-PEMS) of the Ministry of Finance (MoF). The chapter first describes the context in which the *e*-PEMS is situated in Section 5.1. The *e*-PEMS is at the heart of the government's efforts to modernize public financial management and control corruption. Before detailing the functionality of the system, this chapter introduces some of the recent fraud cases and incidents that form the context in which the system operates and what the system is expected to do to prevent the recurrence of such systemic corruption in Bhutan (Okuda 2020a). The chapter then describes *e*-PEMS as ICT system innovation in Section 5.2, followed by Section 5.3 on the level of *e*-PEMS compliance. The chapter describes the identified compliance drivers in Section 5.4, followed by the challenges associated with the e-PEMS in Section 5.5, before concluding with the summary in Section 5.6.

In the same manner as in Chapter 4, a compliance driver is defined as a category and group of inter-linked factors, attributes and conditions which are evidenced to have direct impact on compliance of government employee users in using e-governance systems. Each compliance driver is explained with data from semi-structured interviews, document analysis and observations. The quotes which best describes the factors, attributes and conditions of a compliance driver was added to the narrative as the evidence[46]. The data derived from document analysis, including the newspaper articles of Kuensel and Business Bhutan, was used for the purpose of triangulation.

While the preliminary results of the semi-structured interviews on the Asset Declaration System (ADS) informed some of the questions used to examine the *e*-PEMS, the data collection and analysis on each initiative was conducted separately and independently.

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[46] Some quotes contained grammatical errors, repetitions and unclear terms. Such errors, repetitions and unclear terms were corrected in this Chapter to enhance the readability.

5.1. BACKGROUND OF THE *ELECTRONIC* PUBLIC EXPENDITURE MANAGEMENT SYSTEM

This section first introduces prominent fraud cases which were reported by the Bhutanese media over the recent years as the background. The cases illuminate the context in which the public expenditure management systems operate in the country. The section also describes the financial information management system as well as public expenditure management system in general and what is expected of such an IT system. That is followed by a brief introduction of PEMS and why it needed to be upgraded to *e*-PEMS.

In 2018, the Anti-Corruption Commission (ACC) found eight government employees working at the Paro International Airport involved in the embezzlement of Nu. 7.278 million ($102,348) between 2013 and 2017. These were immigration officers who had been responsible for collecting visa fees at the airport. They were provided booklets to issue receipts for visa fees received from foreign visitors. Internal audits by the Ministry of Home and Cultural Affairs (MoHCA) found that 1,300 pages from the booklets were missing and alleged that they were used for the purpose of embezzlement. The fact that this case implicated as many as eight employees in a crime that had spanned four years attracted media attention (Business Bhutan 2018a; Okuda 2020a).

A second example was covered in newspaper articles from Business Bhutan and Kuensel, exposing government employees who had reported false travel claims as reported in an article (Okuda 2020a). The Royal Audit Authority (RAA) reviewed travel and daily allowance claims by officials of the Ministry of Agriculture and Forests (MoAF) and Dzongkhag (district) Administrations of Thimphu, Paro and Punakha districts between 2012 and 2017. The authorities found that Nu 1.110 million ($15,610) had been claimed without undertaking or substantiated travel in 2016 and 2017. Significant deficiencies and weaknesses were reported over travel budget use, such as non-compliance with travel procedures, inadequate controls over processing and scrutiny of travel claims, despite travel being the second highest budget expenditure item (Business Bhutan 2018b). A Kuensel article on the same topic reported that from the lowest position to the highest, everyone seemed to be involved in such inflated claims, which left no one to file a complaint, while previous audit observations seemed to have gone unheeded (Kuensel 2018a). The RAA report concluded that effective coordination between controlling and disbursing officers and closer monitoring would be essential to ensure that travel budget was spent prudently and in compliance with travel rules (Royal Audit Authority 2018).

In 2019, RAA published its 2018 annual report and revealed that the authority had recovered Nu 106.368 million ($1.5 million) after issuing 597 audit reports to government agencies and public corporations. Unresolved audit cases still amount to Nu 604.380 million ($8.5 million), up from Nu 407 million ($5.7 million) in 2017. The irregularities were caused by shortfall, lapses, deficiencies, non-compliance with laws and rules, mismanagement, fraud, corruption and embezzlement. One official was quoted as saying that despite improvements in internal management systems, there remained weaknesses in internal control and management and a lack of experienced employees (Kuensel 2019c, The Bhutanese 2019; Okuda 2020a).

In Spring 2020, Kuensel published another news article on the case of misappropriation by a Gewog (block) accountant in the Trashigang Dzongkhag (district) (Kuensel 2020a). She was alleged to have embezzled Nu. 10 million ($140,485) between 2016 and 2018 manipulating the checks and vouchers in the Public Expenditure Management System (PEMS). The article pointed out weak supervision, monitoring and verification at various levels as a cause of incident, as she could create fake names and other details in the vouchers. The Gewog (block) leaders were quoted as saying that they were operating under trust. The case was found by RAA in an audit. There was another similar case where an accountant in the Samdrup Jonkar Dzongkhag (district) was alleged to have embezzled Nu.8.4 million ($118,309), found again by auditors. Another Kuensel article cited a weak supervision and monitoring as a cause (Kuensel 2020b).

The above examples illustrate some of the challenges encountered when the previous Public Expenditure Management System (PEMS) were operational in managing government funds. They suggest underlying challenges associated with the use of information technology systems in managing public funds and expenditure and detecting fraudulent practices. In 2020, Bhutan Transparency Initiative (BTI) published the National Corruption Barometer Report 2020 which was funded by the ACC. The total of 1,152 respondents confirmed that corruption has been an increasing concern, driven by "trading influence, failure to declare conflict of interest, abuse of function, bribery, and embezzlement". The report cited that perceived corruption was the highest at the ministries and in particular at the executive level. (Bhutan Transparency Initiative 2020, p.ix)

To prevent fraud and enhance and enforce internal control, a financial management information system (FMIS) plays an increasingly important role. One of the functions FMIS normally undertakes is payment. A payment order authorises a payment after available funds have been checked and designated officials approve

of it. Payment instruments include cheques, electronic fund transfer (EFT), and cash. In a centralised system, an accounts department issues payment orders for payments. The accounts department at the Ministry of Finance establishes relevant regulations and guidelines by issuing instructions related to preparation of financial accounts, financial reports and bank reconciliations. Lines ministries execute the budget allocated to them by procuring goods and services and making payments, and report to the Ministry of Finance on their financial operations. FMIS eases transaction processes, consolidates data, implements control and produces management and financial reports at the Ministry of Finance (International Monetary Fund 2016). If an FMIS is well designed and functions optimally and the government employee users comply with the system requirements, it is speculated that it is difficult to embezzle funds or hide discrepancies unaddressed, because of the transparency and traceability in the system (Okuda 2020a).

In Bhutan, government revenues and expenditures have been managed by several IT systems, such as the Planning and Monitoring System (PlaMS) of the Gross National Happiness Commission (GNHC), the Multi-Year Rolling Budget (MYRB) System of the Department of National Budget under MoF, as well as, the Public Expenditure Management System (PEMS) (Okuda 2020a). According to the RAA audit report, PEMS was developed during the fiscal year 2008-2009 and the records in PEMS are available from July 2010 (Royal Audit Authority 2016). The Department of Revenue and Customs manages the Revenue Administration Management Information System (RAMIS), which was developed with Asian Development Bank (ADB) funding. Payroll accounting also uses the data from the Civil Service Information System (CSIS) of the Royal Civil Service Commission (RCSC) (Royal Audit Authority 2016).

As illustrated in Figure 14 below, the Public Expenditure Management System (PEMS) obtains budget data from the Multi-Year Rolling Budget (MYRB) System that the Department of Budget maintains. PEMS provides the functionality of budget execution and reporting by booking expenditures and providing the basis to monitor the budget, including at municipal levels. All budgetary agencies, or agencies covered in the government budget, are required to initiate and execute transactions in PEMS. The system also captures closing cash balances on a daily basis. The year-end closing cash balance is reported through the Department of Public Accounts (DPA) in July every year. Each budgetary agency submits its Budget Utilization Plan (BUP) for approval of its budget to the DPA through PEMS. Based on the Budget Utilization Plan (BUP), agencies then submit fund release requests in the system. Funds are released to agencies through Letter of

Credit/Project Letter of Credit (LC/PLC)[47] authorisations to the agencies' LC/PLC accounts. Subsequently, payments are made by respective agencies according to BUP. Various control functions are embedded in the PEMS to mitigate risks of errors in financial statement, fraud and other irregularities (Okuda 2020a). For example, PEMS restricts disbursements beyond budget appropriations (Royal Audit Authority 2016).

Figure 14: Relationships between PEMS and other financial management systems implemented by MoF
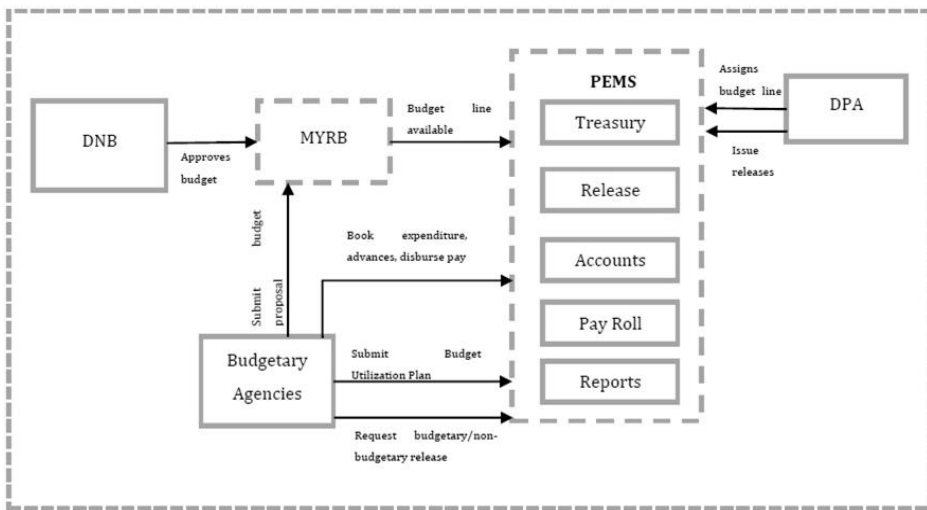
Source: Business process flow in PEMS, prepared by DPA, MoF

Access and privileges to financial records and information are granted as per the Public Finance Act of 2007 and 2012 and Financial Rules and Regulations. A user is given a unique identity with a password and different levels of access depending on the individuals' roles and responsibilities, such as System Administrator, agency heads, division chief, supervisor, verifying officer and approving officer. Access level is controlled by role management in the system and user identity is recorded with each transaction, thus enabling an audit trail to identify each user and transaction in the system. Each agency has an internal audit unit, which is given read-only access to records and information of the agency, while external auditors are given full read-only access to conduct audits. Changes to financial records are restricted by level of access and associated privileges and such changes are maintained in the system for audit trail. PEMS has the functionality to generate

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[47] LC and PLC are sub-accounts of the Government Consolidated Accounts.

reports on all financial transactions for further review and analysis (World Bank 2016; Okuda 2020a).

In this context, the World Bank conducted an evaluation of Bhutan's PEMS in 2016 using the Public Expenditure and Financial Accountability Framework (PEFA). It rated key functions of Bhutan's public expenditure management and financial accountability from A to D, with A being satisfactory and D unsatisfactory. In the evaluation, internal control in PEMS was rated as D with a comment stating that "(t)here are serious weaknesses in internal controls in PEMS payroll module and significant observations are made by the auditor on the adequacy of controls to ensure integrity of the payroll data" (World Bank 2016, p. 88). Public asset management, regularity of reconciliation and clearance of suspense accounts and that of advance accounts, all done in PEMS, were rated as B, C, and B respectively (World Bank 2016; Okuda 2020a).

Additionally, discrepancies and non-compliance in using PEMS have been observed and reported by both the World Bank and the RAA. One of the observations was made in the payroll function. Monthly payroll was processed in PEMS, which triggered direct bank transfers to government employees' bank accounts. The World Bank report took note of the existence of maker-checker control in the PEMS payroll module, but smaller agencies were found not following this control requirement. In particular, non-finance employees were unfamiliar with the PEMS and could not operate it meaningfully. Therefore, a finance officer implemented all transaction steps, including creating and approving transactions, regardless of the internal control requirements. In the case of payroll processing, the finance staff generated a payroll voucher in PEMS and a hard copy had to be signed by supervisors for approval, but the voucher did not contain the details of individual employees. This segregation of duty is established on paper, but not in the system, and could pose a weakness in internal control. As a consequence of such practices, the World Bank report noted that inconsistent numbers of employees and their contributions to the Provident Fund had been found in PEMS and other records (World Bank 2016; Okuda 2020a). Furthermore, the RAA had found payroll irregularities of Nu 9.6 million ($135,002), including duplicate payments, in 2013-2014 (World Bank 2016).

The RAA conducted an audit, specifically on PEMS, to determine "the existence, adequacy, and effectiveness of controls in PEMS in relation to financial management" (p.1), while aiming to identify vulnerabilities in the system, which could be exploited for manipulations and fraud. More specifically, the audit reviewed policy and procedures to safeguard financial data from unauthorised access, documentation to enable future enhancements and system upgrades. The audit identified

several weaknesses in PEMS, including non-segregation of duties, weak input control, inadequate audit logs and trails to record information about activities and transactions, weak master file controls, limited ICT security policy and a lack of change management process (Royal Audit Authority 2016; Okuda 2020a).

The semi-structured interviews corroborated how such fraud happened prior to the introduction of e-PEMS, due to weak internal control as well as limited audit logs and trails. Cheques were issued as payment instruments under PEMS and finance officers or accountants used to sign a check. But the process provided opportunities for manipulation, including cutting the name in the check and replacing it with someone else's name. Although a bank statement should enable the reconciliation between who was supposed to receive the check and who actually received it, it was found difficult to trace who cashed the check.

> *"Cutting the name on the check and writing (someone else's) names. These things had happened in the past. Most of the corruption was because of that check (manipulation)".* (Q1)

Furthermore, the RAA auditor mentioned that PEMS project documents or systems documents were unavailable at the time of audit and that the PEMS IT personnel performed the maintenance and enhancement based on their tacit knowledge, not based on technical documentation. Subsequently, the RAA made audit recommendations to address the identified weaknesses, including improving controls and implementing electronic fund transfer, such as an electronic payment gateway (Royal Audit Authority 2016; Okuda 2020a). Based on the audit observations, the MoF established a Technical Working Group at the DPA and was working on improving the PEMS in consultation with various agencies (World Bank 2016).

5.2. THE *ELECTRONIC* PUBLIC EXPENDITURE MANAGEMENT SYSTEM (*E*-PEMS) AS ICT SYSTEM INNOVATION

This section describes the *e*-PEMS as ICT system innovation to prevent the recurrence of irregularities, overcome the shortcomings emanating from PEMS and address audit observations and recommendations which were detailed in Section 5.1. In addition to the overview of the system, this section focuses on three functionalities of *e*-PEMS, namely master file management, voucher preparation and maker-checker concept, which are integral parts of internal control in any FMIS.

In recognition of the PEMS shortcomings and audit observations and recommendations, the *e-PEMS* was developed based on the Public Finance Act 2007, its amendment 2012 as well as Financial Rules and Regulations of the Royal Government of Bhutan 2016. The Finance Secretary established the *e*-PEMS team comprising staff from the Department of Public Accounts, ICT Section and consultant (Ministry of Finance 2019a: Okuda 2020a).

At the launching of the system in July 2019, the Finance Secretary, Mr. Nim Dorji, was quoted as saying that a strong public expenditure management system was a necessity for Bhutan to graduate from the status of the least developed country, as the system would nurture a culture of fiscal discipline and ensure sensible utilization of public resources.

> *"Since Bhutan is preparing to graduate from its least developed country status, strong Public Expenditure Management System was critical in providing a culture of fiscal discipline for sensible utilization of public resources".* (World Bank 2019)

According to Okuda (2020a), the functional and technical requirements of *e*-PEMS were developed using the International Monetary Fund report entitled "Shifting expenditure control to the Public Expenditure Management System" (International Monetary Fund 2016). The functional specifications were developed around the major objectives of

1. Enabling real-time inter-banking settlements for all types of transactions
2. Issuing acknowledgements for payment orders and for payments by payees and suppliers
3. Enabling correction of wrong transactions
4. Meeting audit requirements
5. Automating links among the *e*-PEMS, Bank of Bhutan (BoB) and Royal Monetary Authority (RMA) systems
6. Ensuring approval of payments with authorised signatories
7. Improving payroll and remittance payments
8. Enhancing system security and reliability

The system was developed by the DPA in collaboration with Bank of Bhutan (BoB), Royal Monetary Authority (RMA), Department of Revenue and Customs (DRC) and the Department of Information Technology and Telecom (DITT), funded by a multi-donor trust fund with contributions from the European Union and Austrian Development Agency, administered by the World Bank. There was an external

expert onboard to update the system. The training was provided to users with 24/7 technical support system (Ministry of Finance 2019a and 2019b; Okuda 2020a). All *e*-PEMS transactions have to be routed through the BoB, which manages the government accounts. Therefore, the development of the Global Interchange for Financial Transaction (GIFT) by RMA enabled *e*-PEMS transactions with non-BoB banks (Kuensel 2019d).

Figure 15 illustrates interactions between the *e*-PEMS and a vendor who needs to be paid as well as interfaces among different government IT systems. A vendor interacts with the budgetary bodies or the government agencies which execute the government budget in *e*-PEMS. The vendor data is sent to the concerned budgetary body which then passes the verified data onto the DPA to enter to the master file in *e*-PEMS. The taxpayer number and other details derive from another system called RAMIS, or Revenue Administration Management Information System. The transactions and payment instructions are sent first to BoB, a commercial bank which manages government accounts. The Figure 15 shows one to one and one to many transactions going to BoB, while BoB returns acknowledgement, or Ack, in the diagram. For a vendor which has an account with BoB, the fund is deposited directly into its BoB account. There are other commercial banks operating in Bhutan, such as Bhutan National Bank (BNBL), Bhutan Development Bank (BDBL), Tashi Bank (TBANK) and Druk Punjab National Bank (DPNB). For a vendor which has an account with one of the non-BoB banks in Bhutan, the transaction passes through an interface called GIFT, managed by the RMA.

Figure 15: Relationships between e-PEMS and Bank of Bhutan (BoB)
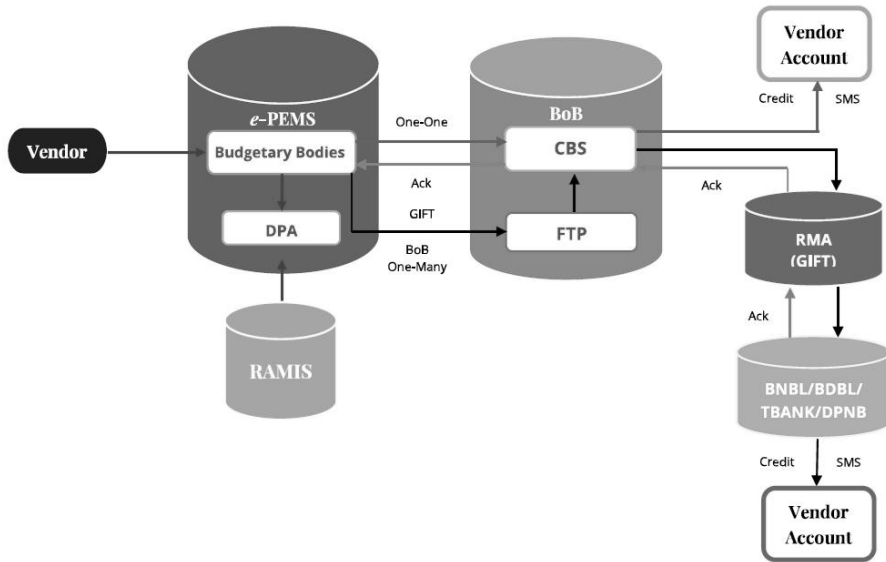
Source: Ministry of Finance (2019b)

This present research focuses specifically on the electronic payment part of *e*-PEMS implementation as it has direct relevance to control of corruption, internal control and compliance among government employee users (Okuda 2020a). More specifically, this research examines the three functional and technical features, namely

- User management
- Voucher preparation, verification, approval and reversal with payment instructions and
- Maker-checker processes.

The three functionalities were selected based also on the findings of the World Bank evaluation and the Royal Audit Authority's audit observations and recommendations detailed in Section 5.1.

User Management

As RAA audit findings and World Bank evaluation indicated, a weak user management would undermine efforts for establishing audit trails, while enabling

unauthorised access to the system and then financial transactions. The previous user management in PEMS allowed duplicate and generic user names to be created in a decentralised manner. In the *e*-PEMS, there was a one-time user creation, managed centrally by the DPA *e*-PEMS administrator according to a new User Management policy and naming convention. A finance officer or any other designated officer was assigned as agency administrator in the *e*-PEMS. He or she assigned agency users to the LC/PLC accounts of the agency, created payroll departments and assigned the users to the payroll departments in the *e*-PEMS (Okuda 2020a). Different levels of authorisations (voucher verification, voucher approval, payment instruction, release request approval and release approval) were given to users as detailed in Table 14.

Table 14: Types of users and level of authorization

Roles	Authorized Signatory				
	Voucher verification	Voucher Approval	Payment Instruction	Release Request Approval	Release Approval
System Admin	No	No	No	No	No
Agency Admin	Yes	Yes	Yes	Yes	No
FTMD[48] Chief	No	No	No	No	Yes
TMD[49] Chief	No	No	No	No	No
Account Division Chief	Yes	Yes	Yes	Yes	No
Agency User	Yes	Yes	Yes	Yes	No
TMD User	No	No	No	No	No
FTMD User	No	No	No	No	No
Director	Yes	Yes	Yes	Yes	Yes
PEMS Client Support	No	No	No	No	No
Agency Report View	No	No	No	No	No
DNB[50] User	No	No	No	No	No

[48] Fiscal Transfer and Monitoring Division of the Department of Public Accounts, MOF
[49] Treasury Management Division of the Department of Public Accounts, MOF
[50] Department of National Budget, MOF

PEMS SDS head	No	No	No	No	No
RAA User	No	No	No	No	No
GNHC[51] User	No	No	No	No	No

Source: Reconstructed from Ministry of Finance (2019a), p. 21; Okuda 2020a

The process of centrally managed user management and master file creation was explained in detail and corroborated during the interviews. The user and vendor data was mapped against 13 party types, such as employee and supplier, in the system. The system was set up to make 15 types of transactions, such as salary payment. The user or vendor data was matched with the appropriate transaction type when a transaction was processed. This account was largely corroborated in the e-PEMS user manuals on party master (Ministry of Finance 2019d), user management (Ministry of Finance 2019e) and account payee master. (Ministry of Finance 2019f)

Voucher

This *e*-PEMS module was used to post transactions and disburse public funds in accordance with the applicable financial rules and regulations. If government employee users ignore the system requirements in creating, verifying and approving vouchers, it might be easy to embezzle funds and initiate frauds. There were four types of vouchers in the *e*-PEMS, namely, disbursement, journal, reversal and others. Disbursement vouchers were used to process payments and was linked to LC/PLC accounts. Both bank and cash transactions were previously processed in the PEMS. Journal vouchers were used to correct errors to already processed disbursement, journal and other vouchers. Reversal vouchers were used to cancel disbursement, journal and other vouchers. When a voucher was reversed, a reverse voucher was automatically generated. Other vouchers were used to record cash receipts, recovery of advances and other types of deposit. These vouchers were verified and approved by the verifying and approving officers. E-mail notifications were sent to verifying officer when an accountant submitted vouchers for verification (Okuda 2020a).

In the *e*-PEMS environment, payees' details in voucher documents were derived from a master file with an option of manually uploading information for special transactions. The payment modes were expanded into bank, cash and direct transactions. Cheques were fully eliminated in the *e*-PEMS, and cash was allowed only for advance adjustments and the recovery of excess payments. Direct transactions

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[51] Gross National Happiness Commission

were possible only for payment for fuel, official credit card transactions and bank charges. A voucher was then submitted for verification and approval. The voucher was rejected in case of a mistake. If it was approved, payment instruction was generated along with the accompanying reference code. The payment instruction was then validated before being sent to BoB online. In the case of a correction of disbursement, journal or other voucher, reversal took place by selecting LC/PLC, months and voucher number and providing justification for reversal (Okuda 2020a).

During the interviews, the process of voucher preparation, verification and approval in the *e*-PEMS was explained and corroborated. First, an accountant prepared a voucher, using the budget line and selecting payee. The voucher was then submitted to the verifying officer to check the accuracy of the budget lines, payees, amount and any errors. The verified voucher was then submitted to the approving officer for cross-check, after which it was submitted for e-payment. The authorized official was given a one-time password to finally process the e-payment (Okuda 2020a).

The *e*-PEMS still relied on paper-based approval. The accountants needed to present supporting papers, such as invoices, in the voucher preparation process in *e*-PEMS. The supporting papers were approved, if they were in good order, and were sent back to the accountant who presented the paper for approval. Based on the approval, the accountant prepared the voucher and sent it to the verifying officer in *e*-PEMS. Most of the *e*-PEMS users who participated in the interviews appreciated the fact that the check was eliminated. The rest of the steps basically were found the same as in PEMS.

> *"The only difference is that the check part is eliminated. That is, the rest is all the same".* (Q1)

Maker-checker processes

The maker-checker concept aims to prevent one person from creating and approving a voucher, thus establishing checks and balance in the process, which is an essential internal control mechanism. Before the *e*-PEMS was implemented, there were three levels of checks, namely, voucher preparation, voucher verification and voucher approval. In the *e*-PEMS, an accountant prepared a voucher and submitted it for verification. In case the voucher was rejected by the verifying or approving officer, the same person that originally submitted the voucher would create a new one. When a new voucher was submitted after rejection, the same verifying or

approving officer would verify or approve the new voucher. Once approved, the approving officer generated the payment instruction and validated it before sending it to the bank. If BoB rejected the payment instruction, it was returned to *e*-PEMS with a pre-established rejection code. Only the DPA can modify the instruction and then return it to the approver for approval before sending it back to BoB (Ministry of Finance 2019a; Okuda 2020a).

5.3. *E*-PEMS COMPLIANCE

Following the overview of *e*-PEMS as ICT system innovation, this section assesses the level of compliance among the *e*-PEMS users who are accountants and finance officers within the government. The system was launched in July 2019. When the interviews were conducted from September 2019 to January 2020, the system was still in the process of being stabilized. However, since the users were familiar with the previous PEMS and the steps required for *e*-PEMS transactions were largely the same, the level of *e*-PEMS compliance was high and financial transactions continued without major disruptions.

Within a month of its introduction, *e*-PEMS recorded 17,923 transactions worth over Nu 3 billion ($42.19 million). The RMA governor was quoted as saying that *e*-PEMS would promote transparency and accountability because the centralised database was available to policy makers, legislators and auditors to examine government expenditures, while the process of manually writing and processing cheques were made redundant (Kuensel 2019d; Okuda 2020a).

As a newly revamped system, delays were inevitable and led to unwanted consequences. Indeed, one delay in *e*-PEMS reportedly led to the death of a baby in a remote district of the Dagana district. The district health officer was quoted in a newspaper article saying that when *e*-PEMS was introduced, it took time to obtain budget, which was supposed to be used to buy ambulance fuel. By the time the ambulance reached the village, it was too late and the baby had died. The story written by the father of the deceased baby went viral on Bhutanese social media (Kuensel 2019a). However, MoF officials responded that training on the use of *e*-PEMS had been provided to officials including those at the Dzongkhag or district levels (Okuda 2020a).

In addition to the above incident of baby's death, issues were also reported in relation to government employee salary payments. In the previous PEMS, monthly

loan and insurance payments from government employees had been deducted at source, but *e*-PEMS facilitated only statutory deductions, such as taxes, health contributions, among others. Personal loans were now to be paid by the government employees themselves, using available mobile banking applications. Initially, there was insufficient awareness among the government employees on the new procedures, which resulted in loan defaults, but the problem had subsided by September 2019 (Okuda 2020a).

In the first two months, the volume of *e*-PEMS transactions exceeded Nu 6.3 billion ($88.6 million). Transparency and accountability were expected to increase as vendors and service providers needed to be registered centrally by the DPA and be paid directly without having an accountant issuing a cheque (Kuensel 2019b; Okuda 2020a).

In terms of the transaction volume, it was estimated that 500 transactions were processed by *e*-PEMS daily.

> *"If I talk about daily basis, the number of transactions for one to one (transaction) is definitely more than 500".* (C3)

Despite the initial deployment problems, the system has been used by over 700 accountants and financial officers posted in all ministries and Dzongkhag (district) administrations including sub-unit of Gewogs (block). At the same time, the use of *e*-PEMS was compulsory, as the accountants and finance officers had to process transactions and payments in *e*-PEMS to do their work. However, the compliance level could have been lower for technical and other reasons, although it was compulsory.

The high compliance and *e*-PEMS success were cited from various angles during the interviews. One example was salary payment. In the PEMS, checks were issued for the payment of salary of government employees. Inevitably, there had been long queues at the banks to cash the checks at the time of salary payment. Now, with the electronic payment introduced by *e*-PMES, not many people were found lining up in the banks and payments were processed electronically and instantly. This helped agencies and ministries to use staff time more efficiently and the organizations to grow.

> *"The first week of August, people were saying that not many people (were) in the bank, now that everything is electronically happening".* (C3)

During the interviews, it was also corroborated that all the accountants and finance officers were using *e*-PEMS to make transactions, including salary payment of government employees. They had to use *e*-PEMS to process payments and salaries.

> *"Even those who haven't received training, they are using. You have to use the system to pass any transition".* (C8)

The use of checks provided opportunities for manipulation and was considered as one of the challenges encountered in PEMS, detailed in the above Section 5.1. During the interview, it was corroborated that the use of checks was discontinued in *e*-PEMS. Previously, some checks had been issued without any corresponding records in the PEMS, which must have created discrepancies between available funds in the system and bank statements. It was speculated that such discrepancies were not identified because the bank reconciliation was somehow manipulated. Therefore, in addition to the introduction of e-payment, elimination of checks was touted as a success.

There were also other questionable practices using checks in PEMS. Some accountants and finance officers withdrew a large amount of cash under their names and kept it with them for the purpose of bill payments. However, there were cases of allegedly misuse by some accountants and finance officers and financial records were "adjusted" when it happened. With the introduction of *e*-PEMS, such a practice was now controlled.

However, despite the high number of successful transactions, there was an incidence where an accountant in the Trashigang Dzongkhag (district) did not comply and transferred over Nu. 3 million, or $42,253, of government funds into her personal account via e-PEMS, as corroborated by several interviewees. It was possible because she was the one who created, verified and approved the transactions without oversight and internal control.

> *"I believe in one place in Trashigang (district) or somewhere, it happened. That lady, that particular accountant has cashed around (Nu) 3 million ($42,253) and put in her account because she is the one who verifies and approves (in the) e-PEMS. There's nobody to monitor. She has the power to do whatever she likes. It is risky. It is very very risky".* (Q1)

Despite the high level of compliance and wide-spread use of the *e*-PEMS among the accountants and finance officers, internal control and checks and balance continued to be a challenge and in fact came up as a risk in various interviews. The details of limited internal control and how the e-PEMS team was addressing the challenge are described in Section 5.5.5.

5.4. ANALYSIS ON E-PEMS COMPLIANCE DRIVERS

Although it is mandatory for accountants and finance officers to use the *e*-PEMS to do their jobs, there could be workarounds and other ways to manipulate the system. In fact, there are a wide variety of technological and other challenges in the *e*-PEMS that were mentioned during the interviews, as summarized in Section 5.5. It is therefore important to analyze why the vast majority of government employee users comply with the *e*-PEMS requirements and achieved the high compliance level, despite the challenges and opportunities for manipulation and fraudulent practices.

This section summarises the 13 key compliance drivers found in the document analysis, my observations and semi-structured interviews in the examination of the *e*-PEMS implementation. The order of these compliance drivers is not intended to imply the importance or any other meaning. In the same manner as in Chapter 4, a compliance driver is defined as a category and group of inter-linked factors, attributes and conditions which are evidenced to have direct impact on compliance of government employee users in using e-governance systems. The factors, attributes and conditions were identified from interviews, document analysis, such as newspaper articles and reports, and my observations.

This present research adopted the thematic relevance approach in which the number of interviewees expressing their independent opinions is considered more important than the number of times the idea was expressed and coded per interviewee.

There were both positive and negative accounts towards the importance of the same compliance driver. Positive accounts explained that some factors triggered positive outcomes, while the lack of the same factors led to less compliance. Some accounts were nuanced, reflecting personal experiences and perspectives, which were triangulated with other data sources. The names of compliance drivers were developed using inductive coding. The detailed definition of each compliance driver as well as what it includes and excludes are listed in Code Book in Annex 6.

5.4.1. THE ROLE OF HIS MAJESTY THE KING

His Majesty the King is deeply respected in Bhutan. In several interviews, the reverence towards him and his words manifested and his resolve and commitment to

anti-corruption seemed ingrained in people's minds and had an overarching effect on government officials belief, attitudes and behaviors.

One example of His Majesty the King's resolve to anti-corruption and better management of resources is cited in the national budget of financial year 2019-2020. While underlining the importance of prudent financial resource management, His Majesty the King placed the responsibility squarely on the shoulders of civil servants.

> "As a developing country, we have limited resources. We must manage our available resources wisely, minimize waste, and ensure that all our resources are directed at improving the well being of the people, and in fulfilling our national vision. The civil service is tasked with the oversight, management, administration, and disbursement of funds for governance. So the responsibility falls squarely on the shoulders of our civil servants to ensure efficiency and effectiveness in utilizing our scarce resources." (Ministry of Finance 2019c, p.1)

The interviewees believed that Bhutan was fortunate to have the monarchy who kept an eye on everything and His Majesty promoted anti-corruption efforts. With the help of IT system and because the people respected His Majesty, there was a hope that corruption may be reduced in Bhutan soon.

> *"I think the good thing about Bhutan is that we have a monarchy who keeps an eye on everything and I'm sure because wherever His Majesty goes, he always talks about corruption and being a good human being helping each other. And I'm hopeful that people will respect his wishes with the intervention of IT services".* (O2)

The respect and reverence towards His Majesty the King was unanimous among the interviewees. His resolve to control corruption and drive for digitization seemed to have guided compliance among the government employee users.

5.4.2. LEADERSHIP IN THE GOVERMENT

During the interviews, leadership was frequently cited as an important compliance driver in the context of *e*-PEMS implementation. The trust the users had with the leader, in particular the Finance Secretary, was identified as a compliance driver. Together with the director of the DPA, he travelled around the country and advocated for the use and benefit of *e*-PEMS among accountants and finance officers. The Finance Secretary also talked about *e*-PEMS, its benefits, needed reform and support from accountants and finance officers in every finance meeting, which ensured their compliance.

The statement of Finance Minister was also quoted in a World Bank blog which summarized the development of Bhutan's financial information systems.

> """This is a historic move in terms of structural and systemic changes in streamlining the Public Financial Management (PFM) system in Bhutan" said Honorable Finance Minister Namgay Tshering, adding that as the country progresses, the use of IT [Information Technologies] tools has become inevitable". (World Bank 2019)

The leadership commitment to upgrade the financial information system and demonstrate fiscal discipline should also be seen in the context of Bhutan's efforts to graduate from the status of the least developed countries (World Bank 2019).

At the same time, the interviewed *e*-PEMS users felt proud of being a finance officer and a representative of the Ministry of Finance in a working agency (a line ministry or agency he or she is posted in). When the MoF, the parent agency, initiated a system like *e*-PEMS, it was expressed during the interviews that all finance staff should appreciate and support the initiative.

> *"As a finance (officer), I take pride in that (system), because I'm also a representative of the Ministry of Finance. When the Ministry of Finance have initiated, we should all appreciate and take (pride) of all the positive".* (Q1)

Additionally, MoF had credibility, budget and authority to command compliance among the government employee users. One interviewee commented that the users had to comply because the system was initiated by the person the users were reporting to.

The leadership which emerged in the case of *e*-PEMS took a very specific and unique form. On the one hand, there was a strong drive to digitize from leaders, but on the other hand, the leaders were not seen as ICT-ready and savvy across the government. This specific aspect of leadership was expressed frequently during the interviews.

> *"And the issue we are facing is, the higher management are not IT related. They don't understand (IT)".* (R3)

When asked about the level of awareness on *e*-PEMS and if e-PEMS training was arranged specifically for leaders, it was confirmed that there was no such training. It was speculated that the decision makers, such as ministers and prime minister, should be aware of the existence of the system as it was widely reported by media. It was widely assumed that the decision-makers were aware of *e*-PEMS functionality, but the officers would not be able to go and check with the ministers.

It was relevant officers' duty to appraise the ministers and secretaries in their ministries on *e*-PEMS and any updates or issues with the system. However, the interviews revealed that challenges and opportunities related to *e*-PEMS were not reported to secretaries and ministers. The technical issues encountered by the *e*-PEMS users were considered trivial, not the type of issues which warranted the highest-level attention.

Additionally, e-PEMS was considered as an operational matter and the minister and secretary didn't ask questions on the system, either. Therefore, the responsibility and accountability fell on the finance officers and accountants in the case of *e*-PEMS, based on the mutual trust between decision makers and *e*-PEMS users.

> *"I must say frankly, till now I haven't appraised the minister. And since it is more operational, the responsibility, accountability falls on us, (in) using, making and dispersing funds. That way I think they fully trust us. They don't even ask much about this".* (Q2)

There was no conflict across all data sources regarding the effectiveness of leadership as a compliance driver. However, what emerged in the interviews were more nuanced accounts of leadership and their relationships with the e-PEMS users, namely accountants and financial officers across the government.

5.4.3. EFFICIENCY GAINS

Most e-PEMS users cited efficiency gains as a motivation to use *e*-PEMS. The system was able to process payments and transactions faster and more transparently, with reduced time and efforts by accountants and finance officers. For example, the government had previously processed individual loans through PEMS. If an officer had a personal bank loan, the loan payment was processed at the time of salary payment as part of the payroll system. This was a complex operation, which many finance officers confided was the case.

The accountants and finance officers were happy that the personal loan payment was now removed from the government payroll function in the *e*-PEMS, and this was a much-needed reform. Some of these officials had complained to the Finance Ministry in the past that processing government officials' personal loan payment should not be the duty of accountants and finance officers. Previously, the month end salary disbursement had to start as early as 5th of each month due to the complexity of processing personal loan payment. Now, with the removal of personal loan payment in *e*-PEMS, the complex task and workload on accountants and finance officers was reduced.

Furthermore, electronic payment transactions reached the payees faster. In the check systems under PEMS, the payee had to wait and received the cash the next day or after, but the *e*-PEMS payments were processed instantly, in a minute or two, if there was no technical issue. The payees were naturally happy to receive the payment quickly.

> *"Now in our system, if there's no technical issue, they get the payment on time. Instantly after one to two minutes. I think for that the users are happy. They get the payments very fast"*. (C8)

The elimination of checks had another efficiency gain. Vendors and suppliers didn't have to come to the ministries and agencies to receive checks. It was particularly daunting for payees from other districts, such as Bumthang and Trongsa. Check books also cost: Nu. 50 (USD 0.7) per booklet. Electronic payments also eliminated the need to purchase the check booklets from the respective banks.

> *"They (payees) don't have to come to follow up on the thing. Some vendors from Bumthang and Trsongsa (districts), and all. We send e-mail"*. (P5)

The efficiency gains brought by the *e*-PEMS was an effective compliance driver, as the users were convinced that the system brought benefits not only to themselves but also to vendors and payees, according to the accounts from several interviewees. Despite the initial technical hiccups which were reported by newspaper articles (Kuensel 2019a and 2019b), the technical problems seemed largely subsided after October 2019.

5.4.4. FAMILIARITY WITH THE EXISTING SYSTEM AND EASE OF USE

Since e-PEMS was an upgrade to PEMS and was not an entirely new system, it was easy to transition, use and comply with the system requirements. It was commented during the interviews that most of the functionalities were the same between the two systems, and most users were familiar with the steps and procedures, which helped the transition to the *e*-PEMS and might have helped convince the users to comply.

The two systems were almost the same, except the check elimination and automated bank statement reconciliation, which was an improvement and upgrade.

> *"PEMS and e-PEMS (are) almost the same. Inside it's all the same but in e-PEMS, we don't write checks. That's the only difference. Then bank statement*

reconciliation, we don't need to punch manually. That's one improvement for e-PEMS". (P5)

The *e*-PEMS was found easy to use and does not require extensive financial knowledge to operate, because all the necessary information was already built in the system. A user just needed to know the account, category of payee and transaction type, as described in Section 5.2. The system automated the rest of transactions, such as debit and credit in the accounting.

> *"They really do not have to be so financially sound to use the system because everything is in the system. You just have to go through each category and just go on doing the transaction. The system takes care of everything else; which side has to be credited, which side has to be debited. Now (it is) so much simpler".* (C3)

The similarities between PEMS and e-PEMS were detailed in Section 5.2. There was no conflict across various data sources regarding the familiarity with the existing system and ease of use as a compliance driver. If the systems were dissimilar and users needed time and efforts to learn the steps and procedures, compliance might have been lower.

5.4.5. CENTRALIZED MASTER DATA MANAGEMENT AND MONITORING

The DPA team in the capital now managed the master file of vendors and employees with centralized access control and kept an eye on the financial activities in various parts of the government agencies across the country. Such features were expected to help prevent e-PEMS users from not complying and misusing the system.

With the effective and centralized management of the master file by the DPA team, the government users would not be able to manipulate the payee information at the agency level, as was done in the previous check system. The vendor payee information needed to be sent to the DPA for their entry in the system as an internal control mechanism.

> *"If I have to make payment to you, I cannot punch your details here (in an agency). I have to take all this information from you and get the information punched in the system from the Public Accounts (DPA). And then only I can make the payment. So those rights and restrictions are there, for the internal control system".* (P2)

The DPA has access to centrally monitor activities in other ministries, agencies and district administrations in the *e*-PEMS, regardless of the physical location of the office. This visibility and central monitoring capability seemed also effective to encourage compliance among the government employee users.

> *"Only the Ministry of Finance, those who are developing the system can have the access to all the information. They are given the rights. And if something is wrong in place like Luntshi or Trashigang (district), they will just send a mail and through the mail, they can have access to everything. What is wrong there and could make the correction".* (P2)

These accounts were corroborated by the system documents, such as System Business Requirement Document (Ministry of Finance 2019a) and the *e*-PEMS user manual on party master (Ministry of Finance 2019d), user management (Ministry of Finance 2019e) and account payee master. (Ministry of Finance 2019f) The interview accounts detailed the steps and procedures to centrally update the master file in Section 5.2.

What is noteworthy on this compliance driver is that in addition to the central oversight capabilities in managing the master file, each transaction made in all offices across the country, regardless of location, can be accessed by the DPA team in the capital. It was a compelling factor to prompt compliance among the government employee users, especially in districts.

5.4.6. TECHNOLOGY AND AUTOMATION

Furthermore, the *e*-PEMS users underlined several technological features and automation in *e*-PEMS as compliance drivers. The e-PEMS compliance rate was 100% and it was because the system automated functions and services and was a real-time system, without delays in transactions which had been experienced in the previous check-based system.

> *"Why they are 100 percent compliant in the system is mainly because it is automated more or less, (it is) a real time system compared to the check system".* (C8)

Transparency in transactions increased with the *e*-PEMS introduction and automation. Once the payee was selected and transaction was made in the system, the transfer was automatically effected to the payees account. Therefore, there was no space to manipulate.

> *"I think, now the fraud will be reduced, because we have all the list of vendors, list*

of employees working here. Once we punch in the names, (the payment) will go automatically to their respective account. There is no chance of manipulation or fraud or something like that. (R2)

Such technological features and automation generated fear, caution and carefulness among the *e*-PEMS users. Because the transaction and payment were electronic, it was processed instantly. Once the payment was processed from the respective account, there was no way to make a correction. Previously, passwords of staff had been shared, but now the password management was enforced and complied strictly by the *e*-PEMS users.

Automation in utility payment in the *e*-PEMS was cited as another example. Ministries and agencies had to pay various utility bills, such as electricity, telecommunications among others. The *e*-PEMS automated the process and generated the bill payment amount as some utility companies created an interface with *e*-PEMS, although, as detailed in Section 5.5, not all attempts to interface with external parties were successful.

The technology and automation introduced by the e-PEMS enabled instant electronic transactions and kept their records in the system in a systematic manner. This compliance driver led to adjustments on the government employee users' attitudes and behaviors and their enhanced compliance. There was no conflicting account across various data sources.

5.4.7. TRANSPARENCY, VISIBILITY AND TRACEABILITY

Additionally, several interviewees voiced transparency, visibility and traceability *e*-PEMS introduced as a compliance driver. Previously, the PEMS made unnecessary deductions and payments, as the system could have the same employee's information in two organizations and the system did not have the technology to detect the duplicate employee records. With the *e*-PEMS' new payroll module, the issue was resolved.

Another transparency brought by *e*-PEMS was the bank statement and reconciliation. In the previous check system, the actual cashing took time, sometimes months, after the issuance of checks. It was also challenging to identify who cashed the check, against the records available at the ministry and agency, as such cases could accumulate. Now, with the instantaneous payments and electronic records in the bank statement, any discrepancies could be spotted and tackled within the month, thus leaving little room for manipulation.

> *"With the e-payment, what is most transparent is the bank statements. There is very little room for corruption. We know who has withdrawn the money".* (Q1)

Previously, a possible manipulation had involved changing the payment amount on the check. In the new system and transparency it brought, such a practice was no longer possible.

Another feature the *e*-PEMS brought in was traceability, in addition to transparency. In PEMS, tracking and tracing was time consuming and almost impossible, when bank reconciliation was a complex task. In the new e-PEMS, the account information and payee can be easily tracked with the employee ID (EID) and tax payer's number (TPN) from the master file, which was centrally managed. Such transparency and traceability seemed to deter manipulation attempts and encourage compliance.

> *"If there is corruption, we have to go and search for the people; whose account is this and whose number is this. For e-payment, all the accounts are tracked and TPN (tax payer number) is tracked. I think there is transparency."* (P5)

There was no conflict across data sources. It was clear in the interviews that the government employee users understood that there was no room for manipulation in the e-PEMS and they had to comply.

5.4.8. E-PEMS IT SUPPORT

Despite numerous issues the e-PEMS users encountered especially at the beginning of the deployment, the responsive IT support helped ensure user compliance. When technical and functional issues remained unanswered, it would be difficult for users to comply. In the case of e-PEMS, the interviews revealed that the IT support was responsive and resolved issues as they were reported.

When there were issues, the users sent e-mail to a group e-mail account which was established for the purpose and the issues were resolved in a time manner. User manuals and periodic information sharing and official notification upon system upgrades were also found useful. The same information and documents were also uploaded to the website. In addition to the official letters, they kept the accountants and finance officers in the loop on the system upgrades and changes.

When a user reported an issue, some corrections were normally made quickly, but at other times, it took longer, such as 2-3 days. Although the user would not know

what was being done, what was reassuring to him or her was that the actions were being taken by the team to address the issue.

Reporting and explaining technical issues in e-mail was a challenge. In such a situation, accountants and finance officers personally went to the DPA office with their laptops.

> *"You have to write mail. Sometimes we had to take our laptops and go. Because through mail they (IT support team) don't understand much. Then you go personally down there (DPA) to solve our problems".* (P5)

The last statement corroborated my observations at DPA where finance officers and accountants frequented to bring errors to the e-PEMS team physically during my fieldwork. There was no conflict across data sources.

5.4.9. PEER SUPPORT AND PARENTING ARRANGEMENT

One of the most striking features in the e-PEMS implementation is the sense of community, comradery and commitments to the profession, developed by the peer support and parenting concept of the Ministry of Finance. Facilitated by institutional instruments, such as promotion and transfer, these elements seemed to encourage mutual compliance among the e-PEMS users.

The strong bond, culture and traditions among accountants and finance officers also manifested as commitment to work. They set up an informal WeChat group and provided support to each other when they encountered problems in the *e*-PEMS use. By doing so, they were all able to learn from each other. The accounts were corroborated by other interviewees who said that issues were raised, discussed and resolved in that WeChat group.

> *"We have our (WeChat) group here, national accounts group. We discuss there. They (express) their own views and we'll solve the problem".* (P5)

As the WeChat group included the officers from the Ministry of Finance, the support team also got to know the issues the users were facing.

As the system development and stabilization continued, the manuals and written materials became obsolete and the update did not catch up and keep pace with the fixing and therefore, the WeChat group turned out to be a very effective way to get things done for the users. The user manual was increasingly considered merely as broad guidance.

All the accountants and finance officers reported to the MoF for transfer and promotion and to the working agency (where they are placed) for day to day financial management. One interviewee was happy to assist the working agency to disburse and manage funds, but they considered the Ministry of Finance as their parent agency where they belong to.

> *"All of us, all accountants are directly under the Ministry of Finance. We have to report to the Finance for transfer and promotion. We consider the Ministry of Finance as our parent ministry".* (Q2)

Among the accountants and finance officers, the fact that the MoF, their parent agency, initiated the system seemed to have decisive impact on the level of compliance. Some interviewees shared that accountants and finance officers belonged to one professional category, according to the Civil Service Rules of Bhutan and promotion and transfers took place within the occupational group every five years. The view on this compliance driver among the e-PEMS users was very similar and seemed to ensure compliance among themselves.

