

*Institutional strength and strategic use of e-government to  
improve government collaboration: A study on the implementation of e-audit in  
Audit Board of The Republic of Indonesia*

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**Abstract**

Government institutions have used information and communication technology (ICT) not only to improve public service delivery but also to fight against corruption on top of the concept of e-government. However, government institution alone is not enough to overcome corruption. This study argues that corruption in a country is a systemic crime which could be overwhelmed by a synergistic collaboration among government institutions. This research presents an innovative use of ICT by Audit Board of the Republic of Indonesia (BPK) under a nation-wide program namely e-Audit, an e-government initiative in BPK. E-Audit has strengthened BPK's authority in term of accessing and collecting the data from other government institutions. This research has analysed 755 government financial data obtained through system walkthrough process. This study adopts a qualitative-interpretive method by analysing the various relevant policies and the use of e-audit system by auditors in Supreme Audit Institution. The interviews have targeted government auditors with differing levels of seniority who actively use e-audit. This study employs an interpretative approach to analyse qualitative data obtained from interviews, system documentation, and a system walk through. Findings from this study enriches the discussion within the e-government area on the context of its role and effectiveness for combating corruption and fraud. Through the construct of innovative e-government development, this study proposed that the e-audit initiative could be disseminated to other government institutions based on their functionality. Therefore, not only does the e-government will be able to deliver a better public service, but also a better strategy for combating corruption.

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## **Introduction**

Information Technology (IT) with its rapid growth is increasingly influential in the daily activities of individuals, business, and government. Particularly in the government sectors, as well as in the business sectors, the importance of IT requires organizations to integrate IT within their business process at all organizational levels (Gates, 2001). In fact for governments, IT has been seen as the indispensable key component in the changes that affect the working practice, structure, and performance in order to provide the stakeholders with a better service. These transformations can be achieved through e-government (Janssen & Shu, 2008).

E-Government refers to any use of information technologies by government institutions that enable them to transform their way to communicate and interact with citizens, businesses, and other government institutions (World Bank, 2011). E-Government enables government institution to serve a variety of different outcomes; better delivery of government services to citizens, improved interactions with business and industry, citizen empowerment through access to information, or more efficient government management (World Bank, 2011). E-Government enables government institution to be more collaborative with stakeholders and with other government institutions (Zussman, 2002). In addition, the resulting benefits of e-government can be less corruption, increased transparency and accountability, and cost reductions. The importance of e-government further escalates with the recognition that e-government can be used to help gain competitive advantage (Obi, 2007). Andersen (2009) argues that e-government can be considered a solution for the corruption faced by developing countries (Andersen, 2009). However, according to ACFE on its Report-to-the-Nation (RTTN) 2014, IT only contributed 1.1% in detecting fraud, including corruption.

Recent issues related to corruptions, frauds, and demands on government to work more transparent and accountable have increased the imperative of e-government (Ionescu, 2013). Like other IT, however, effective use of e-government depends on several factors such as technology, stakeholders, environment, and organizational culture (Luna-Reyes, Gil-Garcia, Romero, & Felipe, 2012). Governments can take the benefits of e-government to strengthen democracy and to promote efficiency and effectiveness by establishing a system of transparency, public participation, and collaboration (Obama, 2009). Yet, collaboration among government agencies is one of the common issues faced by governments in developing countries (Waseda Institute of e-Government, 2014).

Supreme Audit Institution (SAI) refers to a government organization in each country that has mandate to conduct audit on government institutions and thereby, sets standards for government audit works (OECD, 2013). In order to accomplish their tasks objectively and effectively, SAI is required to be independent of the audited entity and are protected against outside influence. However, since SAI is part of the state as a whole, SAI cannot be absolutely independent. Therefore, SAI is requested to have the functional and organizational independence to fulfil the mandate (INTOSAI, 1998). Audit Board of the Republic of Indonesia (BPK) is the name of SAI in Indonesia.