5.4.10. PERSONAL COMMITMENT

It was not only the leadership and peer support which compelled compliance, but also individual commitment. What came out clearly during the interviews was the personal commitment of finance officers and accountants to doing the job well. Sometimes they had to reconcile between what the system required and the reality where not all financial decisions made at the working agencies conformed to the rules and regulations.

In response to a question on compliance across ministries and agencies, the interviews revealed that the compliance level indeed varied. In some agencies, when finance officers and accountants tried to comply and enforce internal checks, the other officers smartly found workarounds and different ways. The interviewees commented that the level of compliance depended largely on supervisors, finance officers and chief finance officers who should persevere and insist on compliance. In the lower administrative level of Gewog, or block, compliance depended fully on the accountants and their personal commitment.

> *"I don't think that the compliance is the same throughout the agencies. It will depend on the financial officer or the chief financial officer. They're the main people who should be complying, whether it's in the rules or through the system".* (C4)

But internal checks and compliance were not always easy to ensure. It was the

mandate of finance officers to follow the rules and regulations which was developed and sent by the Ministry of Finance, their parent agency. If the head of the working agency approved something beyond what the rules and regulations stipulated, it was the responsibility of the finance officers to advise the head of the agency. If the advice was not heeded, discrepancies may occur between the parent agency and working agency, and it took personal commitment to ensure the compliance.

> *"As a finance adviser or a finance personnel out here, it is our mandate to confine to the rules. Rules and regulations were framed and sent by the Ministry of Finance. We are here to apply that. When the approving authorities approved and sent to us (instruction), it is our mandate to check and advise the head, the one who approved, that something has gone wrong, you have approved beyond what is there in the rules".* (Q1)

Sometimes, personal commitment also appeared in case of problems. As detailed in Section 5.5.2, the system has encountered a number of technical issues and the users demonstrated personal commitment to persist and resolve the issues.

> *"Sometime I send email. If that does not work, I go (to DPA) personally, because there are issues where e-mail cannot capture. If that (issue) is being kept pending for longer duration, party will make a complaint, (saying) that you have started e-payment system. You are saying on press of a button, you will give the payment and you are taking 2 months and 3 months (to process a single payment). What is the use of implementing this system?".* (P2)

In a small country like Bhutan, personal commitment detailed above is difficult to exercise on a daily basis, if a supervisor or head of agency do not comply with financial rules or e-PEMS steps and requirements. Several interviewees shared similar views on challenges they faced, across organizations and ranks in the hierarchy.

5.4.11. FEAR FOR PUNISHMENT

The finance officers and accountants feared that auditors would eventually find a misuse or fraud, if there was any such incidence, due to the transparency, visibility and traceability the *e*-PEMS introduced. In addition to the fear towards the ACC, the government employees respected and feared the audit authority for different reasons. The RAA conducted compliance audits among ministries and agencies, which provided additional impetus to enhance compliance (Anti-Corruption Commission 2015a).

The interviews detailed how irregularities and lapses were found by the RAA and affected the finance officers and accountants in multiple ways. When the auditor found irregularities and lapses, the finance officer and head of the agency were held accountable and their names were recorded in the audit system. Bhutanese civil servants needed an audit clearance for wide ranging HR actions, such as promotion, transfer, training and scholarships to study abroad. If one's name was recorded in the audit system, an audit clearance would not be granted, and the opportunities for promotion, training and scholarships would be lost. As such, possible irregularities and lapses the audit may finds were a real cause of fear for finance officers and accountants.

Some ministries, such as MoF, have prominent posts abroad, such as in embassies, consulates and missions, for the service of three years. In the selection for these posts, the panel reviewed all aspects of candidates, including the audit clearance and any issue at the working agencies. Therefore, all finance officers and accountants were careful with their reputations and tended to comply, so as not to miss such opportunities.

> *"Now we have foreign postings and we get three years to serve in the embassies, consulates and missions. When panelists select (candidates) for foreign postings, they consider all those factors. So if there's any issue encountered in those agencies and if finance officers involved, then surely his selection will be affected. So yes they have to be careful with the reputation".* (C4)

During the interviews, an actual example of punishment against a government official who stole government funds was shared.

> *"As time went by, it got accumulated. Today, Nu. 100,000 ($1408), tomorrow Nu. 50,000 ($704) and it got accumulated and then ultimately the audit (discovered it). And now she's is bearing the blunt of what she has done. She has been terminated, suspended. Now she has to refund all the money, with penalty interest and even face charges".* (Q1)

In this case, the audit ultimately discovered the embezzlement, and the concerned government official was terminated and asked to refund all the money with penalty interests, while facing criminal charges. Such examples and cases triggered fear among the finance officers and accountants and encouraged them to comply. There was a unanimous fear for punishment among the e-PEMS users, without any conflict across data sources.

5.4.12. NAMING AND SHAMING

Some interviewees mentioned the fear of their names appearing on the media, so called naming and shaming, as a major compliance factor and deterrent from corruption and fraud. In the past, some accountants were named in fraud and misuse cases in the media. That had impact on other finance officers and accountants.

> *"Because in the past there were cases, similar cases where accountants have misused the money. Their names appeared in the media. I think they (finance officers and accountants) fear of that".* (C8)

The fear for naming and shaming affected the mindset of finance officers and accountants. Once someone or some cases got media attention, they were put under scrutiny, exposed. Other people may have compromising information related to fraud or misuse. It could easily be leaked to the media. When that happened, the names of the finance officer and head of the organization may appear in the media. Finance officers and heads of sectors had significant roles to play in the offices, and they did care if their names appeared in the media. Their reputations would be tattered and the Ministry of Finance would get to know the problem.

> *"If they don't comply and if there is an issue reported in the media, their reputation will be affected. And when their reputation is affected, it would be noticed by the Ministry of Finance."* (C4)

The interview accounts were similar without any conflicting views on the effect of naming and shaming on compliance. It was the matter of not only their own reputation and opportunities but also impact on other people, including the head of agency, and the MoF, their parent agency.

5.4.13. THE ROLE OF MEDIA AND SOCIAL MEDIA

The fear for naming and shaming also impacted the government employees' relationship to media and discouraged whistleblowers to approach media. Because they were afraid of upsetting bosses or undermining his or her future career prospect, the government employees normally didn't wish to talk to the media even if he or she knew that something was wrong. Instead, they tended to resort to social media and hinted the wrongdoing, which could then be picked up by the mainstream media. But such cases were still rare.

> *"Sometimes they use social media to hint people that there's something going on. Sometimes they give tip off to media but it is very rare. They (government officials) are really protective".* (F3)

Social media provided an important platform for whistleblowers to raise awareness on corruption, which was then taken up by traditional print media in Bhutan. One whistleblower created a fake account on social media and posted the evidence of fraud. It prompted the ACC to initiate an investigation. The person in question, an administrator, was caught and eventually imprisoned, but it took the whistleblower more than two years.

> *"What happened is he created a fake account and put everything on social media. That prompted the ACC to investigate and that administrator was imprisoned. His case is still in the high court. But it took that whistle blower more than two years".* (F4)

This new role of social media, providing a platform for whistleblowers, was also changing the relationship between traditional media and social media and the way traditional print media got news. Increasingly, the traditional mainstream media verified what was reported on social media. Initially, it was the broadcaster which broke news and print media would follow up. Now, the news was broken on social media first, and mainstream media then verified what was reported was true or not and produced an investigative report.

The interviewees from different organizations and functions provided consistent and similar views regarding the role of social media and media as a compliance driver. Because any irregularities and non-compliance could now be easily reported to social media, the employee users have become cognizant of the implications.

5.5. *E*-PEMS CHALLENGES

While it was widely acknowledged that the system has brought a significant level of efficiency, transparency and traceability, not everyone was onboard from the beginning and at the time of my fieldwork, challenges and shortcomings also surfaced in the interviews as well as during the observation period. The main challenges were categorized into 1) consultation and coordination among finance officers and accountants, 2) design and implementation, 3) application of advanced technology, 4) training and sensitization, and 5) internal control.

Several interviewees indicated that they had not been involved or consulted in advance, which perhaps led to some of the dissatisfactions expressed by some interviewees. Initial and iterative consultations and coordination may have been effective in addressing gaps and challenges identified by the RAA, such as internal control.

Some interviewees were not involved in the designing or re-designing of the system as well as development of functional specifications and requirements. Only after the launching, an order came to start using the system.

> *"I wasn't involved in any of the initial inception period. It was the mandate of the Department of Public Accounts. They had the core team there, e-PEMS support. Only after July when it was launched, it came as an order to us to start practicing, following the process, the payment systems".* (Q1)

It was corroborated by other interviewees that consultation and coordination took place only with a few agencies based in the capital, due to the time limitation and completing requirements.

> *"To be frank, we had no discussion as such. Even when we developed this system, we had only a consultative meeting with the few agencies based in Thimphu, so just to check the readiness of going with the e-payment."* (C4)

User and stakeholder consultations as well as consolidation of user requirements are fundamental steps for an ICT system design and implementation, supported by testing, user acceptance and communication. In the case of *e*-PEMS, several interviewees expressed their concerns on this point, taking into account the critical role the *e*-PEMS played in the public expenditure management for the entire government and country. In addition to consultation and coordination, one interviewee wondered if experienced developers should had been brought onboard and if proper testing had been conducted early on in the development process, as the interviewee was just informed that the system had been rolled out, without such information.

After the launch in July 2019, a series of technical and functional problems started surfacing, including in the payroll module of *e*-PEMS, such as the elimination of personal loan payment, as described in the Section 5.4. While the efficiency gains were recognized, several interviewees commented that the consultation and user outreach was not sufficient, and caused loan non-payment and defaults at agency banks. These issues could have been identified and addressed before the launch.

What is striking about the e-PEMS development is that the design and implementation went through an unconventional system development approach of learning by doing. For instance, for the critical interface with banks and the RMA, normally a few rounds of testing would be expected. However, on the day I conducted interviews, I observed that there was a tense commotion among the key interviewees because the payment instructions sent to a bank from e-PEMS did not go through and there were complaints from users, evidenced also by the below account.

When the system was rolled out, the team did not have the clarity in some of the processes and detailed requirements to develop interfaces to external systems, such as utility companies. The *e*-PEMS development was characterized as agile, learning by doing. When the team encountered technical and functional issues, they consulted with the stakeholders and team members and fixed the issues in the system as they went.

> *"When in the initial phase, we rolled out the system, we were not clear about some of the processes because some of the processes are dependent on other stakeholders like utility payments. It was kind of a learning through doing. Whenever we faced issues, we consulted stakeholders and if we had to make changes in our system, we immediately discussed in our team and then we made changes".* (C4)

The technical hiccups were also reported in newspaper articles. The notification in changes in personal loan deduction was made on 16 August, but the government employees were not sufficiently aware of the change, which led to loan defaults.

> *"The finance ministry has issued a notification on August 16 stating that only statutory and common deductions like taxes, health contribution, provident fund, house rent for government quarters, GIS and welfare fund would be facilitated by ePEMS."* (Kuensel 2019b)

When system changes were introduced incrementally, they inevitably affected different parts of the system which were not designed to function and perform the way the new changes required the system to perform. If not carefully planned and orchestrated from the beginning, these new changes could trigger cascading and multiplying technical problems.

The system was just launched at the time of my fieldwork and since then, a number of improvements were introduced and the system was stabilized. However, unaddressed, such technical problem would no doubt undermine the confidence users may have in the system and increase doubt on why they have to use the system.

The unconventional development also manifested in the lack of documentation,

such as System Requirement Specifications (SRS) documents and user manuals, and frequent changes to the design without change management governance, while already solutioning and after rollout. The interviews revealed that the team did not have time to update the SRS, while major changes were introduced to the system. Although the SRS was considered as a living document, it did not reflect even 50% of the system specifications.

There was an *e*-PEMS user manual, but because system changes were frequently made, the user manual could not be consulted when they were using the system, because these changes were not reflected in the document, either. Therefore, the WeChat group, mentioned in Section 5.4.9, may have been found most effective in addressing problems the users encountered in their daily operations.

Due to the frequent changes, it is uncertain if the fundamental principles of internal control and checks and balance were maintained or not, due also to lack of documentation and change control mechanism. When asked about the impact of these changes to the system design and development on internal control intended in the initial design, one interviewee had a doubt and there was no clear answer. The system was initially designed to put in place internal control and prevent misuse, but if the design was reopened and all the pieces in the system depended on each other, it was not sure how the internal control function would eventually work.

The implementation challenge was summarized well by one interviewee who compared the design and development experience to clinging to a floating boat and managed to stay afloat on the surface in the middle of the ocean.

> *"I felt that I was in the middle of the ocean. Maybe one boat was floating there. I just climbed on that and steered and stayed onto the surface.* (C7)

5.5.3. APPLICATION OF ADVANCED TECHNOLOGY

Technology can do more to further enhance transparency, visibility and traceability as well as achieving the e-PEMS objectives, including recording user activities using logs. When inquired about these opportunities and potentials during the interviews and observations, I was informed that MoF was planning to implement a more comprehensive system and that the team was aware of the potential utility of advanced technology and the e-PEMS was a transitional measure.

> *"If you're talking about the kind of activity the person is doing (to track) we cannot (do that) as of now. We only know when he has logged in and he has logged out".* (C3)

The maker-checker concept was not entirely materialized in the current e-PEMS design, either. The current system has implemented 4 steps of maker-checker concept: voucher preparation, verification and approval, followed by the payment instruction to the bank. The design anticipated 4 different individuals to perform each step, but in reality, in smaller agencies, one person performed all steps, which created risks, as the below Section 5.5.5. detailed. The technology used was not able to accommodate different levels of internal checks (among central, district and block levels, or across budget entities and agencies).

> *"There are smaller agencies, like regional offices and Gewongs, or blocks. There, only one finance person is working. We are not able to put (4 steps) in the system. We do have provision, but we are not able to restrict it in the system"*. (C4)

Furthermore, the *e*-PEMS relied on hard copy and finance officers and accountants were still required to obtain approval on hard copies, in addition to the approval of vouchers in the system. When asked why the accompanying hard copies were needed in addition to the approval in the system, one interviewee responded by saying that it was an audit requirement, but the audit requirements could have been included in the design phase.

> *"When the audit people come, all they want is the documentation. That's why in the designing phase, we should have informed the audit"*. (P4)

To my question on the system capability to manage documentation trails, one interviewee explained that the details of the approval were not captured and were not available in the system. Without hard copy trails, an *e*-PEMS user would not be able to determine if the approval was obtained based on the supporting documents or not. What an *e*-PEMS user could see in the system was how much was transferred to which account and when, which was considered as a limitation in the current system.

> *"Because without those papers uploaded in the system, I cannot determine whether the approval is there or not. At the moment what I can say is okay on this day this much amount has been passed to this account number. I think here I can see one limitation (in the system)"*. (Q2)

Related to the issue of information and system security, some interviewees expressed concerns about the perceptions on system's security risks. Even banks suffered from hacking and banks normally have more secure systems. What about the government systems, an interviewee asked. It was the mandate of the finance personnel to secure the systems and make sure that the government funds were sent to the right destinations.

5.5.4. TRAINING AND SENSITIZATION

In contrast to the ADS, the training and sensitization efforts of e-PEMS seemed limited. Although the *e*-PEMS functionalities were similar to those of PEMS, user training and sensitization among finance officers and accountants may have provided information and skills to address technical and user problems which followed the rollout of the *e*-PEMS in July 2019.

> *"They (government officials) are very much aware that government has initiated this e-PEMS system. We had one launching ceremony e-PEMS. We're in Thimphu, we were called to the launching ceremony. And all the finance officers (attended). So that was the sensitization at the national level".* (Q2)

Some *e*-PEMS users shared their experiences and felt that more sensitization, advocacy and training could be helpful, especially in the payroll module.

> *"One of the problems was that the Ministry of Finance has not done enough advocacy in terms of our finances (officials), regarding the payroll system".* (Q1)

The training conducted by the *e*-PEMS team in Tsirang district in June 2019 seemed to have identified a number of functional and design challenges, after which the system was further enhanced, changed and updated, as corroborated by interviewee's accounts. It was believed that the shared comments and issues were being used for system design enhancement and development. There was no training after the 2019 training in Tsirang. Therefore, the effective functional training was not conducted for the numerous changes introduced before and after the launching of the system for the government employee users.

5.5.5. INTERNAL CONTROL

Despite the RAA audit observations, internal control appeared still weak in the *e*-PEMS. It was confirmed by several interviewees and evidenced by an incident. In a smaller organization, there was only one accountant who performed all the steps of voucher preparation, verification and approval in the system. In a larger organization, different officials were appointed to take each step, so as to enforce internal control. The interviews confirmed that there had to be a clear line and delineation of responsibilities for internal control to work.

In fact, the risk was widely recognized by most of e-PEMS user interviewees, if not all. In response, several interviewees shared the proposal of clustering accountants

under one finance officer to add a supervision and oversight layer. One chief accounts officer could monitor and oversee all the accountants in the cluster, which should strengthen internal control in the districts.

> *"As far as I understand, there's a floating idea that the cluster system will be introduced in the districts, so that under one umbrella of accountants, its chief accounts officer will take care and monitor all the accounts (of the districts). In that case, the monitoring system will be stronger there".* (Q1)

I asked various interviewees how the e-PEMS was technically set up to accommodate such an umbrella arrangement in providing monitoring functions across organizational units and accounts and enabling appropriate access. For example, one accountant is responsible for particular accounts in particular ministry or district, and not in other ministries and organizational units. If accountants were clustered and one chief accounts officer or finance officer needed to have access to all the accounts in the cluster, would the system be able to accommodate such a change and provide appropriate access to the chief accounts officer or finance officer in a flexible manner? The interviewees were not aware that the system needed to change the workflow in the system to accommodate such clustering or were not sure if the e-PEMS could technologically manage the clustering, as it was not designed from the beginning.

5.6. SUMMARY: E-PEMS COMPLIANCE DRIVERS

This Section 5.6. aims to list and summarise the compliance drivers associated with the *e*-PEMS implementation, followed by the challenges identified during the semi-structured interviews. There were 13 compliance drivers identified as essential in the case study initiative of the e-PEMS. The drivers can be grouped into the leadership, social and technological compliance categories.

- **Leadership compliance drivers:** the role of His Majesty the King and leadership;
- **Social compliance drivers:** peer support and parenting arrangement, personal commitment, naming and shaming, the role of media and social media, fear for punishment;
- **Technological compliance drivers;** efficiency gains, familiarity with the existing system and east of use, centralized master data management and monitoring, technology and automation, transparency, visibility and traceability, e-PEMS IT support

The first compliance driver was the role His Majesty the King played in promoting anti-corruption. Because he was revered and respected widely among the people, his words were found having overarching effects on government employee users' compliance. Another compliance driver identified during the interviews was leadership and credibility and authority commanded by the (MoF. Interviewees felt the need to heed the call from the MoF leadership and felt proud as a representative of MoF in the working agency. Particularly appreciated was the role the Secretary of Finance played in advocating for the e-PEMS around the country. Another interesting leadership attribute which emerged from the interviews was that ministers and secretaries across the government may not have been aware of the system functionalities and operations beyond the headlines, as the interviews confirmed that officers did not report to them how the system was operating in the respective ministries and agencies. Therefore, the responsibilities and accountability in managing the disbursement of financial resources and addressing the challenges fell on finance officers and accountants based on the mutual trust between the decision makers and *e*-PEMS users.

What was unique and distinctive about the e-PEMS users was the strong sense of belongings to the professional group under the Ministry of Finance, their parent agency. All the accountants and finance officers used a WeChat group where technical problems were shared and responded to by the peers. The Ministry of Finance as a parent agency had significant influence over the finance officers and accountants, although they were posted in different ministries and agencies, or working agencies, through their transfer and promotion. Such peer support was effective in ensuring compliance among the users.

Another compliance driver was associated with personal commitment of finance officers and accountants. They were mandated to follow financial rules and regulations, because of which the finance officers and accountants were occasionally placed in a difficult situation when the decisions made by the working agencies did not conform with the financial rules and regulations. This was the time when their personal commitment were tested. Personal commitment also appeared at a time when the finance officers and accountants faced technical problems and they had to persist and solve the problems for the benefit of payees and external parties.

There were two punitive measures which were found effective in encouraging compliance. One was the fear for punishment. Finance officers and accountants feared that the audit find irregularities and lapses, because of which they would not be able to obtain an audit clearance. It was needed for various HR related actions, such as transfer, promotion, training and scholarships to study abroad. An actual case of fund misuse and punishment imposed on an accountant was shared

by interviewees, which seemed to enhance their fear for punishment. Associated fear among the finance officers and accountants was naming and shaming in the media. They feared that such exposure in the media would tatter their reputations and have negative implications professionally and personally. Thus, the finance officers and accountants were compelled to comply with the e-PEMS requirements. The media and social media were found playing a critical role. Social media provided a platform for whistleblowers who were otherwise unable to bring issues to the public. Some cases which were shared by whistleblowers on social media led to the ACC investigations as well as reporting on traditional mainstream media.

The *e*-PEMS examination discovered several technology and system related compliance drivers. Some interviewees cited efficiency gains from the introduction of electronic payments and elimination of manual checks. In particular, the removal of personal loan payment from the payroll module significantly reduced the workload of accountants and finance officers. Unlike manual checks, the new electronic payment was processed instantaneously, and saved costs. The payees didn't have to come from other districts and visit ministries and agencies to receive a check. There was a comment that people now didn't have to queue up at banks to receive cash from the salary and other payments in check. Another compliance driver was the familiarity with the system and ease of use. Most of the functionalities were similar between the previous PEMS and *e*-PEMS. Many interviewees felt that e-PEMS was an upgrade to PEMS, because of the new technological features, such as more efficient bank statement reconciliation and utility bill payment.

The master file, including the employee, vendor and supplier data, was now managed centrally by the Department of Public Accounts e-PEMS team and therefore, there was little scope to manipulate transfer of funds to someone else's account which was not duly registered. Additionally, the DPA e-PEMS team was believed to have access to data and activities across organizations, and thus, any potential misuse and fraud could be identified centrally. Because of the transparency, visibility and traceability introduced by *e*-PEMS, the scope for corrupt and fraudulent practices diminished significantly. The problems associated with duplicate employees in the system, manipulation of manual checks and reconciliation between payments and bank statement were all resolved.

The e-PEMS IT support was responsive to the issues the users encountered in processing transactions. Manuals, notifications and common e-mail accounts were found useful, although some interviewees noted that the users didn't consult the manual, as changes were introduced to the systems and the manual was not updated to document these changes. Some said that they had to visit the DPA officer personally, as it was difficult to describe technical problems in e-mail.

The *e*-PEMS users encountered a series of challenges in the designing and implementation phases. The main challenges were categorized into 1) consultation and coordination among finance officers and accountants, 2) design and implementation, 3) application of advanced technology, 4) training and sensitization, and 5) internal control. Unaddressed, these challenges may underline the credibility of the system and compliance level may decrease in a future.

The case study initiatives were selected with the criteria of local ownership and donor-funded ownership as detailed in Section 3.6. Local ownership was defined with government funding and system development by government employees. Donor-funded ownership is characterized by external donor funding and system development with external experts. The e-PEMS was selected as an example of donor-funded ownership, while the *ACC* was selected for local ownership.

When asked about donor-funded ownership of the e-PEMS and how important it was to interviewees, they had mixed responses and the accounts were not conclusive. The interviewees were aware that the development had been funded by the World Bank and there was an external consultant who was advising and participated in the system development. However, it did not appear to be a factor which came to their minds immediately as a distinctive factor. Several confirmed that donor-funded ownership could increase their trust in the system, while the others had no particular preference between local and donor-funded ownerships. Therefore, ownership may not have direct impact on compliance among the e-PEMS users.

"We say that bad devil watching over you. And on the left shoulder there is like the good god. There is bad god and there is good god. His work is to advise you to do good things. And his work is to, you know, advise you (to) do good things he's recording" (A2)

6.1. OVERVIEW OF THE CROSS-CASE SYNTHESIS

Across the two case study initiatives examined in Chapter 4 and Chapter 5, similar and dissimilar compliance drivers emerged. This section contrasts similar and dissimilar compliance drivers to identify the determinants of compliance among the government employee users in the implementation of the two e-governance initiatives.

The data were inductively coded in each research and, as such, a compliance driver within each case study is named as the interviewees referred to it. Therefore, within each case study, some terms were similar but were named differently. Therefore, a compliance driver may be termed differently in a different case study initiative.

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In this present research, a compliance driver is defined as a category and group of inter-linked factors, attributes and conditions which are evidenced to have direct impact on compliance of government employee users in using e-governance systems. A compliance driver was developed using triangulation of data from multiple sources. A factor is considered a compliance driver when a) one interviewee mentioned a factor several times as an important factor and the driver was confirmed as existing through documents and observations; b) two interviewees mentioned a factor and other data sources confirmed the factor relevant; and c) when more than 3 interviewees mentioned the same driver with similar supporting mechanisms during the interviews. The category of the compliance drivers used in Section 4.6 and 5.6 followed a similar logic used to categorize compliance determinants identified in the existing literature review, detailed in Table 2 in page 44.

Some drivers were identical and interchangeable between the case study initiatives, despite the different case configurations. The others demonstrated dissimilar characteristics, partly because of the context surrounding the respective organizations and initiatives. Some drivers appeared both in positive and negative examples, but

nonetheless, pointing to the same effect as a compliance driver. For example, training and awareness emerged as a compliance driver in the ADS but not in the *e*-PEMS. However, the lack of training was identified as a challenge in the *e*-PEMS. Therefore, although training and awareness are described in the below Sections 6.4 as dissimilarities, this present research concluded that it is a valid and effective compliance driver.

After the overview of the cross-case synthesis in Section 6.1, Section 6.2 presents and compares the 2 sets of compliance drivers as well as challenges identified in Chapter 4 and 5. The compliance drivers were grouped in the 4 categories of organizational, leadership, social and technological compliance drivers.

Section 6.3 then discusses in more details the similarities. All the compliance drivers in the leadership and social categories were very similar, identical or interchangeable across the two case study initiatives. Another compliance driver from the technological category also exhibited similarities. There was one similar challenge which was identified both in the ADS and e-PEMS.

The dissimilarities are then argued in Section 6.4. They are found predominantly in the organizational and technological categories as well as in challenges. This section also identifies positive and negative examples of the same compliance drivers, which may be presented as dissimilar compliance drivers and challenges.

The subsequent Section 6.5 explains the conditions, mechanism and context of compliance drivers in the case study country of Bhutan. In Chapter 4 and 5, dependence and inter-dependence were narrated among compliance drivers, which are synthesized as a condition of compliance driver in Section 6.5.1 and 6.5.2 respectively. The relationships among compliance drivers and the nature of the relationships derived from the interview accounts and document analysis. Section 6.5.3 then explores the mechanism which may explain the functioning of compliance drivers, mechanism and space. Section 6.5.4 places the compliance drivers, mechanism and space in the Bhutanese context. The chapter concludes with the summary of the Chapter 6 in Section 6.6.

6.2. OVERVIEW OF SIMILARITIES AND DISSIMILARITIES BETWEEN ADS AND E-PEMS

This section compares the similar and dissimilar compliance drivers which emerged from the two case study initiatives of the ADS of the ACC and the *e-PEMS*

of the Ministry of Finance (MoF) in Bhutan. Similar compliance drivers are placed side by side in the summary Table 15, followed by comparison of similar and dissimilar challenges identified in Section 4.5 and Section 5.5. The similarities and dissimilarities are discussed in more detail in Section 6.3 and 6.4 respectively.

Compliance drivers of the two case study initiatives are grouped by the categories used in Section 4.6 for the ADS and Section 5.6. for *e*-PEMS, namely organizational, leadership, social and technological. Table 15 presents the overview of compliance drivers under each of the 4 categories.

Table 15: Similarities and dissimilarities between ADS and e-PEMS compliance drivers

Category	ADS Compliance Drivers	E-PEMS Compliance Drivers
Organizational	Credibility and Trust in the Organization Organizational Setup Training and Awareness	
Leadership	The Role of His Majesty the King Leadership in the Government	The Role of His Majesty the King Leadership in the Government
Social	Peer Support Personal Commitment Naming and Shaming The Role of Media and Social Media Fear for Punishment	Peer Support and Parenting Arrangement Personal Commitment Naming and Shaming The Role of Media and Social Media Fear for Punishment
Technological	Technology-enabled Ease of Use Monitoring, Verification and Follow-up	Efficiency Gains Familiarity with the Existing System and Ease of Use Technology and Automation

	Technical Support and Responsiveness of the ACC Team	Centralized Master Data Management and Monitoring
		Transparency, Visibility and Traceability
		E-PEMS IT Support

One salient feature which emerged from the comparison between the 2 sets of compliance drivers is that there was no *e*-PEMS-related compliance driver under the organizational category. Although parenting arrangement was mentioned by interviewees, it was referenced in the context of describing their attachment and professional belongings to the Ministry of Finance which was their motivation to comply with the *e*-PEMS.

Another interesting feature in Table 15 is that there are more technological compliance drivers in the *e*-PEMS than in the ADS. What is equally interesting is the fact that leadership and social compliance drivers are almost identical and interchangeable, as elaborated in the Section 6.3.

In addition, Table 16 lists the challenges identified between the ADS and *e*-PEMS.

Table 16: Comparison of challenges

ADS Challenges	*E*-PEMS Challenges
Application of Advanced Technology	Application of Advanced Technology
Doubt in the Effectiveness of ADS	Consultation and Coordination among Finance Officers and Accountants
Reluctant Compliance	Design and implementation
	Training and Sensitization
	Internal Control

The only similar challenge found in the 2 case studies is the need for application of advanced technology, as both systems would benefit from using more advanced technologies to further encourage compliance. However, the other differences are dissimilar and not comparable.

Section 6.3 l discusses the details of similar compliance drivers under the Leadership and Social categories as well as one similar challenge, namely application of advanced technology. One exceptional addition to similarity is the compliance around technology-enabled east of use (ADS) and familiarity with the existing system and ease of use /Technology and Automation (*e*-PEMS) which demonstrated very similar characteristics. Section 6.4 details the dissimilarities found in the organizational and technological categories as well as dissimilar challenges in the two case study initiatives.

6.3. SIMILARITIES

This section provides detailed accounts of similarities along the category and where and how they were found similar.

6.3.1. LEADERSHIP CATEGORY

The reverence expressed towards His Majesty the King was identical and interchangeable between the case study initiatives. His efforts to promote digitization and anti-corruption had an overarching and profound effect on the government employee users' believe, attitudes and behaviors. The reverence and respect were also frequently found in documents and newspaper articles related to the ADS and *e*-PEMS. It was explained in a significant number of interviews that no one would go against the words of His Majesty the King, and a significant amount of interview time was spent on the government employees describing their admiration towards Majesty the King.

Leadership in the respective agencies was also identified as an essential compliance driver. The ADS compliance was invariably high where the leadership was supportive to the work of the Asset Declaration Administrators (ADA) and the interviews also discovered that the leadership in the Ministry of Finance (MoF) had positive impact on the compliance among the *e*-PEMS users.

Interestingly, in both case study initiatives, leaders were referenced as not technologically aware and were not involved in technical and technological discussions, guidance and decisions. Leadership in both initiatives instead created enabling environments where timely system changes and urgent updates could take place nimbly and flexibly, based on the trust between leadership and technical and functional team members.

The compliance drivers in the social category were very similar, identical or inter-changeable between the two case study initiatives. Proactive ADAs created a peer support mechanism within agency, such as an informal WeChat group, to fulfill their functions. The WeChat group was found effective to ask and answer questions among the members and remind each other the concerned rules and regulations. The immediate responses and advice from the WeChat membership were found effective to facilitate the ADS compliance. The *e*-PEMS users also established a WeChat group among finance officers and accountants. The group was particularly useful to address technical issues the *e*-PEMS users encountered on a daily basis. When the e-governance system was updated and upgraded continuously, the documentation, such as policies, regulations, system requirement documents, manuals, guidelines and instructions, may not have always reflected the latest and new system features. In the absence of such reference documents, the group was one of the few sources which could help address the issues and ensure the continuation of daily operations.

In addition, the proactiveness of ADAs was a frequently cited compliance driver, whereas the compliance level of agencies with inactive ADAs was reported low. ADAs were HR officers and therefore, the declarants feared that late- or non-declarations would affect the declarants' career, such as promotion and transfer. The personal commitment also appeared within the ADS support team. Despite the time pressures and intensified workload at the time of declaration, the team made sure that the system was up and running.

The *e*-PEMS users, on the other hand, had to reconcile the system's requirements and what the working agencies decided on. Finance officers had a difficult task of advising the head of working agency if he or she approved beyond the financial rules and regulations stipulated. It took personal commitment to ensure the compliance in such scenarios. The *e*-PEMS users' commitment also appeared in their commitment and persistence in addressing numerous technical issues they encountered in the system. They personally and frequently visited the DPA to solve the problems. They feared that if they did not address the issues in a timely manner, the payees would complain and cast doubt on the benefits of *e*-PEMS which was launched and initiated by their parent agency, the Ministry of Finance (MoF).

Another effective compliance driver was naming and shaming, as the government employee users were very sensitive to being implicated negatively in the media. ACC published the non-declarants' functions and organizations on their website, which were subsequently reported in the mainstream media. In the case of *e*-PEMS, some accountants were named in fraud and misuse cases in the media, which had

noticeable impact not only on the named accountants but also on other finance officers and heads of organizations alike. The naming and shaming were intrinsically inter-linked with the role played by media and social media. The interviewees felt that the media was keeping a check on corruption cases. Social media was increasingly becoming popular in Bhutan with a wide geographical coverage. Social media now provided a platform for whistleblowers, which was then picked up by mainstream media for more investigative reporting.

Fear for sanctions, ACC investigation, interrogation, prosecution and other punishment associated with non-compliance were frequently expressed as an effective compliance driver. Especially feared were the fines imposed for late and non-declarants of ADS. Such penalty was believed to destabilize otherwise stable lives of the government employee users. The ADS declarants also feared that hidden assets and inaccurate declarations would be uncovered in future, if not now. The e-PEMS users also feared that any misuse would eventually be discovered by the Royal Audit Authority (RAA). There were previous cases where accountants were found guilty for embezzlement and frauds. The accountants in question were terminated, prosecuted and asked to return the money with interests.

6.3.3. TECHNOLOGICAL CATEGORY

The government employee users commented that both systems were easy to use. In the case of ADS, the declaration took only 10-20 minutes for the majority of declarants, which generated positive experience among the users. The ADS has been in use for 10 years and the familiarity with the system grew steadily among the users. Password generation and notification were automated, while the previous records were maintained in the system as reference. Similarly, the e-PEMS was an upgrade to PEMS and therefore, the users were familiar with most of the steps and functionalities in the system. Additionally, technology and automation were found effective and certain functions, such as electronic payments and utility payments, were automated by *e*-PEMS.

6.3.4. SIMILAR CHALLENGE

There was a similarity in an identified challenge. In both case study initiatives, limited application of advanced technology was identified as a challenge, as

contrasted in Table 16, although where and how the advanced technology should be applied varied to reflect the realities surrounding the initiatives.

The ADS was found limited in interfacing with other systems which managed land records, banks, vehicle registrations, among others. With such interfaces, the declarants would not need to enter the data and information in ADS, and the data would be accurate and would not need verification. The Internet connectivity was also identified a challenge for declarants in remote and rural areas.

The advanced technology could do more to enhance transparency, visibility and traceability of *e*-PEMS. The current design and technology did not accommodate the clustering arrangement of flexibly assigning verifying and approving officers across organizational boundaries, while internal control and security could be further strengthened with advanced technology with user and activity logs. The system could also integrate associated documentation capabilities in the system instead of relying on hard copy for physical approval.

This limitation in the use of advanced technology is not a surprise, as Bhutan was selected from the category of countries with High Control of Corruption by the Worldwide Governance Indicators (WGI) and Medium in UNDESA E-government Survey in Section 3.3. The analyzed data presented in this chapter validated the assumption used in the selection of the case study country and matched the expectations of Bhutan being high in control of corruption and medium in the use of e-government technology.

The identical and inter-changeable compliance drivers may be found in other initiatives in Bhutan, and/or similar initiatives of other countries where compliance is high. This could be a topic of future research.

6.4. DISSIMILARITIES

This section now turns to the dissimilar compliance drivers identified in Chapters 4 and 5. Some compliance drivers show distinctive features, unique to the respective organizations, initiatives and contexts where the systems were situated in. Using the same method to illustrate similarities in Section 6.3, this section explains dissimilarities and offers insights on where and how they manifested.

6.4.1. ORGANIZATIONAL CATEGORY

In ADS, the credibility in ACC was accompanied by fear for its investigation and interrogation functions, although it was well respected and considered as doing a good job. The ACC is a constitutional body mandated to tackle corruption and the Chair was appointed by His Majesty the King. Therefore, the ACC could command respect and compliance among the ADS users. Besides, ACC is an oversight agency which could enforce other agencies to comply, including through naming and shaming. The MoF has the credibility, budget and authority to command compliance among the finance officers and accountants, because they report to MoF, but the level and reach of influence, respect and fear ACC generated across the government was not comparable.

Some ministries went beyond what was required and made additional organizational arrangements and setups to ensure ADS compliance. These measures had direct and indirect impact on the government employee users despite the size, complexity and geographical spread of the organizations. However, unlike the e-PEMS users, ADAs and ADS users were diverse, which necessitated these additional organizational arrangements and there was no parenting arrangement among ADAs who were mainly HR officers.

Training, awareness raising and advocacy were effective compliance driver of ADS, while the lack thereof was identified as a challenge in the case of *e*-PEMS. The ADS users informed during the interviews that they would not consult the ADS user manuals and preferred more inter-personal information sharing, despite the fact that the user manuals detailed the steps and what needed to be done. The sensitisation, advocacy and awareness raising demonstrated what to do and not to do in the way users understood. The notification was also sent out widely on traditional print media and broadcasting services every year from January. Interestingly, the lack of training and awareness was identified as a challenge in the *e*-PEMS. It will be discussed in more detail in Section 6.4.3.

6.4.2. TECHNOLOGICAL CATEGORY

More diverse technology-related compliance drivers were found in the e-PEMS than in the ADS. The *e*-PEMS users cited efficiency gains as a compliance driver, which did not appear in the case of the ADS. With the introduction of *e*-PEMS, the monthly payroll was run more efficiently, while electronic payment transactions replaced time-consuming manual check systems. The efficiency gains were

reported not only among the *e*-PEMS users but also government employees at large who received salary deposited electronically into their accounts and payees who received payment instantaneously.

Monitoring, Verification and Follow-up (ADS) and Transparency, Visibility and Traceability (*e*-PEMS) could be comparable compliance drivers but presented significant dissimilarities. The declarations submitted to ADS were monitored, verified and followed up to identify possible illicit enrichment of asset by the asset declaration team at ACC, which was found effective to convince the declarants to declare honestly, but the majority of the steps still relied on human interventions and the ADS did not offer transparency, visibility and traceability at the time of the fieldwork.

The transparency, visibility and traceability brought by *e*-PEMS were very effective to compel compliance. Transparency and traceability manifested in the bank statement and reconciliation. Unlike the previous check system, it was now faster and easier to identify payments, payees and dates of payments to track the movement of money, leaving little room for manipulation. Any discrepancies in payment could be spotted in a timely manner in the *e*-PEMS.

Centralized Master Data Management and Centralized Monitoring was a unique feature of *e*-PEMS. The creation of employees and vendor payees in master data or file was now centrally managed by DPA. The centralized control and monitoring were effective in deterring users from non-compliance and attempting misuse and manipulation in the system. There was no centralized master data management function in the ADS.

Technical Support and Responsiveness of the ACC Team (ADS) and *E*-PEMS IT Support (*e*-PEMS) demonstrated dissimilarities in many different aspects. The ADS IT support team was found helpful in responding to the user inquiries quickly. The ADS functional team was supportive and actively reached out to users for any areas of improvements, thus working in tandem with the IT support team. The feedback was productively used to improve the systems continuously, so that it has become more user-friendly and responsive to users' needs and requirements.

The value of *e*-PEMS support team was found in responding to and resolving bugs and technical issues. Although not all the technical issues were resolved instantly, the users were comforted by the fact that the IT support team was taking action to address the issues and complied, despite numerous challenges the users faced. However, the functional and IT teams of the *e*-PEMS operated differently and were less responsive to the users than the ADS teams. The lack of consultations and coordination among accountants and finance officers, as well as unconventional system design and implementation triggered a number of challenges, as detailed in the below Section 6.4.3.

There were several initiative specific, dissimilar challenges identified in the examination of the 2 initiatives. The ADS related challenges centered on how effective the asset declaration and ADS were to actually prevent corruption, while the *e*-PEMS related challenges were more on technical in nature and related to system development.

While the e-PEMS users demonstrated little doubt about the utility of *e*-PEMS, the ADS users expressed doubts about how useful the system and asset declaration were to reduce actual corruption. While the majority of users thought that the ADS was a good initiative and some professional groups were more committed than others, they believed that the system was not sufficient to prevent corruption and not all users declared their assets honestly. The interviews also revealed that the verification of declarations was not sufficiently rigorous so as to fulfill the mandate of detecting illicit enrichment.

Unlike the *e*-PEMS users, some ADS users considered the asset declaration in the system more of a burden, formality and bureaucratic and administrative requirements. The others did not take the asset declaration seriously and did not see how the system was a means to ensure integrity and prevent corruption among the government employee users. Thus, the system so far did not provide satisfactory answers to the questions and doubts of declarants in a concrete manner, other than a broad anti-corruption strategy and drive.

While the above ADS challenges are initiative specific, the following challenges identified in the e-PEMS were something the ADS users found as compliance drivers in the above Section 6.4.2. Unlike the ADS upgrades and improvements, the revamping of e-PEMS did not involve a wide consultation and coordination of finance officers, accountants and key stakeholders in advance. The consultation and coordination to develop functional and technical requirements seems to have been limited due to time and resource constraints, which later manifested in the gaps and technical issues at the implementation stage. The challenge also manifested in limited testing, outreach and communication to government employees at large when the personal loan payments were discontinued in July and August 2019. In contrast to this negative example, the ADS presented a positive example as ADS IT Teams responsiveness to the users, described in Section 6.4.2. Therefore, despite the fact that the IT teams and their responsiveness was discussed as a dissimilarity, it will be included as an effective compliance driver in the present research.

As the PEMS and *e*-PEMS were similar, large scale efforts might not have been required. However, training and sensitization may have equipped users with

information and skills needed to address the numerous technical issues which surfaced after the rollout in July 2019. This contrasted with the fact that training and awareness was a compliance driver under the ADS, while the lack thereof under the *e*-PEMS was identified as a challenge.

There were unique challenges applicable only to the *e*-PEMS, which concerned design and implementation in revamping the system. Critical features in electronic payments, namely the interfaces with BoB and other banks, were at times not functioning when the fieldwork was conducted. The interviews revealed that there was not sufficient clarity in some of the processes and requirements. Rather, the development of *e*-PEMS, which was the critical backbone of the government financial management, was described as learning by doing and the team fixed the technical issues as they went along. This incremental development approach was found risking the design integrity and internal control embedded in the system design from the beginning. This unintended development approach also appeared in the lack of documentation which should normally guide and document the system features, functionalities, changes made to the design and why.

Unique to the *e*-PEMS, weak internal control was identified as a challenge. The maker-checker concept did not always apply in smaller agencies and some accountants in remote locations worked independently without much supervision. Without embedded internal control in the system, such a situation provided opportunities for fraud and misuse despite the improved transparency, traceability and visibility and other benefits of *e*-PEMS, evidenced by several incidents of misuse.

Despite the challenges, the compliance levels in both case study initiatives were high at the time of the fieldwork. This signifies that the challenges were not unsurmountable and in fact they were overcome by the positive, enabling compliance drivers detailed in Section 6.3 and 6.4. Additionally, Bhutan has potential internal resources to address some of the identified challenges, as will be detailed in Section 6.5.

In the future, however, the above-mentioned challenges could become more detrimental bottlenecks or hinderances which may affect the functioning of enabling compliance drivers and eventually decrease the level of compliance, if unaddressed. For example, less effective leadership or limited credibility and trust in the ACC or MoF could increase doubt on the merits in declaring assets among the declarants and on *e*-PEMS among finance officers and accountants. Unaddressed, lack of internal control may lead to fraud and misuse among finance officers and accountants, which may then lead to less personal commitment and peer support.

6.5. CONDITIONS, MECHANISM AND CONTEXT

The above Section 6.3 and 6.4 identified similar and dissimilar compliance drivers and challenges. Similar compliance drivers were found in the leadership and social categories, with some technological compliance drivers as well as training and sensitization and responsive IT teams as evidenced by positive and negative examples. There is a likelihood that these similar compliance drivers would be found in other initiatives in the context of Bhutan or in similar initiatives in other countries that meet the country selection criteria. Dissimilar compliance drivers, found in the organizational and part of technological categories, are effective to the specific contexts of the respective organizations and initiatives.

Some compliance drivers are dependent on other drivers to be effective. This section discusses the relationships between compliance drivers, mechanism for the compliance drivers to work and context in which the compliance drivers and mechanisms are placed. This section thus explains the dependence and inter-dependence among compliance drivers and how the compliance drivers function as a mechanism in the Bhutanese context. In this research, dependence is defined as a uni-directional dependence, while inter-dependence is defined as a relationship where dependence is mutual and runs in both directions. The former is detailed in Section 6.5.1 and the latter in Section 6.5.2.

This present research then proposes that the aggregation of dependence and inter-dependence relationships constitutes the compliance mechanism, while the number of compliance drivers constitutes the compliance space. The mechanism of compliance drives is elaborated in Section 6.5.3, followed by Section 6.5.4 which extends the narrative to contextualize the compliance mechanism in the Bhutanese context.
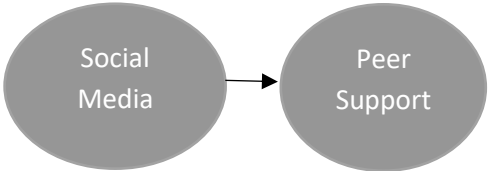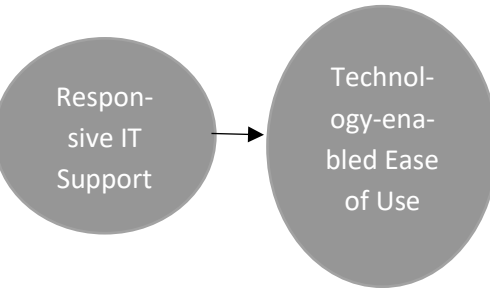
6.5.1. DEPENDENCE AMONG COMPLIANCE DRIVERS AS A CONDITION

The accounts emanating from Section 4.4 and 4.5 elicited a number of dependence relationships among the compliance drivers. In this present research, a compliance driver is defined as a group of inter-linked factors and attributes which are evidenced to have direct impact on compliance of government employee users in using e-governance systems. This section identifies the main dependence relationships to help construct the compliance mechanism. The nature of the relationships of compliance drivers were derived from the interview accounts and document
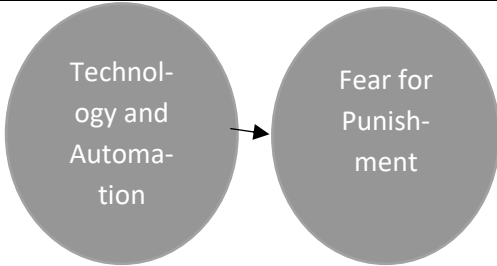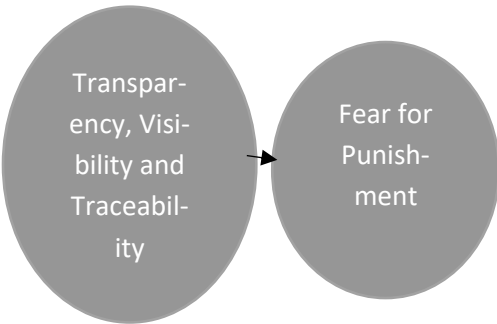
analysis. The special emphasis is placed on similar compliance drivers, as they are likely to be widely found in the Bhutanese context, while dissimilar compliance drivers may only be found in that particular organization and initiative. In particular, I will describe the dependence of leadership on naming and sharing, peer support on social media, ease of use on responsive IT team. There was dependence among technology-related compliance drivers: efficiency gains, transparency, visibility, traceability, monitoring and verification all depended on technology and automation as well as fear for punishment on technology.

Each dependence is listed in Table 17. When Compliance Driver A depends on Compliance Driver B, a uni-directional arrow points from B to A to illustrate the relationship of which compliance driver should be in place first.

Table 17: Direct dependence relationships among the compliance drivers

Dependence relationships	Narratives
Social Media → Peer Support	Peer support depended on social media, such as WeChat groups, which enabled a large number of peer to join on a common platform to exchange information and ask questions, regardless of where the peer was. In the absence of documentation and guidelines, social media provided an essential avenue to peer support on a sustainable basis.
Responsive IT Support → Technology-enabled Ease of Use	The ease of use of the systems was dependent on the responsiveness of IT support. Not all systems are easy to use, without responsive IT support team and their efforts towards improvements in the systems. In both ADS and *e*-PEMS, there were significant efforts made by their respective IT support teams to ensure the optimal functioning of the

	system, while aiming to improve the functionality.
Technology and Automation → Technology-enabled Ease of Use Technology and Automation → Transparency, Visibility and Traceability Technology and Automation → Monitoring and Verification Technology and Automation → Efficiency Gains	The ease of use was a product of technology and automation, which also led to efficiency gains, while enhancing transparency, visibility and traceability as well as monitoring and verification capabilities.
Naming and Shaming (N&S) → Leadership	A dependence was found between leadership and naming and shaming. The interviews found that the leadership was afraid of being implicated in the naming and shaming, and their reputations being compromised. Therefore, leaders tended to comply and encourage

		the staff to comply, due to the fear for naming and shaming.
Technology and Automation → Fear for Punishment		The fear for punishment depended on technology which provided monitoring capability and traceability in the system. The users knew that those who had committed fraud were found due to the technology and were penalized previously, which served as an effective deterrence and compliance driver.
Transparency, Visibility and Traceability → Fear for Punishment		The users also feared that they would not succeed to hide assets or transactions from the systems and would be caught eventually, due to transparency, visibility and traceability.