Lima Declaration was founded on top of the rule of law and democracy which are essential foundations for independent and accountable government auditing. Independence, accountability, and transparency of SAI are essential prerequisites in a democracy and enable SAIs to lead by example and enhance their credibility. These elements can improve governance, promote accountability, and therefore can help SAIs in fighting corruption (INTOSAI, 2010). SAIs have a responsibility for combating corruption and actively involved in eradicating corruption activities. ISSAI 20 Principle No.4 states that SAIs prevent internal conflicts of interest and corruption and ensure transparency and legality of their own operations.

While connecting the government information system are commonplace permitting real-time data communication among governments and the current state of e-government application enables one government to receive some information online from other governments, the utilization of such capability is still immature among developing countries (Waseda Institute of e-Government, 2014). The more common practice is for one government to receive the information from others, generally by request, by using email or secondary storage devices such as compact disc or flash disk. These practices, based on author's experience when conducting audit, create unnecessary delay for concerning agency to process further. The delayed data may also create the possibility that it was manipulated or fraudulent data (Lanza, 1998).

Using the case of BPK in synergizing all of its auditee, this study is aimed to investigate how to create such collaboration through institutional strength and e-government. In addition, this study looks for the opportunity to propose the e-Audit as a platform for connecting all government information system.

## **Literature Review**

Open government is considered as a prerequisite for democracy society by promoting government transparency and accountability (Bertot, Jaeger, Munson, & Glaisyer, 2010). On January 21, 2009, Barack Obama endorsed a memorandum about transparency and open government to the head of executive departments and agencies. He gave directions for strengthening democracy and promote efficiency and effectiveness in government by establishing a system of transparency, public participation, and collaboration (Obama, 2009). The following list explained briefly these three principles of open government.

- Transparency  
Government should provide the citizen with the information about what the government is doing, thus promoting government accountability.
- Public Participation  
Government should engage citizens for participating in the policymaking process and to provide government with the collective expertise and information, hence improving the quality of government's decisions.
- Collaboration  
Government should cooperate among themselves and with stakeholder such as non-profit organization, business, and individual, thus creating opportunities of innovation while improving the level of collaboration.

Transparency can be regarded as the availability of information concerning government activities to the public timely, relevant, and reliable (Ferranti, 2009). The ultimate goal of transparency is to provide the public with government's data and information so that the public will have the opportunity to assess government action and exercise voice in decision making process (Florini, 2007). Through transparency, government enables the individuals to become more knowledgeable. They may consider their public participation more effectively (Rucinsky, 1991). Transparency and public participation are the important elements for helping government to solve the problem of legitimacy (Fung, 2006).

Collaboration is slightly different from transparency and participation which are frequently associated with democratic political action. It is an arrangement of democratic participation (Noveck, 2009) so that the decision is deliberated in connected circumstances. These circumstances require continuous interaction among governments for integrating their functions into the governance process (Peters, 2011) thus constructing transgovernmental networks. Works of transgovernmental networks are appropriate in the domain of commercial, financial regulation, environment protection, and in legislative areas of government (Slaughter & Hale, 2011). Such inter government network established a cybernetic government in which one government may effectively deliver the task with help of other governments (Wiener, 1948)(Ashby, 1956)

In 2014, Waseda Institute of e-Government has released the 10th International e-Government Ranking. Waseda has consistently published a yearly e-government ranking in ten years. During a decade of doing the ranking, Waseda always take the global trend of information and communication technology into account. For this 10th edition, Waseda uses ten indicators to score e-government development. These indicators are as follow.

- Network Infrastructure
- Management and Optimization
- Online Services
- Government Chief Information Officer (GCIO)
- e-Government promotion
- e-Participation
- National Portal
- Open Government Data
- Cyber Security

Among these nine indicators, open government data is the indicator which articulates the open government initiative.

Open government data is the indicator which represents the spirit of freedom of information in many countries (Yu & Robinson, 2012). The availability of the Freedom of Information Act (FoIA) and open data portal in a country are the significant sub-indicator for measuring the level of open government in the country's e-government score. FoIA is considered as the basic requirement that must exist prior to further implementation of open government data while open data portal is considered as a media that can be accessed by citizen to obtain government data without restrictions.

On the press release report of the ranking, there is an interesting finding that some countries like United States, Singapore, and Estonia have created a certain mechanism to connect government information system for improving the public service delivery (Waseda Institute of e-Government, 2014).

### **Research Methodology**

This research will use the implementation of e-audit at Supreme Audit Institution in Indonesia as the case study for the analysis and discussion. E-audit represents the e-government application that emphasize the synergy of one government institution with other government institutions. In addition, recent research conducted by Research Institute of e-Government, Waseda University, has acknowledged a connected government as the new wave for the next e-government development around the world.

The data collection within this research was conducted through document analysis and interview (Patton, 2001). This approach of data collection typifies an interpretive study in which the author gains an understanding of the good practice and phenomena through the observation. As the research conducted is related to the designing appropriate strategy within a particular social context, which in this case is the government collaboration strategy, the research methodology will be based on the qualitative data. Therefore, the result of the research will be descriptive in nature.

The qualitative data that is gathered through interpretive technique will be presented in the case studies. The case studies will be analysed, and the findings from the investigation process will be discussed based on the theoretical basis. The approach is expected to portrait extensive information and to point out significant findings in the e-audit implementation.

Since this research uses the case study which covers all government institutions in Indonesia, there will be some constraints imposed during conducting the research. The major constraint will be the limited time scale in which the research has to be completed. Other obstacles will be the limitation in accessing to some of the data required and the limitation of opportunities for clarifying the further investigation of the data. Therefore, there are some possible issues during the research that will not be covered in depth. Those matters will therefore be recommended for future research.

### **Context Case**

As an institution of 5621 audit professionals with state-wide coverage including 33 regional offices and tight audit schedules, the SAI Indonesia (BPK) needs an IT Solution that is expected to improve audit efficiency, to promote audit consistency, to provide a centralized repository for audit program and result, and to automate testing and analytical procedure.

In 2010, BPK had announced a national project named a National Strategy of Information System (SNSI) for collecting electronic data from all BPK's auditees and matching the data across auditees. The purposes of this project are to improve the whole audit process and to equip the BPK for accessing information of auditees with the advanced utilization of Information and Communication Technology (ICT).

According to Article 10 of the Audit on State Finance Management and Accountability Act 2004 (No. 15/2004), in performing the audit, BPK has the authority to:

- Request any mandatory documents to the respective officers regarding the audit on state finances
- Access all data stored in any media, assets, location, and all types of assets or document managed and controlled by auditee or other parties as needed for the audit purposes
- Put sealing to any custody of money, goods or documents related to the state finance management
- Request information to relevant people or parties
- Take picture, record and sample for the audit evidence purposes.

Under this project, BPK has built a national database which is a very large database of national financial data. The database will consist of the financial-related electronic data from 2000+ auditees which is scattered all over 33 provinces in Indonesia. IT Bureau, as an organization unit in BPK that is responsible to provide BPK with IT solution to support core activities of BPK, is assigned to define and to deploy the appropriate platform and technology for BPK concerning the SNSI Project.

In addition, through the SNSI project, BPK build an automated analysis and measurement so that BPK's auditors could validate every batch of data thus providing BPK with Early Warning System (EWS) on the system. Due to the existence of this EWS, BPK will be able to notify the auditee when, in some circumstances, the anomaly occurred.