One of the criteria used to select case study initiative was the concept of ownership, defined in this study as funding source (government funded or donor funded) and developers (local or foreign). Section 4.6 and 5.6 explained that the ownership did not appear as a direct compliance driver, but an indirect compliance driver which created dependency relationships with several compliance drivers.

As part of the examination of the ADS, Section 4.6 referenced to the ownership's impact on other compliance drivers related to the responsiveness of ADS IT support team, technology and automation, technology-enabled ease of use and personal commitment, thus clearly evidencing the dependence. The ADS was selected as a case study initiative for its government funding and system development by government officials. There were fewer challenges identified by the government employee users than the *e*-PEMS.

Similarly, Section 5.6 examined the effect of ownership on other compliance drivers in the case of *e*-PEMS. While several interviewees mentioned that donor funding and foreign experts would increase trust in the system, there were conflicting accounts and the dependence did not emerge as clearly as in the case of ADS. At the same time, a number of coordination, design and development and

training/awareness issues surfaced during the examination of this case study initiative, unlike the case of the ADS. The e-PEMS was selected as a case study initiative for donor funding and development with foreign expertise.
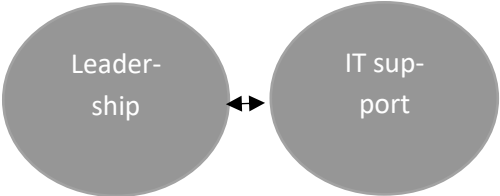
Thus, it is inferred that ownership is an effective, indirect compliance driver which functions through dependence with other compliance drivers in the case of initiative with local ownership. However, an initiative of donor funding does not exhibit similar traits and trigger similar impacts, which may manifest in qualitatively less personal commitment, responsiveness of the IT team and technology-enable ease of use. Subsequently, they are translated into more challenges which may negatively affect the level compliance.
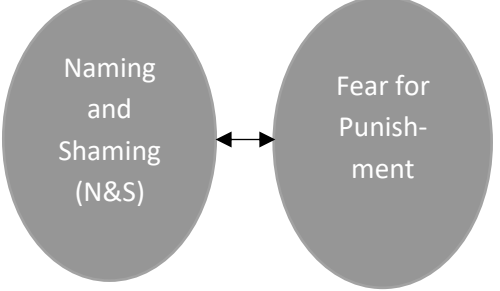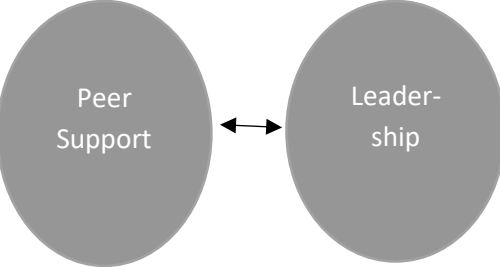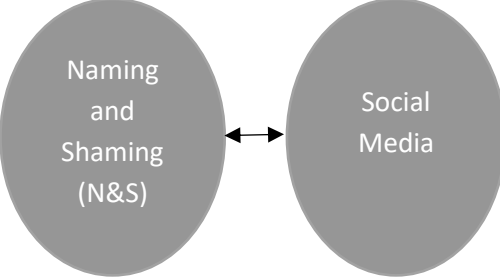
6.5.2. INTER-DEPENDENCE AMONG COMPLIANCE DRIVERS AS A CONDITION

Similarly, a number of inter-dependences were identified among the compliance drivers in Section 4.4 and 5.4. The nature of the relationships of compliance drivers were derived from the interview accounts and document analysis and listed in Table 18.

Table 18: Inter-dependence relationship among the compliance

Leader-ship ⟷ IT sup-port	In the case study initiatives, leadership took a form of providing an enabling environment where the changes and initiatives can be proposed and implemented by the IT and functional teams. The leaders may not have sufficient IT knowledge to lead development and implementation of IT systems, but the inter-dependence between

	leaders and IT and functional teams enabled a nimble decision-making, which is required in a fast-paced e-governance implementation.
Naming and Shaming (N&S) ↔ Fear for Punishment	The naming and shaming effects were found intertwined with fear for punishment. The former is linked to social stigma and people's perception towards the named individuals, while the latter involved the formal proceedings of being implicated in frauds and irregularities. These two compliance drivers seemed to reinforce each other and created greater effects.
Peer Support ↔ Leadership	Peer support and leadership were found inter-dependent. The accountants and finance officers as a group supported the implementation of the e-PEMS, because their leader initiated it. In the case of the ADS, leadership encouragement towards the work of ADAs was found effective as a compliance driver. Leaders needed the government employee users to comply and continue supporting each other for the success of the initiatives.
Naming and Shaming (N&S) ↔ Social Media	The naming and shaming effects were possible due to the role media and social media played in the Bhutanese society. While media and social media had other attributes, such as uncovering and reporting on fraud cases and providing a platform for whistleblowers, they amplified the naming and shaming effects.

| | Peer support, personal commitment and training/sensitization were found inter-dependent, supporting each other. Each compliance driver was effective but the combination of the three inter-linked compliance drivers may have been more resilient to setbacks and lack of one of the compliance drivers may not significantly affect overall compliance. Training and awareness was identified as a challenge and negative example in the *e*-PEMS. |

6.5.3. MECHANISM OF COMPLIANCE DRIVERS

In this section, the above dependence and inter-dependence relationships are aggregated into Figure 16 to illustrate the overview of compliance mechanism, followed by the detailed narratives of the mechanisms. Although there were more relationships, this section focused on relationships centered around similar compliance drivers. Dependence is depicted with a unidirectional arrow, while inter-dependence with a bi-directional arrow in Figure 16. Where Compliance Driver A depended on Compliance Driver B, the uni-directional arrow points from B to A to illustrate the relationship of which compliance driver should be in place first.
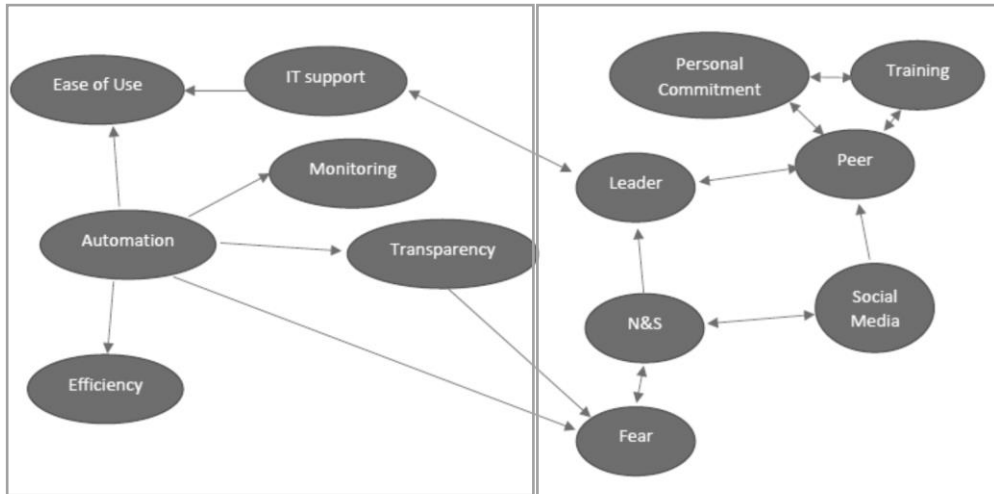
Figure 16 clearly shows the importance and influence of technology-related compliance drivers such as automation, ease of use, monitoring and transparency, which are clustered on the left-band box. The other social, organizational and leadership compliance drivers are clustered on the right-hand box in Figure 16. It illustrates how compliance drivers reinforce each other through their dependence and inter-dependence with other compliance drivers.

One distinctive feature of compliance emerged in the case study initiatives was the horizontal and vertical leadership. While the traditional vertical leadership existed as ministers, secretaries and chairpersons in the case study initiatives, their leadership role in ensuring compliance and implementing e-governance implementation was found more indirect and supportive than conventionally expected. Their support prominently appeared in advocacy, organizational setup and resource allocation needed for the initiatives, but the interviews revealed that the leaders were not particularly technology-aware and did not lead and manage the e-governance initiatives themselves. They did not receive the report or update on the overview, functionality and issues associated with the two systems. Rather, the leadership provided the framework where the changes were approved and necessary resources allocated, based on the trust with the technical and functional teams managing the initiatives.

This vertical leadership supplemented the horizontal leadership where the technical and functional teams as well as users interacted. The system design, changes, development and directions were initiated and proposed by the teams based on user feedbacks and the horizontal leadership was maintained among the members of the teams and users via peer support. Although not designed intentionally for compliance purposes, the combination of the vertical and horizontal leaderships enabled the flexible, agile and responsive system development and update, in the absence of system related documentation, especially when the necessary updates to policies, rules and regulations took time.

The relationship between social media and traditional media as well as their impact on government employee users were equally unique to Bhutan. Bhutan being a small country, whistleblowers tended to hesitate to come forward with possible misuse and fraud cases directly to the ACC and media in fear of their identities being exposed. Instead, the whistleblowers created fake accounts in social media to upload the information, which was then picked up by the traditional media for the investigative reporting. People trusted the traditional media which reported relentlessly on fraud cases in Bhutan, which may be a flip side of fear factor of naming and shaming the government employee users had.

Another factor emerged in the examination was the fact that the high compliance level was associated with the long-term efforts and effects of ADS and *e*-PEMS in the form of familiarity and ease of use. More advanced features may be lacking from the systems, but both evolved to adequately respond to the changing context and user feedback.

At the moment, the identified challenges have not so far affected compliance levels in both initiatives, judging from the high compliance rates. However, as some of the compliance drivers are dependent on others and inter-dependent, any change in the existence and effectiveness of one compliance driver may affect cascading changes in the entire compliance landscape.

In this scenario, the depended upon and inter-dependent compliance drivers are particularly important. If the media and social media were to be prevented from reporting on fraud cases, there would be less naming and shaming and whistleblowers who wish to expose frauds and misuse of funds. If technology and automation does not function optimally, it would impact technology-enabled ease of use, monitoring capabilities and transparency among others.

This present research infers that the number of compliance drivers matters and the complexity of mechanism matters. However, this would need to be examined in future research with more case studies in other e-governance initiatives in Bhutan as well as in similar initiatives of other countries.

This section places the similar and dissimilar compliance drivers in the national context of Bhutan for the contextualization and discusses how the intertwined compliance drivers produced compliance in reality. As this is an inductive exploratory study which employed constructionism/interpretative approach, this section discusses internal and external validity and reliability based on the criteria developed by Bryman (2016), namely trustworthiness. Trustworthiness has 4 components of credibility, transferability, dependability and confirmability. This section will discuss how the above-mentioned trustworthiness was applied in this study with a view to identifying essential elements for theorizing in Chapter 7.

Based on the ontological and epistemological notion that there can be more than one account of social reality, one of the criteria to establish trustworthiness of this present study is credibility which is ascertained by respondent validation and triangulation. As discussed in Section 3.6.2 on semi-structured interview as data collection method, interview questions were updated after each interview to focus on emerging and recurrent topics. The subsequent interviews formulated interview questions to validate or update the accounts, while triangulating the accounts with document analysis and observations.

Another criterion to measure trustworthiness is transferability, while the present research is oriented to focus on the uniqueness in the context and significant phenomena in the case of Bhutan. One of the means to ascertain transferability is thick description which facilitates the judgement to determine transferrable elements.

One unique aspect of the case study country is the fact that Bhutan is one of the least developed countries and at the same time a landlocked developing country, with the approximate population size of 800,000. Thus, the available human and financial resources are limited to advance anti-corruption and implement the latest technologies across the government. Despite the formidable limitations, the country has steadily improved in the ranking of corruption perception survey of Transparency International (TI). The selected two e-governance initiatives in Bhutan, which were designed to prevent frauds and misuse, found high compliance rates among the government employee users, which provided evidence to support the TI corruption perception survey ranking. While similar cases and conditions may be rare, if not non-existent, the thick description obtained in the document analysis, semi-structured interviews and observations of this research provided evidence and elements which may be transferrable to other contexts and initiatives.

Additionally, the fieldwork took place between September 2019 to January 2021 to ensure that there was no major incident, policy development and organizational

changes in the country context. The fact that the fieldwork was conducted in a relatively short period of time helped hold the context constant.

The following Chapter 7 will compare what was found in this present research with the existing literature with a view to identifying what is missing in the case of Bhutan and in the existing literature and determining the level of transferability. Dependability and confirmability are established in this research though auditable collection of materials and evidence.

6.6. SUMMARY

Based on the detailed case study specific analyses of the ADS and *e*-PEMS in Chapter 4 and 5, the Chapter 6 presented and compared the 2 sets of compliance drivers and challenges along the 4 categories of organizational, leadership, social and technological compliance drivers. Similarities were identified predominantly in the leadership and social categories with several compliance drivers from the technology categories. There was only one challenge which was similar between the two case study initiatives. Dissimilarities were found mostly in the organizational and technological categories as well as among challenges.

The chapter then discussed the conditions, mechanism and context in which the compliance drivers were situated. In this present research, a compliance driver is defined as a group of inter-linked factors and attributes which are evidenced to have direct impact on compliance of government employee users in using e-governance systems. The conditions were identified in the relationships of dependence and inter-dependence among the compliance drivers. The relationships derived from the interview accounts, observations and document analysis. The chapter explained the compliance mechanism as an aggregation of inter-linked relationships among the compliance drivers in the compliance space where all the compliance drivers operated and functioned.

In the process of discerning dependence and inter-dependence and developing a distilled account of compliance mechanism and context, two important factors emerged, which had widespread impact on several other compliance drivers and challenges. First, Figure 16 illustrated the impact of technology-related compliance drivers on other compliance drivers as an enabler of other compliance drivers. Second, ownership, as defined by funding source and developer, was instrumental with its indirect influence on several other compliance drivers to explain differences between the ADS and *e*-PEMS.

The chapter then explained validity in the section on the context. As an inductive exploratory study with constructionism and interpretative approach, validity was explained through various facets of trustworthiness.

"That is why, corruption must be curtailed and, more than ever before, extraordinary service must be recognized and rewarded." – His Majesty the King (Anti-Corruption Commission 2019, p. 5)

The previous Chapter 6 presented the cross-case synthesis with a discussion on similar and dissimilar compliance drivers. Similarities were found predominantly in the leadership and social categories, with some from the technological category. Dissimilarities concentrated in the organizational category, with some compliance drivers from the technological category. Most challenges were also dissimilar. Chapter 6 then discussed conditions, mechanism and context, and concluded that technology was an overarching enabler of compliance drivers, while ownership had an effective yet indirect impact on several compliance drivers.

Chapter 7 examines the identified compliance drivers against the existing literature detailed in Chapter 2 and develops a conceptual framework which explains the phenomena of compliance in e-governance implementation. This chapter begins by discussing what the existing literature says about the identified compliance drivers, if there are close enough similarities with what was found in case study initiatives.

Using the pattern matching method referenced in Section 3.7, the comparisons with the existing literature will focus on the 4 categories of compliance drivers, namely organizational, leadership, social and technological categories in Section 7.1. The reason for the category level matching is that there were very few studies conducted on the topic of compliance in e-governance implementation and one-to-one match between the identified compliance drivers and existing literature would not yield meaningful results.

There are compliance determinants that are present in the existing literature which were found absent in the case study initiatives in Bhutan, as elaborated in Section 7.2. The main focus of that section is to examine what compliance drivers were present in the case studies in Bhutan, but not in the literature, and which compliance determinants were found in the literature that were absent in the case study initiatives.

Section 7.3 then discusses relevant compliance models found in the existing literature, such as the Outcome and Output model. The compliance drivers identified in this present research could not be well explained by the existing compliance models. A reason for this gap was that the case selection was made based on variation in ownership. This present research aimed to examine the relationship of

ownership on compliance, whereas ownership is largely missing in the existing compliance models. Furthermore, technology-related compliance drivers were found effective in this present research, but the existing model do not adequately explain the role of technology in ensuring compliance. This may be due to the fact that compliance in e-governance implementation has not been adequately researched and therefore has not been included in the existing compliance models.

Building on the identified gaps between the case study initiatives and the literature and in recognition of the lack of appropriate compliance models in the existing literature, Section 7.4 advocates for a new conceptual framework to understand and analyze compliance specific to the implementation of e-governance. In view of the increasing number of e-governance initiatives worldwide, which are introduced to tackle corruption in various sectors, this section explores the construction of a concept, *e-compliance*, which integrates technology with other compliance drivers in e-governance implementation.

Section 7.5 then examines e-compliance in the theory of sociomateriality which provides the analytical tool. Based on the empirical data and analysis, this section discusses essential parameters required for future studies on e-compliance and the theoretical anchoring in the theory of sociomateriality in the Information System (IS) literature. Section 7.6 summarises and concludes the discussion.

7.1. COMPLIANCE DRIVERS AGAINST THE EXISTING LITERATURE

The aim of this section is to compare the compliance driver categories and what was found in the existing literature. Table 2 in Section 2.3.3 summarises the literature review conducted to identify the role of ICT in the general compliance literature. The detailed narrative of Table 2 is found in Annex 3, *Institutional Instruments and Compliance Determinants Identified in the Literature Review.*

The two rounds of the literature review were conducted for this research, as elaborated in Chapter 2. The first round of literature review did not yield relevant insights and evidence to answer the research questions on compliance determinants in e-governance implementation, as summarised in Section 2.2.8. Therefore, the second round of literature review was conducted to understand the role of ICT in the compliance literature. The second review was designed to use institutional instruments, such as legislative activities, creation and development of organizations and effective system for regulations (Amr 2003; Mingaleva & Mirskikh 2014), as a basis for compliance. The review identified general compliance determinants and how ICT was referenced in the literature.

The compliance drivers identified in the case studies (Chapter 4 and 5), were matched with the compliance determinants from the literature (see Annex 3), following the categories that were inductively created for compliance drivers in case study initiatives and the categories used for compliance determinants in Annex 3. However, not all compliance drivers found matching narratives in the existing literature. The case study initiatives also shed light on the lack of effective use cases of ICT and lack of inclusion of e-governance initiatives in the existing compliance literature.

7.1.1. LEADERSHIP COMPLIANCE DRIVERS

The leadership category includes 2 compliance drivers, namely the role of His Majesty the King and leadership in the government. There was a unanimous agreement among all interviewees on the importance of both compliance drivers. However, the type and nature of the leadership found in both the ADS and *e-PEMS* are different from the leadership found in the literature review (see Annex 3).

His Majesty the King played an important role in promoting anti-corruption and digitization in Bhutan. Because he is revered and respected widely among the people, his words were found having overarching effects on government employee users' compliance. Another compliance driver identified during the interviews was leadership in the government which supported the officials, encouraged compliance and demonstrated his or her commitment in various actions.

The congruence between words and actions of leadership was found important in the existing literature as well as in the case study initiatives. Leadership support to anti-corruption agency was also referenced as effective to encourage compliance. Schlenther (2017) cited an example of Botswana, which was a top performer in terms of anti-corruption efforts, judging from the Corruption Perception Index ranking[52]. The success was attributed to "the implementation of ethics and anti-corruption initiatives that are supported by the country's leaders" (p.223). The leadership and political will was "supported by a dedicated anti-corruption agency that has been able to translate political talk into action" (p.223). These aspects of leadership are well aligned with some elements of the leadership compliance driver identified in the case study initiatives.

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[52] Boswana is 34th in the Transparency International Corruption Perception Survey in 2019.

The reverence and respect commanded by His Majesty the King was mentioned in both case study initiatives in Bhutan. Because the head of the ACC was appointed by His Majesty the King, the policies and rules the ACC developed were seen as legitimate and to be complied with. The *e*-PEMS users also reported their respect towards His Majesty the King and the leadership in the Ministry of Finance. Using the same logic, it could be expected that non-compliance be observed if people do not consider policies and regulations legitimate. A case in point is the study on forest nationalisation and reverse effects the policies triggered. Akerlof (2017) concluded that people did not report non-compliance or violations because they considered the rule illegitimate, which resulted in a high non-compliance rate.

However, the literature review did not yield a close alignment on the dual leadership of His Majesty the King as constitutional monarchy and leadership in the government. In the case of Bhutan, the words and resolve of His Majesty the King had an overarching impact on the government employee users, while leaders in the government demonstrated their commitments in their actions and put necessary resources in place. Even if a leadership in the government decides not to prioritize anti-corruption, His Majesty the King would still play a critical role. Therefore, this dual leadership model is expected to be more effective and enduring in ensuring compliance than relying solely on the quality and decision of elected officials in the government. The existing literature does refer to leadership in the government, and some literature explains some aspects of leadership compliance drivers as mentioned in this section. However, this dual leadership model is not found in the existing literature.

There is a general lack of reference to e-governance, and more specifically how leadership makes decisions and takes actions in promoting compliance in e-governance implementation, in the existing compliance literature. In addition to the dual leadership model, the case of Bhutan presented an interesting leadership model where the leaders were not technology aware, but where based on trust with technical and functional teams, they enabled rapid system development and updates which served the intended policy objectives. The horizontal leadership model between leaders and IT and functional teams based on trust supplemented a traditional vertical leadership model. Such horizontal and vertical leaderships have proven effective in encouraging and ensuring compliance and rapid system development in the case study initiatives.

7.1.2. SOCIAL COMPLIANCE DRIVERS

The social compliance drivers found in the case study initiatives included personal

commitment, peer support, naming and shaming, fear for punishment and the role of media and social media. Personal commitment appeared in both initiatives as an effective compliance driver. Proactive ADAs created a peer support mechanism within the agency, such as an informal WeChat group, to fulfill their functions. The *e*-PEMS users also established a WeChat group among finance officers and accountants. In the absence of documentation, updated policy and regulations, the group was one of the few resources which could help address the issues and ensure the continuation of daily operations among the government employee users. Another effective compliance driver was naming and shaming, as the government employee users were very sensitive to being implicated negatively in the media. The naming and shaming was intrinsically inter-linked with the role played by media and social media. Fear for punishment, ACC investigation, interrogation, prosecution and other punishment associated with non-compliance were frequently expressed as an effective compliance driver.

Some research findings explained personal commitment exhibited by the ADA, finance officers and accountants to their duties and compliance in both case study initiatives. Akerlof (2017) examined internal values of law enforcement officials as well as social stigma associated with crimes. Using the definition of norms as "internalized views regarding duty and obligations" (P. 112), he argued that the feeling of duty triggered compliance as well as motivations to punish others' non-compliance behaviors. This study explains some aspects of personal commitments identified in the case study initiatives in Bhutan.

Peer support may be considered as an effective mechanism to acquire, sustain and reinforce such behaviors among the peers in the case study initiatives in Bhutan. Tavits (2010) referred to social behavior to be "acquired and sustained through imitation or modelling of others' behaviors" (p.1260). Using social learning theory, Tavits explained how people acquired behaviors through, 1) definition, 2) imitating behaviors and 3) positive reinforcement. This explains the phenomena of informal WeChat groups and how the conversations helped imitate behaviours and created positive enforcement for compliance among peers. Ali, Fjeldstad & Sjursen (2014) also discussed that behaviors and attitudes would be influenced by those of their reference groups. In addition to the social influence theory, herd behaviors were evidenced to influence compliance, possibly through the perceived probability of detection. Those who complied with taxation had peers and friends who also complied, and vice versa. These findings seem to adequately explain the nature and type of peer support found in the two initiatives in Bhutan.

Media and social media as a separate compliance driver augmented peer support and provided vital information needed to internalize norms for compliance. Media and social media conveyed the messages of His Majesty the King and relentlessly

reported on corruption cases which must have helped internalize the norms among the government employee users. Similar findings have been reported by Kotzian (2011) who introduced the role of information in compliance with norms. The author proved that individuals complied when others complied and that beliefs about the validity of norms were developed based on public and private information. Individuals adjust their beliefs according to that information. Sociologists have argued that "compliance with norms is not a result of rational calculation, but occurs because the norm is internalized" (p. 159).

Naming and shaming found in Bhutan doesn't fit well in any particular category of Table 2 and Annex 3. Following Kotzian (2011), naming and shaming would deserve to be included. The closest alignment may be found in the category "peer influence and stigma" under "social norms". Batory (2012) identified two factors in compliance: 1) instrumental (people act as dictated by self-interest, rewards and punishments) and 2) normative (moral judgements). Naming and shaming could be considered as instrumental compliance, but it is not a close alignment between the compliance driver and existing literature, as naming and shaming have wider social implications on the part of implicated government employee users, other officials and head of the agencies.

In the case study initiatives, various aspects of fear for punishment surfaced, including penalty. Penalty was imposed for late- and non-compliance among asset declarants and e-EPMS users were deprived of various career opportunities in case of non-compliance. Considering budget limitations in most developing countries, cost-effective ways to promote compliance include penalty for non-compliant behaviors. Batory explained that a typical policy reaction for compliance was deterrence "to try to change the individual's strategic calculus by increasing the costs of socially harmful behavior as well as the likelihood that those costs will indeed need to be borne" (p.72) (Batory 2012).

In addition, the role of audit was mentioned when fear for punishment was discussed in the case study initiatives in Bhutan. Misuse, corrupt behaviors and internal control risks were often discovered by the audit, especially in the case of the e-PEMS. The existing literature reported similar findings., Van del Wal, Graycar & Kelly (2016) cited the important role auditors played in control and risk management by reviewing control and risk management systems and operations. Applying a concept of corruption trap, Akerlof (2017) cited that a high rate of corruption tended to lead to more corruption and it was found difficult to undertake an audit in a highly corrupt society. The fact that the audit function was found effective in Bhutan may indeed corroborate the Transparency International's high raking.

In the case of Bhutan, the government officials were afraid to officially report on possible allegations and misconduct. However, it does not mean that they didn't take action on possible allegations and misconduct. They anonymously shared information on alleged misconduct on social media, which often led to ACC investigations and reporting of corruption cases by print media. Similar examples were identified in the existing compliance literature. Schlenther (2017) argued for the utility of increased transparency through public disclosure of information on social media, as symbolised in the Luxemburg Leaks, Panama Pa-pers and Paradise Papers. Whistleblowing and other institutional instruments rely on public awareness and understanding via social and print media, as "transparency supports measures to combat corruption and importantly increases public pressure on the government to fully address the problem of corruption" (p.231).

This section found several matching narratives between the social compliance drivers and existing compliance literature. The role of media and social media, in particular in the context of whistleblowing, was well documented in the existing compliance literature. Fear for punishment was also well described by various compliance research, together with the effectiveness of audit. However, there were several gaps between the identified social compliance drives and compliance literature.

First, peer support was found necessary because of the lack of documentation, updated policies and regulations in e-governance implementation, supported by the use of social media, such as WeChat group. In the context of Bhutan, this is an ingenious arrangement developed by the government employee users in response to the emerging situation. However, the existing literature did not investigate such a scenario or rationale for peer support mediated by social media.

Second, naming and shaming was another compliance driver which did not find a close alignment with the existing literature and the existing models and theories did not adequately explain the phenomena at hand. In Bhutan's small society, naming and shaming has a wide-ranging and long-lasting effect not only on the part of the non-compliant officials but also those surrounding them.

Another missing factor in the existing compliance literature is the concept and application of ownership. In this present research, ownership is defined by funding source for system development (government or donor funding) and development team (government officials with or without external consultants). The concept of ownership was applied in the selection of case study initiatives, with the assumption that it would play a major role in determining the level of compliance. However, as Chapter 4 and 5 detailed, the effect of ownership was found indirect, with links to a wide range of compliance drivers, such as peer support, personal commitment and responsiveness of the IT team. Due to the fact that the ADS was

developed in-house and with government resources, the IT and functional teams exhibited outstanding personal commitment and peer support, which led to cascading positive impacts on compliance among the government employee users at large. However, in the case of *e*-PEMS, which was selected for its external ownership (donor funding and presence of external consultant), similar effects were limited, and the system design, coordination, development and deployment encountered a series of challenges as elaborated in Section 5.5. This phenomenon surrounding ownership may be specific to system development and e-governance implementation or to the context of Bhutan.

7.1.3. ORGANIZATIONAL COMPLIANCE DRIVERS

The organizational compliance drivers were found in the case of ADS. They include the credibility and trust in the organization, organizational setup and training and awareness. In the ADS implementation, the credibility in ACC was accompanied by a sense of fear for its investigation and interrogation functions, although it was well respected and considered as doing a good job by the public at large. Some ministries went beyond what was required for asset declaration and made additional organizational arrangements and setups to ensure high compliance. These measures had direct and indirect impact on the government employee users regardless of the size, complexity and geographical spread of the organizations. Training, awareness raising and sensitization were found an effective compliance driver of ADS, while the lack thereof was identified as a challenge in the case of *e*-PEMS.

In both case study initiatives, the ACC and its policies and rules related to asset declaration were seen as legitimate, which encouraged compliance among the government employee users. In line with Batory (2012), people obeyed the rules as they believed that 1) "the law is just", 2) the authority had the right to dictate behaviors and 3) obedience was driven by procedural fairness, with the perception that law was formulated with full authority. Thus, legitimacy of the sources of legal obligations was found as the basis for rule-conforming behavior. (Batory 2012).

As Bhutan is a least developed country and landlocked developing country at the same time, the available budget has been limited. But some organizations made available human and financial resources through various means, and those organizations were found with a high level of compliance in the case of ADS. Webb (2012) noted that resource scarcity and workload could be negative determinants, which may lead to an environment for cheating to occur. Webb added "adequate time, budgets, equipment, information and authority to execute their responsibilities" (p.

99) as key ingredients for compliance. This finding explains the importance of organizational setups the ADAs reported on during the interviews.

The effectiveness of training and advocacy was also found in the compliance literature. In the case of tax compliance, tax education and integrity efforts were found effective in influencing compliance behavior and reducing incidents (Schlenther 2017). Cleveland, Favo, Frecka, et al. (2010) underlined the importance of education and training in reducing bribery, accompanied by robust ethics and compliance programme. Tjen and Evans (2017) studied the Gayus case in Indonesia, and found that taxpayer outreach and education was one of the key pillars for their anti-corruption strategies. These findings are largely in line with the compliance driver on training and sensitization identified in the case study initiatives.

The organizational compliance drivers, found in the case of ADS, were adequately explained by the existing compliance literature. Credibility and trust in ACC was similar to what was found in a case study on Hungary conducted by Batory (2012). Another compliance driver, organizational setup, was also found in a study conducted by Webb (2012) which emphasized the need for adequate budget, equipment and authority for compliance. Education, sentisation and awareness raising, found in the case study initiative of ADS, also appeared in various studies in the existing literature.

7.1.4. TECHNOLOGICAL COMPLIANCE DRIVERS

The technological compliance drivers played an important role in ensuring compliance in the two case study initiatives. Despite the existence of fragmented narratives and references to ICT, however, the literature review in Chapter 2 does not fully explain the technological compliance drivers identified in the two case study initiatives or compliance in the context of e-governance implementation. Judging also from Annex 3, it is evident that the existing compliance literature does not provide sufficient coverage and explanation to understand the role of technology .

The two case study initiatives identified several compliance drivers in the domain of technology. More technological compliance drivers were found in the *e*-PEMS than in the ADS implementation. Technology-enabled ease of use in the ADS and familiarity with the existing system in the *e*-PEMS were essential in the studied cases. In addition, monitoring, verification and follow-ups and responsive IT support in the case of the ADS were found effective compliance drivers. In the e-PEMS initiative, efficiency gains, technology/automation, centralized master data management and monitoring, transparency, visibility and traceability and IT support

were technology-related compliance drivers.

The government employee users commented that both systems were easy to use. Additionally, technology and automation were found effective and certain functions, such as password generation and submission confirmation in the ADS and electronic payments in the *e*-PEMS, were automated. The *e*-PEMS users cited efficiency gains as a compliance driver, which did not appear in the case of the ADS. Monitoring, Verification and Follow-up (ADS) and Transparency, Visibility and Traceability (*e*-PEMS) could be comparable compliance drivers but presented notable dissimilarities. The transparency, visibility and traceability brought by *e*-PEMS were very effective to compel compliance. Centralized Master Data Management and Centralized Monitoring was a unique feature of the *e*-PEMS, too. The creation of employees and vendor payees in master data or file was now centrally managed by the Department of Public Accounts (DPA) of the Ministry of Finance (MoF) and was effective in deterring users from non-compliance and attempting misuse and manipulation in the system. Technical Support and Responsiveness of the ACC Team (ADS) and *E*-PEMS IT Support (*e*-PEMS) demonstrated dissimilarities in many different aspects but the importance of the IT support to the government employee users was recognized widely during the fieldwork.

The above-mentioned technological compliance drivers are largely missing from the existing literature. While automation, system design and efficiency were broadly referenced in Annex 3, the existing compliance literature did not sufficiently explain most of the technological compliance drivers and their effectiveness. More specifically, the existing literature focused on automation, transparency, minimizing compliance costs and positive roles of ICT in detecting corruption, but the literature did not find the role of ICT beyond detecting corruption and not as a compliance driver. The rest of the technological compliance drivers did not find a matching narrative which can explain the phenomena in the case of Bhutan.

The importance of robust information systems and transparency it brings was underlined in negative case studies in the existing literature. Schlenther (2017) cited a case of Kenya, where the president was alleged to be involved in a corruption case. In a similar case in Malawi, a computer-based financial system was compromised by government officials to divert funds and an arrest warrant was eventually issued to the former president. Citing IMF recommendations, Schlenther highlighted the importance of "simple transparency and to the extent possible automated procedures, strong information systems and high profile prosecutions" (p.234). . Webb (2012) elaborated on the merit of transparency by which "managers are able to observe the unethical conduct of the employees and its consequences, and vice versa"

(p. 99), thus serving as a deterrent to unethical behaviors, but not in the context of use of ICT and e-governance implementation.

In the case of Bhutan, the elimination of checks and introduction of electronic payment reduced the scope for fraud and misuse of public funds in the case of *e*-PEMS. The logic and rationale applied for the introduction of automation and e-payment in *e*-PEMS were similar to what was found in the literature. Manual registration and process of filing and payment, which involved person to person transactions, were found to be an opportunity for corruption in several case studies. (Schlenther 2017; Tjen and Evans 2017).

The technological aspects of compliance may be unique and specific to the context of Bhutan and e-governance implementation, but further research would be needed to deepen an understanding of the relationship between technology and compliance. Covered channels are 1) efficiency gains, 2) technology-enabled ease of use, 3) the chain of monitoring, verification and followup, 4) transparency, visibility and traceability, 5) a centralized master data management or monitoring system and 6) the role of IT support as drivers of compliance. Despite the existence of fragmented references to technology, the compliance literature does not fully explain the technological compliance drivers or compliance in the context of e-governance implementation in the case of Bhutan.

7.2. GAPS BETWEEN CASE STUDY INITIATIVES AND EXISTING LITERATURE

Some compliance drivers identified in the case study initiatives were well aligned with case studies and evidence found in the existing literature, as discussed in the above Section 7.1. However, some of the channels found present in Bhutan cannot be explained by the existing literature. These unique channels may be attributable to the fact that Bhutan is a unique case. The alignments were identified mainly in the social and organizational compliance driver categories. The existing literature did not yield good and suitable alignments to adequately explain the compliance drivers under the leadership category. Even more scant were the alignment between the technological compliance drivers and the existing literature. The examples and narratives related to ownership did not appear in the existing literature.

Interestingly, this present research discovered that various compliance determinants found in the existing compliance literature did not appear in the case study initiatives at all. Compliance triggered by international instruments, such as the role of foreign entities, international conventions and international standards, was

found entirely absent in the case studies in Bhutan. Similarly, access to information and anti-corruption policy, legal and regulatory frameworks were largely absent from the case study initiatives.

Against this background, the below Section 7.2.1 examines the missing elements in the existing literature based on the case study initiatives in Bhutan, followed by Section 7.2.2 which examines the missing elements in the case of Bhutan based on the literature review.

7.2.1. E-GOVERNANCE COMPLIANCE DRIVERS: OWNERSHIP, LEADERSHIP AND TECHNOLOGY

The compliance drivers within categories organizational and social compliance found good alignments in the existing literature. However, the existing research and studies do not adequately explain the e-governance categories of compliance drivers, ownership, leadership and technology. Due to the lack of evidence, concepts and theories, this present research advocates for the need for theorizing and understanding the e-governance compliance phenomena at hand.

In addition to the lack of reference to the effects of ownership on other compliance drivers, there were several unique compliance drivers on leadership and technology which did not find good alignments as listed below:

Indirect effects of ownership on

- Peer support
- Personal commitment
- Responsive IT support

Leadership compliance drivers

- The Role of His Majesty the King

Technological compliance drivers

- Efficiency Gains
- Technology-enabled Ease of Use/ Familiarity with the Existing System
- Centralized Master Data Management and Monitoring
- Monitoring, Verification and Follow-up
- Transparency, Visibility and Traceability

First, the most obvious gap in the existing Information System (IS) literature is the lack of evidence and research on compliance in e-governance implementation. It is

corroborated by the conclusion made based on the first round of literature review, detailed in Section 2.2.8. Second, the existing compliance literature did not adequately study e-governance either, beyond treating ICT as a tool to improve access to information, enhance transparency and detecting corruption, as elaborated in Section 2.3. Third, although some fragmented references were found, the above-mentioned ownership, leadership and technologies are not well explained in the existing IS or compliance literature.

There was no study or research found in either IS or compliance literature which focused on the concept or application of ownership to understand compliance and e-governance implementation. This present research identified the channels through which ownership exerted its wide-ranging indirect effects to encourage compliance. Future research may be conducted to examine different e-governance initiatives in Bhutan or similar e-governance initiative in other comparable countries so as to deepen an understanding of the effects of ownership and channels thereof. Such evidence is expected to assist in the further development of *e-compliance* as a conceptual framework.

As to leadership, the role played by His Majesty the King and dual leadership found in the leadership category is unique to Bhutan and was not found in the existing IS or compliance literature. Particularly interesting and missing in the existing literature is the role of horizonal leadership found in e-governance implementation in Bhutan. Leadership was found not technology aware but based on the trust between leaders and IT and functional teams, the system development, update and upgrade were implemented with agility. More substantive and technical leadership roles were played by lower level officials in implementing both initiatives, while the secretaries and ministers created an enabling environment for such rapid system development. Thus, in addition to the traditional vertical leadership model, the horizontal, collaborative and collective leadership model may be in place in these two case studies.

What was also unique to the *e*-PEMS and did not appear in the literature is the parenting arrangement of the Ministry of Finance (MoF) and personal commitment generated by the parenting arrangement. The 700 *e*-PEMS users were scattered across the government agencies and Dzongkhags, or district, administrations in Bhutan. However, under the parenting arrangement, all of them felt that they belonged to the Ministry of Finance (MoF), the parent agency, which managed their promotions, transfers, and various opportunities. The *e*-PEMS was the initiative introduced by the MoF and therefore, the users felt that they had to comply.

Regarding technology, the existing literature did not explain the technological compliance drivers sufficiently. As illustrated in Graph 6.1, technological

compliance drivers exhibited important dependence and interdependence among the compliance drivers. The most depended on compliance driver was technology/automation. The existing literature did refer to automation, but not as a compliance driver or its dependent and inter-dependent relationships with the other compliance drivers.

Additionally, other technological compliance drivers, such as 1) efficiency gains, 2) technology-enabled ease of use, 3) central master data management and monitoring, 4) monitoring, verification, follow-ups and 5) transparency, visibility, and traceability, were not studied as compliance drivers among the government employee users in either IS or compliance literature. The dependence and inter-dependence among the technological compliance drivers and with other compliance drivers could be studied in Bhutan and other contexts, so as to further develop *e-compliance* as a conceptual framework.

7.2.2. UNIQUE FEATURES IN THE CASE OF BHUTAN

This present research also discerned the absence of various compliance determinants in the case of Bhutan. The existing literature review places emphasis on transparency, in the forms of collecting and publishing information on public services and organizing public campaigns against corruption, with the ultimate aim of providing citizens with access to information. A number of existing studies and researches focus on the access to information when it comes to ICT and anti-corruption institutional instruments. The assumption is that once citizens at large are empowered with access to information, mediated by ICT, the citizens can confront corrupt practices and hold government officials to account (Camaj 2016; Popescu, Onofrei & Kelley 2016). In the case study initiatives which focused on the perspectives of the government employee users, the citizen-centered transparency did not come up as a factor.

The existing literature also produced a number of studies around the topic of anti-corruption policy, legal and regulatory frameworks. Included in the existing literature were not only policies, but also administrative compliance guidelines, code of conduct, anti-corruption programmes, risk assessment and management and monitoring programme of the anti-corruption efforts. In this present research, these institutional aspects of compliance determinants were studied to describe the initiatives and background through document analysis in the case of Bhutan. But as illustrated in the Figure 16, institutional aspects did not feature prominently as compliance drivers found in the case study initiatives. These policies, frameworks and programmes have been put in place and may be effective and functional in the context of Bhutan. If a lack of such institutional instruments was identified as a

cause of non-compliance or source of corruption, these instruments would have been referenced in the data collection stage. Therefore, such institutional factors did not come to the fore in the case study initiatives. These factors which existed but were taken for granted emerged only when the evidence was contrasted with the existing literature which investigated the cases or contexts where such institutional instruments were found missing or not effective.

Additionally, what was found missing from the case study initiatives were public sector reforms, civil service reforms and less organizational complexity in the existing literature. Interestingly, these aspects were mentioned by some of the interviewees as missing in Bhutan or case study initiatives. For example, the parenting arrangement was found effective among the accountants and finance officers, but such arrangements were not instituted among the HR officers who were ADAs and IT officers. Such systematic organizational arrangement could have supported the government employee users better and addressed the challenges identified in both initiatives. Similarly, there were several interviewees who thought that integration of compliance as a performance appraisal criterion of civil servants would have been effective. The lack of various reforms may be related to the findings of this present research which found high compliance among government employee users as well as government leadership which may not be technology aware. Due to the high compliance rates, the government may not have felt urgent need for compliance-enabling reforms, as the specific policy objectives of the case study initiatives have been largely met. However, future studies in Bhutan and other countries are expected to inform the importance and effectiveness of public sector reforms and lessened organizational complexity in enhancing compliance and help further develop the conceptual framework of *e-compliance.*

Equally absent were the compliance determinants associated with international institutional instruments, such as role of foreign entities in the country, international conventions and foreign laws and legislations and international standards. When foreign companies and entities are present in the country, various policies, regulations and laws of the countries where the companies and entities are registered influence the investments and dealings. The examples of such policies, legislations and laws include the US Foreign Account Tax Compliance Act (FACTA), Foreign Corrupt Practice Act (FCPA) and UK Bribery Act of 2010. International conventions include the UN Convention against Corruption, UN Global Compact, OECD Convention, among others. Donors also impose transparency and accountability clauses in supporting the recipient countries. However, these international dimensions of compliance determinant did not appear in the case studies, because there are very few foreign companies and investment in Bhutan. While the *e*-PEMS was donor-funded, transparency and accountability in managing the project was not a major concern. Additionally, this lack of international dimension is corroborated

with the findings of this present research: the government approach to compliance is motivated by domestic concerns over corruption rather than by international considerations.

What is perhaps most interesting in discussing the missing determinants in the case of Bhutan is the fact that corruption-related political, institutional and societal deficits the literature evidenced in other countries were largely absent. Citing a case of Kenya, Schlenther (2017) noted that "the deliberate undermining of the basic institutions that underpin and support the rule of law and good government" (P.224) explained a high-level and pervasive corruption in the country. Citing a concept of corruption trap, Akerlof (2017) cited that a high rate of corruption tended to lead to more corruption, and it was difficult to undertake an audit in a highly corrupt society. Lack of legitimacy made rule-compliance more difficult, leading to the need for coercive forces. Such coercive measures were evidenced to lead to resistance, in the form of not only rule violations but also non-reporting of such violations to authorities. It then led to a "noncompliance trap" with high non-compliance, spiraling down to more non-compliance.

The case studies in Bhutan did not find the indications of pervasive and widespread corruption and associated political, institutional and social deficits. This absence of pervasive corruption could be considered as a unique feature of Bhutan, which also corroborates the ranking of Transparency International's corruption perception surveys over the years. In addition, the basic institutional capacity needed to support the rule of law and good governance was not mentioned by the interviewees. It may be because the people in Bhutan have taken them for granted. However, the existence of such factors becomes obvious only when the cases were compared with the examples of other countries and the existing literature.

From the comparison with the existing literature, it has become apparent that compliance in the e-governance implementation can not be sustained in an environment where corruption is rampant. This enabling environment did not come out clearly in the interviews or document analysis in the case of Bhutan, due perhaps to the fact that this environmental aspect was taken for granted. The existing literature on institutional instruments and compliance did reference to the role of ICT, but they reflected a static view of ICT, external to the phenomena, while technology was found an integral and dynamically intertwined part of compliance in the case of Bhutan.

The existing literature also provided various models of compliance which explained the type and nature of compliance in various sectors and functions in government and society. Some scholars developed concepts and types of compliance, such as rule-based and trust-based dispositional compliance as well as output/outcome compliance. Although these concepts and theories were developed without examining or referencing ICT and e-governance, some aspects of compliance models and channels may be applicable to explain the case study initiatives in this present research. This Section 7.3 discusses the most relevant models to this present research, the applicability of compliance models and gaps identified in the process.

Webb (2012) argued that compliance-based approach needed to be supplemented by value-based approach to reduce public service malfeasance, using analysis on South Africa's Department of Correctional Services. His study evidenced that compliance-based approach of creating more regulations and oversights impacted public service efficiency and effectiveness, and created additional opportunities for corruption. The value-based approach aimed to create an ethical culture within the organisation and enhance implementation of anti-corruption policies. Such an approach included "communicating moral expectations with employees, visible punishing (of) offenders, ethics training, and appraising ethics performance of employees by making it a stand-alone key performance area" (p. 97). Similarly, several other scholars (Van del Wal, Graycar & Kelly 2016; Alon and Hageman 2017; Williams and Horodnic 2015) argued the importance of both types of compliance, namely rule-based compliance and value-based compliance, to ensure sustainable compliance in society.

Similarly, Van del Wal, Graycar & Kelly (2016) contrasted the compliance-based approach with the integrity or value-based approach. The former focused on laws, rules and regulations through supervision, control and punishment of offenders. The associated institutional instruments included asset declaration, screening of employees, penal code on corruption and disciplinary measures and procedures. The latter strategy focused on bottom-up formulation of organisational aspirations, promotion of ethical behaviors and code of conduct, ethical behaviors and training. A direct, more formal approach created the structures and standards in support of ethical conducts of employees, while an implicit, culture-oriented approach targeted at behaviors of peers and supervisors, creation of shared values, fair renumeration, appraisal and promotion systems, which rewarded good behaviors.

In the domain of formal mechanisms, Alon and Hageman (2017) focused on enforcement with the intention of enhancing tax compliance. The success was

influenced by the combination of institutional determinants, in particular, 1) dispositional trust (culturally-based) and 2) rule-based trust (including regulation). Trust was "seen as a necessary component to lower transaction costs and constrain opportunistic behaviors" (p. 156) According to Alon and Hageman, effective institutional structure was shaped by enforcement and regulation, which had complementary effects on rule-based environment and curb discretionary power. A well-functioning rule of law may act as a trust enhancing mechanism, which created higher dispositional trust that was culturally based, shaped by trust-related experience.

Ademmer and Börzel (2013) identified 2 types of compliance: outcome and output. While outcome compliance required behavioral changes, output compliance manifested in policies and political decisions. Using the combination of these two types of compliance, 4 expected compliance tendencies were detected by the authors. These included 1) compliance (high output/ high outcome), 2) shallow (increased output/ low to no outcome), 3) emerging (increased output/ increased outcome) and 4) inertia (low to no output/ low to no outcome).

All the examined compliance models consisted of a variation of 1) rule-based institutionalized compliance determinants and 2) trust- and social-norm based compliance determinants. No model identified in the literature review examined technology-based compliance model or compliance model in e-governance implementation. This conclusion points to the need for theorizing compliance in e-governance implementation and constructing a new conceptual framework of *e-compliance*.

7.4. E-COMPLIANCE AS THE CONCEPTUAL FRAMEWORK

Based on the review done in section 7.3, it is evident that the existing compliance models are insufficient to explain the phenomena of compliance in e-governance implementation in the case of Bhutan. In addition, the analysis of the two case study initiatives elaborated in Chapter 4, 5 and 6 indicated that technology played a significant role in enhancing compliance, supported by other compliance drivers and ownership. Yet, the technological compliance drivers and the concept of ownership do not fit into either rule-based compliance or trust-based compliance, nor the outcome-output based compliance model. In order to explain the phenomena of compliance in e-governance implementation and take into account technology and ownership, a new conceptual framework is needed. This section proposes the new conceptual framework of e-compliance based on the analysis of the case study initiatives and existing compliance models (Webb 2012; Van del Wal, Graycar &

Kelly 2016; Alon & Hageman 2017; Ademmer and Börzel 2013). Chapter 6 presented the cross-case synthesis as well as the conditions, mechanism and context surrounding the case study initiatives. The importance of dependence and interdependence among compliance drivers was underlined in Section 6.5.1 and 6.5.2. The relationships were aggregated and illustrated in Figure 14. These inter-linked compliance drivers have created a compliance mechanism and compliance space where the compliance drivers interact with each other and lead to high compliance. If compliance is low, it indicates that the functioning compliance mechanism might not be in place, there may be few and ineffective compliance drivers, and/or the compliance space too narrow.