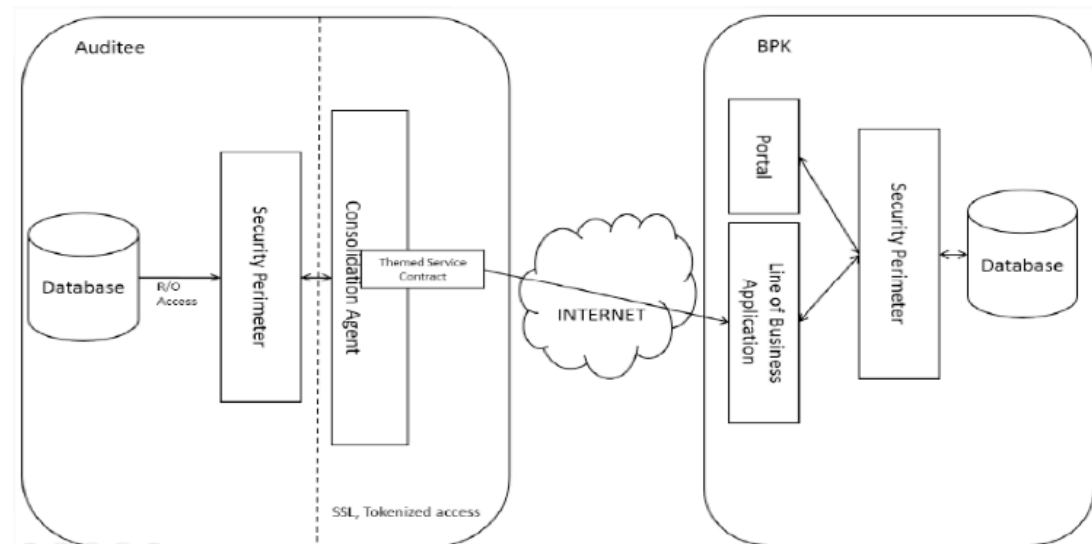
Using SNSI, the BPK's auditors could have a valid and complete preliminary data for preparing their audit assignment. As a result, when in the field audit, auditor will have adequate time to complete their audit cycles including preparing audit working paper and audit reporting. On these cycle, SNSI is expected to improve some audit processes such as confirmation technique, audit correspondence and follow-up the audit recommendation.

SNSI is supported by a primary component called e-Audit. E-Audit is a combination of three components; Consolidator Application, Data Model, and Portal. Each component has its own individual function. Consolidation Application is a pair of two applications; Consolidation Agent (AK) and Master Consolidation Agent (MAK). AK is the application service that is installed on auditee's premise. Its job is to extract, compress, encrypt, and send the data from auditee's database to the MAK. MAK is deployed on BPK's premise. Its job is to receive the packet from AK, decrypt it, decompress it, and load to the operational database.

Once the data resides in the operational database, the system will transform and load the data into a data warehouse schema which is available for auditors. The data warehouse schema is formulated using auditor's analytical procedure as a reference. Auditors access the information through the portal. The Portal provides the auditor with a list of functions that represented the audit program which is commonly used by auditors. Using the portal, the auditor will get an instant result of a particular audit

program. The analysis that was previously conducted by auditor using several steps can be executed by all auditors with only one click on the portal.

The following diagram shows the architecture of e-audit.



*(BPK RI, 2011)*  
*Modified by author*

## Analysis and findings

As of June 2014, BPK has connected 593 out of 756 targeted auditees including local government, central government, and state owned enterprises with BPK's data centre. Periodically, these auditees submit the financial data automatically using ICT. E-Audit system processes the incoming electronic data and releases the data to the on-duty auditor. The rest 197 auditees are mainly located in the rural area which has a handicap on telecommunication and electricity infrastructure.

In order to speed up the development process of e-Audit, BPK use its institutional strength to influence the auditee for participating in e-Audit project. According to the Audit on State Finance Management and Accountability Act 2004 No. 15, BPK has right to access all data and information related to government auditing process. The refusal of BPK's right will be considered as a criminal act and subject to the criminal law. In addition, BPK is considered as the state supreme institution in term for government auditing function.

BPK has a higher level of both enforcement and stability than its auditees have. As a result, BPK has successfully ratified 756 Memorandum of Understanding (MoU) with its auditees within three years. For comparison, Ministry of Information and Communication Technology (MICT) launched a policy program called IGASIS (Inter Government Access Sharing Information System), a similar initiative with e-Audit, in 2004. Conversely, this program is considered discontinued due to the fact that the Institutional Strength of MICT is not stronger than that of other ministries.

Institutional Strength is measured using two dimension; stability and enforcement (Levitsky & Murillo, 2009). The following is the table for comparing the Institutional Strength of BPK and its auditee.

	Stability	Enforcement
BPK	7	5
State Office	7	5
Central Government	5	5
Local Government	5	1

*Source: Compiled by author. The score is based on Hierarchy of Laws<sup>1</sup>*

However, some institutions have the higher institution strength than BPK in term of privacy such as Ministry of Finance for taxpayer privacy protection and banking institution for customer's financial privacy protection. As a result, BPK does not have right to access the taxpayer nor the bank's customer information directly from Ministry of Finance and banking institution by law.

The endorsement of MoU to its auditees is considered as an innovative use of BPK's institutional strength for persuading them to participate in e-audit program. Although the Act No.15/2004 has stated clearly that BPK has the authority to access all kind of data related to the audit, BPK decided to propose MoU as a suitable policy arrangement for transforming the way of BPK in collecting the data from auditee. In addition, MoU is benefited as tool for raising the awareness of auditee on e-audit program.

According to the result of interview conducted with government officers in charge as the counterpart for connecting their information system to BPK, e-audit uses the simple yet secure technology in which they are not required to create new system nor modify their existing information system. As a result, this kind of ICT solution has diminished the resistance of auditee from the technical perspective of e-audit. For example, it is not necessarily to spend plenty of time for discussing the data standardization thus eliminating one factor of the failure of information system collaboration initiative (Igari, 2014).

The following table shows the summary of connected auditees categorized by institution type.

<b>Organization Type</b>	<b>Connected</b>	<b>MoU</b>
Regional-Owned Company	5	5
State-Owned Company	47	143
Ministry	21	34
State Office	36	49
Local Government	484	524

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<sup>1</sup> Decree of the People's Representative Assembly (Ketetapan MPR) No. III/2000 states that the hierarchy of Laws in Indonesia is as follow by its degree; 1945 Constitution, Decree of MPR, Laws, Government Regulation in lieu of a law, Government Regulation, Presidential Decree, and Regional Regulation.



<b>Organization Type</b>	<b>Connected</b>	<b>MoU</b>
<b>Grand Total</b>	<b>593</b>	<b>755</b>

*Source: Data gathered by author.*

Waseda Institute of e-Government stated that the connected government would be the next wave of e-government development. BPK is the example of government institution achieving such connected government through e-audit. Besides the BPK, Ministry of Finance has launched similar program namely Indonesian National Single Window (INSW) managed by Directorate of Customs and Excise. INSW has connected Ministry of Finance with Ministry of Industry, Ministry of Trade Affairs, Ministry of Forestry, Ministry of Agriculture, Ministry of Marine Affairs and Fisheries, Ministry of Defence, and the National Agency of Drug and Food Control. However, technology used for INSW is different from e-audit in term of autonomy level. Moreover, in the similar initiatives, DKI Jakarta Province has implemented a similar technology for connecting Provincial Revenue Office with Bank DKI, a local government owned banking, and the hotels to automatically calculate local government tax. Despite that, a further research is needed to understand its effectiveness and implementation.

E-Audit is a method for not only receiving electronic data from government information system but also providing the government institution with specific information as part of an audit correspondence such as anomaly of financial report, indication of misconduct, and progress of recommendation completeness (BPK RI, 2010). E-Audit has successfully connected most of its auditees for creating the synergy on the government information system by utilizing the ICT. E-Audit is recognized as the strategic use of e-government by BPK in the area of collaboration and integration. Strategic means that the initiative is considerable large and long range planning and development yet secure and offer the value-added (Mintzberg, 1978). E-Audit is strategic because it has a high level coverage which includes not only central government but also local government and government owned enterprises. It has strengthened the BPK's authority by transforming the procedure of collecting data from a manual and an on-demand to an automatic and a scheduled data collection. E-Audit requires significant resources and a full attention from all BPK's elements (BPK RI, 2010) (BPK RI, 2011).

Referring to user's activity log of e-audit portal, there are 4000+ auditors have accessed the e-audit portal during the audit assignments including the audit planning and executing phase. In the planning phase, auditors use e-audit to conduct an analytical procedure on financial transaction for validating the cohesiveness of these transactions and detecting the potential occupational fraud such as asset misappropriation and over/under statement of asset/revenue. During the execution phase, auditors use e-audit mainly to execute confirmation procedures. Feature of online confirmation on air ticket hold 75% of the e-audit usage, followed by online confirmation on tax transaction note (NTPN).