At the same time, it is expected that the compliance drivers and mechanism evolve in response to a dynamically evolving context and background. For example, new technological compliance drivers may emerge, while other drivers may disappear when there are some incidents, shock or changes in the context, such as changes in leadership, organizational structure and budget availability. If there are many inter-linked compliance drivers in a complex e-compliance system, the influence of one compliance driver is of limited power. If one compliance driver disappears, while other compliance drivers remain intact, it is unlikely that the compliance level decreases much, because other inter-linked compliance drivers would remain effective. However, if an e-compliance system is built on only a few compliance drivers, the influence of each driver is high and the absence of one driver would negatively impact other connected drivers and decrease the compliance level considerably.

In addition to the compliance mechanism, which consists of inter-linked and mutually supportive compliance drivers, the compliance space, which consists of the number of compliance driver, helps explain the phenomena of compliance in the e-governance implementation.

Based on the need to develop a new compliance model which takes into account technology, ownership, inter-linked compliance drivers in e-governance implementation, and the existing compliance models, this research proposes a conceptual framework, *e-compliance*, which consists of

1) rule-based compliance determinants, represented by the organizational compliance drivers
2) trust-based, dispositional compliance determinants, represented by the social and leadership compliance drivers and
3) technology-based compliance determinants, represented by the technological compliance drivers.

In the conceptual framework of e-compliance, the compliance space is explained by the number of identified compliance drivers and the compliance mechanism by the dependence and inter-dependence among the compliance drivers.

Figure 17: Conceptual framework of e-compliance
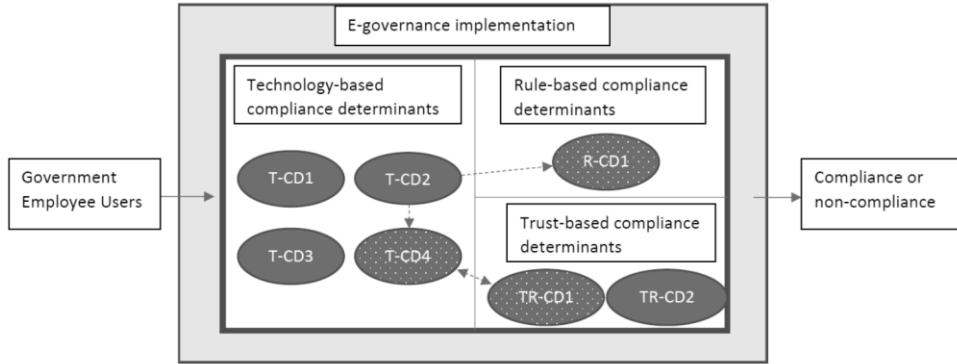
T-CD: Technology-based compliance driver; R-CD: Rule-based compliance driver; TR-CD: Trust-based compliance driver

Figure 17 illustrates the compliance mechanism and compliance space which form e-compliance. E-compliance is represented by an inner rectangular within e-governance implementation, and the compliance mechanism by the dependence and inter-dependence among compliance drivers. The compliance space contains compliance drivers under the three compliance determinants. In Figure 17, T-CD, R-CD and TR-CD represent examples of compliance drivers under technology-base, rule-based, and trust-based compliance determinants respectively.

The number of compliance drivers constitutes the compliance space. In each context, there would be different compliance drivers, but the three compliance determinants would remain the same based on the findings of this research. Dotted compliance drivers are the examples of drivers influenced by the ownership effect. Dotted arrows are the examples of possible dependence and inter-dependence among compliance drivers. The aggregation of the dependence and inter-dependence relationships among compliance drivers forms the compliance mechanism.

When a government employee user interacts with an e-governance initiative, e-compliance depicted in the middle of Figure 17 is expected to influence the course of action and behavior of the user through the compliance space and mechanism, and lead to higher, lower or non- compliance.

Figure 18: Example of compliance drivers and their relationships in the case of Bhutan
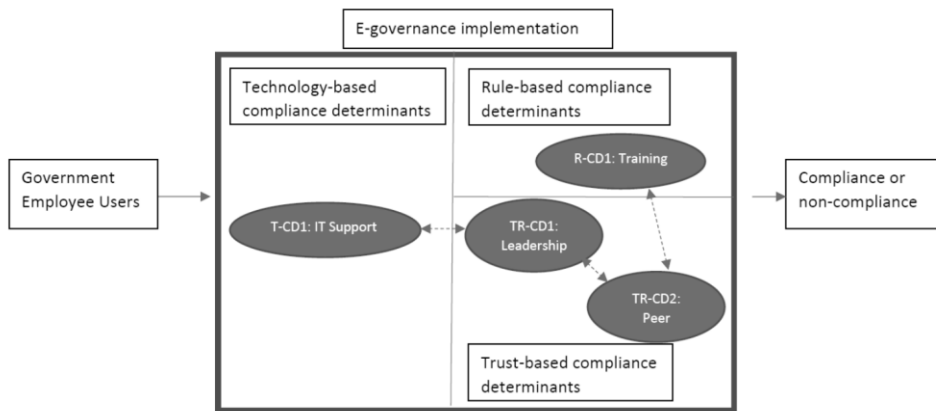
An example of a compliance mechanism in Bhutan is included in Figure 18, through the arrows in the Figure. IT Support is assigned as T-CD1, while Leadership as TR-CD1, Peer Support as TR-CD2 and Training as R-CD1. Responsive IT Support was inter-dependent with Leadership: Leadership provided an enabling environment for the IT team's nimble decision-making and actions, and in turn the IT Support implemented the initiatives where Leadership's technical knowledge was limited. Similarly, Leadership and Peer Support were inter-dependent: the encouragement of Leadership was found influential on how IT and functional team members supported the initiatives, while Leadership needed their support to implement and update system functionalities and ensure user compliance. Another inter-dependence was found between Peer Support and Training. Where the level of Peer Support was high, the organizations tended to allocate resources for Training, which then motivated the IT and functional team members.

The conceptual framework of e-compliance offers guidance to explain compliance among government employee users in e-governance implementation through e-compliance consisting of compliance space and compliance mechanism. It was developed to explain determinants of compliance among government employee users of e-governance initiatives which are designed to prevent fraud and control corruption. However, it could be used to assess compliance in other types of e-governance initiatives. The framework would not only offer the logic and category of contextual and relevant compliance drivers under each compliance determinant and their dependent and inter-dependent relationships, but also explain the role of technology which strengthens other compliance drivers and improves compliance in e-governance implementation.

The conceptual framework of e-compliance presents unique characteristics which require careful theoretical considerations. First, the compliance drivers discussed

in Chapter 6 include technology-enabled as well as institutional, social and human agency-related drivers. Second, Chapter 6 underlined the dependence and inter-dependence among compliance drivers, which constitute a compliance mechanism. The present research also acknowledges the dynamic development of systems and technology, due to and leading to interactions with government employee users via various compliance drivers in a compliance space. E-compliance requires a specific analytical took to fully understand such unique characteristics. The below Section 7.5 discusses theoretical anchoring and analytical tools suitable to further examine e-compliance in the future.

7.5. E-COMPLIANCE IN THE THEORY OF SOCIOMATERIALITY

This section explains the theoretical foundation underpinning the conceptual framework of e-compliance and the theoretical anchoring in sociomateriality in the Information System (IS) literature, followed by a discussion on essential parameters required for future studies on e-compliance.

The literature review in Section 2.2.6 identified IS theories, such as TAM, DOI, UTAUT, TPB, TOE, TRA and ISS. However, they were found not suitable to adequately explain the complex, multi-facetted phenomena of compliance in e-governance implementation, beyond technological adoption, or intention to adopt. Many of the existing IS frameworks position technology in linear relationships, as a starting point of investigation or the adoption of technology as a goal, and would not be suitable for an investigation of dependent and inter-dependent relationships of social, organizational and leadership factors, together with technological factors. In addition, people may adopt and use e-governance initiatives as technology, but may misuse it for their personal benefits, as Chapters 4 and 5 evidenced. The adoption of technology alone would not help explain the phenomena of compliance and determinants of compliance in implementing e-governance which are designed for control of corruption.

As Section 7.4 detailed, *e-compliance* consists of compliance mechanism and compliance space in e-governance implementation. What characterizes e-compliance is the entanglement of the structural facets, social actors and technological artefacts which influence each other. Over time, the entanglement started shaping structures, such as vertical and horizontal leaderships, practices such as technology-mediated peer support, and development of systems which are continuously updated in response to the user needs and requirements. These are some of the features best examined by the theory and methodology of sociomateriality. It was identified as the best tool by which the social, organizational and leadership compliance drivers

can be analysed with the technological compliance drivers without tilting to the former or the latter, and the inter-linked relationships among the compliance drivers can be explained.

7.5.1. THEORETICAL RELEVANCE OF SOCIOMATERIALITY TO E-COMPLIANCE

This section explains the relevance of sociomateriality theory as a tool to analyze e-compliance, considering the social, organizational, leadership and technological entanglement that structures the compliance mechanism identified in this present research. According to Orlikowski (2007), traditional organizational studies focused on either technology-centric or human-centric perspective. On the one hand, the technology-centric studies assumed that technologies are "exogenous, homogeneous, predictable, and stable, performing as intended and designed across time and place" (p.1437), and "leverages human action" (p.1436). On the other hand, the human centric approaches are concerned with "how humans make sense of and interact with technology in various circumstances". (p.1437) Orlikowski then argued that the contemporary social sciences were not well equipped to explain complex organizational realities where "the social and the material are constitutively entangled in everyday life" (Orlikowski 2010). She therefore called for inter-mingling of materiality and "perspectives that are grounded in ontological and epistemological sensibilities that take seriously the sociomateriality of organizing" (Orlikowski 2007, p.1445). Instead of studying technology design and use in organization, driven by ontological distinction between technology artefacts and human agency, sociomateriality enables researchers to conduct research on the social and material relationships (Feldman and Orlikowski 2011).

According to Leonardi (2013), the social is defined as "(a)bstract concepts such as norms, policies, communication patterns, etc." (p.74), while the material denotes "(t)he arrangement of an artifact's physical and/or digital materials into particular forms that endure across differences in place and time" (p.74).

The scholars who study sociomateriality view technology as not valuable or meaningful on its own, but only through human agency and that "technologies are artifacts whose operation and outcomes are neither fixed nor given a priori, but always temporally emergent through interaction with humans in practice" (Feldman & Orlikowski 2011, p 1246). Therefore, it is important to study "sociomaterial practices that perform social and material relations together" (Feldman & Orlikowski 2011, p.1248). Technological affordances, or technological performances, depend on human interpretations, enactment and contexts and human agency is performed materially. (Jarrahi & Sawyer 2013) This constitutive entanglement of the social and

material led to agential realism where "there is no social that is separate from material, there is only the sociomaterial". (Leonardi 2013)

In the discussion on empirical and philosophical characteristics of sociomateriality, Leonardi (2013) acknowledged difficulties in engaging empirical data, operationalizing empirical constructs and considering temporality within agential realism, in particular balancing the perspectives of the social and the material without tilting to one side. Furthermore, Leonardi pointed out a challenge in agential realism which may not adequately explain the internal, constitutive relationship between the social and the material and when phenomena lead to relationships with each other.

In order to address the shortcomings, Leronardi (2013) proposed to employ critical realism with analytical dualism and empirical constructivism, which treats structure and agency separate but interacting with each other. According to him, "the "social" and the "material" are independent entities that become "sociomaterial" when they are merged into each other. He argued that the entanglement be explained as "the gradual overlapping and interlocking of distinct elements into a durable infrastructure" (p. 70).

Sociomateriality, in particular Leonardi's approach to sociomateriality, enables researchers to analyze and understand the unique characteristics of *e-compliance* as empirical phenomena and a conceptual framework. The case studies in this present research found compliance drivers in the leadership, organizational, social and technological categories. These can be classified into the social (leadership, organizational and social) and the material (technological). All compliance drivers were imbricated to form a durable infrastructure which is the compliance mechanism in *e-compliance*. Some of the compliance drivers, such as leadership, pre-dated the existence of the material, represented by the technological artefacts in the two case study initiatives. Over time, the compliance drivers overlapped, entangled and interlocked with each other, formed *e-compliance* and eventually produced compliance as we observed in the case of Bhutan.

Therefore, the conceptual framework of *e-compliance*, more specifically the dependence and inter-dependence of compliance drivers, might be further investigated as an imbrication between the social and the material with the perspective of sociomateriality. The application of sociomaterial lens to e-compliance would also enable a researcher to explain dynamic technological development based on interactions with users as well as the evolution of compliance mechanism and compliance space over time. Leonardi (2013) discussed difficulties in engaging empirical data, operationalizing empirical constructs, considering temporality. The conceptual framework of e-compliance provides the framework to investigate the imbrication

of the compliance drivers and the process of entanglement of the compliance drivers over a period of time.

This present research on compliance demonstrated that the system design, development and implementation are not linear activities or a priori, but rather a continuous negotiation between users, developers, leaders and technology. The series of negotiations are represented by the dependence and inter-dependence of the social and material which form constitutive entanglements in e-compliance. As such, sociomateriality offers e-compliance the theoretical anchoring which enables to explain the findings of the two case studies and the conceptual framework of e-compliance, as discussed in more detail in the below Section 7.5.2

7.5.2. EXPLAINING AND APPLYING E-COMPLIANCE WITHIN SOCIOMATERIALITY THEORY

The analysis of the two case study initiatives in Chapter 6 found that there were the technological (the material) as well as the social, organizational and leadership compliance drivers (the social) which contributed to compliance in the case of Bhutan. In addition, the analysis discovered the entanglements of the compliance drivers in the form of dependence and inter-dependence among compliance drivers which formed the compliance mechanism. The entangled compliance drivers were found to evolve iteratively: when the technological compliance driver was introduced, it affected the social, organizational, and leadership compliance drivers, which then affected the way the technological solutions were updated and implemented. As detailed in Section 2.2.6, the existing IS theories don't offer suitable tools to analyze and explain the unique features of e-compliance, namely the importance of both the social and the material, the entanglements and iterative evolution of compliance drivers. Sociomateriality was found the best tool to explain the unique features of e-compliance.

This section informs how the conceptual framework of e-compliance can be analyzed and explained within the theory of sociomateriality, together with the implications of anchoring e-compliance in the theory of sociomateriality.

First, e-compliance is conceptualized based on the social (social, leadership and organizational drivers) and the material (technological drivers); it is not possible to explain e-compliance without one another and sociomateriality is the unique tool to enable research on the social and material relationships without distinctions between them (Feldman and Orlikowski 2011).

Second, sociomateriality provides the tool to explain the process of entanglement. Leonardi (2013) explained the entanglement as "the gradual overlapping and interlocking of distinct elements into a durable infrastructure" (p. 70). In the case of e-compliance, each driver and their mutual reinforcement are expected to make e-compliance as a gradually overlapping, durable mechanism and infrastructure for the normative intervention of anti-corruption.

In the case of *e*-PEMS, for example, the previous PEMS had been adopted technologically but was plagued with frauds and misuses of manual check system. Based on other IS theoretical frameworks, PEMS may be considered as a successful technology adoption case but not a good example of e-compliance, as the technology is not effective to ensure the outcome, which is compliance and prevention of fraud. E-compliance and entanglement materialized with the introduction of e-PEMS when the new technology and other compliance drivers became entangled and started taking effects to reduce fraudulent practices as a result of constitutive engagement of the social and the material.

In the case of ADS, the improvement occurred overtime, and can be considered as an example of gradual entanglement, as the system has been improved over time, and the entanglement has been strengthened as more social and material compliance drivers were added to the entanglement constitutively.

Third, using the sociomaterial tools, e-compliance allows a researcher to capture the effects of entanglement between the social and the material. Social, leadership and organizational compliance drivers have significant influence on how e-governance systems are developed and continuously upgraded, which then influence back other social, leadership and organizational compliance drivers. For example, the ACC team's continuous efforts to engage users in advocacy and sensitization workshops helped improve the functionality of the ADS. Due to the improved system functionality and enhanced visibility and transparency, the users became aware of the possibility that illicit enrichments could be discovered and demonstrated fear for punishment, which is an example of gradual overlapping and interlocking entanglement, argued by Leonardi (2013). The sociomaterial theory thus enables a researcher to explain the reinforcing effects of entanglement of the social and the material which ensures compliance in e-governance implementation and makes e-compliance durable.

Fourth, e-compliance also presents empirical evidence to the question on temporality in sociomaterial discourse and more specifically when the social and the material become sociomaterial from the independent entities of the social and the material (Leonardi 2013). In the case of e-compliance, the process starts when dependence and inter-dependence of compliance drivers occur and produce constitutive

effects on the outcome and durable infrastructure, as explained in the examples of the ADS and *e*-PEMS.

The two case studies evidenced the reduction in and prevention of fraudulent practices, such as manipulation of checks in the case of *e*-PEMS and gradually improvements in quality and quantity in asset declarations in the case of ADS, through the entangled social and material. E-compliance as a conceptual framework thus explains how an increase or decrease in entangled compliance drivers leads to a higher or lower compliance, which would eventually lead to an increase or decrease in the level of corruption.

In summary, e-compliance is an instrument to offer a logic and structure the compliance drivers under compliance determinants and analyze their relationships through the compliance mechanism, which allows a researcher to explain the level of compliance in e-governance implementation. The framework helps shed light onto what aspects of entangled compliance drivers are effective, their mechanisms and channels. It further helps understand the dynamics and evolution of the compliance drivers and compliance mechanisms.

7.6. SUMMARY

Chapter 7 examined the identified compliance drivers against the existing literature detailed in Chapter 2. The comparisons with the existing literature focused on the 4 categories of compliance drivers, namely organizational, leadership, social and technological categories. The existing literature does refer to leadership in the government. However, the role of His Majesty the King and the dual leadership model were not found in the existing literature. Similarly, there was no horizontal or vertical leadership in the context of compliance in e-governance implementation discussed in the existing IS or compliance literature. While social compliance drivers found alignments with the existing literature, the concept and application of ownership was found missing. The organizational compliance drivers, found largely in the case of ADS, were adequately explained by the existing compliance literature. The technological compliance drivers played an important role in ensuring compliance in the two case study initiatives, yet the existing literature did not adequately explain the technological compliance drivers or compliance in the context of e-governance implementation. This present research also recognized the absence of various compliance determinants in the case of Bhutan, such as access to

information, anti-corruption policies, regulations and frameworks as well as international instruments, such as international conventions and standards.

Chapter 7 then discussed relevant compliance models found in the existing literature, such as the Outcome and Output model. The comparison clarified that the compliance drivers identified in this present research, such as technology and ownership, could not be well explained by the existing compliance models.

Building on the identified gaps between the case study initiatives and literature and in recognition of the lack of appropriate models, Section 7.4 proposed a new conceptual framework of e-compliance. This section explored the construction of a concept, which integrates technology and ownership with other compliance drivers in e-governance implementation. Section 7.4 proposed the development of e-compliance which consists of 1) rule-based, 2) trust-based and 3) technology-based compliance determinants. This conceptual framework is expected to help explain the mechanism and space of compliance in e-governance implementation within the overall framework of anti-corruption efforts.

Section 7.5 then discussed the theoretical anchoring of e-compliance in the context of sociomateriality as a tool by which e-compliance can be explained. Especially relevant to e-compliance was the constitutive entanglement of the social and the material. The entanglement of the social and the material into sociomateriality helps explain the phenomena at hand and dependence and inter-dependence of compliance drivers as constitutive entanglement to form e-compliance. Based on the empirical data and analysis, this section discussed essential parameters required for future studies on e-compliance and the implications of theoretical anchoring in sociomateriality in the Information System (IS) literature.

CHAPTER 8: CONCLUSION AND POLICY RECOMMENDATIONS

> *"Of course the government is trying to do its best. That's where IT is being widely used. Hopefully, maybe in the near future, due to the intervention of IT services, hopefully a lot of these (corrupt) practices will be stopped. We are hoping. We are very positive".* (O2)

This exploratory, inductive research aimed to answer the research questions on what are the determinants of compliance among government employee users in e-governance implementations? It explored the use of compliance as a conduit and mechanism to understand the phenomena of compliance in the e-governance implementation in the case of Bhutan. In addition to the novel approach of applying compliance, this research added to the existing literature the empirical evidence from the case study of Bhutan on which little research has been conducted in the past as well as a new conceptual framework of e-compliance.

This present Chapter begins with a summary of this present research in Section 8.1, followed by the summary of empirical findings in Section 8.2. The theoretical contributions of this research are then summarised in Section 8.3. The Chapter concludes with the discussion on research limitations in Section 8.4 and policy recommendations emanating from the investigation of case study initiatives in Section 8.5.

8.1. SUMMARY

E-governance initiatives are increasingly seen as a vehicle to tackle corruption across the globe. E-governance initiatives offer an unprecedented amount and visibility of data and information which can be aggregated, disaggregated and analyzed to identify patterns and help improve policies, procedures, and processes. But the information systems alone would be insufficient to actually reduce corruption. Otherwise, we would have seen corresponding decreases in corruption along with the increasing number and scale of e-governance initiatives worldwide. Furthermore, despite the fact that similar e-governance functions and initiatives have been implemented across the world, the evidenced outcomes seem to vary markedly from country to country.

In this exploratory inductive research, compliance is identified as a conduit and part of mechanism to explain the phenomena of e-governance implementation which aims to control corruption. When government employee users comply with the e-governance system requirements, it is expected that the system will achieve the objectives the system is designed for and contribute to overall control of systemic corruption in the government. In this background, this present research aims to answer the following questions:

How does compliance manifest in e-governance implementation?

What are the determinants of compliance among government employee users in e-governance implementation?

To answer the research questions, this research used qualitative inductive methods, based on constructivist/interpretivist approach. A comparative case study helped provide a detailed description of each case and theme within a case and across cases (cross-case analysis) for interpretation. The context of the case study country, including its laws and norms, was held constant and introduced variation in each case.

Data collection methods included document analysis, observations and semi-structured interviews. The fieldwork was conducted from September 2019 to January 2020 and conducted semi-structured interviews of 32 government officials and experts in Bhutan. The data collected from the case study initiatives and triangulated across different data sources produced rich descriptions which enabled in-depth interpretation of compliance drivers in each case study initiative. Using two rounds of coding and partial pattern matching, similar and dissimilar compliance drivers were identified for cross-case synthesis. In analyzing data, actor analysis and process tracing methods were applied to establish more nuanced perspectives of various actors and understand the institutional dynamics. The analysed data helped to understand the phenomena under review and explore the how and why of compliance levels attained in each initiative.

The case study county was selected based on a set of pre-determined criteria of e-government maturity and level of control of corruption. Out of the 13 possible case study countries, Bhutan was selected, based also on the country ranking of Transparency International Perception Survey 2018 (25th out of 180 countries in 2019) and language requirement. Bhutan is generally not the country of first choice for this type of studies, but the fact that the government provided access and objectively fits the criteria for case study country makes Bhutan a compelling case.

One distinctive aspect of the case study country is the fact that Bhutan is one of the least developed countries and at the same time landlocked developed country, with the approximate population size of 800,000. Thus, the available human and financial resources are limited to advance anti-corruption and implement the latest technologies across the government. Out of the 30 e-government initiatives listed in the Bhutan E-government Master Plan, the Asset Declaration System (ADS) of the Anti-Corruption Commission (ACC) and the *electronic* Public Expenditure Management System (*e*-PEMS) of the Ministry of Finance (MoF) were selected as case study initiatives based on pre-set criteria.

8.2. EMPIRICAL FINDINGS

Across the two case study initiatives examined in Chapter 4 and Chapter 5, similar and dissimilar compliance divers emerged. In this present research, a compliance driver is defined as a group of inter-linked factors and attributes which are evidenced to have direct impact on compliance of government employee users in using e-governance systems. A compliance driver was developed using triangulation of data from multiple sources. This research identified 13 compliance drivers in each case study and contrasted similar and dissimilar compliance drivers among the government employee users in a cross-case synthesis. The compliance drivers were grouped into the 4 categories of organizational, leadership, social and technological compliance drivers.

It was a surprise that the compliance drivers grouped under the leadership and social categories were very similar, identical or interchangeable. The compliance drivers on technology-enabled ease of use (ADS) and familiarity with the existing system and ease of use /technology and automation (*e*-PEMS) were also very similar, and so was one challenge, application for advanced technology. Dissimilar compliance drivers showed distinctive features, unique to the respective organizations, initiatives and contexts where the systems were situated in.

The present research then explored the conditions, mechanism and context in which the compliance drivers were situated. The conditions were identified in the relationships of dependence and inter-dependence among the compliance drivers. The relationships derived from the interview accounts, observations, and document analysis. The present research proposed the compliance mechanism as an aggregation of relationships of dependence and inter-dependence among the compliance drivers in the compliance space where all the compliance drivers operated and functioned.

In the process of discerning dependence and inter-dependence and developing a distilled account of compliance mechanism, two important factors emerged, which had widespread impact on several other compliance drivers and challenges. First, Figure 16 illustrated the impact of technology-related compliance drivers on other compliance drivers as an enabler of other compliance drivers. Second, ownership, as defined by funding source and developer, was instrumental with its wide-ranging indirect influence on several other compliance drivers to explain differences between the ADS and *e*-PEMS compliance drivers and challenges.

The two rounds of literature reviews concluded that technology, e-governance in particular, did not appear prominently in the existing compliance literature, despite the increasing importance in the context of anti-corruption efforts in both OECD and non-OECD countries. The identified technology-related compliance drivers demonstrated its existence and validity to be considered in the compliance literature. The literature reviews also indicated that very few studies have been conducted on compliance in e-governance implementation, while there were even fewer studies which focused on the government employee users' compliance, despite the increasing importance of e-governance initiatives and expectations to control systemic corruption worldwide.

8.3. THEORETICAL CONTRIBUTIONS

Building on Chapter 6, Chapter 7 examined the identified compliance drivers against the existing literature detailed in Chapter 2 and develop a conceptual framework which aims to explain the phenomena of compliance in e-governance implementation. Some good matches were found between the compliance drivers found in the case study initiatives and existing compliance literature, as discussed in Section 7.1. These matches were identified mainly in the social and organizational compliance driver categories. The existing literature did not yield good and suitable matches to adequately explain the compliance drivers under the leadership category. Even more scant were the matches between the technological compliance drivers and the existing literature. The examples and narratives related to ownership did not appear in the existing literature at all.

Interestingly, this present research discovered that various compliance determinants found in the existing compliance literature did not appear in the case study initiatives of Bhutan. Compliance triggered by international instruments, such as the role of foreign entities, international conventions and international standards, was found entirely absent in the case studies in Bhutan. Similarly, access to information and anti-corruption policy, legal and regulatory frameworks were largely

absent from the case study initiatives. On the other hand, there were compliance drivers which were not found in the existing compliance literature.

It was also evident that the exiting compliance models were insufficient to explain the phenomena of compliance in e-governance implementation in the case of Bhutan. In particular, the technological compliance drivers, leadership model and the concept of ownership did not fit into either rule-based compliance or trust-based dispositional compliance.

In this context, not only the compliance mechanism, which consists of dependent or inter-dependent compliance drivers, but also the compliance space, which consists of the number of compliance driver, would help explain the phenomena of compliance in the e-governance implementation.

Therefore, this research proposed the development of a conceptual framework, *e-compliance*, which consists of

1) rule-based compliance determinants, represented by the organizational compliance drivers
2) trust-based, dispositional compliance determinants, represented by the social and leadership compliance drivers and
3) technology-based compliance determinants, represented by the technological compliance drivers.

The conceptual framework is expected to explain not only the compliance drivers but also the role of technology in increasing or decreasing compliance, which would then be liked to and subsequently explain an increase or decrease in the level of systemic corruption.

Section 7.5 then discussed e-compliance in the context of sociomateriality. The entanglement of the social and the material into sociomateriality helps analyze and explain the phenomena at hand and dependence and inter-dependence of compliance drivers to form e-compliance. This section proposed the theoretical anchoring in the theory of sociomateriality in the Information System (IS) literature and essential parameters required for future studies on e-compliance.

This research used ownership as criteria to select the two case study initiatives. The effects of ownership were found wide-ranging, yet indirect, and had impact on various compliance drivers, through which the effects were channeled. The different levels of ownership among the IT teams and users explained the different range and level of challenges encountered in the two case study initiatives.

8.4. RESEARCH LIMITATIONS

This section discusses research limitations derived from the choices I made in the methodological orientation, data collection and analysis methods as well as remedial measures found the existing literature, followed by discussions on possible future research.

The first limitation is the replicability and transferability of research findings. Qualitative research methods have often been criticized for not being replicable and leaving too much scope and influence to the researcher (Blaikie 2013, p. 191-191). In response, Brinkmann and Kvale (2014) asserted that "the goal of global generalization is replaced by a transferability of knowledge from one situation to another, taking into account the contexuality and heterogeneity of social knowledge" in qualitative research (p. 199). Furthermore, the principles and lessons learned from a case study could be applied to a variety of situations beyond the original case study context (Yin 2013).

As this present research is inductive and exploratory, specific to the context of Bhutan, the identified compliance drivers may not be generalizable. However, it is believed that the methodology used for data collection can be replicated and the conceptual framework of e-compliance be used in other contexts and countries. This research also produced thick descriptions of case initiatives which could be used to identify similarities and congruence for the transferability to similar contexts and initiatives.

Another limitation in conducting semi-structured interviews was identified as perceived lack of objectivity. Successful interviews, however, enable interviewees to feel comfortable and correct any misinterpretations and errors (Silverman 2016, p. 57). During the semi-structured interviews I conducted, several interviewees qualified and corrected my understandings during the interviews when asked to confirm their statements, which increased the level of objectivity, supported by triangulation with different data sources.

For future research, I suggest that similar research be undertaken on different e-governance initiatives which aim to control corruption in Bhutan. Some of the identified compliance drivers were identical and inter-changeable between case study initiatives, which suggests a likelihood that it exists in other e-governance initiatives in Bhutan. These initiatives could include e-governance initiatives with high and low compliance to compare the presence and absence of compliance drivers.

Further research could be conducted in a country in different predicaments identified in Table 3. This research was designed as exploratory, inductive research and, therefore, I selected the best case study country, where compliance could be easily found. In the future, this research framework could be tested in different circumstances, where compliance is expected to be lower despite the maturity of e-governance systems.

Furthermore, there is an opportunity for a longitudinal study on the identified compliance drivers and how they evolve along with the dynamically evolving context. Another follow up study in 3 or 5 years would shed light on e-compliance evolution and how improved or deteriorated corruption in Bhutan could be explained from the evolution of the identified compliance drivers.

In particular, both the ADS and e-PEMS were not entirely new to the government employee users. The ADS was established in 2009, 10 years ago at the time of fieldwork, and e-PEMS was an upgrade to PEMS. Therefore, there have been various enabling elements to compliance. If this research focused on a brand new system, the findings could have been different, even in the same context. For this reason, I would suggest to conduct a similar study using a variety of e-governance initiatives and different contexts and circumstances.

8.5. POLICY RECOMMENDATIONS

The policy recommendations emanating from this research are categorized into 1) policy recommendations specific to Bhutan and case study initiatives and 2) e-governance policy recommendations.

The policy recommendations specific to the case study initiatives include addressing the challenges identified in Section 4.5 and 5.5. of this present research. Such measures will ensure that compliance mechanism and space are maintained and function optimally. This present research underlined the importance of technology and ownership, namely the government funding and system development by government officials. In this context, the empowerment of IT officers and Department of Information Technology and Telecommunications (DITT) will help address the technical and technological challenges and shortcomings identified in this research and ensure the sustainability of effective IT systems in the government. The government could also pay attention to the identified compliance drivers so as not to reduce e-compliance, while advancing the implementation of e-governance initiatives in the context of anti-corruption efforts.

Another factor elicited in the interviews was the fact that the high compliance level was associated with the long-term efforts and effects of ADS and *e*-PEMS in the form of familiarity and ease of use. An assessment and evaluation of such initiatives should take into account not only the short-term achievements but also the long-term outcomes in a larger context, as anti-corruption is a long term development goal. Instead of initiating many systems for anti-corruption, it would make sense to nurture the existing systems for a long time, taking into account the dynamically evolving context.

As to the general e-governance policy recommendations, the attainment of e-compliance is not contingent on available financial resources alone. The research found technology and ownership as key enablers of compliance, which would require additional investment and financial resources. However, other compliance drivers and determinants found effective centered on social and leadership factors. This may mean that many compliance drivers can be developed and expanded in developing countries where available financial and human resources are limited and the factors would require special attention.

The e-governance systems are critical building blocks for governments to explore more advanced technological solutions, such as Big Data analytics, artificial intelligence or blockchain for financial transactions and settlements. The type of support, which is effective to the beneficiary countries, should be carefully identified for any ICT or digital technology initiatives. Not all countries require external consultants to design and implement systems. The UN and partner support could focus more on long-term, advisory role, while building technical and functional capacity within the government and private sector. Often, difficulties are faced in maintaining externally developed systems, due to incompatible technical platforms, programming skillsets, or lack of proper documentation and handover. Instead, like in the ADS, a home-grown system could be encouraged, which blends into the technological landscape of the organisation and development aspiration of the country.

Anti-corruption efforts and sound public financial management among beneficiary countries should remain priority areas of development assistance. When systemic corruptions are addressed and funds are managed transparently and efficiently, the country will have more resources to implement public initiatives to achieve SDGs. At the same time, institutional and human capacity would have been strengthened to cope with any irregularities. Public trust in the government would grow as well. UN and partner support should aim at these multiplier effects, which will create a virtuous circle of development.

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TOPIC: (E-GOVERNANCE) OR TOPIC: (E-GOVERNMENT) AND TOPIC: (CORRUPTION) AND TOPIC: (GOVERNMENT*)

REFINED BY: PUBLICATION YEARS=(2015 OR 2010 OR 2006 OR 2017 OR 2016 OR 2009 OR 2012 OR 2007 OR 2008 OR 2011 OR 2014 OR 2013 OR 2005) AND [EXCLUDING] WEB OF SCIENCE CATEGORIES=(GENETICS HEREDITY OR BIODIVERSITY CONSERVATION OR PUBLIC ENVIRONMENTAL OCCUPATIONAL HEALTH OR GEOSCIENCES MULTIDISCIPLINARY OR OPERATIONS RESEARCH MANAGEMENT SCIENCE OR ENGINEERING CIVIL OR BIOLOGY OR ENGINEERING AEROSPACE OR ENVIRONMENTAL SCIENCES OR ECOLOGY OR ENVIRONMENTAL STUDIES OR METALLURGY METALLURGICAL ENGINEERING OR MARINE FRESHWATER BIOLOGY) AND [EXCLUDING] WEB OF SCIENCE CATEGORIES=(EDUCATION EDUCATIONAL RESEARCH OR WATER RESOURCES)
TIMESPAN=2005-2017, INDEXES=SCI-EXPANDED, SSCI, A&HCI, ESCI.

Results found:	187
Sum of the Times Cited:	1685
Average Citations per Item:	9.01
h-index:	21

No	Title of article	Authors	Year	Summary
1	Using ICTs to create a culture of transparency: E-government and social media as openness and anti-corruption tools for societies	Bertot, John C.; Jaeger, Paul T.; Grimes, Justin M.	2010	This research, based on literature review, aims to answer the question on the role of ICT-enabled initiatives in creating social and cultural change towards transparency. The research provided important pointers to narrow the scope of my study and justify my approach. The authors claim that ICT-enabled initiatives, such as e-governance, are evidenced successful in reducing corruption, especially in areas of taxation and government contracts among larger and wealthier countries. This study cited three existing approaches to anti-corruption: 1) administrative reform, 2) law enforcement and 3) social change. The study also states that e-governance may favor those already in power, and even after the introduction of e-governance initiatives, corrupt officials upscale and outmaneuver those who are not. According to the authors, two e-governance success factors include: 1) a culture of transparency embedded in the government and 2) existence of transparency readiness factors, such as technological access and capabilities. Despite pertinent insights and findings, the research gaps and unanswered questions from this study include:

				1. Social change in this study focuses on the one among citizens, with the assumption that they can hold governments accountable.
				2. Government officials are largely portrayed as bystander or suspects, not as a central protagonist, despite bureaucratic acceptance being cited as a key success factor, together with leadership and political will.
				3. Efforts by government officials towards transparency and anti-corruption are largely ignored and they are categorized as a homogenous group of possibly corrupt people.
				4. ICT-enabled efforts were evidenced successful in countries already with transparency and openness, translated into relevant legislations and policies in place.
				5. The mentioned approach of empowering citizens with access to information might work only in countries with democratic institutions with oversight and accountability frameworks.
				6. Furthermore, Korea's OPEN initiative was cited as a success story in reducing corruption, when it was actually not, as revealed by the country's latest presidential scandal. Thus, OPEN initiative can address petty corruptions but not systematic government and

				political corruptions, which do not concern citizens.
				7. Social media and WikiLeaks are cited as more effective means of promoting transparency, although this research does not elaborate how.
				8. The question is, if the identified success factors are universally applicable and sufficient to ensure e-governance success in countries with less openness and transparency, under what circumstances does e-governance succeed?
4	An institutional analysis of an e-government system for anti-corruption: The case of OPEN	Kim, Seong-cheol; Kim, Hyun Jeong; Lee, Hee-jin	2009	A single case study conducted by Kim, Kim and Lee (2009) analysed the case of the Online Procedures ENhancement (OPEN) for Civil Application of the Seoul Metropolitan Administration in South Korea. The authors conclude that regulatory/coercive factors were most effective to the success of this anti-corruption initiative, guided by the political leadership of the Mayor. Other success factors include enabling IT infrastructure, training, resources and Internet literacy among citizens. The case study on OPEN is most interesting, as it illustrates the struggle between the organisation's leadership (Mayor of the Seoul City) and employees, in the introduction and implementation of the system. The study found that the audit authority and regulatory interventions were most effective in

				ensuring the initiative's success and reducing corrupt behaviors, meaning that leadership and a strong regulatory environment could be key good governance enablers.
				However, the role of civil servants in promoting transparency and addressing corruption within the public administration is not researched adequately in this study. The authors define e-government as "the use of technology to enhance access to and delivery of government services in order to benefit citizens, businesses and employees" but so far, most existing research have focused on citizens and businesses, not government employees.
				Lastly, OPEN is a transparent interface between citizens and low rung government officials, where space for corruption has been reduced. However, such a system would not catch illegal political contributions or business to government bribes, which do not directly involve citizens, as the latest scandal in the country revealed. Thus, to address transparency, endogenous capabilities within the public sector to address such invisible cases would be of critical.
6	10-year retrospect on stage models of e Government: A qualitative meta-synthesis	Lee, Jung-woo	2010	This research compiled e-government development models developed for the last 10 years, comparing various methods and their characteristics. Although, from the technology point of view, stages and models

				are important, assessment on the impact and interactions with end users as well as what the system does to achieve the objectives are largely missing.
7	Impact and sustainability of e-government services in developing countries: Lessons learned from Tamil Nadu, India	Kumar, R; Best, ML	2006	The authors examine an e-government initiative, which supported village Internet facilities that provide various e-government services, such as issuing birth certificate and application of old age pensions in India. A correlation was found between the presence of facilities and services used and positive impact, such as reduced corruption, was evidenced. However, the study shows that after a while, political and administrative support waned and eventually considered a failure. The authors conclude the initiative was not "politically and institutionally sustainable due to people, management, cultural and structural factors." The authors cite another 2003 study conducted in India, indicating that user satisfaction over e-services were high, although the use was low and unused among the destitute section of the population. It is summarised that: "Researchers have argued that most of these projects fail, either totally or partially, due to 'design-actuality' (Heeks, 2002) or 'design-reality' gaps (Heeks, 2003a), long-term sustainability problems (Aichholzer, 2004), or lack of commitment on the

				part of political leadership and public managers (Bhatnagar, 2000)." In this context, this study examines the case of Sustainable Access in Rural India (SARI) in Tamil Nadu, India, in a longitudinal approach. This is a quantitative and qualitative research, with field studies. Quantitative data was collected from the village and district officers to analyse the use of the service and compare it with demographic data. The field work included interviews with government officials, SARI staff, kiosks operators and users. They were used to identify the causes of sustainability failures. The OLS multiple regression model examines various variables, such as population size, education level, caste and presence of kiosks. According to the analysis, kiosk presence was the only statistically significant factor explaining the use of services. To explain the phenomena, the interviews revealed that operators and users thought the kiosk services save time and efforts, compared with the off line services. In addition to the cost savings, pension application cases show that the services successfully reached out to those who did not receive the benefits before.

				One interesting finding of this study is the reported opposition and resistance from field officials in processing some of the applications. The authors suspect diminished opportunities for corruption and rent seeking by officials as the possible cause. They may have perceived that the opportunities to receive bribery was diminished from introduction of the kiosks, fueled by lack of institutionalisation and top-down approach. The study also found that the commitment of the government office head was an important factor, and his transfer to another office led to the ultimate collapse of the project. Control over staff and monitoring them was also an important success factor. Despite initial success, time on applications slackened and efficiency gains began eroding.
				Heeks and Bhatnagar (1999) proposed a model called Critical Failure Factors, using information, technical, people, management, culture, structure, politics, and environment. Bhatnagar (2004) documented effects of reduced bribery due to e-government, but it was clear in this study that government officials can put significant resistance because of the power shift.
				The critical failure factors identified in the interview included lack of capacity among government officials. In addition to the resistance, trained officers were routinely

				transferred to another location, together with lack of resources for training. Involvement of all stakeholders was also cited as needed.
9	Internet X-ray: E-governance, transparency, and the politics of immediation in India	Mazzarella, Willia	2006	This is an essay to analyse the corruption scandal and reporting online in India, called Operation West End in 2001. After revealing corruption attempt among high level politicians, the website and journalists were subjected to legal and other types of harassments. What is interesting in this essay is the question the author asks as to why this incident is different from TV exposes. He points out that because it was reported on the Internet, it became an instant global news.
12	E-Government as an anti-corruption strategy	Andersen, Thomas Barnebec	2009	This article aims to understand the impact of e-government on control of corruption of Worldwide Governance Indicators (WGI), using the panel data of 149 countries in 1996 and 2006. It found that improvements from 10th percentile to 90th percentile in e-government had correlating improvement in reduction of corruption from 10th to 23rd percentile. The author rightly pointed out that there have been anecdotal success stories but they have yet to come under empirical scrutiny. Another valid point is that there might be general equilibrium effects in which, e-government is not reducing corruption at the macro level, as

| | | | | it may be shifting to some other parts of society. Therefore, the study addressed micro evaluation using randomised impact evaluation and softer anecdotal evidence.

The research also highlighted that the level of GDP per capita was the most crucial predictor of the corruption levels, followed by democratic institutions, in particular, free press that are evidenced to be linked to corruption reduction. The author also introduces the concept of urban density, where concentration of ICT access is taken into account. However, the author also includes telephone line density because it is assumed to be an important means for the Internet access, but it may be an old mode.

The study also references West (2006) on the number of e-government initiatives, which have functions on reporting corruption and fraud. Fifty seven countries were reported to have the function, while 91 percent of government sites have functions to e-mail government officials other than web masters. The research confirms that OCED countries have less corruption with greater growth in e-government. It is also noted that since OECD countries will not decrease corruption significantly, the impact of e-government might appear insignificant. Therefore, the importance of analysing OECD and non-OECD countries separately is logical. |
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It is interesting that e-government seems to have clearer impact on non-OECD countries. The author also suspects that the Internet has both direct and indirect impact on corruption, the latter via e-government. In this case, the Internet might be more important than e-government itself. There are three examples of how the Internet exposed corruption and almost toppled the Indian government. However, apart from the empirical side of the analysis, success stories cited in the research might need critical analysis. For instance, Bhoomi, the land management system in India, is cited as a success story based on a World Bank report. However, a report by Panos in 2003 point out cases of massive land grabs when Bhoomi was introduced and the poor actually lost their titles. Sometimes, the organisations are the funders and have a stake in promoting the initiative, in addition to the fact that the success should be measured long term instead of at the beginning.

The research concludes that increased use of e-government reduced corruption among non-OECD countries from 1996 to 2006 after bringing under control other propensities of corrupt government.

| 22 | Anti-corruption effects of information communication and technology (ICT) and social capital | Shim, Dong Chul; Eom, Tae Ho | 2009 | This quantitative research examined ICT and social capital as major factors in reducing corruption. It concluded that ICT is evidenced to reduce corruption, including some aspects of social capital. It is assumed that corruption will reduce in a densely connected environment. While the empirical analysis is of value, there are some assumptions that need careful examination. For instance, one assumption about this research is that, low human intervention, by introducing IT systems, will lower opportunities for corruption. Another assumption is that, with high social capital accumulation, people are more involved in policy making that it reduces corruption. It is hard to imagine that automation through IT systems will have long lasting effects on corruption. While other studies also evidenced that ICT reduces corruption, understanding mechanisms that make this happen are unclear, including the types of corruption that it helps reduce and the conditions under which ICT reduces them. |
| 26 | Can the internet reduce corruption? A cross-country | Lio, Mon-Chi; Liu, Meng-Chun; Ou, Yi-Pey | 2011 | This quantitative study analyses the relationship between ICT and corruption using panel data of 70 countries from 1998 to 2005 with Granger causality test. While the research concludes that the Internet has statistically significant effects |

	study based on dy- namic panel data models			on corruption reduction, the authors conclude that its full potential is yet to be realised. The authors note that some case studies led to conclusions about the Internet reducing corruption, although they were selected from developed countries. Therefore, it is unclear if the same applies to developing countries or if the countries of case studies had all the conditions already in place for the Internet to effect corruption reducetion. Furthermore, it is unclear what it means for corruption to be reduced, or for incidents of corruption to actually be sustainably reduced, or if they are just people's perceptions, or of the types of corruptions reduced by which e-governance systems. Another potential shortcoming of this research may be that many e-governance systems were put in place after 2000 and that it may be premature to measure the impact using the data between 1998 and 2005. Seventy countries selected must have much better governance systems than the rest, hence better data availability. In explaining bi-directionality between Internet and corruption, the authors struggle to explain how corruption hinders the introduction of the Internet.
35	E-Government, Internet	Elbahna-sawy, Nas r	2014	This study empirically analyses the relationship of e-government, Internet adoption and corruption, using

| | | | | a large panel dataset. The Granger causality tests reveal the unidirectional causality between e-government, corruption reduction and the bilateral causality between Internet adoption and corruption. |
| Adoption, and Corruption: An Empirical Investigation | | | | The author also makes interesting observations, such as government officials learning to illegally benefit from e-government initiatives even after its introduction and how it is not necessarily a panacea. The author explains corruptions through the model of principle-agent-client, but in reality, the relationships might be more nuanced with possible collusion between principles and agents. Even if more information is made available online to citizens, they will have no means to influence enforcements of rules and regulations unless democratic institutions are functioning and other political agenda do not override debates and discussions on corruption. Furthermore, in many countries, NGOs and CSOs are funded and supported by the regime, which divides citizens' reactions and voices on the matter and dilutes the focus. As to the data, proxy data from Transparency International (TI) and E-government Survey might not accurately evaluate what the author claims to measure. For example, TI's corruption perceptions may not actually match the number of incidents of corruption, type and magnitude, while e-government survey uses too wide a |

| | | | | range of proxy data, such as adult literacy, gross enrollment ratio, expected years and mean years of schooling[53] to measure e-government capacity in a country.

While the findings are certainly interesting, it doesn't give a nuanced view of why e-government initiatives have unidirectional causality to corruption while Internet adoption has bilateral causality. Nor does it give a granular picture of which types of corruptions are reduced by e-government, where, how, by whom and for how long, which are critical questions to deepen our understanding of the topic, on top of emerging trends of using social media and its impact on government institutions and actors. |
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| 36 | Examining the relationships among E-government maturity, corruption, economic prosperity and environmental degradation: Across-country analysis | Krishnan, Satish; Teo, Thompson S. H.; Lim, Vivien K. G | 2013 | In this quantitative analysis, the authors analyse the relationships between e-government, economic development and environmental degradation through corruption as a moderator.

The study validated the assumption that e-government initiatives reduce corruption, although they were found to not contribute directly to economic development and environmental degradation. |

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[53] https://publicadministration.un.org/egovkb/Portals/egovkb/Documents/un/2016-Survey/Annexes.pdf

The study lacks enough justification on economic prosperity and environmental degradation as having high-level impact but not others.

Education and health could be a more relevant variable. Furthermore, e-government maturity is not a relevant proxy, as some e-government systems are sophisticated and technologically advanced. Few may be using them and user perspectives are not taken into account. Furthermore, corruption is argued from a narrow economic and business perspective, instead of socio, economic and political perspectives. Hence, the argument that some corruptions bring about positive economic benefits. The difference between taxation and corruption is vital, as the former is legitimate and the latter affects the poor and women disproportionately. Furthermore, corruption is not defined well in this research and it gives an impression that with the introduction of e-government, corruption is tackled, instead of a more dynamic approach of corruption, possibly a moving target.

In addition, the 2004-2008 dataset may be too old in the field, which advances swiftly. As in other studies, the authors use E-government Survey for the dataset, but the way e-government content and services are measured is questionable and subjective. The way the World

37	Transparency, E-government, and accountability some Issues and Considerations	Halachmi, Arie; Greiling, Dorothea	2013	This qualitative research poses a pertinent question on how much transparency is good, enough and meaningful, as ICT and e-government initiatives make more data and information available online. It aims to develop theories and models to balance the need for business-like efficient public sector and, at the same time, for more transparent and open government. This requires diversion of resources from core government functions to publishing information and data for the public and responding to requests.

Governance Indicators aggregates data may need a more careful examination.

Finally, if the findings are true, all countries, regardless of whether they are developing or developed, with mature e-government initiatives, should have reduced corruptions by now and it is interesting to see if this proves the case. In my research, I will take the above into consideration when selecting and analysing case studies.

The author identified information overload, administrative costs, delay and politicisation as a consequence of publishing more information for the public. However, his examples of German e-government do not address the challenge of striking a balance between providing more information (more efficiently through e-government) and

				more efficient e-government (with less information). This question is particularly pertinent to developing countries with less resources and less stable democratic institutions.
64	Accountabil-ity and accessibility: ensuring the evidence of e-govern-ance in Australia	Cunning-ham, A; P hillips, M	2005	The authors examine the role of li-braries and archives in Australia in preserving and capturing long term access to government records and publications. The methodology used is case study-based concept analysis and the case is the Na-tional Library of Australia and the National Archive of Australia. The challenge identified in the study is that while Australia has made sig-nificant progress, digital preserva-tion of government publications and records, including large amounts of data, is still at risk of loss. The study is relevant in the way that preservation of records is important for the functioning of de-mocracy in a country and for trans-parent and accountable govern-ance.
68	E-GOVERN-MENT USEAND PER-CEIVED GOVERN-MENT TRANSPAR-ENCY AND-SERVICE	Jun, Kyu-Nahm;Wa ng, Feng; Wang, Da peng	2014	The authors examine the e-govern-ment services implemented in a lo-cal administration in China to de-termine citizen's satisfaction and perception towards transparency, which is expected to trigger service-oriented government. This study is pertinent to my re-search questions, in a way that it presents another model of e-gov-ernance in a limited democratic so-ciety. What drives improvements in

| | CAPACITY Evidence from a Chinese Local Government | | | various sphere of governance without democratic accountability would be an important question. However, the case of China might be more complex, due to the size of the country and diversity across the territory.

The authors set the scene by explaining that "the research summarized in this article explores the relationship between government website usage, citizens' perceptions of local government transparency, and government's capacity for service delivery—all in the context of a Chinese local government that has undertaken administrative reforms to build a service-oriented government. Among the various strategies used to achieve such a transformation, e-government is a core approach (Seifert & chung, 2009)."

The research method is a large-scale survey conducted in F (???) city of Guandong province. In 2007, the data collection was conducted with a 79 percent response rate from 949 respondents.

The literature review included the quote below, which might be relevant to my research:

"Justice, Melitski, and Smith (2006) argue that the implementation of e-government will improve managerial capacity, which includes both administrative and governance capacity." |
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				Interestingly, the study finds that users rely more on traditional media for information, while a generation gap was also identified. Age is correlated to the perception on government capacity for service delivery. E-government is found to have a positive correlation with perceptions of government capacity. While the study also finds that e-government was not linked to the two-way communication between government and citizens, it might be possible that the underlying assumption in China might be different from the actual assumption of the model. The authors also raise the question below: "the findings raise the question of the predictability of the stage model of e-government, which expects that governments will move stepwise toward the adoption of more sophisticated e-government offerings, moving from information to transactions to integration and ultimately to transformation" (coursey & Norris, 2008, p. 532)." Thus, the conclusion of the authors is that, "the establishment of e-government does not, in itself, lead naturally to a citizen-centric, service-oriented government".
71	Corruption as a source of e-Government	Aladwani, Adel M	2016	The author examines the influence of corruption on the e-government initiative, in particular, project failures. In this study, he aims to

projects failure in developing countries: A theoretical exposition			propose a theoretical framework to analyse the phenomenon. Despite heightened attention by the academia and practitioners on the causes of e-government failures, there hasn't been much attention on the role of corruption in the process. In this backdrop, this study explains "how corruption can act as a source of e-Government project failures in developing countries". The author added: "This is unfortunate because pervasive corruption has been shown to be one of the most important contextual factors that could influence the maturity of e-Government initiatives (Singh, Das, & Joseph, 2007); important research and practical insights could be missed if researchers continue to overlook the other possible ways through which e-Government and corruption might be related." This angle is a pertinent one to my research as institutional capacity is influenced by corruption in the background and through the mediating/moderating factors, affect the behavior of the civil servants. The study estimates the conduit of the process as follows: "The article argues that e-Government failure in developing economies comes to exist, in part, because of the role played by corruption forces. It proposes that e-Government projects fail because of cultural, economic, political and

judicial corruption effects, which distort information processing capabilities of administrative systems (e.g. capability to deal with moral and governance needs) that ultimately cause e-Government to stop short from meeting stakeholders' expectations."

In addition to external factors, the author quotes previous studies on internal causes of e-government failure. The study quotes Heeks research, which concludes that 85 percent of e-government projects failed. The causes of failures were attributed to individual characteristics such as age, gender and education among others (e.g., Akman, Yazici, Mishra, & Arifoglu, 2005; Aladwani, 2013a; Choudrie and Dwivedi, 2005; Dwivedi and Williams, 2008; Fu, Chao, & Farn, 2004; Gauld, Goldfinch, & Horsburgh, 2010). Other scholars identified organisational culture as a cause (Aladwani, 2011; Luk, 2009; Wachira, 2012). The other causes were identified as technology (Aladwani, 2013b, 2013c; Carter and Belanger, 2005) and political environment (Kamal, Hackney, and Sarwar 2013; Weerakkody, ElHaddadeh, Sabol, Ghoneim, and Dzupka 2012).

"Given this broad view, corruption can refer to many types of illegal/disapproved financial and administrative behaviors in the context of public jobs, such as, bribery

| | | | | (kickbacks, pay-offs), embezzlement (misappropriation), nepotism (favoritism, preferential treatment), abusing authority and extortion (profiting through coercive means), to name a few (Caiden, 2001; Caiden and Caiden, 1977; Rose-Ackerman, 1975, 1978, 1996, 1999; United Nations, 1999)." Corruption is most prevalent among developing countries, according to the author, and has significant economic, social and cultural impacts. In particular,

"Corruption could have detrimental effects on administrative systems overseeing eGovernment projects since it limits their capability to operate in accord with good governance and morality standards."

In this background, "The proposed theoretical framework consists of three major parts: corruption types (cultural, economic, political and judicial), internal effects (deterioration of the moral compass and deterioration of governance standards), and e-Government project failure dimensions (technical, content, social and service)."

The author identifies some internal factors, such as e-government managers and officials, including decision makers as important for the project to succeed, however, on condition that they do not cave in to political interference. The ability of government officials to plan and |
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				implement activities in a professional way would be hampered in an environment that allows political interference. The cost of such compromised e-government initiatives would be higher, while evaluation and taking corrective actions would also become difficult. Corruption in the judiciary system is identified as having significant multiplier impact: "A recent corruption report affirms: "[i]n 20 countries, people believe the judiciary to be the most corrupt institution. In these countries, an average of 30 per cent of people, who came into contact with the judiciary, report having paid a bribe" (Hardoon and Heinrich, 2013 p. 17); and, therefore, the prevalence of such kind of corruption always has far reaching effects on all governmental contexts, including that of e-Government's." Therefore, officials in the judiciary system may attempt various measures to control and limit the influence of e-government initiatives, such as limiting access to judicial case files and rulings or causes. The consequences are illustrated below: "The prevalence of violations of public trust will eventually discourage some e-Government officials and specialists from paying adequate attention to breaching inner ethical norms and to encoding accountability and transparency

				principles into e-Government systems based on technically sound choices. As suggested by the work of Caiden and Caiden (1977), when corruption becomes widespread in a society, it encourages organisations to present contradictory external and internal codes of ethics; hide violations of the external code, penalise non-violators and reward violators; and excuse corruption as isolated incidents. Such corruption could put the administrative system overseeing an e-Government project under an unforgiving morality test. This would certainly cause deterioration in the perceived information accuracy and completeness as well as the integrity and fairness of the services provided by e-Government to the public and other stakeholders." Considering the above, maybe some e-government initiatives should be considered as a higher priority initiative - those that should stem the systemic corruption within the government. Although the author emphasised the external factor, such as political interference, the corrupt forces could be found internal to government. In particular, in undemocratic societies, such forces manifest in diverse ways and will have detrimental impact.
73	Examining the	Rana,	2015	The authors examined the level of success of e-grievance system in

| | Success of the Online Public Grievance Redressal Systems: An Extension of the IS Success Model | Nripendra P.; Dwivedi, Yogesh K.; Williams, Michael D.; et al | | India by measuring the satisfaction rate among users through the Information System (IS) success model. The model measures success based on constructs of information quality, system quality, service quality, perceived usefulness, perceived ease of use, perceived satisfaction, perceived risk and behavioral intention. A survey result from 419 responses validated 12 relationships between eight constructs.

The author also mentioned that the use of e-government initiatives in India was generally low and that there could be many reasons for this. In this regard, a study based on the IS success model makes sense, as the hurdle may be more technological and design-related than the substance (i.e. corruption).

Although this study brought to light user perspectives in reporting corruptions and other general grievances in India, there were several shortcomings. The research found that 74 percent of the cases were found in favour of claimants, although it was unclear what the government did about these and other cases. While users were satisfied with the ease of systems, among others, there was no guarantee the government was taking the claims seriously and acting on them to make systematic changes where necessary for lack of mechanisms to monitor and oversee the process researched in this study. |

				Additionally, this system, like OPEN in Korea, is effective in addressing petty corruption, where citizens are involved. More systematic corruptions can't be addressed by this system, unless there is a back end online, offline monitoring system. Another challenge in this study was the survey sampling. Respondents were more educated and earned higher income than the vast majority of the population in the country, and in no way, were they representative of the population, in addition to the gender imbalance. These were the people unafraid of speaking up and complaining but it may not apply to the vast majority. While the study was relevant and interesting to my research questions, it also leaves many more questions on short-term and long-term impact of the e-grievance system, especially on how effective it is in reducing corruption and among a vast majority of population in the context of a developing country.
92	Online Budget Transparency in OECD Member Countries and Administrative Culture	Rodriguez Bolivar, Manuel Pedro; Caba Perez, Maria del Carmen; Lopez-Hernandez	2015	This OECD study examines the role of e-government as a tool to increase budget transparency among its member countries. Using the approach of New Public Management and administrative culture approach, the article analyses new technologies. The findings indicate that differences emerge across countries under different administrative cultures.

		Antonio M		The basic assumption for budgetary transparency is that once citizens have access to such information, they can hold government account-able; in a democratic environment, where various legal and legislative instruments are available.
101	A strate-gic frame-work for goo d governance through e-governance optimization	Kalsi, Nir maljeet Si ngh; Kiran, Ra vi	2015	The authors examine the contribu-tions of ICT, in particular e-govern-ance initiatives, to good governance in the State of Punjab, India. The study identifies factors important for the conducive environment in implementing successful e-govern-ance initiatives and barriers. The findings feed into the proposed strategic policy framework for the State.

The methodology is based on the participatory stakeholders' assess-ment, using descriptive statistics, perception gap, ANOVA and factor analysis. Using the random strati-fied sampling technique, a survey was conducted with a response rate of 29.27 percent or 849 responses.

The research found that while the importance of ICT is widely recog-nised, the challenges were identi-fied as "unreasonable delay, multi-ple visits even for small services, poor public infrastructure and its maintenance in government offices"

While the empirical data obtained at the state level is valuable, the questions seem to concern more the |

				service diversity than e-governance or good governance as a whole. Interactions with citizens was the central theme. However, it is interesting that the identified pitfalls are topped by "resistance by political masters and bureaucracy" and "resistance by citizen, government staff to change".
103	Evaluating the role of online data availability: The case of economic and institutional transparency in sixteen Latin American nations	Murillo, Martin J	2015	The author examines the central governments of 16 Latin American countries and their efforts to provide information online, where corruption and inefficiency generally exist. Using the principal-agent framework and the theory of asymmetry of information as a basis for corruption and inefficiency, the study finds that policy and mandates to make information available as well as sophistication of technology are important. While the importance of ICT as means to contributing to transparency and closing knowledge divide is acknowledged, its full potentials are yet to be realised among the 16 countries. This study supports my research questions, in particular the importance of e-governance institutional instrument. While the principal-agent framework is an interesting one, my research focuses on limited democratic environment, where the framework may be inapplicable.

| 114 | Bribery and inspection technology | Samuel, Andrew; Lowen, Aaron | 2010 | This is an interesting quantitative study with objectives given below:

"The e-government movement advocates increased use of technology to improve government efficiency and reduce corruption by reducing the discretionary power of government officials. This paper studies the relationship between improvements in inspection technology within a Principal-Supervisor-Agent model, where the supervisor is an inspector who is hired by the principal to investigate the agent's potentially illegal actions."

"We show that when technology increases the marginal or total productivity of the supervisor's effort, improvements in inspection technology encourage some types of bribery. Although such technological improvements induce an equilibrium with bribery, compliance and social welfare can still rise. However, when technology and supervisory effort are sufficiently substitutable, improvements in technology may reduce compliance when bribery occurs in equilibrium even when those same technological improvements would have raised compliance in the absence of bribery. We also characterize the relationship between the principal's socially optimal technology and the anti-corruption policy available to the principal and find that the socially optimal inspection technology may be a substitute for |

| | | | | or a complement to the anti-corruption policy."

This sounds counter-intuitive and may present a limit of quantitative approach to such a complex topic as bribery and corruption. "The e-government movement advocates using improved inspection technologies to enhance efficiency, reduce corruption among government regulators, and improve monitoring and compliance. For example, transport companies in the state of Gujurat, India, frequently load trucks beyond the permissible axle-load. Inspections at weigh stations were slow and inefficient, and by bribing transportation inspectors, truckers were able to avoid paying a fine for their non-compliance. Thus, compliance with axle-load regulations was extremely low. The department of transportation introduced improved monitoring devices, such as electronic weighbridges, in order to improve efficiency and reduce bribery at these weigh stations in the hope that it would improve overall compliance with axle-load regulations. Specifically, they claimed that introducing electronic weighbridges would: (1) improve efficiency and reduce red-tape, and (2) lower the discretionary power of weigh-station inspectors, which would in turn reduce their ability to extract bribes from truckers. Although their intuition seemed reasonable, this policy did not decrease the |
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incidence of bribery significantly. Evaluations of other e-government projects have also concluded that technology does not necessarily reduce corruption."

"Indeed, Clay Wescott of the Asian Development Bank argues that while e-government ...facilitate[s] combating corruption, it can also have no effect, or even provide for new corruption opportunities." (Wescott 2003, p. 6). In particular, e-government reforms may shift corruption opportunities among officials (such as from those without computer skills to those with them), or change the timing and type of bribery that occurs (Heeks 1998)."

"Second, we find that when preemptive bribery occurs in equilibrium, then under some conditions improvements in technology can reduce compliance even when those same technological improvements would have improved the level of compliance in the absence of preemptive bribery. However, improvements in technology always raise the level of compliance in the presence of ex-post bribery. Thus, in the presence of corrupt supervisors, improvements in technology can lower compliance."

The argument is relevant to my research questions, as it examines compliance and technology.

117	Can You Find It on the Web? An Assessment of Municipal E-Government Transparency	Bearfield, Domonic A.; Bowman, Ann O'M	2017	This qualitative study conducts literature review to derive a model to test five explanations to determine the propensity of cities for transparency. It concludes that local governments are more likely to publish budget and administrative information online than HR related matters. The authors state: "Our analysis suggests that community demand and a city's organizational networks play an important role in fostering transparency, regardless of city size. Important differences do exist between large and small cities: Transparency in larger cities is spurred by political competition; in smaller cities, governmental resources and administrative professionalism influence transparency." The definition of transparency and assumption that citizens and media will hold government accountable are applied in this study conducted for the United States, but it may not be applicable in countries without democratic institutions. In terms of combination of elements, which are supposed to facilitate openness in administrative culture, the authors cite that "A study of New Jersey local governments identified five possible explanations for a city's commitment to openness: a supportive administrative culture; sufficient governmental resources; ample political

competition; an active and professional media, particularly local newspapers; and the presence of good government watchdogs (Piotrowski, 2011)".

The author concludes that based on the findings of existing research, more studies are called for. Based on prior research findings, the author identified "governmental resources, political competition, administrative professionalism, community demand, and organizational networks" as determining factors.

Lack of resources was found to be a barrier in providing e-government services. But in other circumstances, e-government enables governments to provide services with less resources. While political competition may not apply universally in the context of promoting transparency in developing countries, education and administrative professionalism might be an important factor to commit to managerial best practices. The length of service among managers was also taken into account, wherein, new managers seem more inclined to introducing new techniques and approaches.

In explaining demand for transparency, the authors explain that education and income of citizens have an impact. Another factor taken into account is the organisational

				network, where cities learn from each other. This is expected to reduce uncertainty in implementation. In the case of a country, this should then mean that neighboring countries, or countries with same linguistic, cultural and historical ties, should develop in tandem. The research gaps identified include, 1) whether the information made available led to monitoring and assessment and 2) if social media provides additional means to engage citizens, which is the new paradigm of engagement.
134	YOU CAN'T BRIBE A COMPUTER: DEALING WITH THE SOCIETAL CHALLENGE OF CORRUPTION THROUGH ICT	Srivastava, Shirish C.; Teo, Thompson S. H.; Devaraj, Sarv	2016	The authors find that the theoretical understanding of how ICT, in particular e-government, affects corruption is still limited despite the research on the role of ICT in enhancing transparency and fairness. Using an institutional perspective, the authors theorised the relationships between corruption and e-government at two levels: "(1) base corruption observed in national institutions (political, legal, and media institutions), and (2) permeated corruption in the national stakeholders service systems (business and citizen systems)." More specifically, "building on institutional theory, this study conceptualises corruption in a nation as corruption in

| | | | | basic national institutions that proliferates as corruption in the national stakeholders service systems. This theory development approach offers a systematic explanation of the mechanisms perpetuating the impacts of corruption on service systems within nations." |

The authors believe that combining economic, psychological and institutional perspectives will better explain the phenomena as follows:

"Anand et al. (2004) synthesize economic/psychological theories with the institutional perspective to explain how individual processes of rationalization coupled with socialization may lead to the institutionalization of corruption over a period of time"

In terms of the methodology, the authors use panel data of 63 countries for a 4-year period. The data used are from Transparency International Global Corruption Barometer Report, E-government Readiness report and World Competitive Index of WEF.

The authors explain the conduits and mechanisms of corruption in an institutional setting as follows:

"Due to information asymmetry between the principal and the agents, the principal cannot effectively monitor the agents' work, which results in the agents working in their own self-interest.

Thus, in such a situation of information asymmetry between the government (principal) and public officials (agents), where the public officials have access to a monopoly and also have discretion in administering it without sufficient accountability, corruption manifests (Mahmood 2004; Mistry 2012). To mitigate corruption, the information flows should be designed to reduce the agents' monopoly and power of discretion or to increase their level of accountability (DiRienzo et al. 2007)."

This explanation of why e-government initiatives should be designed around information sharing may or may not work in different contexts. Even when information asymmetry is addressed, and people get to know, there might be power imbalance and culture of impunity, which prevent any corrective action. Power of discretion becomes an ambiguous concept if they are not defined well in a weak institutional setting and many transactions take place in an ad hoc manner.

Furthermore, accountability and assumption that information asymmetry can be addressed by making information public, again theorises functioning democratic oversight and instruments. Providing access to rules and procedures may not be practical, as they are complex and change often and how they apply

				can only be explained by government officials.
				The results of the analysis reveal that the e-government development is negatively associated with the level of corruption in legal, political and media institutions. Furthermore, corruption in legal and media institutions are found to be correlated with corruption in service systems, which have direct interactions with businesses and citizens. Thus, the analysis underlines the importance of judiciary in addressing corruption in the national stakeholders systems as a mediating factor. The same applies to media.
				For future research, the authors conclude:
				"We have also suggested the mechanisms through which this happens, and future research can examine them in greater detail. Specifically, future studies can explore the processes through which e-government actually reduces the discretionary power and monopoly of public officials and enhances their accountability. Researchers can also extend the model to incorporate other variables affecting corruption."
				"Future research can specifically examine how ICT can transform rather than reinforce existing corruption-propagating structures"

				"Corruption is a cultural variant, and the perception of corruption across cultures can be different. Our cross-country study, which is macro in orientation, does not take into account the richness of specific contexts. Future research can take the situating contexts into account for a more nuanced understanding of corruption, possibly through the use of qualitative research methods (see Johns 2006; Markus et al. 2002)." "Fourth, we have taken an institutional perspective, implying the key role of institutions in shaping the behavior of different stakeholders. It is also plausible that an individual agency with behavioral and economic motivations is instrumental in shaping the corruption-related practices in a nation. Future research can examine the role of e-government in impacting the proliferation of corruption in a nation from alternate perspectives."
135	Administering and Governing with Technology: The Question of Information Communication Technology and	Coicaud, Jean-Marc	2016	The author starts his summary of current research approach and shortcomings at the beginning of the essay: 1. the current approach to e-government is generally positive, and may not highlight problematic and negative aspects of e-governance. 2. the development of e-governance is taking place at a time when government institutions

	E-Govern-ance			are weakened by transnational forces.
				3. maybe more focus on the public goods in the discussion on e-governance might be needed.
				4.
				The author further explains his views:
				"… this does not mean that e-gov-ernance is more open than before to the participation and engagement of administered people and citizens in the decision-making processes of public administration and govern-ance. E-governance is not neces-sarily part of a more open, of a less traditional and one-way street mo-dality of administrating and gov-erning."
				"The enthusiasm with which e-gov-ernment and e-governance, the In-ternet and ICT in general, are viewed as supporting tools of de-mocratization and democracy is in-deed far from being justified. In fact, while recognizing the benefits generated by ICT in the context of e-government/e-governance, one has to refrain from making it a 'magic bullet' when it comes to de-mocracy and democratization."
139	Free to Ex-pose Corrup-tion: The Im-pact of Me-dia Freedom,	Starke, Christoph er; Naab, Teresa K.; Scherer, Helmut	2016	The authors examine the effects of free media, Internet access and e-government as factors to curb cor-ruption. Using the secondary data of 157 countries between 2003 and 2013, the study finds that the effect of the Internet access remains

| | Internet Access, and Governmental Online Service Delivery on Corruption | | | constant from 2003. The impact of e-government emerges in 2013. In particular, the authors mention the power of media as follows:

"These naming and shaming campaigns influence the reputation of a corrupt actor and can increase law compliance (Fisman & Miguel, 2008)."

"…to successfully deter corruption among public officials, media exposure, strict anti-corruption laws, and effective prosecution from strong institutions of justice need to complement one another. If officially sanctioned institutions are weak or even corrupt themselves, potential perpetrators do not have to fear punishment (Persson, Rothstein, & Teorell, 2013)."

"Empirical studies support this claim by showing that information supply has a positive impact on government responsiveness (Besley & Burgess, 2002) and accountability (Khazaeli & Stockemer, 2013) and that public access to information is a powerful deterrent of local capture (Reinikka & Svensson, 2004)." The authors continue that, "Empirical evidence highlights the importance of a general anti-corruption culture (Fisman & Miguel, 2008), corruption awareness (Goel, Nelson, & Naretta, 2012), and perceived social norms (Köbis, van Prooijen, Righetti, & van Lange, |

				2015) as important means to fighting corruption." Social media is important as media freedom might not be in place, especially in an undemocratic society, and people's access to media might be limited. "For journalists to expose corruption, media must be free from legal, political, and economic constraints (Freedom House, 2015). However, media freedom is a fragile commodity, often abolished by totalitarian states, and, even in democratic countries, it can be suppressed in times of crisis (Dosenrode, 2010)." Regarding social media, the authors' assertion below is important: "Second, aside from the Internet's allowing access to professional journalistic information, the onset of social media over the last decade has created new opportunities to accelerate the dissemination of information by amateurs. Citizen journalists, political bloggers, and lay communicators add to the variety of information sources and can create transparency (Bertot et al., 2010). Thus, social media have the potential to uncover corruption even when traditional media fail to do so. Sullivan (2013) points out that "netizen-led initiatives have facilitated the mobilization of online

| | | | | public opinion and forced the central government to intervene to redress acts of lower level malfeasance" (p. 24). For instance, bloggers "routinely uncover corruption, help solve social problems, and even pressure state officials to change policy," (Hassid, 2012, p. 212).

Furthermore, social networking sites (SNS) such as Facebook and Twitter can be used to organize offline demonstrations against corrupt political actors, as it did during the Arab Spring in 2011 (Tufekci & Wilson, 2012). The emergence of civic technology movements such as ipaidabribe.com, bribespot.com, sunlightfoundation.com, and others are dedicated to anti-corruption efforts. By providing platforms to aggregate data about single acts of corruption, they help to foster transparency and to pressure corrupt actors into resigning their public offices."

"Others claim that in countries with limited media freedom, social media can only contribute to curbing corruption when no interests of high political elites are at stake (Toepfl, 2011)."
Various authors empirically found that the Internet reduces corruption. However, all elements and assumptions is that making information public is the conduit between media/Internet/e-government and corruption. |

				"the required standard procedures necessary in the delivery of every digital service show transparent rules and reduce arbitrary case-by-case decision making by potentially corrupt actors. They also reduce discretion about procedures because detailed data about transactions are tracked and stored, increasing the chances to expose acts of corruption (Andersen, 2009; Andersen et al., 2011; Bhatnagar, 2003)." The study uses the TI's Corruption Perception Index, Press Freedom Index of Freedom House, and ITU data on Internet access to conduct analysis. In conclusion, the study found strong correlation between free media and corruption at three points in time. The online government services and information is found negatively correlating to corruption. On the relationship between social media and corruption, the authors state: "Due to the rapid global increase of Internet access over the last decade and the emergence of new technologies such as social media, we assumed that the effect of Internet access on corruption would increase over time. However, our results show that the size of the negative impact is relatively stable and has instead decreased from 2008 to

| | | | | 2013. Due to the rather large time interval, we need to interpret longitudinal results with caution. A possible explanation for this finding is that the potential impact of social media may have been overestimated when they first emerged.

 It could be argued that the expectations about the power of social media alone deterred public officials from engaging in corruption because they feared exposure on a large scale. Over the years, however, the Internet may not have lived up to the high expectations so that its deterring impact on corruption decreased. Additionally, autocratic and corrupt regimes may have learned how to use the Internet to their advantage by imposing further restrictions, managing public outrage, and defusing accusations of corruption (MacKinnon, 2007; Rød & Weidmann, 2015; Toepfl, 2011)."

For future research, the authors noted that, "This article provides theoretical arguments for why access to the Internet might contribute to lower levels of corruption within countries, but the empirical analyses reveal neither which specific aspects account for this impact nor conclude to what degree the impacts occur. Future research is needed on the factors that supposedly shape the role of new technologies in reducing corruption and on |

				the relative importance of these factors to each other."
				"Because of a lack of comparative data, the role of social media has been neglected in cross-national empirical research on corruption so far. Additionally, the potential of new technologies to mobilize citizens for public protest and the emergence of civic technology movements need further attention."
				"Future analyses are needed to assess implications of such initiatives on corruption and to understand the role of the Internet to shape societal norms about corruption. Apart from that, future research on media effects might want to distinguish between different forms of corruption as the dependent variable, for example, between public and private corruption (Argandoña, 2003) or individual and interpersonal corruption (Köbis, van Prooijen, Rhighetti, & van Lange, 2016).
				It can be assumed that ICT plays different roles in these contexts. To zero in on the potential effects of media on corruption, other intervening variables explaining corruption on the macro-level, such as the political economy of the media, different political systems, the general level of journalistic professionalism, and the level of technological development, need to be considered.

				However, for many important control variables, comparative data with global scope are lacking."
140	Virtual Versus Physical Government Decentralization: Effects on Corruption and the Shadow Economy	Goel, Rajeev K.; Saunoris, James W	2016	This study examines the effectiveness of cross-national virtual and physical decentralisation. "While virtual decentralization reduces both corruption and the shadow economy, physical decentralization reduces only the shadow economy".
149	Determining Factors of Transparency And Accountability in Local Governments: A Meta-Analytic Study	Alcaide Munoz, Laura; Rodriguez Bolivar Manuel Pedro	2015	The authors examined information transparency in improving public accountability and conducted meta-analysis of previous empirical studies to identify factors for higher disclosure level of economic-financial information by local governments. The authors find heterogeneity in the analyses, but identified causes of the differences.
157	Effectiveness of Information technology in reducing corruption in China A validation of the De Lone and clean information systems success model	Hu Xinli	2015	The author examines the influence of electronic monitoring systems (EMS) used in five Chinese cities based on the information systems (IS) success model. The author started by listing previous studies, which examine the role of ICT in reducing corruption. The drivers, such as timely disclosure of true, accurate and complete information, are found to enhance transparency, supported by public access to it. Public can also monitor corruption by tracking government

| | | | | activities. IT is also found to have reduced human operations, citing an example of taxation initiative in Pakistan.

The author cites the DeLone and McLean model of IS success based on the six categories of,
1) system quality;
2) information quality;
3) user satisfaction;
4) individual impact; and
5) organisational impact.

This study aims to use six categories as dependent variables and examines the interrelationships among them. In particular, using the EMS and validating the DeLone and McLean success model, it explores IT adoption and subsequent reduction in corruption between 2004 and 2012.

The author defines the concept of EMS for this research as, "the public monitoring organization that integrates three systems of,
1) the e-government internal office systems;
2) the system for video supervision of government offices; and
3) the supply of Internet service by the government."

The key IVs are measures of EMS information quality and system quality. DV is the organisational perceived net benefit. The survey was conducted to test the model. Stratified random sampling was |

				used. The 500 distributed question-naires in three cities received 387 responses. The research findings indicate that leadership support is critical, followed by the focus on corruption-prone areas. Some municipalities focused on procurements, while others on project construction and procurement. The research concludes that, "…there is still a long way to go to perfect the EMS, as now there is still lack of law and policy to regulate the use of EMS." This highlights the importance of e-governance institutional instruments in the implementation process. The author also identifies this as potential future research focus. "In future studies, the degree of EMS's effect on corruption reduction, how to better use the EMS regulatory and how the EMS can be effectively used to achieve better anti-corruption effectiveness will be analyzed."
	Local e-government 2.0: Social media and corporate transparency in municipalities	Benson, E., Torres, L. Royo, S. Flores, F.	2012	It provides an overview of the use of social media tools by local administrations in EU countries to enhance transparency and citizen participation. The authors conclude that the effect of these tools on transparency is discernable, but its impact on e-participation is unclear. They also mention that "the introduction of ICTs without the corresponding changes in leadership, political and governance is

					unlikely to result in a more consultative, participatory, collaborative and transparent government". This also confirms my assumption that ICT initiatives, such as e-governance, should be accompanied with the existence of relevant governance enablers.
	The role of ICT in Building Trust in Governance: Towards Effectiveness and Results	Avgerou, C. Claudio, C. Cordella, A, Kallinikos, J, Smith, M	2005	The study aims to identify how ICT-based services can contribute to enhancing trust in democratic institutions, using five case studies in Latin America. The Inter-American Development Bank-funded study distinguishes trust and trustworthiness, the latter being a precondition of trust and trust being an outcome of experiences of interactions. ICT-based reforms aim to affect the relationship between government and citizens. Trustworthiness is deemed essential since this is where e-government can intervene and manipulate, and since it can succeed or fail, it is considered necessary but not sufficient condition for trust. Empirical data and observations led to the conclusion that trustworthiness is a joint outcome of four factors: technological, organisational, institutional and infrastructure. The study also acknowledges that trust or outcome of interactions is formed over a long period of time, and can't be changed by one initiative.

| | | | | Trustworthiness, through e-government implementation, can be measured. The authors further make a distinction between 1) background initiative which create institutional and infrastructural conditions and 2) foreground organisational and technological factors to be mobilised. Accordingly, this study uses quantitative and qualitative methods in an attempt to identify categories of conditions and factors, which conform to the requirements of trustworthiness.

In the literature review, the authors note that the literature tends to extrapolate certain aspects of e-government based on sporadic evidence and how ICT initiatives in developing countries have scalability and sustainability issues. Furthermore, e-government research tends to focus on interface, which provides information instead of services. The authors observed that many e-government systems require not only technologies but also organisational reforms in the long term. Granovetter is quoted saying how some theories are under-socialised and others over-socialised, meaning the former focused on self-interest and economic gains, while the latter on human interactions.

The authors emphasise the point that social dimensions are important in building trust. They say it is created out of positive |
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				interactions among individuals, institutions and artifacts in formal and informal processes. Thus, the impact of ICT should be placed in such social context. The methodology focuses mainly on qualitative methods, with four steps of identifying measurements and requirements of trustworthiness. It considers the background and foreground factors, the conditions and finally, which factors affect the most in enhancing trustworthiness. The case studies include tax filing and other financial management systems in Brazil and Chile.

This round of literature review was conducted to understand the dimensions, attributes and relationships between compliance and corruption. The search was conducted on 20 June 2018 with the below parameters:

TOPIC: (compliance) *AND* **TOPIC:** (corruption)

Refined by: WEB OF SCIENCE CATEGORIES: (ECONOMICS OR ASIAN STUDIES OR LAW OR GEOGRAPHY OR COMPUTER SCIENCE HARDWARE ARCHITECTURE OR BUSINESS OR INFORMATION SCIENCE LIBRARY SCIENCE OR POLITICAL SCIENCE OR MULTIDISCIPLINARY SCIENCES OR PHILOSOPHY OR ETHICS OR HISTORY PHILOSOPHY OF SCIENCE OR CRIMINOLOGY PENOLOGY OR MANAGEMENT OR COMPUTER SCIENCE SOFTWARE ENGINEERING OR INTERNATIONAL RELATIONS OR PLANNING DEVELOPMENT OR SOCIAL SCIENCES INTERDISCIPLINARY OR GREEN SUSTAINABLE SCIENCE TECHNOLOGY OR BUSINESS FINANCE OR HISTORY OF SOCIAL SCIENCES OR AREA STUDIES OR INDUSTRIAL RELATIONS LABOR OR OPERATIONS RESEARCH MANAGEMENT SCIENCE OR PUBLIC ADMINISTRATION OR SOCIOLOGY OR SOCIAL ISSUES OR PUBLIC ENVIRONMENTAL OCCUPATIONAL HEALTH OR URBAN STUDIES OR SOCIAL SCIENCES MATHEMATICAL METHODS OR AGRICULTURAL ECONOMICS POLICY OR ANTHROPOLOGY) AND **WEB OF SCIENCE CATEGORIES:** (ECONOMICS OR SOCIOLOGY OR URBAN STUDIES OR LAW OR BUSINESS OR POLITICAL SCIENCE OR GEOGRAPHY OR ASIAN STUDIES OR ETHICS OR INFORMATION SCIENCE LIBRARY SCIENCE OR MULTIDISCIPLINARY SCIENCES OR MANAGEMENT OR COMPUTER SCIENCE SOFTWARE ENGINEERING OR PLANNING DEVELOPMENT OR SOCIAL SCIENCES INTERDISCIPLINARY OR HISTORY OF SOCIAL SCIENCES OR BUSINESS FINANCE OR INDUSTRIAL RELATIONS LABOR OR AREA STUDIES OR OPERATIONS RESEARCH MANAGEMENT SCIENCE OR SOCIAL SCIENCES MATHEMATICAL METHODS OR PUBLIC ADMINISTRATION OR SOCIAL ISSUES) AND [excluding] **WEB OF SCIENCE CATEGORIES:** (MATHEMATICS INTERDISCIPLINARY APPLICATIONS OR PHARMACOLOGY PHARMACY OR PSYCHOLOGY CLINICAL OR SOCIAL SCIENCES MATHEMATICAL METHODS) AND [excluding]**WEB OF SCIENCE CATEGORIES:** (INDUSTRIAL RELATIONS LABOR OR PHILOSOPHY OR COMPUTER SCIENCE HARDWARE ARCHITECTURE OR PSYCHOLOGY MULTIDISCIPLINARY OR COMPUTER SCIENCE SOFTWARE ENGINEERING) AND [excluding] **WEB OF SCIENCE CATEGORIES:** (CRIMINOLOGY PENOLOGY OR

ENVIRONMENTAL SCIENCES OR INTERNATIONAL RELATIONS OR EN-
ERGY FUELS) AND [excluding] **WEB OF SCIENCE CATEGORIES:** (ENVI-
RONMENTAL STUDIES) AND **DOCUMENT TYPES:** (ARTICLE)
Indexes=SCI-EXPANDED, SSCI, A&HCI, ESCI Timespan=All years
Records; 142

The Summary column below justifies reasons for inclusion or exclusion of articles
for further analysis in my research based on the focus of the research questions
(public sector, compliance, corruption and institutional instruments). Articles,
which focus primarily on the private sector and specific technical and legal issues
and those without reference to compliance, government or corruption, are ex-
cluded. The included articles are highlighted in shade.

No	Tittle	Authors	Publi-cation Year	Source	Summary (explains inclusion and exclusion of articles)
1	The integrity of corrupt states: Graft as an informal state institution	Darden, Keith	2008	POLITICS & SOCIETY Volume: 36 Issue: 1 Pages: 35-59	The author examined bribery and embezzlement in Ukraine. In particular, the informal institution of grafts in Ukraine is argued as an informal payment, which provides state organisations the means to provide public services.
2	Multinational corporation codes of conduct: Governance tools for corporate social responsibility?	Bondy, Krista; Matten, Dirk; Moon, Jeremy	2008	CORPORATE GOVERNANCE-AN INTERNATIONAL REVIEW Volume: 16 Issue: 4	This empirical research investigated the linkage between code of conduct and corporate social responsibility, using data of 150 companies in three countries. As this research focuses on private sector alone, this study is excluded.

				Pages: 294-311	
3	Beyond compliance - below expectations? CSR in the context of international development	Barkemeyer, Ralf	2009	BUSINESS ETHICS-A EUROPEAN REVIEW Volume: 18 Issue: 3 Pages: 273-289	This article empirically analysed data of 416 case studies of the UN Global Compact to determine the nature of corporate social responsibility. It focused primarily on behaviors of corporations and, therefore, is excluded for further analysis in my study.
4	Why do anti-corruption laws fail in Central Eastern Europe? A target compliance perspective	Batory, Agnes	2012	REGULATION & GOVERNANCE Volume: 6 Issue: 1 Pages: 66-82	The article aimed to find out incentives and norms, which are skewed towards non-compliance and bribery in Hungary. As this article focused on the public sector and institutional instruments, it is included.
5	Migration, Energy and Good Governance in the EU's Eastern Neighbourhood	Ademmer, Esther; Boerzel, Tanja A.	2013	EUROPE-ASIA STUDIES Volume: 65 Issue: 4 Special Issue: SI Pages: 581-608	This qualitative study examined the level of compliance of Georgia and Armenia with EU directives in areas of migration, energy and corruption. This article is included.
6	CARTELS, CORPORATE COMPLIANCE, AND WHAT	Sokol, D. Daniel	2012	ANTITRUST LAW JOURNAL Volume: 78 Issue: 1	This article aimed to examine the gap between cartel enforcement requirements and actual outcomes. The study used qualitative and quantitative survey targeting practitioners who

				Pages: 201-240	participated in cartel. This article is included.
PRACTI-TIONERS REALLY THINK ABOUT ENFORCE-MENT					
7	Trends in the International Fight Against Bribery and Corruption	Cleve-land, Margot; Favo, Christo-pher M.; Frecka, Thomas J.; et al.	2009	JOUR-NAL OF BUSI-NESS ETHICS Volume: 90 Sup-plement: 2 Pages: 199-244	This article focused on in-ternational instruments and its enforcement and effectiveness in address-ing bribery from Multi-National Corporation (MNC) to foreign govern-ment officials. This article analysed soft and hard in-struments and defined the characteristics of each in-strument for the purpose of summarizing interna-tional efforts to combat corruption. This article is included.
8	How global is the Global Compact?	Bremer, Jennifer Ann	2008	BUSI-NESS ETHICS-A EURO-PEAN REVIEW Volume: 17 Issue: 3 Pages: 227-244	This study was developed to examine the global compact and corporate social responsibility. With focus on the private sec-tor, this research is not di-rectly relevant to my re-search.
9	Why Do People En-gage in Corrup-tion? The	Tavits, Margit	2010	SOCIAL FORCES Volume: 88 Issue: 3	Using 2004 survey data, the article identified the determinants of corrup-tion among the public and government officials

				Pages: 1257-1279	in Estonia. This article is relevant to my research and, therefore, included.
	Case of Estonia				
10	Political and Economic Arguments for Corporate Social Responsibility: Analysis and a Proposition Regarding the CSR Agenda	Weyzig, Francis	2009	JOURNAL OF BUSINESS ETHICS Volume: 86 Issue: 4 Pages: 417-428	This study examined behaviors of large corporation and CSR. This article is not included in my study.
11	Why Do Developing Countries Tax So Little?	Besley, Timothy; Persson, Torsten	2014	JOURNAL OF ECONOMIC PERSPECTIVES Volume: 28 Issue: 4 Pages: 99-120	The authors tried to find out why low-income countries had lower tax compared with developed countries. While some of the elements could be useful, the focus on taxation and economic structure, including political factors are less relevant to my study. Therefore, this article is not included in my research.
12	Ethical and Unethical Leadership: A Cross-Cultural and Cross-Sectoral Analysis	Eisenbeiss, Silke Astrid; Brodbeck, Felix	2014	JOURNAL OF BUSINESS ETHICS Volume: 122 Issue: 2 Pages: 343-359	The authors examined ethical leadership and behaviors among executives in private and public/social sectors. Although some findings could be relevant, it would be difficult to identify aspects specific to private or

					public sectors. Therefore, it is excluded from my study.
13	Energy Govern-ance, Trans-national Rules, and the Re-source Curse: Exploring the Effec-tiveness of the Extrac-tive Indus-tries Transpar-ency Initia-tive (EITI)	Sovacool, Benjamin K.; Walter, Gotz; van de Graaf, Thijs; et al.	2016	WORLD DEVEL-OPMENT Volume: 83 Pages: 179-192	The article focused on the level of compliance among developing coun-tries with the Extractive Industries Transparency Initiative (EITI) and iden-tifies determinants of the country's behaviors. This article is included in my study.
14	Determi-nants of Anti-Traf-ficking Poli-cies: Evi-dence from a New Index	Cho, Seo-Young; Dreher, Axel; Neu-mayer, Eric	2014	SCANDI-NAVIAN JOUR-NAL OF ECO-NOMICS Volume: 116 Issue: 2 Pages: 429-454	The authors examined factors determining anti-trafficking policies, com-pliance and corruption in 180 countries. This article is included in the study.
15	Transpar-ency to Re-duce Cor-ruption?	Halter, Maria Virginia; Coutinho de Arruda, Maria Cecilia;	2009	JOUR-NAL OF BUSI-NESS ETHICS Volume: 84 Sup-plement:	This article focused on corruption in the private sector and, therefore, is not included in my study.

		Halter, Ralph Bruno		3 Pages: 373-385	
16	The not so dark side of trust: Does trust increase the size of the shadow economy?	D'Hernoncourt, Johanna; Meon, Pierre-Guillaume	2012	JOURNAL OF ECONOMIC BEHAVIOR & ORGANIZATION Volume: 81 Issue: 1 Pages: 97-121	This article examined the size of shadow economy and general trust and is excluded from my study.
17	The Politics of Public Health Aid: Why Corrupt Governments Have Incentives to Implement Aid Effectively	Dietrich, Simone	2011	WORLD DEVELOPMENT Volume: 39 Issue: 1 Pages: 55-63	The author examined corruption and compliance from the perspective of international aid to tackle HIV in developing countries. This study is included.
18	Importing corruption culture from overseas: Evidence from corporate tax evasion in the United States	DeBacker, Jason; Heim, Bradley T.; Anh Tran	2015	JOURNAL OF FINANCIAL ECONOMICS Volume: 117 Issue: 1 Special Issue: SI Pages: 122-138	The focus of the article is the cultural norms and enforcement policies in the corporate sector. Therefore, this article is not included.

19	To Pay or Not to Pay? Citizens' Attitudes Toward Taxation in Kenya, Tanzania, Uganda, and South Africa	Ali, Merima; Fjeldstad, Odd-Helge; Sjursen, Ingrid Hoem	2014	WORLD DEVELOPMENT Volume: 64 Pages: 828-842	The authors investigated the relationship between tax compliance and knowledge/awareness among citizens in Kenya, Tanzania, Uganda and South Africa. This article is included in my study.
20	SOLICITATION, EXTORTION, AND THE FCPA	Yockey, Joseph W.	2011	NOTRE DAME LAW REVIEW Volume: 87 Issue: 2 Pages: 781-839	The author looked into the FCPA compliance among MNC and examined compliance challenges. Although the topic is pertinent, the focus on private sector is out of scope of my study.
21	Tax Toleration and Tax Compliance: How Government Affects the Propensity of Firms to Enter the Unofficial Economy	Hibbs, Douglas A.; Piculescu, Violeta	2010	AMERICAN JOURNAL OF POLITICAL SCIENCE Volume: 54 Issue: 1 Pages: 18-33	The article examined the relationship between taxation and firms' decisions to enter unofficial markets and tax evasion. This study will not be included in my research.
22	The Mortality Cost of Political Connections	Fisman, Raymond; Wang, Yongxiang	2015	REVIEW OF ECONOMIC STUDIES Volume: 82 Issue: 4	The authors examined the relationship between firms' political connections and workplace fatalities. This study will not be included in my study.

				Pages: 1346-1382	
23	Context-dependent cheating: Experimental evidence from 16 countries	Pascual-Ezama, David; Fosgaard, Toke R.; Camilo Cardenas, Juan; et al.	2015	JOURNAL OF ECONOMIC BEHAVIOR & ORGANIZATION Volume: 116 Pages: 379-386	This study focused on the honesty of citizens in 16 countries as indicative of institutional honesty. This study is excluded from the study for its pointed focus on citizens' beliefs and behaviors.
24	Beyond the formal/informal jobs divide: evaluating the prevalence of hybrid 'under-declared' employment in south-eastern Europe	Williams, Colin C.	2010	INTERNATIONAL JOURNAL OF HUMAN RESOURCE MANAGEMENT Volume: 21 Issue: 14 Special Issue: SI Pages: 2529-2546	The article investigated the employment and declared wages in South-eastern Europe. This study is excluded from my study.
25	Catalyzing Corporate Commitment to Combating Corruption	Hess, David	2009	JOURNAL OF BUSINESS ETHICS Volume: 88	The author examined the policy reforms needed for corporate commitment towards anti-corruption. This article is excluded from my study.

				Supple-ment: 4 Pages: 781-790	
26	Illegitimate wage prac-tices in Eastern Eu-rope: The case of "en-velope wages"	Wil-liams, Colin. C.	2008	JOUR-NAL FOR EAST EU-ROPEAN MAN-AGE-MENT STUDIES Volume: 13 Issue: 3 Pages: 253-270 Pub-lished: 2008	This paper focused mainly on illegitimate wages in Eastern Europe and is, therefore, ex-cluded from my research.
27	Informal Entrepre-neurship in Developing Economies: The Im-pacts of Starting Up Unregis-tered on Firm Per-formance	Wil-liams, Colin C.; Mar-tinez-Perez, Alvaro; Kedir, Abbi M.	2017	ENTRE-PRE-NEUR-SHIP THEORY AND PRAC-TICE Vol-ume: 41 Issue: 5 Pages: 773-799 Pub-lished: SEP 2017	The authors examined the entrepreneurship pro-cesses and cost of regis-tration in 127 countries and is not included in my research.
28	The "Peter Pan Syn-drome" in Emerging Markets:	Sudhir, K.; Ta-lukdar,	2015	MAR-KETING SCIENCE Volume: 34 Issue: 4	The focus of this article is the introduction of IT in firms and their effects on transparency and produc-tivity in India. This article

	The Productiv-ity- Trans-parency Trade-off in IT Adop-tion	Debabra ta		Pages: 500-521 Pub-lished: JUL-AUG 2015	is not included in my re-search.
29	Zooming into the 'Domestic' in Europe-anization: Promotion of Fight against Cor-ruption and Minority Rights in Turkey	Yilmaz, Gozde; Soyaltin, Digdem	2014	JOUR-NAL OF BALKAN AND NEAR EAST-ERN STUDIES Volume: 16 Issue: 1 Special Is-sue: SI Pages: 11-29 Pub-lished: 2014	In the context of meeting the EU requirements, Tur-key has made efforts to tackle corruption. The ar-ticle examined determi-nants of policy reform. This article is included.
30	The Impact of Corrup-tion on Firm Tax Compliance in Transi-tion Econo-mies: Whom Do You Trust?	Alon, Anna; Hage-man, Amy M.	2013	JOUR-NAL OF BUSI-NESS ETHICS Volume: 116 Issue: 3 Pages: 479-494 Pub-lished: SEP 2013	Although the article ex-amined taxation, includ-ing corporate tax, it evalu-ated the context and fac-tors driving compliance in general. Therefore, this article is included.

31	Corruption and firm tax evasion	Alm, James; Martinez-Vazquez, Jorge; McClellan, Chandler	2016	JOURNAL OF ECONOMIC BEHAVIOR & ORGANIZATION Volume: 124 Special Issue: SI Pages: 146-163 Published: APR 2016	To decipher firms' tax evasion decisions, the authors examined their behaviors and firm-level information. Therefore, this article is not included in my study.
32	Corruption in the politicized university: lessons for Ukraine's 2010 presidential elections	Osipian, Ararat L.	2010	INNOVATION-THE EUROPEAN JOURNAL OF SOCIAL SCIENCE RESEARCH Volume: 23 Issue: 2 Pages: 101-114 Article Number: PII 928668990 Published: 2010	The author examined the level of corruption in administrative control from the center to local levels in Ukraine. This article is included in my study.
33	How Business is Done in the	Hallward-	2015	JOURNAL OF	The study investigated the firms' behavior in operating under weak

				ECO-NOMIC PER-SPEC-TIVES Volume: 29 Issue: 3 Pages: 121-140 Pub-lished: SUM 2015	institutional settings. It is not included in my study.
	Developing World: Deals ver-sus Rules	Drie-meier, Mary; Pritch-ett, Lant			
34	Apparatus of capture: Fiscal state formation in the re-public of Georgia	Schueth, Samuel	2012	POLITI-CAL GE-OGRA-PHY Vol-ume: 31 Issue: 3 Pages: 133-143 Pub-lished: MAR 2012	This research used ethno-graphic fieldwork to ana-lyse the formation of Georgian state with focus on tax compliance, anti-corruption etc. This is in-cluded in my research.
35	Freeport-McMoRan Copper & Gold, Inc.: An Innova-tive Volun-tary Code of Conduct to Protect Human Rights, Cre-ate Employ-ment Op-portunities, and Eco-nomic	Sethi, S. Prakash; Lowry, David B.; Veral, Emre A.; et al.	2011	JOUR-NAL OF BUSI-NESS ETHICS Volume: 103 Issue: 1 Pages: 1-30 Pub-lished: SEP 2011	This study examined the case of Freeport-Mcmo-Ran mining operation in Indonesia and how the company proactively es-tablished a participatory code of conduct. As this focused on company be-havior, it is excluded.

	Develop-ment of the Indigenous People				
36	Too risk averse to stay hon-est? Busi-ness cor-ruption, un-certainty and atti-tudes to-ward risk	Soreide, Tina	2009	INTER-NA-TIONAL REVIEW OF LAW AND ECO-NOMICS Volume: 29 Issue: 4 Pages: 388- 395 Pub-lished: DEC 2009	The author examined the presence of anti-corrup-tion policies and firms' behavior, in particular, bribery. This article will not be included in my re-search.
37	Tackling the infor-mal econ-omy in Southeast Europe: an institutional approach	Wil-liams, Colin C.; Horod-nic, Io-ana A.	2015	SOUTH-EAST EU-ROPEAN AND BLACK SEA STUDIES Volume: 15 Issue: 4 Pages: 519- 539 Pub-lished: OCT 2 2015	The authors tackled the issue of informal econ-omy, tax evasion and cod-ified laws and regulations in formal institutions in Southeastern Europe. This study is included in my research.
38	Revealed Corruption, Taxation, and Fiscal	Tim-mons, Jeffrey F.; Gar-fias,	2015	WORLD DEVEL-OPMENT Volume: 70 Pages:	The article examined the relationship between cor-ruption reporting and the level of tax compliance in

	Accountability: Evidence from Brazil	Francisco		13-27 Published: JUN 2015	Brazil. This article is included.
39	Causes of Noncompliance with International Law: A Field Experiment on Anonymous Incorporation	Findley, Michael G.; Nielson, Daniel L.; Sharman, J. C.	2015	AMERICAN JOURNAL OF POLITICAL SCIENCE Volume: 59 Issue: 1 Pages: 146-161 Published: JAN 2015	The authors investigated the efficacy of international rules in incorporation services, using six experimental conditions. The focus being behavior of corporations, this article is not included in my research.
40	Through a Glass, Darkly: The Rhetoric and Reality of Campaign Finance Disclosure	Heerwig, Jennifer A.; Shaw, Katherine	2014	GEORGE TOWN LAW JOURNAL Volume: 102 Issue: 5 Pages: 1443-1500 Published: JUN 2014	The article focused on the US election and the financing requirements, including disclosures. Although compliance is mentioned in the study, it is not directly linked to government and corruption and is, therefore, excluded.
41	Drift and Adjustment in Organizational Rule Compliance: Explaining the "Regulatory Pendulum"	Martinez-Moyano, Ignacio J.; McCaffrey, David P.;	2014	ORGANIZATION SCIENCE Volume: 25 Issue: 2 Pages: 321-338 Published:	While the article's emphasis on rules, compliance and organisational change is pertinent to my research, the unit of analysis is financial market in the US. Therefore, this

	in Financial Markets	Oliva, Rogelio		MAR-APR 2014	article is not included in my research.
42	ETHICAL CULTURE AND THE VALUE-BASED AP-PROACH TO INTEG-RITY MAN-AGEMENT: A CASE STUDY OF THE DE-PART-MENT OF CORREC-TIONAL SERVICES	Webb, Werner Nicho-laas	2012	PUBLIC ADMIN-ISTRA-TION AND DE-VELOP-MENT Volume: 32 Issue: 1 Special Is-sue: SI Pages: 96-108 Pub-lished: FEB 2012	This article examined the case of South Africa in ap-plying compliance-based and value-based ap-proaches and explained the phenomena at the De-partment of Correctional Services. This article is in-cluded.
43	Bribe Pay-ments and Innovation in Develop-ing Coun-tries: Are Innovating Firms Dis-proportion-ately Af-fected?	Ayya-gari, Me-ghana; Demirg-uec-Kunt, Asli; Maksi-movic, Vojislav	2014	JOUR-NAL OF FINAN-CIAL AND QUANTI-TATIVE ANALY-SIS Vol-ume: 49 Issue: 1 Pages: 51-75 Pub-lished: FEB 2014	The authors examined bribe payments among in-novating and non-inno-vating firms. This article is not included in my re-search.
44	Corruption and the Ex-tractive	Papyra-kis, Elis-saios;	2017	JOUR-NAL OF	The articles identified the drivers and conditions of compliance with the EITI

	Industries Transparency Initiative	Rieger, Matthias; Gilberthorpe, Emma		DEVELOPMENT STUDIES Volume: 53 Issue: 2 Special Issue: SI Pages: 295-309 Published: 2017	requirements by member countries. This article is included.
45	Corruption, governance and firm performance: Evidence from Indian enterprises	Sharma, Chandan; Mitra, Arup	2015	JOURNAL OF POLICY MODELING Volume: 37 Issue: 5 Pages: 835-851 Published: SEP-OCT 2015	The paper investigated the case of India in tax payment and corruption, with focus on firm's behaviors. Therefore, it is not included in my research.
46	Can corruption foster regulatory compliance?	Mendez, Fabio	2014	PUBLIC CHOICE Volume: 158 Issue: 1-2 Pages: 189-207 Published: JAN 2014	This research argued that an increase in corruption fosters compliance, using the firm-level data of 26 economies. This article is not included.
47	"Ethics Hotlines" in Transnational Companies: A	Calderon-Cuadrado, Reyes;	2009	JOURNAL OF BUSINESS ETHICS	The topic of hotline and reporting wrong-doing is pertinent to my research, but this article is not included in my research

	Compara-tive Study	Luis Al-varez-Arce, Jose; Ro-driguez-Tejedo, Isabel; et al.		Volume: 88 Issue: 1 Pages: 199-210 Pub-lished: AUG 2009	because of its focus on corporation.
48	Who bears the cost of Russia's military draft?	Lokshin, Michael; Yemtsov, Ruslan	2008	ECO-NOMICS OF TRANSI-TION Volume: 16 Issue: 3 Pages: 359-387 Pub-lished: 2008	The article uniquely ad-dressed the challenge of military conscription and conditions for non-com-pliance in Russia. This ar-ticle is included.
49	Determi-nants of risk disclo-sure com-pliance in Malawi: a mixed method ap-proach	T. Taurin-gana, Ve-nancio; Chitham bo, Lyton	2016	Journal of Account-ing in Emerging Econo-mies Vol-ume: 6 Is-sue: 2 Pages: 111-137 Pub-lished: 2016	The article investigated compliance with risk dis-closure requirements by Malawian Stock Market listed companies. This ar-ticle is not included in my research.
50	The ethical commit-ment of in-dependent directors in different	Maria Garcia-Sanchez, Isabel; Frias Aceitun	2015	BRQ-BUSI-NESS RE-SEARCH QUAR-TERLY	The authors compared different legal environ-ments to improve corpo-rate ethical behaviors by designing code of

	contexts of investor protection	o, Jose Valeriano; Rodriguez Dominguez, Luis		Volume: 18 Issue: 2 Pages: 81-94 Published: APR-JUN 2015 Select Page	conduct. This article is not included in my research.
51	The Effect of Deferred and Non-Prosecution Agreements on Corporate Governance: Evidence from 1993-2013	Kaal, Wulf A.; Lacine, Timothy A.	2014	BUSINESS LAWYER Volume: 70 Issue: 1 Pages: 61-119 Published: WIN 2014	The articles investigated deferred and non-prosecution agreement among corporations. This article is not included in my research.
52	Deception choice and self-selection - The importance of being earnest	Konrad, Kai A.; Lohse, Tim; Qari, Salmai	2014	JOURNAL OF ECONOMIC BEHAVIOR & ORGANIZATION Volume: 107 Special Issue: SI Pages: 25-39 Part: A Published: NOV 2014	While the topic of tax payer behavior is interesting, as it concerns compliance, this article does not focus on the public sector. Therefore, it is not included in my study.
53	Does business regulation matter	Kalyvas, Antonios	2014	JOURNAL OF	The article offered a comprehensive analysis on the impact of regulations

	for banks in the Euro-pean Un-ion?	Niko-laos; Mamatz akis, Emman-uel		INTER-NA-TIONAL FINAN-CIAL MAR-KETS IN-STITU-TIONS & MONEY Volume: 32 Pages: 278-324 Pub-lished: SEP 2014	on banks in the EU over 2004-2010 period. It is not included in my study.
54	Limited state and strong so-cial forces: Fishing lot manage-ment in Cambodia	Sok, Say	2014	JOUR-NAL OF SOUTH-EAST ASIAN STUDIES Volume: 45 Issue: 2 Pages: 174-193 Pub-lished: JUN 2014	The author analysed the Cambodian fisheries and compliance with regula-tions among different so-cial forces. This article is included in the study.
55	To build above the limit? Im-plementa-tion of land use regula-tions in ur-ban China	Cai, Hongbi n; Wang, Zhi; Zhang, Qing-hua	2017	JOUR-NAL OF URBAN ECO-NOMICS Volume: 98 Pages: 223-233	The article selected a case of Chinese urban land use regulations and identified gaps between the rules and actual implementa-tion. As this article fo-cused on behaviors of de-velopers, it is excluded from my study.

				Pub-lished: MAR 2017	
56	Do percep-tions of cor-ruption in-fluence per-sonal in-come tax-payer re-porting be-haviour? Evidence from Indo-nesia	Rosid, Arifin; Evans, Chris; Binh Tran-Nam	2016	EJOUR-NAL OF TAX RE-SEARCH Volume: 14 Issue: 2 Pages: 387-+ Pub-lished: NOV 2016	This Indonesian case study examined the per-ception of corruption and its impact on taxpayers' compliance and reporting behavior. This study is in-cluded in my research.
57	Corruption and Viola-tions of Conserva-tion Rules: A Survey Experiment with Re-source Us-ers	Sundstr om, Aksel	2016	WORLD DEVEL-OPMENT Volume: 85 Pages: 73-83 Pub-lished: SEP 2016	In this study, the author concluded that corruption has negative impacts on conservation manage-ment, using data of South African small-scale fisher-ies. This is included.
58	The Foreign Corrupt Practices Act: Why It Fails to De-ter Bribery as a Global Market En-try Strategy	Weis-mann, Miriam F.; Busca-glia, Christo-pher A.; Peter-son, Ja-son	2014	JOUR-NAL OF BUSI-NESS ETHICS Volume: 123 Issue: 4 Special Issue: SI Pages: 591- 619	The article focuses on the FCPA and its implemen-tation and prosecution in the US and concluded that FCPA is ineffective in addressing bribery in for-eign markets. This article is included.

				Published: SEP 2014	
59	Pre-emptive Corruption, Hold-up and Repeated Interactions	Dechenaux, Emmanuel; Samuel, Andrew	2012	ECONOMICA Volume: 79 Issue: 314 Pages: 258-283 Published: APR 2012	This article applied a model to analyse firms' compliance behaviors. It is not included in my study.
60	Tax progressivity, income distribution and tax non-compliance	Damjanovic, Tatiana; Ulph, David	2010	EUROPEAN ECONOMIC REVIEW Volume: 54 Issue: 4 Pages: 594-607 Published: MAY 2010	The article analysed the role of tax advisory industry in determining tax non-compliance. It is not included in my research.
61[54]	The Culture Variable Vis-a-Vis Anti-bribery Law: A Grey Area in Transnational Corporate	Bu, Qingxiu	2018	EUROPEAN BUSINESS ORGANIZATION LAW REVIEW **Volume:** 19 **Issue:**	The author investigated the relationship between culture and compliance in China from MNC perspectives. This is not included in my research.

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[54] After 60th, ranking in citation indicator was not found relevant, as the difference among articles is small. Therefore, the rest of the articles are listed in anti-chronological order.

	Criminal Liability			1 **Pages:** 183-213 **DOI:** 10.1007/s40804-017-0089-8 **Published:** MAR 2018	
62	Nothing to hide: Commitment to, compliance with, and impact of the special data dissemination standard	Vadlamannati, Krishna Chaitanya; Cooray, Arusha; Brazys, Samuel	2018	ECONOMICS & POLITICS **Volume:** 30 **Issue:** 1 **Pages:** 55-77 **DOI:** 10.1111/ecpo.12100 **Published:** MAR 2018	The author examined the logics behind decisions of countries, which opted for compliance with international standards, such as the Special Data Dissemination Standard. This is included in my research.
63	Tax compliance with uncertain income: a stochastic control model	Sparta, Gaetano T.; Stabile, Gabriele	2018	ANNALS OF OPERATIONS RESEARCH **Volume:** 261 **Issue:** 1-2 **Pages:** 289-301 **DOI:** 10.1007/s10479-017-2618-9	The paper examined tax payer behavior and compliance with a stochastic income. This does not involve the government or corruption and, therefore, is not included in my study.

				Pub-lished: FEB 2018	
64	Sustainable global pur-chasing: as-sessing the relative im-pact of sus-tainability goals and programs	von Haartm an, Robin; Bengts-son, Lars	2018	INTER-NA-TIONAL JOUR-NAL OF BUSI-NESS PERFOR-MANCE MAN-AGE-MENT **Volume:** 19 **Issue:** 2 **Pages:** 169-188 **DOI:** 10.1504/IJ BPM.2018 .10010265 **Pub-lished:** 2018	The article focused on fi-nancial firms in areas of offshoring. It is not in-cluded in my research.
65	"Organised irresponsi-bility"? The Siemens corruption scandal of the 1990s and 2000s	Berghoff , Hart-mut	2018	BUSI-NESS HISTORY **Volume:** 60 **Issue:** 3 **Special Issue:** SI **Pages:** 423-445 **DOI:** 10.1080/00 076791.20 17.133033 2	The article traced the his-tory of Siemens scandal in the 1990s and 2000s. Alt-hough the focus of the ar-ticle is on a private sector company, it also reviewed the national and interna-tional instruments, prose-cution and evolution in responding to the scan-dal. Therefore, it is in-cluded in my research.

				Pub-lished: 2018	
66	Wages, per-formance and harass-ment	Bac, Mehmet	2018	OURNAL OF ECO-NOMIC BEHAV-IOR & ORGANI-ZATION **Volume:** 145 **Pages:** 232-248 **DOI:** 10.1016/j.jebo.2017.11.008 **Pub-lished:** JAN 2018	The author investigated the relationship between wages and harassment and concluded they were correlated. This is in-cluded in my study.
67	Corruption, taxes and compliance	Baum, Anja; Gupta, Sanjeev; Kimani, Elijah; Tap-soba, Sam-pawende Jules	2017	EJOUR-NAL OF TAX RE-SEARCH **Volume:** 15 **Issue:** 2 **Special Issue:** SI **Pages:** 190-216 **Pub-lished:** DEC 2017	The article examined the relationship between cor-ruption and tax compli-ance using the global data of 147 economies. The es-tablishment of large tax-payers' offices was identi-fied as one way to reduce perception of corruption. This article is included.
68	The impact of corrup-tion on tax revenues, tax	Schlen-ther, Bernd	2017	EJOUR-NAL OF TAX RE-SEARCH **Volume:**	The author analysed the level of corruption and development in Africa from institutional point of

	compliance and economic development: Prevailing trends and mitigation actions in Africa			15 **Issue:** 2 **Special Issue:** SI **Pages:** 217-242 **Published:** DEC 2017	view. This article is included.
69	Causes and consequences of corruption in tax administration: An Indonesian case study	Tjen, Christine; Evans, Chris	2017	EJOURNAL OF TAX RESEARCH **Volume:** 15 **Issue:** 2 **Special Issue:** SI **Pages:** 243-261 **Published:** DEC 2017	The authors researched the background and impact of the Gayus case in Indonesia and institutional changes the government introduced as a consequence. This article is included.
70	Corporate Social Responsibility, Institutional Environments, and Tax Avoidance: Evidence from a Subnational Comparison in China	Lin, Kenny Z; Cheng, Suwina; Zhang, Fang	2017	INTERNATIONAL JOURNAL OF ACCOUNTING **Volume:** 52 **Issue:** 4 **Pages:** 303-318 **DOI:** 10.1016/j.intacc.2017.11.002	The article looked into the relationship between corporate social responsibility disclosure and economic contribution in China. This is not included.

				Pub-lished: DEC 2017	
71	Self-clean-ing in pub-lic procure-ment: oper-ational po-tentiality and regula-tion in the European Union	Rodri-guez-Arana Munoz, Jaime	2017	A&C-RE-VISTA DE DIREITO ADMIN-ISTRA-TIVO & CON-STITUCI-ONAL **Volume:** 17 **Issue:** 70 **Pages:** 25-44 **DOI:** 10.21056/a ec.v17i70. 815 **Pub-lished:** OCT-DEC 2017	In this article, the author examined public procure-ment and self-cleaning mechanisms of the EU. This article is included.
72	A roadmap for smart city services to address challenges faced by small busi-nesses in South Af-rica	du Ples-sis, Haydn; Marnew ick, Annlize L.	2017	SOUTH AFRI-CAN JOUR-NAL OF ECO-NOMIC AND MAN-AGE-MENT SCI-ENCES **Volume:** 20 **Issue:** 1 **Article**	The high failure rate of SMEs in South Africa, among others, is at-tributed to regulatory compliance in this article. As the focus of this paper is on SMEs, it is not in-cluded.

				Number: a1631 **DOI:** **1**0.4102/sajems.v20i 1.1631 **Published:** SEP 29 2017	
73	Firm-level determinants of tax evasion in transition economies	Abdixhiku, Lumir; Krasniqi, Besnik; Pugh, Geoff; Hashi, Iraj	2017	ECONOMIC SYSTEMS **Volume:** 41 **Issue:** 3 **Pages:** 354-366 **DOI:** 10.1016/j.ecosys.2016.12.004 **Published:** SEP 2017	The article examined the determinants of firm-level tax evasion. It is not included in my research.
74	CORRUPTION IN THE PHARMACEUTICAL SECTOR. ANALYSIS OF ITS IMPACT IN THE EUROPEAN CONTEXT AND ITS IMPORTANC	Mendoza Calderon, Silvia	2017	REVISTA GENERAL DE DERECHO PENAL **Issue:** 27 **Article Number:** 418561 **Published:** MAY 2017	The article focused on different forms of corruption in the pharmaceutical industry in Europe and the case of Spain. It is not included in my research.

	E IN SPAN-ISH CRIMI-NAL LAW				
75	An institu-tional per-spective on corruption in transition economies	Alon, Anna; Hage-man, Amy M	2017	CORPO-RATE GOV-ERN-ANCE-AN IN-TERNA-TIONAL REVIEW **Volume:** 25 **Issue:** 3 **Special Issue:** SI **Pages:** 155-166 **DOI:** 10.1111/co rg.12199 **Pub-lished:** MAY 2017	Based on the data from 5,000 firms in transition economies, the article ex-amined the environment, where dispositional trust was found varying, with the focus on institutional landscape. It is included.
76	Willing to share? Tax compliance and gender in Europe and Amer-ica	D'Attom a, John; Volintir u, Clara; Steinmo , Sven	2017	RE-SEARCH & POLI-TICS **Vol-ume:** 4 **Is-sue:** 2 **Ar-ticle Number:** UNSP 205316801 7707151 **DOI:** 10.1177/20 531680177 07151	The article investigated the gender difference in tax compliance in the US, UK, Sweden and Italy. It is included.

				Pub- lished: APRJUN 2017	
77	Cultural norms, the persistence of tax eva- sion, and economic growth	Varvari- gos, Di- mitrios	2017	ECO- NOMIC THEORY **Volume:** 63 **Issue:** 4 **Pages:** 961-995 **DOI:** 10.1007/s0 0199-016- 0976-1 **Pub- lished:** APR 2017	The author studied the cultural influence on tax compliance. It is included in my research.
78	ANTI-COR- RUPTION A Case of "Good, but Could Do Better"	Hough, Dan	2017	GER- MAN POLITICS AND SO- CIETY **Volume:** 35 **Issue:** 1 **Pages:** 63-82 **DOI:** 10.3167/g ps.2017.35 0104 **Pub- lished:** MAR 2017	The article shed light on Germany's anti-corrup- tion infrastructure and re- form efforts. It is in- cluded.

79	FUNDA-MENTAL THEORETI-CAL IS-SUES ON CRIMINAL COMPLI-ANCE	Pablo Montiel, Juan	2017	EN LETRA **Volume:** 4 **Issue:** 7 **Pages:** 21-47 **Published:** MAR 2017	This article focused on economic criminal law and corporate self-regula-tion. It is not included in my research.
80	REFORM OF REGU-LATORY POLICY IN THE FIELD OF SUPER-VISION OF AUDIT AC-TIVITY	Kantsir, Iryna; Plekan, Marija	2017	BALTIC JOUR-NAL OF ECO-NOMIC STUDIES **Volume:** 3 **Issue:** 5 **Pages:** 170-174 **DOI:** 10.30525/2256-0742/2017-3-5-170-174 **Published:** 2017	The article examined Ukraine's reforms in reg-ulatory system and audit activity to prepare for EU accession. It is included.
81	DEVELOP-MENT OF THE SO-CIALLY-ORIENTED ECONOMY IN UKRAINE: PREREQUI-SITES AND	Kravchu k, Nata-liia; Tar-asovych, Liudmyl a; Yare-mova, Maryna	2017	BALTIC JOUR-NAL OF ECO-NOMIC STUDIES **Volume:** 3 **Issue:** 2 **Pages:** 66-72 **Pub-lished:** 2017	The authors studied pre-requisites and prospects of developing socially ori-ented economy and de-mocracy in Ukraine. It is not included in my re-search.

	STRATE-GIC FORE-CASTING				
82	MORAL RISK IN CIVIL LIA-BILITY IN-SURANCE CON-TRACTS "D&O" (Di-rectors and Officers Li-ability In-surance)	Ro-drigues, Gabriela Wallau; Soria, Juliana Sirotsky	2017	REVISTA DO CURSO DE DIREITO DO UNI-FOR **Vol-ume:** 8 **Is-sue:** 2 **Pages:** 23-39 **DOI:** 10.24862/rcdu.v8i2.549 **Pub-lished:** 2017	Based on the new regula-tion on insurance in Bra-zil, the article examined insurance payments and corruption. It is not in-cluded in my research.
83	The Under-ground Economy in Times of Crisis: An Analysis of Undeclared Work in Eu-rope	Perez-Magro, Monica; Maria Millan-Tapia, Jose; Millan-Tapia, Ana; Roman-Diaz, Concepcion	2017	REVISTA DE ESTU-DIOS ANDA-LUCES **Volume:** 34 **Issue:** 1 **Pages:** 453-501 **DOI:** 10.12795/rea.2017.i34.16 **Pub-lished:** 2017	The authors looked into undeclared work as part of the shadow economy and non-compliance in the EU and its institu-tional setting. It is in-cluded in my research.
84	DOES CHINA NEED AN	Jiang, Dong	2017	FRON-TIERS OF LAW IN	The article evaluated China's response to US FCPA and possible

	ANTI-FOR-EIGN BRIB-ERY STAT-UTE? SOME LES-SONS FROM THE FCPA OF US			CHINA **Volume:** 12 **Issue:** 3 **Pages:** 355-371 **DOI:** 10.3868/s0 50-006-017-0020-9 **Pub-lished:** 2017	enactment of its own anti-corruption framework. It is included in my study.
85	How expat-riates work in danger-ous envi-ronments of pervasive corruption	Grep-pin, Carl; Carls-son, Bo; Wolf-berg, Adrian; Ufere, Nnaoke	2017	JOUR-NAL OF GLOBAL MOBIL-ITY-THE HOME OF EX-PATRI-ATE MAN-AGE-MENT RE-SEARCH **Volume:** 5 **Issue:** 4 **Special Issue:** SI **Pages:** 443-460 **DOI:** 10.1108/J GM-07-2017-0030 **Pub-lished:** 2017	Based on interviews with 30 US executives, the arti-cle aimed to answer ques-tions on corruption and working environment. This is not included in my research.

86	Practices of corporate integrity and accountability of non-profit organizations in Malaysia	Atan, Ruhaya; Alam, Md. Mahmudul; Said, Jamaliah	2017	INTERNATIONAL JOURNAL OF SOCIAL ECONOMICS **Volume:** 44 **Issue:** 12 **Pages:** 2271-2286 **DOI:** 10.1108/IJSE-09-2016-0260 **Published:** 2017	The intention of this article is to examine the corporate integrity system in NPOs in Malaysia. It is not included in my study.
87	CONFISCATION OF PECUNIARY GAIN IN THE CONTEXT OF INTERNATIONAL REGULATIONS AND COMBATING BRIBERY	Galiot, Mijo	2017	ZBORNIK PRAVNOG FAKULTETA SVEUCILISTA U RIJECI **Volume:** 38 **Issue:** 1 **Pages:** 547-571 **Published:** 2017	The article examined the confiscation of pecuniary gains by criminal offenses and relevant international and national regulations. It is included in my paper.
88	Evaluating the individual- and country-level	Williams, Colin C;	2017	JOURNAL OF ECONOMIC STUDIES	Using 2010 survey, the article identified a group of tax payers with low tax moral to identify individual and country level

	variations in tax morale Evidence from 35 Eurasian countries	Krasniqi, Besnik		**Volume:** 44 **Issue:** 5 **Pages:** 816-832 **DOI:** 10.1108/JES-09-2016-0182 **Published:** 2017	variations. This article is included.
89	Does the corruption perception level of a country affect listed firms' IFRS 7 risk disclosure compliance?	Agyei-Mensah, Ben Kwame	2017	CORPORATE GOVERNANCE-THE INTERNATIONAL JOURNAL OF BUSINESS IN SOCIETY **Volume:** 17 **Issue:** 4 **Pages:** 727-747 **DOI:** 10.1108/CG-10-2016-0195 **Published:** 2017	The authors reviewed the relationships among corporate governance, compliance and corruption. It is not included in my research.
90	Tax havens: conduits for corporate tax malfeasance	Jalan, Akanksha;	2017	JOURNAL OF FINANCIAL REGULATION	The purpose of this article is to demystify tax havens from MNC point of view. It is not included in my study.

		Vaidya-nathan, R		AND COMPLI-ANCE **Volume:** 25 **Issue:** 1 **Pages:** 86-104 **DOI:** 10.1108/JF RC-04-2016-0039 **Pub-lished:** 2017	
91	Structuring supervisory board for an anti-cor-ruption strategy: a new appli-cation of a compliance system	Previ-tali, Pietro; Cerchi-ello, Paola	2017	CORPO-RATE GOV-ERN-ANCE-THE IN-TERNA-TIONAL JOUR-NAL OF BUSI-NESS IN SOCIETY **Volume:** 17 **Issue:** 1 **Pages:** 48-63 **DOI:** 10.1108/C G-09-2015-0126 **Pub-lished:** 2017	The article analysed the innovation in corporate supervisory body and anti-corruption measures. It is not included in my study.

92	The determinants of tax morale in Pakistan	Cyan, Musharraf R; Koumpias, Antonios M; Martinez-Vazquez, Jorge	2016	JOURNAL OF ASIAN ECONOMICS **Volume:** 47 **Pages:** 23-34 **DOI:** 10.1016/j.asieco.2016.09.002 **Published:** DEC 2016	The authors shed light on determinants of tax moral in Pakistan. It is included.
93	ANTI-CORRUPTION BODIES AND THE USE OF SANCTIONING POWERS: LIMITS AND PROPOSALS FOR PREVENTING CORRUPTION. IN PARTICULAR, THE CASE OF CATALONIA'S ANTI-FRAUD OFFICE	Capdeferro Villagrasa, Oscar	2016	EVISTA CATALANA DE DRET PUBLIC **Issue:** 53 **Pages:** 13-30 **DOI:** 10.2436/rcdp.i53.2016.2821 **Published:** DEC 2016	The article centered around the role of control bodies as part of the fight against corruption and their sanctioning power in Spain. It is included in my study.

94	Ceci n'est pas une pipe! Corporate Governance practices under two political regimes in Bangladesh: A political economy perspective	Nurunnabi, Mohammad; Hossain, Monirul Alam; Al-Mosa, Saad A	2016	INTER-NA-TIONAL JOUR-NAL OF DISCLO-SURE AND GOV-ERN-ANCE **Volume:** 13 **Issue:** 4 **Pages:** 329-363 **DOI:** 10.1057/s41310-016-0001-8 **Published:** NOV 2016	The authors examined the case of Bangladesh and its corporate governance. It is not included in my study.
95	Cultural Dimensions of Power/Knowledge: The Challenges of Measuring Violence against Women	Merry, Sally Engle	2016	SOCIO-LOGIE DU TRA-VAIL **Volume:** 58 **Issue:** 4 **Pages:** 370-380 **DOI:** 10.1016/j.soctra.2016.09.017 **Published:** OCT-DEC 2016	The article focused on international governance from the perspective of violence against women. With little linkage to corruption, it is not included in my study.

96	I Know What You Did Last Cycle: Improving the Detection of State Campaign Finance Violations	Seljan, Ellen C; Lochner, Todd; Gold, Maya; Davis, Walker	2016	ELECTION LAW JOURNAL **Volume:** 15 **Issue:** 3 **Pages:** 197-213 **DOI:** 10.1089/elj .2015.0348 **Published:** SEP 2016	The authors examined the political campaign financing regulatory agencies and regulates in the US. While the topic may have some linkages, this is not included in my study.
97	Mandatory versus voluntary disclosures: Drivers of proactive information provision by local governments in Central America	Garcia-Tabuyo, Manoli; Saez-Martin, Alejandro; Del Carmen Caba-Perez, Maria	2016	INFORMATION DEVELOPMENT **Volume:** 32 **Issue:** 4 **Pages:** 1199-1215 **DOI:** 10.1177/02 666669155 95260 **Published:** SEP 2016	Focusing on Central America, the article investigated online proactive information disclosure and factors influencing the decision. It is included in my study.
98	The hidden compliance cost of VAT: An exploration of psychological and corruption costs of VAT in a	Faridy, Nahida; Freudenberg, Brett, Sarker, Tapan; Copp, Richard	2016	EJOURNAL OF TAX RESEARCH **Volume:** 14 **Issue:** 1 **Pages:** 166-205	The authors looked into psychological costs of VAT for SMEs. It is not included in my research.

				Pub-lished: JUL 2016	
99	JUST ABOUT TIME: DE-FENDING DEMOC-RACY AND THE FIGHT AGAINST CORRUP-TION	Ozarsla n, E. Oya	2016	TURKISH POLICY QUAR-TERLY **Volume:** 15 **Issue:** 2 **Pages:** 107-116 **Pub-lished:** SUM 2016	Examining the case of Turkey, the article ex-plained the country's fight against corruption. It is included in my re-search.
100	An over-view of Eu-ropean good prac-tices in pub-lic procure-ment	Popescu , Ada; Onofrei, Mihaela; Kelley, Christo-pher	2016	EAST-ERN JOUR-NAL OF EURO-PEAN STUDIES **Volume:** 7 **Issue:** 1 **Pages:** 81-91 **Pub-lished:** JUN 2016	The article covered public procurement and associ-ated corruption in Eu-rope. This is included in my study.
101	Anger and enforce-ment	Akerlof, Robert	2016	JOUR-NAL OF ECO-NOMIC BEHAV-IOR & ORGANI-ZATION **Volume:** 126 **Spe-cial Issue:** SI **Pages:**	Focusing on anger and enforcement, the articles examined rule violations. It is included in my study.

				110-124 **DOI:** **1**0.1016/j.j ebo.2015.1 0.022 **Part:** B **Pub- lished:** JUN 2016	
102	An Inquiry on Public Corruption and its De- terminants	Cas- taneda Rodri- guez, Victor Mauri- cio	2016	REVISTA MEXI- CANA DE CIEN- CIAS PO- LITICAS Y SO- CIALES **Volume:** 61 **Issue:** 227 **Pages:** 103-135 **Pub- lished:** MAY- AUG 2016	The author identified fac- tors limiting the scope of corruption in the public sector. It is included.
103	From 'win- dow dress- ing' to 'door openers'? Freedom of Information legislation, public de- mand, and state com- pliance in South East Europe	Camaj, Lindita	2016	GOV- ERN- MENT INFOR- MATION QUAR- TERLY **Volume:** 33 **Issue:** 2 **Pages:** 346-357 **DOI:** 10.1016/j. giq.2016.0 3.001	The article examined the freedom of information laws and compliance in Albania, Kosovo and Montenegro. This is in- cluded in my study.

				Published: APR 2016	
104	The Chinese Communist Party and People's Courts: Judicial Dependence in China	Li, Ling	2016	AMERICAN JOURNAL OF COMPARATIVE LAW **Volume:** 64 **Issue:** 1 **Pages:** 37-74 **DOI:** 10.5131/AJCL.2016.0002 **Published:** SPR 2016	The article elaborated the relationship between China's Communist party and the court. It is not included in my study.
105	See No Evil, Hear No Evil? Assessing Corruption Risk Perceptions and Strategies of Victorian Public Bodies	van der Wal, Zeger; Graycar, Adam; Kelly, Kym	2016	AUSTRALIAN JOURNAL OF PUBLIC ADMINISTRATION **Volume:** 75 **Issue:** 1 **Pages:** 3-17 **DOI:** 10.1111/1467-8500.12163 **Published:**	The article examined the 36 Victorian public school bodies and their perception of corruption in Australia. It is included.

				MAR 2016	
106	Turning a Blind Eye to Bribery: Explaining Failures to Comply with the International Anti-corruption Regime	Gilbert, Jo-Anne; Sharman, J. C.	2016	POLITICAL STUDIES **Volume:** 64 **Issue:** 1 **Pages:** 74-89 **DOI:** 10.1111/1467-9248.12153 **Published:** MAR 2016	The authors investigated the British and Australian governments' stance on compliance with international anti-bribery instruments. It is included.
107	The politics of anti-corruption reforms and reversals in Uganda's changing political terrain	Muhumuza, William	2016	ECONOMIC AND POLITICAL STUDIES-EPS **Volume:** 4 **Issue:** 1 **Pages:** 62-84 **DOI:** 10.1080/20954816.2016.1152095 **Published:** 2016	Using the case of Uganda, the author discussed an increasing level of corruption despite reform efforts with focus on politics and political actors. Although relevant, politics is beyond the scope of this article and, therefore, is not included.
108	The Political Impetus behind the Construction of Anti-corruption	Xiao Bina; Huang Ying-hong	2016	SOCIAL SCIENCES IN CHINA **Volume:**	The article examined India's Lokpal and Lokayuktas, a tripartite anti-corruption model. This is included in my study.

	Institutions in Developing Countries: An Analysis of the Process Leading up to India's Lokpal and Lokayuktas Act (LALA)			37 **Issue:** 3 **Pages:** 75-92 **DOI:** 10.1080/02 529203.20 16.119462 9 **Published:** 2016	
109	Assessment of internal control systems to curb corporate fraud - evidence from Brazil	Imoniana, Joshua Onome; de Feitas, Eduardo Costa; Jacob Perera, Luiz Carlos	2016	AFRICAN JOURNAL OF ACCOUNTING AUDITING AND FINANCE **Volume:** 5 **Issue:** 1 **Pages:** 1-24 **DOI:** 10.1504/A JAAF.201 6.077592 **Published:** 2016	In this case of Brazil, the articles focused on corporate fraud. It is not included.
110	The banality of bad leadership and followership	Solas, John	2016	SOCIETY AND BUSINESS REVIEW **Volume:** 11 **Issue:** 1 **Pages:** 12-23	The author investigated leadership in the business community. It is excluded.

				DOI: 10.1108/SBR-09-2015-0049 **Published:** 2016	
111	Evolution of international and Chinese anti-bribery and corruption compliance programs	Schonfelder, Karen; Velamuri, S. Ramakrishna; Liu, Wilson	2016	CORPORATE GOVERNANCE-THE INTERNATIONAL JOURNAL OF BUSINESS IN SOCIETY **Volume:** 16 **Issue:** 3 **Pages:** 437-451 **DOI:** 10.1108/CG-07-2015-0097 **Published:** 2016	The article focused on China's anti-corruption framework and MNCs. It is excluded.
112	GOOD CORPORATE GOVERNANCE: OBSERVATIONS AND	Gracia de Castro, Julia Maria	2016	QUAESTIO IURIS **Volume:** 9 **Issue:** 2 **Pages:** 1012-1030 **DOI:** 10.12957/r	The author examined the case of non-profit organisation and effective compliance. It is not included.

				qi.2016.22 574 **Published:** 2016	
	RECOM- MENDA- TIONS FOR THE NON- GOVERN- MENTAL ORGANI- ZATIONS SECTOR. THE IM- PORTANC E OF IM- PLEMENT- ING AN E FFECTIVE COMPLI- ANCE PROGRAM IN ORDER TO ABIDE BY LAW N. 12.846 /2015				
113	Mobilising internally generated funds to fi- nance de- velopment projects in Ghana's Northern Region	Puopiel, Felix; Chimsi, Musah	2015	COM- MON- WEALTH JOUR- NAL OF LOCAL GOV- ERN- ANCE **Is- sue:** 18 **Pages:** 147-160 **DOI:** 10.5130/cjl g.v0i18.48 48 **Pub- lished:** DEC 2015	The article focused on mobilising internal funds to finance development projects in Ghana. It is not included.

114	PROAC-TIVE TRANS-PARENCY POLICY IN THE MER-COSUR LOCAL GOVERN-MENTS: REGULA-TION VS. SELF-REG-ULATION	Garcia-Tabuyo, Manoli; Saez-Martin, Alejandr o; Carmen Caba-Perez, Mariade l	2015	TRAN-SYLVA-NIAN REVIEW OF AD-MINIS-TRATIVE SCI-ENCES **Issue:** 46E **Pages:** 71-90 **Published:** OCT 2015	The authors discussed information disclosures by local authorities, as recommended by the Organization of American States, and transparency. It is included.
115	Pharma advertising- Is it deceptive?	Amudh a, R; Alamelu , R; Motha, Cresent a Shakila L; Badrinat h, V	2015	RE-SEARCH JOUR-NAL OF PHAR-MACEU-TICAL BI-OLOGI-CAL AND CHEMI-CAL SCI-ENCES **Volume:** 6 **Issue:** 5 **Pages:** 1158-1167 **Published:** SEP-OCT 2015	The article focused on advertising in pharmaceutical companies. It is excluded.
116	BRIEF NOTES ON THE BRA-ZILIAN ANTI-	Fiorese Reis, Julia	2015	EN LETRA **Volume:** 2 **Issue:** 4 **Pages:**	Although the topic of FCPA is relevant, the article focuses on anti-corruption laws, which affect

				123-151 **Published: AUG 2015**	companies. Therefore, it is not included.
117	Supplier Integrity Due Diligence in Public Procurement: Limiting the Criminal Risk to Australia	de Koker, Louis; Harwood, Kayne	2015	SYDNEY LAW REVIEW **Volume:** 37 **Issue:** 2 **Pages:** 217-241 **Published:** JUN 2015	The authors investigated the cultural norms, enforcement policies and illicit corporate activities. It is excluded.
118	Impacts of corruption on the fundamental right to a fair trail in compliance to constitutional justice	Leal, Rogerio Gesta	2015	REVISTA DE INVESTIGACOES CONSTITUCIONAIS-JOURNAL OF CONSTITUTIONAL RESEARCH **Volume:** 2 **Issue:** 2 **Pages:** 169-187 **DOI:** 10.5380/rinc.v2i2.44515 **Published:**	The articles focused on the impact of corruption on fair trial. Despite some linkages, it focused more on how registry works. It is excluded.

				MAY-AUG 2015	
119	ON THE INTERNAL REVENUE SERVICE'S SERVICE AND EN-FORCE-MENT	Tsai, Tsung-Sheng; Yang, C. C	2015	ECO-NOMIC INQUIRY **Volume:** 53 **Issue:** 2 **Pages:** 889-905 **DOI:** 10.1111/ec in.12160 **Pub-lished:** APR 2015	Based on the case of the US, the authors consid-ered the model of tax compliance in IRS. As this does not deal with cor-ruption, it is excluded.
120	Does Au-thoritarian-ism Breed Corrup-tion? Re-considering the Rela-tionship Be-tween Au-thoritarian Governance and Cor-rupt Ex-changes in Bureaucra-cies	Zaloz-naya, Marin	2015	LAW AND SO-CIAL IN-QUIRY-JOUR-NAL OF THE AMERI-CAN BAR FOUN-DATION **Volume:** 40 **Issue:** 2 **Pages:** 345-376 **DOI:** 10.1111/lsi .12076 **Pub-lished:** SPR 2015	The article applied ethno-graphic and historical study to explain corrup-tion. As the setting of my study is contemporary, it is excluded.

121	The weakness of the rule of law in Latin America: a factor to understand the implantation of the organized crime	Alda Mejias, Sonia	2015	REVISTA ESPANOLA DE CIENCIA POLITICA-RECP **Issue:** 37 **Pages:** 63-88 **Published:** MAR 2015	As the focus of this article is on organised crime and violence, it is excluded.
122	MULTIPLE IMPACTS OF GLOBAL ELECTRIC COMPANIES. THE CASE OF IBERDROLA IN MEXICO	Uharte Pozas, Luis Miguel	2015	ANDULI **Issue:** 14 **Pages:** 121-133 **Published:** 2015	The article analysed negative social impacts of global companies in the developing region. It is excluded.
123	Does country-level governance enhance ethical behaviour of firms? An African perspective	Agyemang, Otuo Serebour; Fantini, Giulia; Frimpong, Joyce	2015	INTERNATIONAL JOURNAL OF LAW AND MANAGEMENT **Volume:** 57 **Issue:** 6 **Pages:** 582-599 **DOI:** 10.1108/IJ	The article explained the relationship between governance at country level and ethical behaviors of firms in Africa. It is excluded.

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				LMA-12-2014-0063 **Published:** 2015	
124	The "need to know" and the lack of online transparency among political parties	Cuadrado-Ballesteros, Beatriz; Andres Vaquero-Cacho, Luis	2015	TRANS-FORM-ING GOV-ERN-MENT-PEOPLE PROCESS AND POLICY **Volume:** 9 **Issue:** 1 **Pages:** 85-103 **DOI:** 10.1108/TG-09-2014-0039 **Published:** 2015	The authors elaborated on the transparency in the Spanish political parties and political systems. As it is not government-related, it is excluded.
125	Tax evasion and public expenditures on tax revenue services in an endogenous growth model	Kaflalas, Sifis; Kalaitzidakis, Pantelis; Tzouvelekas, Vangelis	2014	EURO-PEAN ECO-NOMIC REVIEW **Volume:** 70 **Pages:** 438-453 **DOI:** 10.1016/j.euroecorev.2014.06.014	The article examined the relationship between announced tax rate and share of the tax revenue. It is not included.

				Pub-lished: AUG 2014	
126	Choosing Between Saw and Scalpel: FCPA Reform and the Compli-ance De-fense	Livshiz, Tamara	2014	COLUM-BIA JOUR-NAL OF LAW AND SO-CIAL PROB-LEMS **Volume:** 47 **Issue:** 4 **Pages:** 417-452 **Pub-lished:** SUM 2014	This article discussed the US Chamber of Com-merce initiative called Compliance Defense to inoculate corporations from FCPA liabilities. It is not included.
127	CARROTS AND STICKS: PLACING REWARDS AS WELL AS PUN-ISHMENT IN REGU-LATORY AND TORT LAW	Schwart z, Victor E; Goldber g, Phil	2014	HAR-VARD JOUR-NAL ON LEGISLA-TION **Volume:** 51 **Issue:** 2 **Pages:** 315-363 **Pub-lished:** SUM 2014	The authors focused on the topic of corporate bribery and enforcement mechanism in the US. It is not included in my re-search.
128	Announced vs. surprise inspections with tip-ping-off	Dechena ux, Em-manuel; Samuel, Andrew	2014	EURO-PEAN JOUR-NAL OF POLITI-CAL	The focus of the article is a model in which a super-visor monitors a corpo-rate compliance with reg-ulation. It is excluded.

				ECON-OMY **Volume:** 34 **Pages:** 167-183 **DOI:** 10.1016/j.ejpoleco.2014.01.001 **Published:** JUN 2014	
129	Let's be clear: compliance with new transparency requirements is going to be challenging for resource companies	Hughes, Carl D; Pendred, Oliver	2014	JOURNAL OF WORLD ENERGY LAW & BUSINESS **Volume:** 7 **Issue:** 1 **Special Issue:** SI **Pages:** 36-45 **DOI:** 10.1093/jwelb/jwt023 **Published:** MAR 2014	The article examined the extractive industries and transparency requirements in the EU with focus on companies. It is not included.
130	DOES SAYING 'YES' TO CAPITAL INFLOWS NECESSARILY MEAN GOOD	Elisa Farias, Maria; de Almeida, Monica Arruda	2014	ECONOMICS & POLITICS **Volume:** 26 **Issue:** 1 **Pages:** 96-127 **DOI:** 10.1111/ec	While the topic of anti-money laundering efforts and economic performance is interesting, it does not focus specifically on the government. It is not included.

				po.12028 **Published:** MAR 2014	
	BUSINESS? THE EF-FECT OF ANTIMO-NEY LAUNDER-ING REGU-LATIONS IN THE LATIN AMERI-CAN AND THE CAR-IBBEAN ECONO-MIES				
131	INFOR-MAL SEC-TOR TAX ADMIN-ISTRA-TION IN ZIMBA-BWE	Dube, Godwin	2014	PUBLIC ADMIN-ISTRA-TION AND DE-VELOP-MENT **Volume:** 34 **Issue:** 1 **Pages:** 48-62 **DOI:** 10.1002/p ad.1673 **Published:** FEB 2014	The author analysed the case of Zimbabwe and efforts to collect tax from the informal sector. It is not included in my study.
132	Selective Adaptation in Treaty Compli-ance: The Implica-tions of	Wang, Chao	2014	ASIA PA-CIFIC LAW RE-VIEW **Volume:** 22 **Issue:** 1 **Pages:**	The article investigated the case of Japan's selec-tive adaption of the agree-ment on government pro-curement. While compli-ance is a central theme, this article does not

				103-117 **Published: 2014**	concern corruption or government officials. It is not included.
	Japan's Implementation of the World Trade Organization's Agreement on Government Procurement				
133	MINIMIZING THE MENACE OF THE FOREIGN CORRUPT PRACTICES ACT	Isaacson, Kristin	2014	UNIVERSITY OF ILLINOIS LAW REVIEW **Issue:** 2 **Pages:** 597-627 **Published: 2014**	This note discusses the disadvantages FCPA created among US companies. It is not included.
134	Transforming Vietnam: a quest for improved efficiency and transparency in central government procurement	Khorana, Sangeeta; Mishra, Nishikant; Kerr, William A.	2014	POLICY AND POLITICS **Volume:** 42 **Issue:** 1 **Pages:** 109-129 **DOI:** 10.1332/03 0557312X 655611 **Published:** JAN 2014	With focus on Vietnam, the article examined the relationship between WTO government procurement agreement and its cost benefit approach. It is not included in my research.
135	OPTIMAL GOVERNMENT	Mendez, Fabio;	2013	HITOTSUBASHI	The article examined optimal levels of regulations and red tape to test

			JOUR-NAL OF ECO-NOMICS **Volume:** 54 **Issue:** 1 **Pages:** 51-77 **Pub-lished:** JUN 2013	regulatory compliance. It is included.
	REGULA-TIONS AND RED TAPE IN AN ECON-OMY WITH CORRUP-TION	Sepul-veda, Facundo		
136	Are corrup-tion levels accurately identified? The case of US states	de Figueire do, Joao Neiva	2013	JOUR-NAL OF POLICY MODEL-ING **Vol-ume:** 35 **Issue:** 1 **Pages:** 134-149 **DOI:** 10.1016/j.j polmod.2 012.01.006 **Pub-lished:** JAN-FEB 2013	The article examined the case of the US states and public official corruption and non-compliance. It is included.
137	Issues in Anti-Cor-ruption Law: How Can Code of Conduct Laws Be Drafted in Order to Reduce Corruption in a Public	Michael, Bryane	2012	EURO-PEAN LAW JOUR-NAL **Vol-ume:** 18 **Issue:** 2 **Pages:** 289-322 **DOI:** 10.1111/j.1 468-	The author investigated the case of Romania and its Code of Conduct Law. It is included.

	Sector like Romania's			0386.2011. 00598.x **Pub- lished:** MAR 2012	
138	Cosi fan tutte: Infor- mation, Be- liefs, and Compliance with Norms	Kotzian, Peter	2011	ZEITSCH RIFT FUR SOZIOLO GIE **Volume:** 40 **Issue:** 4 **Pages:** 158-173 **Publishe d:** AUG 2011	The author studied the ef- fect of norm compliance of information. It is in- cluded.
139	Bribery and inspection technology	Samuel, An- drew; Lowen, Aaron	2010	ECO- NOMICS OF GOV- ERN- ANCE **Volume:** 11 **Issue:** 4 **Pages:** 333-350 **DOI:** 10.1007/s1 0101-010- 0080-0 **Pub- lished:** NOV 2010	The article advocated the use of technology to re- duce discretionary power of government officials and increase efficiency. It is included.
140	Fighting Corruption in Croatia with the Prospect of European	Hardy, Angel- ique	2010	ROMA- NIAN JOUR- NAL OF POLITI- CAL	The article focused on EU pre-accession conditional- ity and fight against cor- ruption, in particular, backsliding. It mainly concerns compliance with

				SCIENCE **Volume:** 10 **Special Issue:** SI **Pages:** 63-95 **Published:** SEP 2010	the EU accession and conditionality. This, however, is not included in my study.
141	Bribery in Islam-Ottoman Penal Codes and Examples From The Bursa Shari'a Court Records of 18(th) Century	Duzbakar, Omer	2009	BILIG **Issue:** 51 **Pages:** 55-84 **Published:** FAL 2009	This historical account of Ottoman Empire is interesting, but my study focuses on the contemporary context and, therefore, it is not included.
142	Determinants of business tax compliance	Nurtegin, Kanybek D	2008	B E JOURNAL OF ECONOMIC	This article examined the determinants of tax evasion by firms. It is not included.

				ANALY-SIS & POLICY **Volume:** 8 **Issue:** 1 **Article Number:** 18 **Published:** 2008	

Text in bold indicates the key factors, while text in red indicates the specific role of e-governance and ICT.

Cate-gory	Attributes of institutional instruments	Elements of compliance determinants emanating from the literature review
Trans-parency	Collecting and dissemi-nating infor-mation about corrupt prac-tices	Cleveland, Favo, Frecka, et al. (2010) cite that "NGOs and other groups can play an extremely im-portant role by strengthening their reporting and tracking of specific bribery cases" (p.223) such as Transparency International's (TI) foreign bribery cases and investigations. NGOs, such as TI and World Economic Forum, have been the **whistle blowers and proven effective in monitoring and reporting cases, which have significantly in-creased the potential to catch offences**. The most important tool for the NGOs is identified as the In-ternet, as it allows information sharing globally and transparently (Cleveland, Favo, Frecka, et al. 2010). Webb (2012) elaborates on the virtue of transpar-ency by which "**managers are able to observe the unethical conduct of the employees and its conse-quences, and vice versa**" (p. 99), thus serving as **a deterrent to unethical behaviors**. Garcia-Tabuyo, Saez-Marin, Caba-Perez (2015) cites previous studies to conclude that **access to infor-mation facilitated citizens participation in public management and reduced opportunities for cor-ruption**. ICT was found to have positive effect on voluntary information disclosure, by reducing costs, and municipal managers are aware that, with ICT, more citizens could access information. The size, socioeconomic development level and educa-tion level of municipality were found associated

		with the level of information disclosure, possibly enabled by knowledgeable and ICT skilled staff.
		In a study on tax compliance, Alon and Hageman (2017) conclude that lack of transparency gives no incentive to refrain from bribery, which then leads to ineffective tax administration: in some cases, tax compliance could be reduced to, as low as, 50 percent.
		As a channel of transparency, the authors include **traditional news sources and online media** such as FCPA blog. The authors note that because of "**worldwide anti-bribery legislation, a quantum leap in enforcement,** the effectiveness of NGOs in bringing the problem to the attention of the public, increased transparency, and **widespread availability of information throughout the world, whistleblower protections** and a host of other actors" (p.217), evidenced in an increase in prosecution cases (Cleveland, Favo, Frecka, et al. 2010).
	Disseminating information on public services	Considering budget limitation in most developing countries, cost-effective ways to promote compliance include 1**) communication on relevant legislations**, 2**) information disseminated to the target groups**, 3**) information campaign** (Batory 2012).
		Citing the clauses in the UN Convention against Corruption, Schlenther (2017) also suggests adopting procedures and regulations to allow **the public to obtain information on decision making in public administration and publishing the information**.
		Ali, Fjeldstad, Sjursen (2014), based on examples of Kenya, Tanzania, Uganda and South Africa, conclude that tax compliance corresponds to the provision of public services. More specifically, **tax knowledge** appears to influence tax compliance attitude.

On freedom of information (FOI), Camaj (2016) examines new democracies in Southeastern Europe and concludes that the success depends on **public demand and supervisory institutions**. The non-compliance was attributed to lack of administrative capacity and political will during implementation, while emphasising the importance of CSO and the media as a channel of public demand. However, the study also revealed an alarming level of non-compliance of FOI within governments and between countries. Furthermore, the author concluded that FOI laws are **not sufficient to promote transparency without strong institutions of horizontal and vertical accountability**.

Garcia-Tabuyo, Saez-Marin, Caba-Perez (2016) examine online proactive information disclosure in Central America. The authors concluded that transparency is a matter of attitude than of legal requirements. To achieve transparency, voluntary proactive information disclosure is **needed to gain the trust of stakeholders and to establish legitimacy**. The role of technology in this is particularly important as a means of interactions with citizens and information dissemination. The study also found that the development and applications of ICT influence the level of legal compliance on proactive online information disclosure. Municipalities with greater access to ICT provide more information to gain legitimacy. Furthermore, **the level of corruption is inversely correlated with online provision of information by municipalities**. The more corrupt the municipalities, the more reticent they are to providing information. The authors also asserted that public managers did not respond to **threats of sanctions well** and, therefore, **a culture of transparency was needed**.

	Organizing public campaigns	Schlenther (2017) argues that preventive measures should include increased transparency through whistleblowing and public disclosure of

| | against cor-ruption | information, as symbolised in the Luxemburg Leaks, Panama Papers and Paradise Papers. **Whistleblowing and other institutional instruments rely on public awareness and understanding**, as "transparency supports measures to combat corruption and importantly **increases public pressure on the government** to fully address the problem of corruption" (p.231). Schlenther refers to the case of Swaziland, which launched a campaign, "I refuse to be silenced" by the Internal Affair's Division of the Revenue Authority to raise public awareness and encourage people **to come forward in case of suspected instances of corruption.**

Sokol (2014) notes that **limited public awareness** on cartel/anti-trust made the enforcement difficult, as "(t)he lack of public awareness and the resulting **lack of social penalties impact deterrence and detection**" (p.203).

Bina and Yinghong (2016) add that in the case of LALA in India, all three parties recognised **the significant mass movement** as a democratic channel, which results in self-improvement of democratic systems.

Akerlof (2017) cites that the perception of corruption being "reasonable" should be changed through a "big push". Citing examples of the US, Sweden, Denmark, Hong Kong and Singapore, dramatic declines in corruption were evidenced to **coincide with anti-corruption campaigns**. |
|---|---|---|
| **Anti-Corruption policy, legal and regulatory frameworks** | Anti-Corruption policies, laws and regulations | Another factor is the legislative and legal environment. According to OECD, **the lack of clarity in legal and regulatory framework** is identified as a driver of corruption together with the **absence of well-functioning tax administration** (Schlenther 2017).

Tjen and Evans (2017) study the Gayus case in Indonesia, and identify **ethical policies and practices** |

and statutory changes as key for anti-corruption strategies.

Citing a South African case, Webb (2012) states that "**the anti-corruption and anti-fraud policies are formulated at the head office and do not reach the 'ground level'**. Officials reported that they had not even seen these policies, nor was **any form of training** provided" (p. 98). The normative expectations would be clear with "**concrete, comprehensive and understandable guidelines that direct their behaviors**" (p.99).

Travits (2010) cites a study on Eastern Europe indicating that "**condemnation of bribery** is **associated with increased resistance to both accepting and paying bribery**" (P.1260)

Considering budget limitations in most developing countries, cost-effective ways to promote compliance include **policy reversal and termination**. Concerning the last point, if ignored, laws would have more negative impact on compliance, as such behavior **undermines the credibility of the entire legal system** (Batory 2012).

Popescu, Onofrei & Kelley (2016) analysed the EU efforts to reduce corruption in public procurement through **legal rules to enhance compliance with procurement standards and prosecution of offenders**. The authors also reported that "the gap between legislative goals and actual outcomes, a gap partially attributable to **the differences in the optics of national legislators and the efficiency of enforcement authorities**." (p. 83)

Schueth (2012) looked at the example of Georgia, where the Rose Revolution of 2003 led to the reform-oriented government and tripled central government tax revenue from seven percent to 23 percent of GDP between 2004 and 2007. The

<table>
<tr><td></td><td></td><td>government also introduced **effecting anti-corruption and anti-tax evasion policies. The new tax laws and enforcement procedures were introduced, together with the civil service reform**. The new tax regime's instrument of coercion was the financial police, created in 2004 under the President's control.

Yilmaz (2014) investigated the case of Turkey's anti-corruption reforms, including **the new Penal Code in 2005, definition of corrupt activities and bribery offences and associated penalties**. New legislations included **the Public Procurement Law, the Law on the Right to Information and Code of Conduct for Civil Servants. Corresponding institutional and enforcement frameworks were set up**. Lastly, the countries joined various international groups and international conventions, independent of the EU accession requirements.

Ozarslan (2016) cites the case of Turkey, where the government developed **the Anti-Corruption Strategy and Plan in 2010**, **but without transparency, no significant improvements and achievements were reported** six years after the announcement. The author identified **better policies, including transparency, integrity and accountability, and reducing the impunity on corruption related cases** to stiffen the fight against corruption.</td></tr>
<tr><td></td><td>Administrable compliance guidelines and code of conduct</td><td>In a study on cartel and compliance, Sokol (2014) identifies a need for **cartel-related compliance guidelines, so that employees know what the compliance entails**. They could also show **the type of behaviors and methods,** which are considered compliant and not. Other organisations established **codes of conduct** to improve governance and compliance. Over time, it is expected that these guidelines would **change the norms and enhance compliance**. In addition, **regulating processes**, compared with outcomes, may be important to **change behavior** within the organisation. As guidelines are</td></tr>
</table>

		enforced, compliance level and changes have been observed in Canada and the UK. (Sokol 2014). Van del Wal, Graycar & Kelly (2016) reviewed the case of Australia and found that the public bodies established **a broad range of controls**, such as gift disclosure, benefits, hospitality policies and conflict of interest policies, **based on the broad guidelines of codes of conduct** for public sector employees in the state. The authors found that there was very little on corruption in the code of conduct though. Some respondents revealed that they were developing **fraud and corruption awareness training programmes** as well as training for the Protected Disclosure Act requirements. **The Code of Conduct was made public to avoid financial misconduct and collusion.**
	Anti-Corruption pro-grammes	Van del Wal, Graycar & Kelly (2016) examined the international best practices in **integrity management** in developed countries. The three pillars of such attempts include i) specific **corruption prevention programs and strategies, ii) anti-corruption training and effective leadership engagement and iii) commitment to an ethical culture**. In countries with less corruptions, compliance measures were found needing regular training, awareness on ethics and leadership. The focus is to shift from Integrity 1.0 (**legal, hard controls**) to 2.0 (**training, awareness and ethical leaderships as per the value-based approach**) to ultimately 3.0 (**ingrained integrity as regular professional responsibility**) to avoid complacence and naivety. One approach is to develop integrated integrity management systems with enabling organisational structure and culture. The focus is **the senior management commitment** to an **ethical culture and corruption free organisation**. Tjen and Evans (2017) study the Gayus case in Indonesia. The compliance regime has preventive and reactive systems: the former including **compliance**

		examination, monitoring of the employee code of conduct, managing whistleblowing system and civil servants' wealth reporting system and a Corporate Value Internalization Program.
	Risk assessment and management	Van del Wal, Graycar & Kelly (2016) studied the cases of developed countries, which would benefit from emphasis on **risks analysis and enforcement**. They introduced the views that integrity policies are often incident-driven and introduces new measures instead of implementing and institutionalising existing policies and programmes. Appointment of specific officer often results in others feeling less responsible and integrity policies may be seen as additional bureaucracy without adequate resources. The identified risks included procurement, breach of IT and information security, financial misconduct by employees, misconduct relating to recruitment or human resources and theft or misuse of resources by employees. Risk management is defined as "the combination of organisational systems, processes, procedures and culture that facilitate the identification, assessment, evaluation and treatment of risk to protect the organisation and assist in the successful pursuit of its strategies and performance objectives." (p. 10) Cleveland, Favo, Frecka, et al. (2010) suggest that **risk management policies should include "a code of conduct, gift policy, training policy, political and charitable contributions policy, delegation of authority policy, and accounting policies regarding the proper recording of transactions"** (p.218). The authors document the need for risk assessment, such as FCPA audits, **to test the effectiveness** of the compliance programme implementation once it is instituted. Any issue arising from the audit, potential FCPA violations and risk assessment may need an investigation proactively, as the costs of violations have increased over the years. Risk management is linked to **monitoring as the information**

		made available to determine the risk level could be used to later monitor operations. Tjen and Evans (2017) study the Gayus case in Indonesia and identify **corruption risk mapping as one of the key features for anti-corruption strategies**.
	Monitoring programme	Schlenther (2017) cites the cases of Nigeria and South Africa, which lack **independent and effective monitoring bodies in the implementation of anti-corruption policies and initiatives**. The author identifies success factors among countries, which reduced corruption, such as 1) **comprehensive case management and tracking systems** together with transparent case assignment, 2) administrative reforms (i.e. budget, staff, performance management, rewards and career opportunities for law enforcement officials), 3) **inter-agency cooperation** and task team approach and 4) **forfeiture of assets** in high-level corruption cases.
Anti-Corruption-centered organizational reforms	Anti-Corruption bodies and compliance and disciplinary offices	According to Schlenther (2017), another institutional instrument well referenced is the establishment of **the Anti-Corruption Body as the central mechanism to prevent corruption and implement anti-corruption policies and initiatives**. It, however, is not a panacea to corruption. It is evidenced to require various factors to function optimally, such as **institutional coherence (buy-in), sectoral and agency cooperation, functional and financial independence and monitoring functions**. Schlenther cites an example of Nigeria, which put in place a number of institutional instruments. Chief Justice of Nigeria planned to establish a **special court dedicated to corruption charges**. For transparency and accountability purpose, the country introduced **an audit bill to guarantee the independence of the office of Auditor-General. Another example is the Anti-Corruption and Transparency Unit,** which was established in the Federal Inland Revenue Service.

Tjen and Evans (2017) study the Gayus case in Indonesia. One of the measures the government took, after the case was revealed, was **the establishment of the compliance office**. The role of the Directorate of Internal Compliance and Apparatus Transformation was to "**formulate and implement policies and technical standardisation** in internal compliance and apparatus transformation" (p.256) and the unit implements **the code of conduct** through such means as **random surprise inspection, surveillance, internal control monitoring, risk management monitoring, disciplinary compliance, formulating recommendations on business process improvement.**

Van del Wal, Graycar & Kelly (2016) cite some examples in Australia of having specific officers with Protected Disclosure Act responsibilities, known as a **Protected Disclosure Coordinator and a Protected Disclosure Manager**. The respondents indicated that senior managers were involved in the oversight of misconduct. These bodies included **an audit or risk management committee, fraud control or prevention officer, and/or integrity manager, compliance and risk managers**.

Bina and Yinghong (2016) examined the case of India's Lokpal and Lokayuktas Act (LALA) as a tripartite anti-corruption model among government, NGOs and people. Together with the Act, **the establishment of independent ombudsman** was a result of political impetus, after 45 years of parliamentary debates and popular mobilisation.

By examining the case of Catalan Anti-Fraud Office, its functions and continued trends of corrupt practices in the Spanish State, Villagrasa (2016) concludes that the impact of the office is not optimal without **duties for preventing corruption and**

			granting sanctioning powers to specialised agencies in the event of non-compliance. But Baum, Gupta, Kimani et al. (2017) reiterate that an anti-corruption unit alone would be insufficient to reduce corruption in India. **Independence and enforcement power** are needed to pursue cases: otherwise such unit would become another layer of bureaucracy. Hough (2017) focused on Germany's anti-corruption infrastructure, but resilient, path-dependency makes the reform difficult, in the area of regulating German businesses, meeting international anti-corruption commitment and transparency agenda. Ozarslan (2016) noted that "Turkey implemented some structural changes to address this issue between 2003 and 2005 in accordance with the EU harmonisation process, such as signing the UNCAC and OECD Conventions, **establishing the Council of Ethics for public officials**, and enacting **the Right to Access Information Act**. As a result, Turkey's perception was positively affected in that period, but subsequent compliance with these internation-ally binding agreements was poor." (p. 112).
		Resource allocation	Webb (2012) adds that **resource scarcity and workload** could be determinants, which may lead to an environment for cheating to occur. Webb lists "**adequate time, budgets, equipment, information and authority to execute their responsibilities**" (p. 99) as key ingredients. Van del Wal, Graycar & Kelly (2016) state that austerity measures due to the financial crises could result in integrity risks, as time and resources for integrity management could be affected.
		Internal accounting and audit	Kantsir & Plekan (2017) reviewed the case of **regulatory system and audit activity** in Ukraine as a condition to the EU accession and as a response to corporate financial scandals in the US, Europe and

		Japan. This prompted the EU directive to ensure public oversight of auditors and their independence by monitoring the process of implementation of audit activity. Van del Wal, Graycar & Kelly (2016) cited **the role of auditors in control and risk management** by reviewing control and risk management systems and operations and assessing their effectiveness and efficiency with value for money. Citing a concept of corruption trap, Akerlof (2017) also cites that a high rate of corruption tends to lead to more corruption and it is difficult to undertake an audit in a highly corrupt society.
	Reducing compliance costs	Tjen and Evans (2017) studied the Gayus case in Indonesia, and identified **reduction in compliance costs** as one of the key schemes for anti-corruption strategies. Bac (2018) cites three factors that impact the effectiveness of internal control: **1) cost of filing complaint, 2) probability with which the victims prevail and 3) remedial effects of procedural quality (speed and accuracy).**
	Tools	Tjen and Evans (2017) studied the Gayus case in Indonesia, and identified e-services as one of **the key instruments for anti-corruption strategies**. They note that it is unlikely that "tax collectors and bailiffs would be capable of postponing or cancelling the seizure of assets without being **detected given the implementation of new real time and comprehensive information systems** such as the DGT Information System" (p.255). However, Schlenther (2017) cites a case of Kenya, where the president was suspected to be involved in a corruption case. An e-payment system is suspected to have been manipulated at the Ministry of Health and the company associated with the

president is reported to have received double payment. In a similar case in Malawi, a computer-based financial system was compromised by government officials to divert funds and an arrest warrant was eventually issued to the former president. Citing IMF recommendations, the author also suggests "simple transparency and to the extent **possible automated procedures, strong information systems and high profile prosecutions**" (p.234).

Citing a case of Albania, Camaj (2016) refers to **the e-government initiatives as the online infrastructure for information access.** Government web pages and e-government processes provide information regarding legal frameworks, public procurement, tax system, etc. Despite progresses, an audit report pointed out that some websites do not work and information is not up to date with limited awareness among the public on the tool.

According to a survey 57 percent of the respondents were **not aware** of the government websites and 80 percent did not use the website to access information. **Local governments** were also identified among those left out in the open government initiatives. In the case of Kosovo, **the introduction of digital technologies and e-government websites enabled citizens to request for information online**, although an audit reported selective transparency and unavailability of comprehensive information. Fifty-five percent of citizens were unaware of their local government's websites. The author concluded that **the use of new technologies and creation of online platforms and online portals would help facilitate access to information** and potentially solve the limitations in public administrations in developing countries.

On EU public procurement, Popescu, Onofrei & Kelley (2016) noted that one of the most popular tools **to disseminate information and promote**

efficient public procurement, was e-government. "The Internet and the electronic platforms systems based on it proved to determine **lower transaction costs, increase competition and decrease corruption** through **transparency and easy public procurement monitoring**. E-procurement and e-invoicing are successfully used during the bidding stage in many European countries such as Portugal, Germany, France, Lithuania, Slovakia, and Slovenia, Estonia. One of the good practices in this respect is the electronic public procurement platform used in Portugal. It is an application used for all public procurement stages, including contract management and payment. The National E-Procurement Portuguese Portal, or simply BASE, centralises public procurement contracts, keeping **extended records on public procurement transactions**. Also, the e-procurement platform offers the possibility of **downloading documentation free of charge** (OECD, 2007). Since its implementation in 2003, the system has proved its efficiency in **saving time** and money for both public and private partners and in **keeping the public informed** about spending public money. Another good practice is **the Open Local Government Initiative** of Slovakia that ranks a hundred Slovakian towns using a set of criteria such as "transparency in public procurement, access to information, **availability of data of public interest, public participation, professional ethics and conflicts of interests**" (European Commission, 2014, p. 28)." (p. 87)

Samuel & Lowen (2010) began their article on inspection technology by stating that **e-government aimed to improve government efficiency and reduce corruption by reducing the discretional power of government officials**. Within the Principal-Supervisor-Agent model, the authors showed that improvement inspection technology increases marginal or total productivity, while increasing some types of corruption, as **corruption may shift**

		from government officials without computer skills to those with skills, or change the timing and type of bribery**. The authors evidenced that improvements in inspection technology and supervisor's productivity increased preemptive corruption. When preemptive bribery is observed, it reduces compliance, where it would have increased, if not corruption. **In the presence of corrupt supervisors, technological improvements will not necessarily reduce corruption**. An improvement in inspection technology **needs to be accompanied by an increase in penalties** to increase compliance and discourage corruption. In the case of Korea's OPEN, **the workload on officials increased** and could open up a new avenue for bribery.
Anti-Corruption reporting and enforcement	Whistle-blower protection	In a study on cartel enforcement, Sokol (2014) focuses on the need to entice behavioral changes among employees and embed the anti-trust culture in the organisation as **the most detection incidents come from employees**. It is necessary to create **enough incentives for whistleblowers** to come forward by changing the cost and benefit calculation. This finding is echoed in the case of Uganda, which reports that 30 percent of investigation cases are brought by whistleblowers (Schlenter 2017). However, in a study on South Africa, Webb (2012) reports that officials "were generally afraid to report corruption **as management could not be trusted**. Whistle-blowing was ineffective as officials did not believe that reports would be kept **confidential** and this could be **victimized**", in addition to the fact that "**no one even answered the whistle-blowing line**". (p.99) Schlenther (2017) argues that preventive measures should include **increased transparency through whistleblowing and public disclosure of information**. Whistleblowing and other institutional instruments **rely on public awareness and**

		understanding. Transparency will help inform the public as a means to combatting corruption and **pressurising governments to act.**
		Whistleblower protection is a way to influence the cost-benefits calculus but one case was reported in Hungary due to **the fear for reprisal against whistleblowers**. Therefore, target groups have been unable to comply with rules and requirements, also exasperated by **low awareness of their own rights, opportunities to redress, information deficits** among target groups (Batory 2012).
		Gilbert and Sharman (2016) cited the case of British Aerospace scandal based on the account of whistleblower, involving the British Prime Minister, Margaret Thatcher, for the supply of military aircraft to Saudi Arabia. Despite the pressure, the investigation was terminated. The last case of Note Printing Australia and Securency involves AU$ 50 million in kickbacks for contracts. "The RBA and the Australian government's reactions to the allegations were characterised by a mix of denial, inaction, blame avoidance and foot-dragging" (p.85). It was **the whistleblower and media pressure, not the government, which triggered the response**.
		Michael (2012) mentions the **Whistleblowers Law** in Romania that "stresses 'the integrity, impartiality and efficiency of public authorities and institutions' as comprising the public interest" (p. 311).
	Confidential reporting	Schlenther (2017) refers to the Swaziland case, which launched a campaign "I refuse to be silenced" by the Internal Affair's Division of the Revenue Authority to raise public awareness and encourages people to come forward regarding suspected corrupt cases. **A toll free number was set up as part of the campaign.**
		Citing the cases of forest nationalisations and reverse effects the policies had, Akerlof (2017)

			concludes that observers will not report non-compliance or violations because they consider the rule illegitimate with a high non-compliance rate. In an honest society, corruption triggers **an indignation and reporting**, but **when corrupt behaviors are common place, this does not happen**. Furthermore, the author refers to the reporting and **retaliation** by the offender. In the case of Turkey, Ozarslan (2016) cited Transparency International 2015-2016 report, indicating that "45 percent (60 percent in 2015) believe **reporting bribery and improper solicitation of gifts by public officials does little to improve these problems**, and in fact, could result in negative outcomes." (p. 112) Van del Wal, Graycar & Kelly (2016) analysed the case of Australian schools and concluded that the most common ways to commence investigations was **to follow complaints from the public, managers and colleagues.** In some rare cases, suppliers complained about irregularities in staff conduct. Most respondents reported that they have **mechanisms to lodge complaints**.
		Rewards and penalties	The detection rate is evidenced to increase together with **the leniency programme and fines** (Sokol 2014). On the question of perception of impunity, Webb (2012) states that "if employees perceive that they will **not be rewarded for ethical conduct**, they will be less likely to act ethically" (p. 99). Therefore, "**a visible imposition of sanctions and rewards**" (p. 107) would be a factor to influence employee behaviors. Considering budget limitations in most developing countries, **cost-effective ways** to promote **compliance** include **rewards for rule conforming behavior**. She notes that a typical policy reaction is deterrence "to try to change the individual's strategic calculus by increasing the costs of socially harmful

		behavior as well as the likelihood that those costs will indeed need to be borne" (p.72) (Batory 2012).
		Berghoff (2018) also notes that one factor fueling corrupt behavior was "(a)uthorities had been dormant and lenient in the last, **fines had been extremely low**" (p.433). Because of the bribery case, Siemens was fined a record $1.6 billion by the US and German authorities. The investigation was conducted as a major FCPA case. It was also noted that the efficiency of a compliance system was evidenced in **a prompt detection and response by rigorous sanctions**.
		Akerlof (2017) cites the concept of graduated sanctions. One reason for **escalating punishment** is that the anger triggered by repeated offenses is greater than the first-time offender.
		Jiang (2017) depicted an increasing pressure on multinational corporations for compliance. Enforcement agencies are imposing **substantial penalties**, as exemplified in the case of VimpelCom for a combined fine of US$ 795 million by US and Dutch authorities in 2016.
		Galiot (2017) identified that **confiscation** of pecuniary gains is one of the effective means to address bribery criminal offenses.
		Sokol (2014) elaborates that "(i)f antitrust were to empower individuals through **rewards for whistleblowing,** this might lead to greater detection than through the use of leniency alone" (p.230.)
	Control of violations	Corruption is a classic collective action problem, where the social cost is high and diffused and no immediate personal unitality is identified. In this context, the deterrence should try to change the individuals' calculus by increasing costs and likelihoods of penalty, while increasing moral satisfaction. In the case of Hungary, **lenient penalties,**

weak law enforcement, non-reporting by civil servants, no publishing for their failure to report, impunity, lack of monitoring system and low risk in detection all made corruption rampant. Despite the fact that relatively lenient penalties are common, the enforcement of law is weak when it comes to high-value, high-level corruption cases (Batory 2012).

Tjen and Evans (2017) studied the Gayus case in Indonesia, and identified **internal controls and deterrence** as one of the key elements for anti-corruption strategies.

By analysing the level of wages and misconduct, Bac (2018) came to the conclusion that the **wages** have impact on the level of misconduct **only when there is an internal control mechanism**. Therefore, when misconduct is rampant, organisations have to pay higher wages to ensure compliance and attract skilled workers, which is another manifestation of economic cost of misconduct. It is concluded that "(b)etter rules and grievance procedures encourage complaints and punish the harassers" (p.243).

The effectiveness of law enforcement cannot be explained without functioning enforcement mechanism. Rules are less effective in motivating people to behave in certain ways than **informal rules**, because the legal system and enforcement have been evidenced to fail to reduce prevalent corruption as well as tackle the inabilities of government to implement policies and impose penalties. Corruption is found less in countries with **higher institutional quality** because they provide **clear guidance of what to expect in particular situation**, reduce opportunities for unofficial payments, resolve disputes in systematic manner and enforce contracts, thus **reducing transaction costs**. The key is to form **the rule-based trust of depersonalisation and**

		predictability through institutionalisation (Alon and Hageman 2017).
		Akerlof (2017) explored the phenomena of rule violations from the angle of legitimacy in enforcement, specifically on "**corruption traps**; graduated sanctions for repeated offenders; and tolerance of self-interestedness". (p.110) A rule is considered legitimate "if there is a widespread feeling that there is a duty to comply". (P.111) **Lack of legitimacy** makes rule compliance more difficult, leading to the need for coercive forces. They would then lead to resistance, which can take the form of not only rule violations but also **non-reporting** of such violations to authorities. It then leads to a "**noncompliance trap**" with high non-compliance, resulting in more non-compliance.
		Ali, Fjeldstad, Sjursen (2014) assert that when there is a perception that enforcement makes tax evasion difficult, people in South Africa and Kenya responded that they comply with taxation, although **the size of informal economy, illiteracy, uncertainty, lack of trust in government,** which may affect the level of tax compliance.
		Gilbert & Sharman (2016) examined the cases of British and Australian corruption scandals and concluded that failures were not due to the lack of abilities but **willful blindness** towards the OECD convention.
	Detection, investigation and prosecution	Sokol (2014) mentioned that cartel behaviors were detected by **auditors** (10 percent), **media** (13 percent), **regulators** (13 percent) and **employees** (17 percent) among others.
		Webb (2012) also notes that **without capacity for investigation, whistle-blowing would be ineffective**. Cleveland, Favo, Frecka, et al. (2010) also highlight the need to **train officers to conduct corruption investigations.**

Gilbert and Sharman (2016) cited the British Aerospace scandal case, where the government terminated its investigation for commercial and diplomatic concerns, which was later addressed by the US Department of Justice for accounting offense. In the case of Australian Wheat Board scandal, "the government long resisted any investigation so as to protect the country's economic interests, and then, when further stalling became impossible, designed the investigation to minimise **adverse media coverage and electoral damage** rather than promote accountability" (p. 84). "The failure of democratic governments to investigate crimes of their powerful corporate citizens properly suggests that improving compliance depends on **protecting whistle-blowers better, augmenting the capacity of anti-corruption NGOs and investigative journalists, and substantially toughening the review process carried out by intergovernmental organisations like the OECD.**" (p. 87)

In the case of Turkey, Ozarslan (2016) pointed out that despite Turkey's subscription to the OECD Convention, the enforcement was found weak: there has not been a foreign bribery conviction in the 11 years since the Convention took effect in the country. Turkey is also party to the UN Convention against Corruption since 2014. According to Transparency International, the country's legal system is compliant with the Convention requirements, but the overall enforcement is poor with **non-responsive government officials, lack of data collection and analysis and open public access.** The author also concluded that "the most common methods used in **impunity cases, secrecy orders and the blanket press ban on court trials, as well as the wide range of immunities granted to politicians and bureaucrats** are systematically applied in corruption cases in Turkey. Unfortunately, Turkey is one of few countries in the world that still grants

		political immunity to members of Parliament in corruption crimes, as well as a wide range of immunities for bureaucrats in some corruption-related offences." (p. 114)
Public sector reform	Efficient judiciary	Williams and Horodnic (2015) elaborate the two approaches of compliance. One is characterised as **"cop and robber", where employers and employees use tight rules and procedures with close supervision and monitoring in centralised structures**. This tends to lead to **a low-trust, low-commitment adversarial environment.** The other softer approach of high trust and high commitment culture generates **self-regulated control**. The formal approach works with three changes of, **1) procedural justice (treat citizens with respect), 2) procedural fairness and 3) redistributive justice.**
		Ozarslan (2016) concluded that "in a recent study by TI Turkey, the National Integrity System (NIS) re-veals the long shadow of executive power over the pillars of the system and the fundamental institutions of the regime. While the "**separation of powers**," principle has turned into "unification of powers", the institutions that are essential for a democratic system to function, such as the legislature, judiciary, and the media, appear to have been rendered ineffective by this shadow. Of the 15 institutions the NIS report assessed, 11 were classified as "weak" and only four rated as high as "moderate". The fact that none of the institutions in the system could be identified as "strong" provides crucial insight about the functionality of the state. The deficiencies in the main institutions are mostly **the result of political polarization, partisanship, and the imbalance in checks and balances mechanisms**." (p. 115)
		By reviewing the case of South African natural resource management regulations, Sundstrum (2016) corruption affects various aspects of institutions. It may constrain policy-makers from enacting stricter

		regulations and reduce the effectiveness of regulations during implementation. He believes the compliance is also **impacted by the rules and how they are formulated, including if citizens were involved in the decision-making processes from distributive and procedural justice point of view.**
	Less interactions with government officials, including automation	Corruption is evidenced to harm the culture of compliance. In the sphere of tax administration, it tends to undermine trust in government and compliance efforts with tax laws, thus increasing tax evasion. Indirect tax collection is found particularly vulnerable to corruption as it requires **interactions with tax authorities**. Improvements in tax compliance would require building necessary institutions (Baum, Gupta, Kimani et al. 2017).
		In particular, manual registration and process of filing and payment, which involves **person to person transactions**, were found to be an opportunity for corruption. Thus, **simple, transparent automated procedures and strong information systems were found effective to reduce corrupt practices** (Schlenther 2017).
		Tjen and Evans (2017) studied the Gayus case in Indonesia, and identified minimising **taxpayer/tax authority interactions and automation** as key for anti-corruption strategies.
	Institutional and individual capacity	Citing a case of Kenya, Schlenther (2017) notes "the deliberate undermining of the basic institutions that underpin and support **the rule of law and good government**" (P.224) to explain a high-level and pervasive corruption in the country. Therefore, "(i)nstitutional responses to corruption have also come in the form of anti-corruption bodies, whereby, states attempt to enhance their institutional capacity to prevent corruption" (p.232)
		On EU public procurement, Popescu, Onofrei & Kelley (2016) noted that "the European challenge remains **the enforcement of public procurement**

legislation. The avalanche of legal reforms has meant that national operators are not always familiar with EU legislation or experienced working under it. This was especially true for the newcomers in the EU since 2005 In addition, **inadequate publicity and transparency, discrimination, direct awards** and unjustified amendment of contracts still occur. The majority of these shortcomings are in the road and railway construction sector, health, education, energy, water/sewage, IT products and service contracts" (p. 85)

"Other successful measures used in Germany include **establishing codes of conduct** and **central authorities for tender and awarding, rotation of staff, clear regulations on sponsoring and the prohibition on accepting gifts, organisation of tender procedures, increased use of e-procurement, black lists or corruption registers**, and other similar measures (European Commission, 2014)." (p. 87)

Sok (2014) argued the limited capacity of state and how it emboldened other societal organisations to take control of authorities by examining the case of fishery management in Cambodia. The concessionaires and operators were successful in challenging the state authorities and disregard the regulations in collaboration with some state officials and political figures, who exacted appropriate rents. While the annual catch was estimated at USD 200 million, the state was unable to collect more than USD 2 million in tax and non-tax revenue. The situation aggravated with **weak state oversight and civil society**. As a result, even when terms and conditions were lighter and less costly, the concessionaires and operators didn't bother to fulfill their obligations.

Citing examples of forest nationalisation in Thailand, Niger, Nepal and India, Akerlof (2017) underlines the importance of **legitimacy in policies and regulations**. Although well-intended as a means to

protecting forests, the nationalisation policies had contrary effects, as the residents disagreed with the legitimacy of the policies and government policing.

Cho, Dreher & Neumayer (2014) assert that compliance with anti-trafficking prosecution policy is highest among developed countries. The study also reveals that compliance with anti-trafficking policies decreases with corruption and is high among countries, which respect women's rights. The authors quantitatively evidenced that one point increase in **democracy** index increases prosecution, protection and prevention (3Ps) by 0.07 points. Similarly, one point increase in **control of corruption increases** 3Ps by as much as 0.4 point. The authors also identified **emulation effect, which means that countries with similar political views take cues** from other similar countries in policy design and diffusions.

Ozarslan (2016) analysed the case of Turkey and identified the rampant grand corruption, deeply rooted in society, including the public sector, is a major challenge, despite the fact that Turkey is party to the OECD convention. According to Transparency International's 2013 Global Corruption Barometer, "54 percent of the respondents in the publicly conducted survey in Turkey indicate that corruption has increased in the past two years. Respondents identified **political parties (66 percent), the media (56 percent), the Parliament (55 percent), and businesses (50 percent) as the most corrupt institutions**. Furthermore, 68 percent felt that corruption was either a problem or a serious problem in the public sector." (p. 112)

In the context of freedom of information, Camaj (2016) identified the need for material resources, such as **bureaucratic capacity, officer training and external requirements pertaining to laws, supervisory institutions and international obligations.**

		In a study on cartel, Sokol (2014) notes that **better training** seems corresponding to fewer cartel behaviors.
	Simpler procedures	Tjen and Evans (2017) studied the Gayus case in Indonesia and identified **simplified and standardised procedures** as one of the key aspects for anti-corruption strategies. Citing the clauses in the UN Convention against Corruption, Schlenther (2017) also suggests simplifying **administrative procedures** to allow public access to the competent decision making authorities. Dietrich (2011) asserted that industry and trade are the sectors, where compliance costs could be high, while transportation, energy and mining sectors offer corruption opportunities. Construction of roads, telecommunications network, railways and power grids all **require significant paperwork,** thus making it susceptible to corruption, such as kickbacks and procurement frauds. On EU public procurement, Popescu, Onofrei & Kelley (2016) reported that "improved provisions address a number of key issues, including the following: prevention of conflict of interests, **e-procurement**, **simplification of documentation**, better access to the market for small companies, **monitoring and reporting on public procurement activity** by member states for a rigorous and uniform enforcement of European Union law." (p. 85) However, the results have been mixed with weak enforcement in some countries and some sectors.
	Sectoral reforms	Schlenther cites some success factors among countries, which successfully reduced corruption, such as **administrative reforms (i.e. budget, staff, performance management, rewards and career opportunities for law enforcement officials**), and **inter-agency cooperation and task team approach** (Schenther 2017)

		The improvement in relationships between tax payers and institutions should be based on **trust through the supply of public goods**, among others. The synergy of compliance is expected to **transform into social norms and common practices, and eventually change behaviors and perceptions.**
		Based on examples of Kenya, Tanzania, Uganda and South Africa, Ali, Fjeldstad, Sjursen (2014) concluded that tax compliance corresponds to **provision of public services**. More specifically, **tax knowledge appears to influence tax compliance attitude**, while the level of informal payments to non-state actors and government treatments of their ethnic group were found having negative impacts on tax compliance. The article confirmed that, 1) compliance is more likely if tax evasion is found **harder** and 2) the individuals are **satisfied with public services** in all four countries.
		Cyan, Koumpias & Martinez-Vazquez (2016) concluded that **current failure of tax administration and horizontal inequality from administrative weaknesses** need to be addressed to improve voluntary tax compliance using Pakistan's case. The authors cited previous studies, which evidenced **satisfaction with government and public services, trust in government institutions, government effectiveness and procedural justice influence tax morale.**
		Van del Wal, Graycar & Kelly (2016) noted that **devolution of responsibilities** create freedom in deciding how integrity policies are implement, although it may not be conducive or coherent.
	Introducing value-based approach	Webb (2012) proposes that **compliance-based approach** to be supplemented by **value-based approach to reduce public service malfeasance**, using analysis on South Africa's Department of Correctional Services. His study evidenced that compliance-based approach of **creating more regulations**

		and oversights impact public service efficiency and effectiveness, and creates additional opportunities for corruption. The value-based approach aims to create an **ethical culture within the organisation** and enhances implementation of anti-corruption policies. Such an approach includes "**communicating moral expectations with employees, visible punishing offenders, ethics training, and appraising ethics performance of employees by making it a stand-alone key performance area**" (p. 97). Van del Wal, Graycar & Kelly (2016) contrasted the compliance-based approach and the integrity or value-based approach. The former focuses on **laws, rules and regulations through supervision, control and punishment of offenders**. The associated institutional instruments include **asset declaration, screening of employees, penal code on corruption and disciplinary measures and procedures**. The latter strategy focuses on **bottom-up formulation of organisational aspirations, promotion of ethical behaviors and code of conduct, ethical behaviors and training**. Most studies identified **the combination of both approaches as** being most effective to scale up from Integrity 1.0 to 2.0 and 3.0. The more implicit, **culture-oriented approach include behaviors of peers and supervisors, creation of shared values, fair renumeration, appraisal and promotion systems,** which reward good behaviors. **The direct, more formal approach creates the structures and standards** in support of ethical conducts of employees.
	Civil service reform	Webb (2012) also reflects on human aspects. "If people are clever and sufficiently motivated by personal gain, they can always find a way to reinterpret the rules to their advantage or simply to ignore the rules with impunity. A better tool for confronting corruption could be for society to **develop**

virtuous people and elect them as public officials" (p. 97)

Cleveland, Favo, Frecka, et al. (2010) also shed light on the government officials' perspective and rationale of accepting bribe. In addition to **the level of education, civil servant's salary** is generally low in an **unstable political environment in developing countries**. The tenure could be short and uncertain. Furthermore, some consider taking bribe from a foreign company patriotic.

Michael (2012) highlights the case of Romanian attempts to develop **a code of conduct for civil servants, supported by its Code of Conduct Law.**

However, its weaknesses include using hard and soft laws such as **civil servants' ethics**, as well as its implementation. "Almost all international organisations working on issues related to public sector management and public administration have attempted to draft soft law legal instruments providing guidance on the creation of public officials' codes of conduct." (p. 290).

However, "(s)oft law instruments (such as **recommendations, advice as verbal instructions and other admonitions on civil servants** to act in a particular way deemed 'ethical' by the authors of these instruments represent parts of a country's ethics legal framework containing provisions in which inefficient consensus exists in order to establish enforcement mechanisms and **insufficient clarity** exists in order to define the exact actions prohibited or required" (p. 290).

OECD and EU took the soft law approach, proving civil servants space of discretion regarding **ethical decisions**. But civil servants have difficulties in applying the principles consistently and predictably. The UN and Council of Europe took a hard law

approach by **defining obligations and monitoring compliance.** The effective implementation would need the multi-agency adoption of ethics regulations.

Schueth (2012) looked at the example of Georgia, where the Rose Revolution of 2003 led to the reform-oriented government and tripled central government tax revenue from seven percent to 23 percent of GDP between 2004 and 2007. The international donors, such as UNDP and Open Society Foundation supported the salary payment of 11,000 civil servants in 2004, which enabled the government to focus on reforms and civil service reforms from top down. It led to the **elimination of 50,000 civil service jobs**, including interior ministry, law enforcement personnel and militia. In total 250,000 public sector employments were estimated to be eliminated. **New employment in the civil service** required strict adherence to new official procedures. **The budgetary support from international donors** alleviated the need for corruption among civil servants and **financed training of new officials**, coupled with **punishment for bribery**. Tax officials were personally held responsible for any missing revenues, thus resulting in fear, antipathy, guilt and resignation among civil servants.

By examining corruptions in universities in Ukraine, Osipian (2010) identified that **low salaries** among professors and faculty staff added incentives to corruption. "College professors, who lost the bulk of their savings to inflation in early 1990s and are now grossly underpaid, adjust their professional ethics and behavior accordingly by accepting bribes and numerous other benefits and utilizing their privileged position and control over access to higher education." (p. 106) While the budget for universities is decreasing, alternative funding mechanisms could help alleviate the problem.

| | Less organizational complexity | Camaj (2016) discussed that one of the obstacles to FOI is **the clear uniform rules and instructions** on the implementation of access to information law as well as **political instability and frequent change of government**. The factors led to **the reorganization or abolition of ministries and re-deployment of senior officials** in the case of Albania.

Mendez & Sepulveda (2013) aimed to identify optimal levels of regulations and red tapes to reduce the welfare losses corruption caused. Typically, developed countries with low corruption are characterised by **high level of regulations and low level of red tapes**, while the opposite is observed among corruption-ridden countries. Furthermore, "**stricter regulation of entry is not associated with better public goods across countries, but is associated with higher corruption**" (p. 54). Therefore, to find the right policy mix is important, as "in highly corrupt economies the correlations between corruption, regulations, and red tape need to be understood as a political economy equilibrium, where **corrupt bureaucrats seek to manipulate institutional rules to their advantage**" (p.69).

Darden (2008) demonstrates the importance of context and conditions of institutions and the fact that corrupt state may not necessarily be a dysfunctional state using the case of Ukraine. In particular, transition economies and developing countries may be placed in an institutional vacuum during **transition to democracy and institutional changes**, which might be creating additional impediments. |
| **Trust** | Trust in government | Tavits (2010) refers to empirical research on compliance, which shows that "the more individuals **trust government and their fellow citizens**, the more likely they will comply with government demands and regulations, including paying taxes, accepting court authority and complying with the military services requirement" (p.1259) |

In the same vein, Timmons and Garfias (2015) examine the case of Brazil and conclude that "new information about **corruption affects municipal property tax collection** and the structure of fiscal institutions" (p. 13) and that "property tax revenue rises with clean audit reports and falls as revealed corruption increases" (p. 13).

Webb (2012) notes "**organizational trust as a prerequisite for whistle-blowing** to be effective in public institutions" (p. 100).

Anti-corruption efforts are a function of **incentives and social norms and legitimacy**. In terms of social norms, many people in Hungary obey the rules as they believe 1) "**the law is just**", 2) the authority has **the right to dictate behaviors** and 3) obedience, driven by procedural fairness, perceived **fairness of the content of the law** and perception that **law was formulated with full authority**. Thus, **social norms and legitimacy of the sources of legal obligations** are **the basis for rule-conforming behavior**. The target should be convinced that corruption is wrong and that it's a **widespread notion and acted upon**, as people are conditional cooperator. Compliance takes place when there is **cooperation of citizens with the authorities** in reaching policy objectives. **Penalties could be in place, but they themselves are weak deterrence** as corruption may not be uncovered with **low incentives to report wrong doings**. Thus, Batory concludes that **raising awareness** among target groups, addressing **exiting social norms**, **communicating the benefits and relaying on positive incentives** (than penalties) were identified as key ingredients. In her view, **normative commitment** is an ideal type of compliance as it doesn't require state apparatus. On the other hand, if social belief does not change and political class is perceived as illegitimate, the default policy should be based on **deterrence and cost-benefit calculation**. However, as many studies indicate,

simple **prohibition and increased penalties do not necessarily ensure compliance and criminalisation of corruption ends up in limited results** (Batory 2012).

Williams and Horodnic (2015) further notice that in case codified laws and regulations, namely **formal institutions, are not aligned with informal institutions, such as values, norms and beliefs of citizens, both need to change to improve trust in government.**

In the domain of formal mechanisms, Alon and Hageman (2017) focus on enforcement with the intention of enhancing tax compliance. One of the instruments is **verification such as audits and inspections.** The success is influenced by the combination of other institutional determinants. In particular, two types of trust are essential to distinguish, 1) **dispositional trust (culturally-based) and 2) rule-based trust (including regulation).** Trust is "seen as a **necessary component to lower transaction costs and constrain opportunistic behaviors**" (p. 156) According to Alon and Hageman, effective institutional structure is shaped by **enforcement and regulation, which have complementary effects on rule-based environment** and curb discretionary power. A well-functioning rule of law may act as a **trust enhancing mechanism, which create higher dispositional trust** that is culturally based, shaped by trust-related experiences.

Ali, Fjeldstad & Sjursen (2014) also assert that political legitimacy, associated with tax compliance level in their four-country study, was found insignificant. According to their studies, the richer the countries, the higher the tax compliance levels.

Cyan, Koumpias & Martinez-Vazquez (2016) cite a study on Latin America, where tax morale and **trust**

		in government, the rule of law and pro-democracy attitudes, were identified as being associated. Citing example of forest nationalisation in Thailand, Niger, Nepal and India, Akerlof (2017) highlights the importance of **legitimacy in policies and regulations**. Although well-intended to protect forests, the nationalisation policies had contrary effects, as the residents disagreed with the policies and government policing.
	Trust heuristics	Using social learning theory, Tavits (2010) approaches corruption as a collective action problem; behavior is acquired and sustained through imitating others and positive reinforcement. According to the study, when bribery is condemned, resistance to bribery tends to increase. Thus, once **the clear definition and message are communicated** and modelled by others, supported by **trust heuristics (generalised trust in others),** it may lead to a path to corruption reduction. "Generalized trust, including trust in political institutions, increases tax compliance more significantly than fear of punishment" (p.1259) Sundstrum (2016) explained features of trust heuristics to explain the behaviors and compliance in horizontal and vertical relationships. In addition to the relationship between citizens and agents, the perception of **everyone else's compliance is critical**. The perceived corruption on the authority has a detrimental impact in the process.
Social norms	Peer influence and stigma	Using Hungary's example, Batory (2012) examines incentive and normative judgement on corrupt behaviors. Based on the theory of **"target compliance"**, Batory explores why laws, intended to change behaviors, fail. While the transitional context of Hungary created a special condition, the country has developed a legislative framework but no significant improvements have been observed when it comes to corruption.

| | | Batory segmented the channel of compliance into **compliance (outcome based on the conformity of behaviors) and implementation (process).** After identifying reasons for compliance and non-compliance, Batory also identified two factors: **1) instrumental (people act as dictated by self-interest, rewards and punishments) and 2) normative (moral judgements).**

Tavits (2010) refers to social behavior to be "acquired and sustained through imitation or modelling of others' behaviors" (p.1260) Using **social learning theory**, Travits explains how people **acquire behaviors through, 1) definition, 2) imitating behaviors and 3) positive reinforcement.**

Akerlof (2017) also refers to how legitimacy impacts **internal values of law enforcement officials** as well as **social stigma associated with crimes**. The author cites studies, which found that people are more willing to engage in corruption when others are believed to be doing the same. Akerlof uses the definition of **norms as "internalized views regarding duty and obligations"**. (P. 112) He argues that the feeling of duty triggers compliance as well as **motivations for punishments** for others non-compliance.

Cyan, Koumpias & Martinez-Vazquez (2016) cite previous studies, which indicated that perceived tax evasion and corruption have negative and statistically significant effect on tax morale in Eastern Europe.

In addition to norms, social control and rational calculation, Kotzian (2011) introduced **the role of information in compliance with norms**. The author proved that individuals will comply when others cooperate, as beliefs about the validity of norms are based on public and private information. Individuals will, therefore, be able to adjust their beliefs |

according to information. Although formal norms are sanctioned by the authorities, the fear of punishment was found to be ineffective in enhancing law-abidance. Sociologists have argued that "**compliance with norms is not a result of rational calculation, but occurs because the norm is internalized**" (p. 159) and **expectation of reciprocity**. The author argues that the role of information in the process of updating one's beliefs and cooperation is critical. The author asserts that "there are no effects of social trust on norm compliance. What makes people comply with norms is not blind trust, which is by definition the absence of knowledge and certainty, but **belief based on information that a norm is effective** and that it is hence rational to comply with it." (p. 170)

Rosid, Evans & Binh (2016) examined tax compliance in Indonesia. The study concluded that a high level of **perception of corruption** undermine tax compliance. Coined as "**echo chamber" problem**, the corruption perception among peers and individuals reinforces and create a vicious circle without evidence.

Sundstrum (2016) looked at the South African conservation efforts and concluded that resource users are more likely to defy compliance if they perceive that **inspectors are corrupt** and that the negative effect of corruption is stronger among those who didn't support the rules. This suggests that the rule compliance would be encouraged by a reduction in corruption among inspectors and rangers, who enforce the natural resource conservation regulations.

Ali, Fjeldstad & Sjursen (2014) discuss that behaviors and attitudes would be influenced by those of their reference groups. In addition to the social influence theory, **herd behaviors** are also evidenced to influence compliance, possibly through the perceived probability of detection. Those who comply

		with taxation have peers and friends who also comply, and vice versa.
	Leadership	Webb (2012) believes that leadership is one of the key **variables of ethics policy implementation** and "**management behavior as a source of moral guidance**" (p. 99). **When normative expectations contradict the management behaviors, employees perceive moral ambiguity**. Furthermore, he emphasises the importance of **congruence of supervisors and managers in not only ensuring compliance with policies but also promoting ethical culture in the organisation.** Schlenther (2017) cites an example of Botswana, which is a top performer in terms of anti-corruption, judging from the Corruption Perception Index. The success is attributed to "**the implementation of ethics and anti-corruption initiatives that are supported by the country's leaders**" or the value of **socially rooted leadership** (p.223). The leadership and political will is "supported by a dedicated anti-corruption agency that has been able to translate political talk into action" (p.223)
	Individual motivation	On the point of individual motivations, Tavits (2010) examines the citizens and government officials' perspectives to analyse corruption in a transition period of Estonia, as corruption is in essence "**the direct result of decisions, choices and behavior at the individual level**" (p. 1257). Webb (2012) reiterates that "(e)mployees that feel they are **treated poorly** will attempt to balance the scales of justice by deliberately damaging the institution" (p. 99) D'Attoma, Volintiru & Steinmo (2017) examined gender in honesty, deceptive behavior, pro-sociality and risk aversion as part of study on tax compliance in the US, UK, Sweden and Italy. The study found that **women are significantly more compliant** than men in all countries and the trend is consistent.

By examining corruption cases in the United States, De Figueiredo (2013) concluded that non-compliance levels among **the population and public officials do not always correspond**. Furthermore, the study alluded that the traditional measures of corruption per capita might be an inaccurate measurement.

Rosid, Evans & Binh (2016) examined tax compliance in Indonesia. The authors used four categories of tax payers based on their compliance behavior,

1) **the disengaged,**
2) **the resisters,**
3) **the triers and**
4) **the supporters.**

Behaviors are characterised by
1) deliberate or intentional compliant,
2) accidental or unintentional non-compliance,
3) accidental or unintentional compliant and
4) deliberate or intentional non-compliant.

Perception is linked to a belief, which is defined as "subjective probabilities" (p. 397) According to the article, "**behavioural beliefs represent the subjective probabilities, in which** conducting certain behaviour produces a particular outcome. Second, normative beliefs consist of injunctive and descriptive normative beliefs. Injunctive normative beliefs are concerned with the subjective probabilities that certain group of referents encourage or discourage performance of a given behaviour. Descriptive normative beliefs refer to subjective probabilities that important referents are doing or not doing the behaviour. Third, the subjective probabilities that certain factors can support or prevent the performance of a behaviour are elements of control beliefs. Once beliefs associated with a certain behaviour have been developed, these beliefs then provide **the**

		basis for the attitudes, subjective norms, and perceived control, which in turn lead to the formation of intention and a given behaviour (Fishbein & Ajzen, 2010)" (p. 397). The study found that the perception of petty corruption didn't have significant impact but **the perception on grand corruption did.**
		Williams & Krasniqi (2017) analysed tax compliance and tax morale among Eurasian countries and found that tax morale is high among **the middle-aged, the married, homeowners with children, those with university degree and employed. Other factors favourable** included countries with **less corruption and strong legal systems, as well as high state interventions, taxation and expenditures**. The assumption of this study was that tax morale can't be fully explained by a rational economic actor model, as **many comply despite the unfavorable economic calculations**. The social actor model emerged to explain such a situation as "**civil duty**".
	Orgnizational culture	In a study on cartel enforcement, Sokol (2014) focuses on the need to entice behavioral changes among employees and embed the anti-trust culture in the organisation as **most detection incidents come from employees.** Webb (2012) believes that culture is one of the key variables of ethics policy implementation. He states that "**organisational culture is a shared understanding by employees of how they do things within the institution**" (p. 97). Webb asserts that "policy – once adopted- is **subjected to a range of institutional influences, including values, relationships, power structures and standard operating procedures**" (p.97).
		Schlenther (2017) also considers culture as an important element. In the context of tax administration in Africa, revenue authorities would be required to **build integrity, ethics and anti-corruption into corporate culture**. Schlenther examines the case of Mozambique, which in addition to laws

			and supportive legal framework to prosecute and sanction officials, aimed to change culturally entrenched attitudes. In the case of Ukraine, Osipian (2010) asserted that when a strong institution is corrupt, **government officials, especially at lower levels, are placed in a vulnerable position with systematic blackmailing, kompromat, selective applications of criminal law and other measures** and widespread grafts etc. **creating self-sustaining corrupt regimes**. Thus, such a **corrupt system is difficult to change from within**.
	Training and education		In tax compliance, **tax education and integrity efforts** are found effective in influencing compliance behavior and reducing incidents (Schlenther 2017). Cleveland, Favo, Frecka, et al. (2010) also echoed the importance of education and training in reducing bribery, **accompanied by robust ethics and compliance programme**. Tjen and Evans (2017) studied the Gayus case in Indonesia, and found that **taxpayer outreach and education** was one of the key prospects for anti-corruption strategies. Examining the case of Pakistan's tax morale, Cyan, Koumpias & Martinez-Vazquez (2016) concluded that **educated respondents were more tax compliant** than the illiterate group and that those with very low or high degrees had higher tax moral than those with bachelor's degree. The tax moral was highest among the most industrialised parts of the country. **Women** tend to have higher tax moral, which then declines with age. The findings help target more **cost-effective interventions, according the characteristics of the group, with target communication strategies** to improve tax moral in Pakistan.

		Van del Wal, Graycar & Kelly (2016) mentioned that the Australian government provides **public information and training on corruption or fraud**, but no agency reported on a mechanism to assess the effectiveness of these efforts. **Education for the public was cited as expensive but would bring significant benefits.**
International instruments	Role of foreign entities	Schlenther (2017) also notes that foreign company investments and requirements by **foreign government laws** "may motivate developing host countries to improve domestic administrative practices and laws **to avoid future disputes and for countries to better deal with negative externalities caused by foreign involvement**" (p.232). Dietrich (2011) analysed strategic compliance in developing countries, which comply with **donor requirements** in some selected sectors, **where compliance is cheap**, such as health. Using the case of Bangladesh, where corruption scores are high, the author argues that the recipient country has the incentive to cooperate in strategic sectors of donor priority, such as public health and demonstrate sector aid **success and international legitimacy**. The authors concluded that in the case of Australia, corruption was not on the radar of the responding agencies, as there was **considerable level of awareness of fraud and misconduct**.
	International conventions and foreign laws and legislations	Another avenue to pressure transparency is **the international instrument**, such as the United Nations Convention against Corruption, which requires the signatory to publish information and undertake internal reforms, and OECD Convention. The US Foreign Account Tax Compliance Act (FACTA) and UK Bribery Act of 2010 have impacts outside their own jurisdictions when multinational corporations are involved, which "**put any real pressure on nations to institute internal reforms**" (p.232) (Schlenther 2017).

Jiang (2017) noted that China's anti-corruption focus was more domestic. However, increasingly, extraterritorial jurisdiction of Foreign Corrupt Practices Act (FCPA) and UK anti-bribery law affects the conduct of Chinese businesses along with China's global economic and political involvement. That way, China has to **make its own contributions to the anti-bribery efforts**.

Cleveland, Favo, Frecka, et al. (2010) classify hard and soft law mechanisms; the former includes **country specific laws**, such as the Foreign Corrupt Practices Act (FCPA) of the Unites States, while the latter includes the UN Global Compact, OECD Convention and work of NGOs, which have variable impact across the globe. The FCPA requires companies to maintain records and accounts, including a system of internal accounting controls. Any circumvention and failure in doing so would amount to criminal liability with cross-border impact. The OECD Convention requires the signatory countries **to make bribery illegal**. The UN Global Compact and UN Convention against Corruption require **the establishment of anti-corruption bodies, code of conducts, promotion of good governance, rule of law, transparency, accountability as well as criminalisation of acts of corruption. The intent is** "to exert their influence to have cross-border anti-bribery legislation enacted in countries where it is lacking" (p.222). Furthermore, increasing international cooperation, as seen in the Siemens settlement and Kellog, Brown and Root cases, gradually **increases exposure of national law enforcement to global compliance frameworks**. In addition, **NGOs**, such as Transparency International and World Economic Forum, have been effective in **monitoring and reporting cases and whistleblowing**, which has significantly increased the potential to get caught. The authors wrote that "(t)his change in practice is a strong indicator that anti-corruption is now a global issue" (p. 215) and

international law enforcement agencies readily communicate and cooperate with each other.

Gilbert and Sharman (2016) analysed British and Australian corruption scandals and concluded that even democratic governments opt for **electoral incentives** over compliance with OECD convention. **Media exposure** was identified as another incentive to opt for damage control instead of genuine investigations for transparency and accountability. A conventional constructivist and rationalist approach is that compliance with OCED convention takes place when a large sum of foreign bribery is involved with long-time, repeated malfeasance and strong evidence in a country with low domestic corruption, but strong press and civil society.

The examination of the three cases prompted the authors to conclude that non-compliance is observed in a country with supportive factors, it is assumed prevalent in countries with weaker institutions and OECD convention might be less effective than previously thought. A government may wish to genuinely comply but can't (inability) or deliberately chooses not to comply (unwillingness); although the result is the same, the mechanics and context are largely different. The authors assert that **the international conventions are not necessarily making states law-abiding, but law-abiding countries subscribe to international conventions**; thus, **endogeneity and selection effects** as great issues in compliance research and building genuine compliance. The scholars emphasised the merit of international conventions by **changing the climate of public opinions and making corruption less acceptable**. Rationalists on the other hand explains the power of the US government within the framework of utility-maximising rational actors. **The convention monitoring procedures of peer assessment** prompt peer pressure, **shaming and reputational concerns**, while making sure that their **foreign**

			economic interests are not underlined by non-compliant countries in the case of the US government.
			Ozarslan (2016) noted that "Turkey implemented some structural changes to address this issue between 2003 and 2005 in accordance with the EU harmonisation process, such as signing the UNCAC and OECD Conventions, establishing the Council of Ethics for public officials, and enacting the Right to Access Information Act. As a result, **Turkey's perception was positively affected in that period**, but subsequent compliance with these internationally binding agreements was poor." (p. 112)
			Popescu, Onofrei & Kelley (2016) analysed the EU efforts to reduce corruption in public procurement through legal rules to enhance compliance with procurement standards and prosecution of offenders. "Since 1995, many countries have used United Nations Commission for International Trade Law (UNCITRAL) Model Law on Procurement of Goods, Constructions and Services as a guide for developing their national public procurement systems. Coupled with the UN Convention against Corruption, the UNCITRAL model law has been an important instrument for harmonising and strengthening national procurement systems worldwide and curbing public procurement corruption" (p. 82).
			However, FCPA is not without criticism. Weismann, Buscaglia & Peterson (2014) examined the effectiveness of FCPA and concluded that it was not federal government enforced **to deter foreign bribery** by US companies despite the 2006 initiatives of the Department of Justice to increase persecutions and enforcement. The reasons were found to be informal dispositions of case prosecutions and **failure to close regulatory gaps** as **the coverage is narrow.**
	International standards		Papyrakis, Rieger and Gilberthorpe (2017) emphasise the importance of international standards and

framework. **The Extractive Industries Transparency Initiative (EITI) membership** "offers, on a whole, a shielding mechanism against the general tendency of mineral-rich countries to experience increases in corruption over time" (p. 295). The study shows that "countries that reach the third stage of the EITI implementation, and are hence declared compliant, experience further improvements in reducing corruption" (p. 300) as "countries need to **intensify effort and take series of measures as a prerequisite for full compliance**" (p., 305).

Sovacool et al. (2016) analysed the effectiveness of the EITI, which aims to increase revenue transparency through promotion of voluntary standards among extracting companies and countries. Despite global recognition, the EITI countries were found not performing better than their status before compliance or better than other countries against the EITI metrics. The authors agree that "**the right to information is not accountability in itself but is instrumental to it, and transparency does not automatically produce accountability but is a necessary but insufficient condition for it**." (p. 180)

Furthermore, transparency depends on **the publicity condition**, such as **people's capacity to understand and use information, and accountability condition, such as enforcement and deterrence of non-compliance.** It was found that this did not always **promote better decision making, reduce corruption and improve effectiveness**. As a global norm in international law, "(t)his ''**opening up of the books**'' can build trust between stakeholders, **hold governments more accountable** for billions of dollars of revenue, improve corporate image and **the national investment climate, and empower communities**—all leading to ''greater political and social stability.'' (p. 186) In reality, however, **the public is not actively involved in EITI due to illiteracy, livelihood concerns, lack of interest and**

cultural and political factors. **Civil society should also be effective, but in many countries, they are disorganised or non-existent to convert information into accountability**.

Vadlamannati, Cooray & Brazys (2018) examine the commitments to compliance with the IMF Special Data Dissemination Standards (SDDS) and concludes that **compliance happens when the costs to state is low and there is material reward or punishment domestically and internationally with normative and ideational logic.** Furthermore, "**countries which were already more transparent, typically rich and democratic, were more likely to join the SDDS** as they faced lower material costs and reaped larger material and normative benefits compared to less transparent states" (p.70). **The compliance is also seen by investors as a commitment by the government to macroeconomic health, among others.**

Camaj (2016) added that the FOI initiatives were developed by Southeastern European countries as part of the integration with the EU and Council of Europe. Because of the external pressure, the author argues that **there were delays, without political leadership, orientations towards transparency and no pressure from CSOs and the media.**

Garcia-Tabuyo, Saez-Marin, Caba-Perez (2015) focused on **technologies such as the Internet as a means of information dissemination without prior requests**. The Organization of American States (OAS) developed **a Model Inter-American Law to assist the drafting of national laws to encourage proactive disclosure using ICT. Such access to information would help combat corruption among public servants.**

Interview Protocol for ICT Officers

Purpose of study – The information obtained in this interview will be used to conduct a research study for the UNU/Maastricht Graduate School of Governance.

Topic –determinants of compliance among government employee users in e-governance implementation

Duration of interview – 45 - 60 minutes.

Procedure – Interview will take place face-to-face either in person or via a videoconference call (Skype; Google Hangout).

Confidentiality - Respondent will be asked to sign a consent form/confidentiality statement, informing them that the information shared will be confidential, only to be used for the purpose of research and his/her name will not be used. In case of online interviews, the interviewer will ask participants to confirm consent on tape, if recorded, and send them the form electronically to be signed and scanned.

Place to hold the interview – Interviews could take place inside any government offices, café, home or hotels; responses should be based on individual's opinions.

Recording interview – Respondent will be asked if he/she agrees with the conversation being recorded. The interviewer will also be taking notes, but since it is not possible to write everything, allowing her to record will ensure that she obtains all the information provided.

Right to stop interview/avoid a subject – Respondent will be told that he/she retains the right to not speak about any topic that he/she does not feel comfortable; interview can end at any point.

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Clarification – Respondent will be asked before starting the interview if there any questions regarding what the interviewer explained.

Agreement to participate – Respondent will be asked to confirm that he/she is willing to participate in this interview.

<u>**Interview Guide**</u>

<u>**ICT Officers**</u>

E-governance initiative

1. Your agency is using the online Asset Declaration System and e-PEMS. What is your role in supporting the use of these two systems? Do you provide technical support?

2. Were you involved in the designing, testing and/or implementation of the systems?

3. In your opinion, are the systems performing the way they are intended and delivering the expected outcomes?
     a. If no, why do you think so?
     b. If yes, why does he think so?

4. What are the concrete benefits you perceive by using the ADS and e-PEMS?
     a. What are the feedback you receive from users?
     b. What do you think about the visibility and traceability both systems provide?

5. What kind of issues have you and your ministry/agency colleagues encountered so far?
     a. Do you work with finance officers/accountants and ADA?
     b. How were they resolved?
     c. Have you discussed the issues with other ICT officers in other ministries and DITT?

6. How do you receive functional changes and update, since the system was implemented? Do you follow user manuals?

7. How do you assess the level of compliance among your agency's users?
    a. Were there any work arounds which require offline parallel steps and procedures?
    b. If the compliance is high, why do you think is the case?
    c. If it is low, why do you think is the case?

8. Do you think that the fact that the system was developed with government budget and human resources or with external funding and consultant makes a difference in terms of confidence and trust?
    a. If yes, why so?
    b. If no, why so?

9. Do you think the systems make it difficult to commit abuse and fraud and personally and illicitly gain from the positions and functions of government officials?
    a. If yes, why do you think so?
    b. If no, why do you think so?

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Dispositional compliance

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10. Do you think relevant training, advocacy and sensitization would be effective in ensuring compliance among government employee users?
    a. If yes, in what way do you think it was helpful?
    b. If not, why not?

11. What is the feedback from the head of the agency? Are there encouragements, or they consider them as administrative tools?

12. Do you think media coverage and social media affect how government officials think and behave in using the systems?
    a. If yes, what kind of media coverage and social media would be influential?
    b. Why do you think they are influential?
    c. If not, why do you think media coverage and social media do not affect government officials?

13. Which factor do you think is most important to ensure government officials' compliance with the systems?

14. Do you have any other comments?

Thank the respondent for his/her time.

Interview Protocol for HR Offices (ADA)

Purpose of study – The information obtained in this interview will be used to conduct a research study for the UNU/Maastricht Graduate School of Governance.

Topic –determinants of compliance among government employee users in e-governance implementation

Duration of interview – 45 - 60 minutes.

Procedure – Interview will take place face-to-face either in person or via a videoconference call (Skype; Google Hangout).

Confidentiality - Respondent will be asked to sign a consent form/confidentiality statement, informing them that the information shared will be confidential, only to be used for the purpose of research and his/her name will not be used. In case of online interviews, the interviewer will ask participants to confirm consent on tape, if recorded, and send them the form electronically to be signed and scanned.

Place to hold the interview – Interviews could take place inside any government offices, café, home or hotels; responses should be based on individual's opinions.

Recording interview – Respondent will be asked if he/she agrees with the conversation being recorded. The interviewer will also be taking notes, but since it is not possible to write everything, allowing her to record will ensure that she obtains all the information provided.

Right to stop interview/avoid a subject – Respondent will be told that he/she retains the right to not speak about any topic that he/she does not feel comfortable; interview can end at any point.

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Clarification – Respondent will be asked before starting the interview if there any questions regarding what the interviewer explained.

Agreement to participate – Respondent will be asked to confirm that he/she is willing to participate in this interview.

Interview Guide

ADA/HR Officers

E-governance initiative

15. Your agency is using the online Asset Declaration System. As ADA, what do you do? How many ADS and declarants are there in the ministry/agency?

16. In your opinion, is the system performing the way they are intended and delivering the expected outcomes?
    a. If no, why do you think so?
    b. If yes, why does he think so?

17. What are the concrete benefits you perceive by using the ADS?
    a. What are the feedback you receive from declarants?
    b. What do you think about the visibility and traceability ADS provides?

18. What kind of issues have you and your ministry/agency colleagues encountered so far?

a. How did you communicate them to the ACC?
b. How did you communicate them to the Ministry/agency management?
c. Did you work with IT Officer?
d. How were they resolved?
e. Have you discussed the issues with other ADAs in other ministries?

19. How do you receive functional changes and update, since the system was implemented? Do you follow user manuals?

20. How do you assess the level of compliance among your agency's declarants?
    a. Were there any work arounds which require offline parallel steps and procedures?
    b. If the compliance is high, why do you think is the case?
    c. Would fines be an effective deterrent to non-compliance?

21. Were there any repeaters of late and non-declarants?
    a. Did they all pay fines or they were waivered?
    b. Does it affect their and your performance ranting?
    c. How does the head of the agency react to late or non-declarants?

22. Do you think that the fact that the system was developed within the government with government budget and human resources increased the confidence and trust in the system?
    a. If yes, why so?
    b. If no, why so?
    c. What if the system was developed by external consultants?

23. Do you think the ADS makes it difficult to commit abuse and fraud and personally and illicitly gain from the positions and functions of government officials?
    a. If yes, why do you think so?
    b. If no, why do you think so?
    c. In a hypothetical scenario, if you observed undeclared assets or conflict of interest, whom do you report to? Ministry/Agency or ACC?

Dispositional compliance

24. Do you think relevant training, advocacy and sensitization would be effective in ensuring compliance among government employee users of ADS?
    a. If yes, can you describe the details of examples of the training?
    b. In what way do you think it was helpful?
    c. If not, why not?

25. What is the feedback from the head of the agency? Are there encouragements, or they consider ADS as an administrative tool?

26. Why do you think some ADAs are proactive and following up with declarants, while the others are not?

27. Do you think media coverage and social media affect how government officials think and behave in using ADS?
    a. If yes, what kind of media coverage and social media would be influential?
    b. Why do you think they are influential?
    c. If not, why do you think media coverage and social media do not affect government officials?

Factors affecting their compliance behavior

28. Which factor do you think is most important to ensure government officials' compliance with the ADS?

29. Do you have any other comments?

Thank the respondent for his/her time.

Interview Protocol for Finance Officers

Purpose of study – The information obtained in this interview will be used to conduct a research study for the UNU/Maastricht Graduate School of Governance.

Topic –determinants of compliance among government employee users in e-governance implementation

Duration of interview – 45 - 60 minutes.

Procedure – Interview will take place face-to-face either in person or via a videoconference call (Skype; Google Hangout).

Confidentiality - Respondent will be asked to sign a consent form/confidentiality statement, informing them that the information shared will be confidential, only to be used for the purpose of research and his/her name will not be used. In case of online interviews, the interviewer will ask participants to confirm consent on tape, if recorded, and send them the form electronically to be signed and scanned.

Place to hold the interview – Interviews could take place inside any government offices, café, home or hotels; responses should be based on individual's opinions.

Recording interview – Respondent will be asked if he/she agrees with the conversation being recorded. The interviewer will also be taking notes, but since it is not possible to write everything, allowing her to record will ensure that she obtains all the information provided.

Right to stop interview/avoid a subject – Respondent will be told that he/she retains the right to not speak about any topic that he/she does not feel comfortable; interview can end at any point.

Interviewer's information:

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Clarification – Respondent will be asked before starting the interview if there any questions regarding what the interviewer explained.

Agreement to participate – Respondent will be asked to confirm that he/she is willing to participate in this interview.

Interview Guide

Finance Officers

E-governance initiative

30. Your agency is using e-PEMS. Can you describe your role in the planning, testing, consultation and implementation of the system prior to the launching?

31. What do you do with the system? How many e-PEMS users are there in the ministry/agency?

32. In your opinion, is the system performing the way they are intended and delivering the expected outcomes?
    a. If no, why do you think so?
    b. If yes, why does he think so?

33. What are the concrete benefits you perceive by using the e-PEMS (compared with before)?
    a. Were the Ministry/agency employees enthusiastic to embrace the changes and use e-PEMS?
    b. What are the feedback you receive from other employees?
    c. What do you think about the visibility and traceability e-PEMS provides?

34. What kind of issues have you and your ministry colleagues encountered so far?
    a. How did you communicate them to the MoF?
    b. How did you communicate them to the Ministry/agency management?
    c. Did you work with IT Officer?
    d. How were they resolved?
    e. Have you discussed the issues with other finance officers in other ministries?

35. How do you receive functional changes and update, since the system was implemented? Do you follow user manuals?

36. How do you assess the level of compliance with the user manuals and MoF instructions among your agency's e-PEMS users who are processing the payments?
    a. What are the concrete examples?
    b. Were there any work arounds which require offline parallel steps and procedures?
    c. If the compliance is high, why do you think is the case?

37. How does your agency implement the maker checker concept and internal control?

38. Do you think that the fact that an external consultant was onboard in the system development increased confidence and trust in the system?

    a. If yes, why so?
    b. If no, why so?
    c. What if the system was developed purely within Bhutan with government funds and government officers?

39. Do you think e-PEMS makes it difficult to commit abuse and fraud (i.e. payment instructions to a personal account, travel claim without travel)?

    a. If yes, why do you think so?
    b. If no, why do you think so?
    c. In a hypothetical scenario, if there was an alleged abuse or fraud, whom do you report to? Ministry/Agency or MoF?

Dispositional compliance

40. Do you think relevant training would be effective in ensuring compliance among government employee users of e-PEMS?
    a. If yes, can you describe the details of examples of the training?
    b. In what way do you think it was helpful?
    c. If not, why not?

41. What is the feedback from the head of the agency? Are there encouragements, or they consider e-PEMS as an administrative tool?

42. Do you think media coverage and social media affect how government officials think and behave in using e-PEMS?

    a.   If yes, what kind of media coverage and social media would be influential?

    b.   Why do you think they are influential?

    c.   If not, why do you think media coverage and social media do not affect government officials?

Factors affecting their compliance behavior

43. Which factor do you think is most important to ensure government officials' compliance with the e-PEMS?

44. Do you have any other comments?

Thank the respondent for his/her time.

- Remove "uh", "mm" and other transition sounds from the transcript unless they may mean pronounced hesitation or other indication of emotions, doubt or uncertainty.
- Correct obvious grammatical errors so far as the correction would not divert the nuances and emphasis expressed by the interviewees.
- Remove the repeat words wherever possible.
- Add note such as pause, laughter, interruptions as well as end note to capture the impression and unrecorded peculiar features after the interviews.
- Wherever appropriate, separate a sentence and add a comma to make sure that the meaning of the sentence is conveyed as accurately as possible.
- Complete a sentence wherever possible.
- Missing words were added in parenthesis.
- Incorrect use of words were also corrected in parenthesis.
- Some sentences were shortened in the quote used in this present research to enhanced the readability.

ANNEX 6: CODE BOOK

This codebook details the definitions of both ADS and *e*-PEMS compliance drivers. The code was named based on inductive coding and definitions derived from the interviews. The list is also accompanied by what is excluded from the compliance drivers.

Code	Definition	Exclude
Credibility and trust in the organization/ ADS	This code captures respect, fear, support, trust and belief the government employee users hold towards the ACC as a constitutional and rule-based body. People believe that ACC is doing a good job and therefore need to comply with the ADS requirements.	Budget, the ADS system requirements, staff commitment, organizational structure, leadership
Organizational setup/ ADS	This code represents the actions and measures implemented by the ADS user organizations to facilitate the ADA's work and submission of declarations among government employee users. These are extra measures being designed and implemented by the user organizations, such as appointment of additional ADAs, organizing annual conferences and allocating resources.	Training, awareness raising and sensitization, leadership, personal commitments of ADAs
Peer support/ADS	This code includes informal peer support and its mechanisms established among ADAs to facilitate the work of ADAs and compliance among government employee users. Such peer support was instrumental in sharing information, rules and regulations and what is expected of ADAs in the agencies.	Social media and media in providing public information, more individualized personal commitment, organizational setups, training, sensitization and awareness raising.

Personal commitment/ ADS	This code captures personal commitment of various government officials as a compliance driver. It was demonstrated in positive and negative cases where the former leads to high compliance and the latter leads to low. compliance. It includes their proactiveness and sending reminders, following up with declarants and making sure that the declarations are of good quality, beyond the call of duty.	Formal responsibility and function as ADAs, peer support, organizational setup, training, sensitization and awareness raising.
Training and awareness/ ADS	This code aims to capture training, advocacy, awareness raising and sensitization sessions conducted by ACC targeted at ADAs and end users for the ultimate objective of ensuring compliance among the government employee users. It also includes official messages from ACC to ADAs and from ACC to end users via mass media. Some proactive agencies also requested the ACC for additional training and support.	Informal peer support, personal commitment, organizational setups, including annual conferences and regular meetings on asset declarations within the user organizations.
The role of His Majesty the King	This codes include the words, resolve and commitment of His Majesty the King towards digitization and anti-corruption efforts which have an overarching impact on the government employee users.	Leadership in the government which include elected officials as well as other high-level officials in the government
Leadership/ADS	The code captures the leadership within the government which facilitates the work of ADAs and creates an enabling and supportive environment for declarants. It takes the form of verbal encouragement, taking responsibilities and demonstrating commitment to anti-corruption in their actions.	His Majesty the King
Technology-enabled ease of use/ ADS	This code captures the technology-enabled ease of use of the ADS, simple design, import function of previous records, familiarity with the system among the users, automated password generation and	Technical support and responsiveness of the ACC team to the user requests

	notification, which drives compliance among the users.	
Technical support and responsive-ness of the ACC Team/ ADS	This code summarizes the compliance driver which is associated with the tech-nical support and responsiveness of the ACC's ICT and functional team. This also includes the responsiveness which leads to system update and upgrades and fixing system bugs.	System design, de-velopment, auto-mation.
Monitor-ing, verifi-cation and follow-up/ ADS	This code categorizes the elements of compliance driver which are associated with the ACC's work in monitoring, veri-fying and following up on the submitted declarations. It also includes the ACC's work in the ADS to monitor illicit enrich-ment of assets and follow up calls with the concerned declarants to check the rea-son for sudden increase in assets in decla-rations.	Fear for punish-ment
Naming and sham-ing/ ADS	The code captures the fact that non and late declarants may be named on the web-site and media and their negative expo-sure would deter non-and late declaration and thus, encourage compliance. Famous politicians and high-level government of-ficials are particularly sensitive to being named.	Formal proceeding of being implicated in fraud and irregu-larities such as in-vestigation, prose-cution and punitive measures, the role of media and social media, fear for punishment.
The role of media and social me-dia/ ADS	This code covers the specific role of media and social media as compliance driver, in-cluding investigative reporting of corrup-tion cases and providing a platform to whistleblowers to share materials on alle-gations and wrong doings, which often lead to ACC investigation later on.	Naming and sham-ing, fear for punish-ment, peer support

Fear for punishment/ ADS	This code captures various types of fear the ADS users have in case of non-and late declaration. Including fear for penalty, fine and prosecution.	Naming and shaming
The role of His Majesty the King/ e-PEMS	The code summarizes the reverence people hold towards His Majesty the Kind, his words, resolve and commitment to anti-corruption. It was evidenced to have an overarching effect on the government employee users to comply.	Leadership in the government
Leadership/ e-PEMS	This code captures the leadership-related compliance driver in the implementation of e-PEMS. It includes trust the users have in leadership. The government employee users decided to comply, as the leadership advocated for the use and benefits of e-PEMS.	Efficiency gains, training and awareness raising, actual technological design.
Efficiency gains/ e-PEMS	This code collects elements related to efficiency gains brought about by the e-PEMS. It includes elimination of complex financial operations and manual checks, instant online payment, cost cutting, improved service delivery to citizens and vendors, reduced workload.	Automation, technology-induced ease of use, familiarity with the existing system
Familiarity with the existing system/ e-PEMS	This code describes the elements related to familiarity government employee users feel in using the e-PEMS as a compliance driver. The e-PEMS was built on the previous PEMS, and the majority of steps and functions are similar.	Technology-enabled ease of use, automation and efficiency gains
Technology and automation/ e-PEMS	This code describes features of e-PEMS related to technology and automation which drive compliance among government employee users. It includes the automation of bank statement reconciliation and utility payment.	Efficiency gains, technology-enabled ease of use
Transparency, visibility and traceability/ e-PEMS	This code identifies elements of transparency, visibility and traceability that compel users to comply with e-PEMS. The elements include the system functions which captures who create, verify and approves	Efficiency gains, technology-enabled ease of use, automation

	vouchers as well as keeps track of government employee and payments so as to avoid duplicate records and double payments.	
Centralized master data management and monitoring/ *e-*PEMS	This code aims to summarize the elements of compliance driver emanating from centralized master data management and the role of DPA to centrally monitor it. In the previous decentralized model, payees could be manipulated by agencies. In the current system, the entry of payees and employee data is centrally managed and monitored.	Efficiency gains, automation, technology-enabled ease of use.
e-PEMS IT support/ *e-*PEMS	This code identifies the compliance driver of *e-*PEMS IT support without which users would be discouraged and find workarounds. The IT support team responded to user request to fix system bugs and introduce solution improvements.	Automation, technology-enabled ease of use, transparency, visibility and traceability
Peer support and parenting arrangement/ *e-*PEMS	This code collects elements related to *e-*PEMS peer support among finance officers and accountants as well as parenting arrangement implemented by MoF. The peer support included the creation of informal WeChat group based on commitment to their professional groups, tradition, and culture. It was supported by parenting arrangement of transfer, promotion and various study opportunities, managed by MoF.	Personal commitment
Personal commitment/ *e-*PEMS	This code captures the personal commitment expressed by e-PEMS users as a compliance driver. It includes commitment to do jobs well, remaining true to the mandate of finance officers and accountants, following rules and regulations despite disagreements in working agencies. It also appeared in their personal commitment to resolve technical issues	Peer support and parenting arrangement.

	and ensure smooth functions of the system.	
Fear for punishment/ *e*-PEMS	This code collects the elements associated with fear for punishment in case of non-compliance. It includes fear for being caught for their misuse or non-compliance in audits, audit clearance not obtained, which affects various opportunities, such as transfer, promotion and studying abroad, recovery of misused funds, criminal charges and disciplinary actions.	Naming and shaming
Naming and shaming/ *e*-PEMS	This code summarises the factors associated with naming and shaming as e-PEMS compliance driver. It includes being implicated in a misuse, misappropriation and non-compliance in media and social media. The impact of naming and shaming also extends to the fact that the parent agency of MoF getting to know the problem and names of the implicated finance officers and accountants.	Fear for punishment

ANNEX 7 THE NAMES OF THE AGENCIES COVERED BY ACC AD SYSTEM

No	Parent Agency	Agencies
1	**Armed Force**	Royal Bhutan Army
2		Royal Bhutan Police
3		Royal Body Guard
4	**Autono-mous Agencies**	4th King Secretariat
5		Alternative Dispute Resolution Centre
6		Agency for Promotion of Indigenous Craft
7		Bar Council
8		Bhutan Chamber for Commerce and Industry
9		Bhutan Council for School Examination and Assessment
10		Bhutan Electricity Authority
11		Bhutan Health Trust Fund
12		Bhutan Info-comm and Media Authority
13		Bhutan Medical and Health Council
14		Bhutan Narcotic Control Agency
15		Bhutan National Legal Institute
16		Bhutan Olympic Committee
17		Bhutan Standard Bureau
18		Cabinet Secretariat

19		Centre for Bhutan Studies
20		Construction Development Board
21		Dratshang Lhentshog
22		Drug Regulatory Authority
23		Druk Holding and Investments
24		Dzongkha Development Commission
25		Gross National Happiness Commission
26		His Majesty's Secretariat
27		Jigme Singye School of Law
28		Khesar Gyalpo University of Bhutan
29		National Assembly Secretariat
30		National Centre for Hydrology and Meteorology
31		National Commission for Women and Children
32		National Council Secretariat
33		National Environment Commission
34		National Land Commission Secretariat
35		National Pension and Provident Fund
36		National Statistical Bureau
37		Office of the Attorney General
38		Privy Council of Bhutan
39		Royal Education Council
40		Royal Institute of Management
41		Royal Securities Exchange of Bhutan Limited

42		Royal University of Bhutan
43		Tourism Council of Bhutan
44	**Constitutional office**	Anti-Corruption Commission
45		Election Commission of Bhutan
46		Royal Audit Authority
47		Royal Civil Service Commission
48		Supreme Court
49		High Court
50	**Corporations**	Army Welfare Project
51		Basochhu Hydropower Plant
52		Bhutan Agro Industry Ltd.
53		Bhutan Board Product Ltd.
54		Bhutan Automation and Engineering Ltd.
55		Bhutan Broadcasting Service Ltd.
56		Bhutan Carbide Chemical Ltd.
57		Bhutan Duty Free Ltd.
58		Bhutan Ferro Alloys Ltd.
59		Bhutan Hydropower Service Ltd.
60		Bhutan Livestock Development Corporation Ltd.
61		Bhutan Polymers and Company Ltd.
62		Bhutan Postal Corporation Ltd.
63		Bhutan Power Corporation Ltd.
64		Bhutan Telecom Ltd.

65		Bhutan Times Ltd.
66		Bhutan Tourism Corporation Ltd.
67		Construction Development Corporation Ltd
68		Chhukha Hydro Power Energy Ltd.
69		Dagachhu Hydro Power Corporation
70		Druk Air Corporation Ltd.
71		Druk Ferro Alloys Ltd.
72		Druk Green Power Corp. Ltd.
73		Druk Horticulture Pvt Ltd
74		Druk Plaster and Chemical Ltd.
75		Druk Satair Corporation Ltd.
76		Druk Wang Alloys
77		Dungsam Cement Corporation Ltd
78		Dungsam Polymers Ltd.
79		Farm Machinery Corporation Ltd.
80		Financial Institution Training Institute Ltd.
81		Food Corporation of Bhutan Ltd.
82		Green Bhutan Corporation Ltd.
83		Jigmi Mining Corporation Ltd.
84		Kholongchhu Hydro Energy Ltd.
85		Koufuku international Ltd.
86		Kuensel Corporation Ltd.
87		Kurichhu Hydropower Plant

88		Mangdechhu Hydroelectric Project Authority
89		Menjong Sorig Pharmaceuticals Corp Ltd.
90		National Housing Development Corporation Ltd.
91		Natural Resources Development Corporation Ltd.
92		Penden Cement Authority Ltd.
93		PHPA I
94		PHPA II
95		Royal Bhutan Helicopter Services Ltd. Old Hangar, Paro International Airport
96		Royal Bhutan Lottery Ltd.
97		Rural Enterprise Development Corporation Ltd.
98		S.D. Eastern Bhutan Coal Company Ltd.
99		State Mining Corporation Ltd.
100		State Trading Corporation of Bhutan Ltd.
101		Tala Hydro Power Corporation
102		Tangsibji Hydro Energy Ltd.
103		Wood Craft Centre Ltd.
104		Thimphu TechPark Ltd
105		Ability Bhutan Society
106		Association of Bhutan Tour Operators
107	**CSO/NGOs**	Association of Bhutanese Industries
108		Bhutan Association of Women Entrepreneur
109		Bhutan Cancer Society
110		Bhutan Centre for Media & Democracy

111		Bhutan Ecological Society
112		Bhutan Film Association
113		Bhutan Kidney Foundation
114		Bhutan Network for Empowering Women
115		Bhutan Transparency Initiative
116		Bhutan Trust Fund for Environment Conservation
117		Bhutan Youth Development Fund
118		Construction Association of Bhutan (CAB)
119		Chithuen Phendhey Association
120		Disabled Person Association of Bhutan
121		Draktsho Vocational Centre for Special Children & Youth
122		GNH Centre Bhutan
123		Guide Association of Bhutan
124		Gyalyum Charitable Trust
125		Handicraft Association of Bhutan
126		Journalists Association of Bhutan
127		LHAK-SAM
128		Menjong Foundation
129		Music of Bhutan Research Centre
130		Phuntsholing Sports Association
131		RENEW
132		Royal Society for Senior Citizens
133		Royal Textile Academy

134		RSPN
135		SABAH-Bhutan
136		Tarayana Foundation
137		The Lhomon Society/SJ initiatives
138		Loden Foundation
139		VAST Bhutan
140	**Dzongkhag Court**	Bumthang
141		Chukha Court
142		Dagana Court
143		Gasa Court
144		Haa Court
145		Lhuntse Court
146		Mongar Court
147		Paro Court
148		Pema Gatshel Court
149		Punakha Court
150		Samdrupjongkhar Court
151		Samtse Court
152		Sarpang Court
153		Trongsa Court
154		Trashigang Court
155		Trashi Yangtse Court
156		Tsirang Court

157		Thimphu Court
158		Wangdue Court
159		Zhemgang Court
160		Gelephu Dungkhag Court
161		Phuntsholing Court
162	**Financial Institutions**	Bhutan Insurance Ltd.
163		Tashi Bank Ltd.
164		Bank Of Bhutan
165		Bhutan National Bank
166		Credit Information Bureau
167		Royal Monetary Authority
168		Royal Insurance Corporation of Bhutan Ltd.
169		Druk Punjab National Bank
170		GIC Bhutan Re Ltd.
171		Bhutan Development Bank Ltd.
172	**Dzongkhag Admin-istrations**	Bumthang
173		Chhukha
174		Dagana
175		Gasa
176		Haa
177		Lhuntse
178		Mongar
179		Paro

180		Pema Gatshel
181		Punakha
182		Samdrupjongkhar
183		Samtse
184		Sarpang
185		Thimphu
186		Trongsa
187		Trashigang
188		Trashi Yangtse
189		Tsirang
190		Wangdue Phodrang
191		Zhemgang
192		Ministry of Agriculture and Forests
193		Ministry of Economic Affairs
194		Ministry of Education
195		Ministry of Finance
196		Ministry of Foreign Affairs
197	**Ministries**	Ministry of Health
198		Ministry of Home and Cultural Affairs
199		Ministry of Information and Communications
200		Ministry of Labour and Human Resources
201		Ministry of Works and Human Settlement
202		JDWNRH

203		Mongar Regional Referral Hospital
204		Gelephu Central Region Referral Hospital
205		Phuntsholing Hospital
206	**Thromde**	Thimphu Thromde
207		Phunthsoling Thromde
208		Gelephu Thromde
209		Samdrupjongkhar Thromde

Source: ACC; Okuda (2020a)

E-governance initiatives are increasingly seen as a vehicle to tackle corruption across the globe. E-governance initiatives offer an unprecedented amount and visibility of data and information which can be aggregated, disaggregated and analyzed to identify patterns and help improve policies, procedures, and processes. But the information systems alone would be insufficient to actually reduce corruption. Otherwise, we would have seen corresponding decreases in corruption along with the increasing number and scale of e-governance initiatives worldwide. Furthermore, despite the fact that similar e-governance functions and initiatives have been implemented across the world, the evidenced outcomes seem to vary markedly from country to country.

In this exploratory inductive research, compliance is identified as a conduit and part of mechanism to explain the phenomena of e-governance implementation which aims to control corruption. When government employee users comply with the e-governance system requirements, it is expected that the system will achieve the objectives the system is designed for and contribute to overall control of corruption in the government. In this background, this present research aims to answer the following questions:

> **How does compliance manifest in e-governance implementation?**

> **What are the determinants of compliance among government employee users in e-governance implementation?**

To answer the research questions, this exploratory research used qualitative inductive methods, based on constructivist/interpretivist approach. A comparative case study helped provide a detailed description of each case and theme within a case and across cases (cross-case analysis) for interpretation.

Data collection methods included document analysis, observations and semi-structured interviews. The fieldwork was conducted from September 2019 to January 2020 and conducted semi-structured interviews of 32 government officials and experts in Bhutan. The data collected from the case study initiatives and triangulated across different data sources produced rich descriptions which enabled in-depth interpretation of compliance drivers in each case study initiative. Using two rounds of coding and partial pattern matching, similar and dissimilar compliance drivers were identified in cross-case synthesis. In analyzing data, actor analysis and process tracing methods were applied to establish more nuanced perspectives of

various actors and understand the institutional dynamics. The analysed data helped understand the phenomena under review and explain the how and why of compliance levels attained in each initiative.

The case study county was selected based on a set of pre-determined criteria of e-government maturity and level of control of corruption. Out of the 13 possible case study countries, Bhutan was selected, based on the UNDESA E-Government Survey 2016, Transparency International Perception Survey 2018 (25th out of 180 countries in 2019) and language requirement.

One distinctive aspect of the case study country is the fact that Bhutan is one of the least developed countries and at the same time landlocked developing country, with the approximate population size of 800,000. Thus, the available human and financial resources are limited to advance anti-corruption and implement the latest technologies across the government. Out of the 30 e-government initiatives listed in the Bhutan E-government Master Plan, the Asset Declaration System of the Anti-Corruption Commission (ACC) and the *electronic* Public Expenditure Management System (*e*-PEMS) of the Ministry of Finance (MoF) were selected as case study initiatives based on pre-set criteria.

Across the two case study initiatives examined in Chapter 4 and Chapter 5, similar and dissimilar compliance drivers emerged. Some drivers were identical and inter-changeable between the case study initiatives, despite the different organizational contexts and case configurations. They include the role of His Majesty the King, leadership, peer support, technology-enabled east of use, such as automation, naming and shaming, the role of media and social media and fear for punishment. The others were similar but not identical or interchangeable, including credibility and trust in organization, organizational setup, personal commitment, transparency, visibility and traceability as well as responsive technical support. Some drivers appeared both in positive and negative examples, but nonetheless, pointing to the same effect as a compliance driver.

Some of the compliance drivers were technology-enabled and induced, and the others were institutional or social drivers. Some of them were dependent on other drivers and the others were independent and inter-dependent. Together, the identified compliance drivers and their dependence and inter-dependence have created a compliance mechanism and compliance space where the compliance drivers function optimally and compliance is high. If compliance is low, the functioning compliance mechanism might not be in place, with limited and ineffective compliance drivers, and the compliance space too narrow.

At the same time, it is expected that the compliance drivers evolve in response to a dynamically evolving context and background. New drivers may emerge, while other drivers may disappear when there are some incidents or changes in the context. If there are many inter-linked compliance drivers, a disappearance of a compliance driver or the diminished importance might not affect the overall compliance level much. However, if there is only one compliance driver in the country, such as leadership, and it disappears, it can safely be assumed that compliance will be reduced accordingly.

In this context, not only the compliance mechanism, which consists of inter-linked and mutually supportive compliance drivers, but also the compliance space, which consists of the number of compliance driver, would help explain the phenomena of compliance in the e-governance implementation.

Chapter 7 examined the identified compliance drivers against the existing literature detailed in Chapter 2. The technological compliance drivers played an important role in ensuring compliance in the two case study initiatives, yet the existing literature did not adequately explain the technological compliance drivers or compliance in the context of e-governance implementation.

Building on the identified gaps between the case study initiatives and literature and in recognition of the lack of appropriate compliance models, this present research proposed a new conceptual framework of e-compliance which integrates technology with other compliance drivers in e-governance implementation.

This present research elaborated how sociomateriality provides the theoretical foundation to explain e-compliance, as constitutive entanglement of the social and the material. E-compliance provides empirical data and operationalization of how the constitutive entanglement takes place.

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Before joining ESCAP, Ms. Okuda served the United Nations Economic and Social Commission for Western Asia (ESCWA) in Beirut as the Chief of the Governance and Statebuilding Section and as the Team Leader responsible for ESCWA Knowledge Management. Prior to it, she contributed to the Umoja project, the Enterprise Resource Planning (ERP) initiative, as the testing manager at the Department of Management of UNHQ. From 2002 to 2010, she held various positions responsible for promoting a wide range of ICT for development initiatives at ESCAP and the United Nations Economic Commission for Africa (ECA) as Senior IT Officer, after contributing to the ICT for development programmes at UNDP (New York and Bhutan) for 6 years.

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