Before the implementation of e-audit, only certain audit teams are able to completely execute confirmation procedure. Complete execution means that the audit teams received the feedback from the third party. In many cases, audit teams are unable to get the answer. The time limitation, audit team's capacity, and responsiveness of third party's counterpart are the cause of an incompleteness of confirmation procedure.

These conditions create a capability gap among audit team in which some audit team are able to conduct confirmation procedure completely while the other teams are unable to do so.

According to SAS No. 67 in AU Section 330 of Professional Standard of Auditing, the confirmation process includes the following tasks:

- Selecting items for which confirmations are to be requested.
- Designing the confirmation request.
- Communicating the confirmation request to the appropriate third party
- Obtaining the response from the third party
- Evaluating the information, or lack thereof, provided by the third party about the audit objectives, including the reliability of that information.

Auditors around the world, not only those in public accounting firm but also those in Supreme Audit Institution, follow these guideline systematically.

The common steps of such processes are as follow.

- i. Gathering the information that would be submitted to the third party
- ii. Creating the confirmation letter
- iii. Submit the confirmation letter along with the information that should be acknowledged by the third party
- iv. Accepting the response
- v. Review these information
- vi. Write the confirmation result.

In fact, there is an uncertainty of time needed from step (iii) to step (iv) due to some bureaucratic and clerical task needed at the third party's premise. In case auditors did not receive any responses from the third party, they may have to perform alternative procedures which rely on auditor team's capability and time allocation.

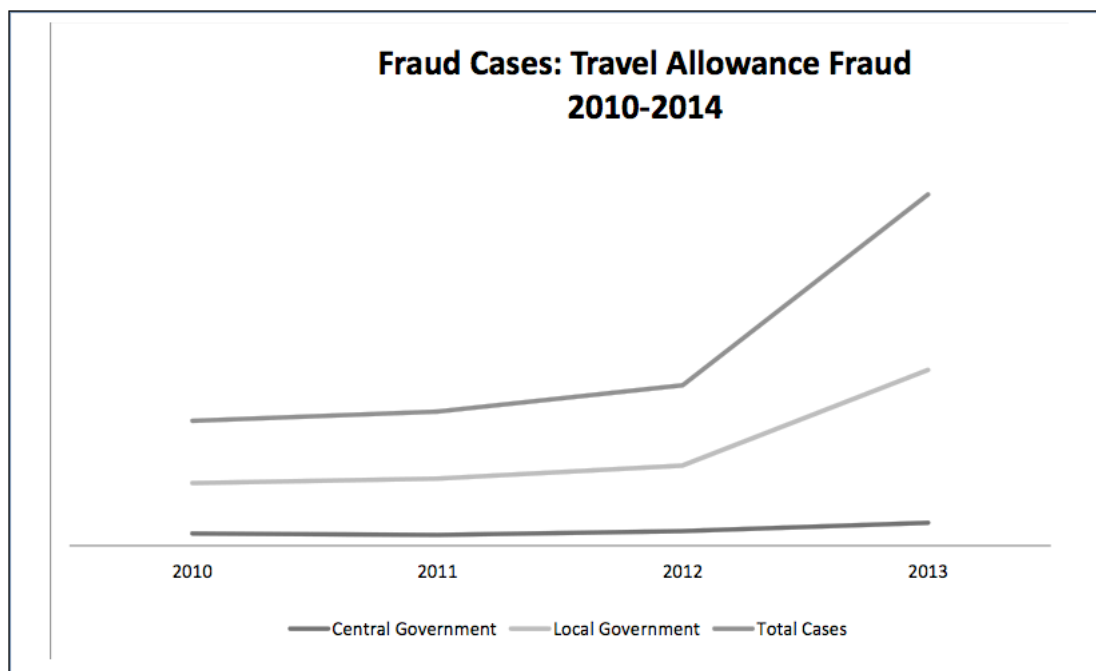
Using e-audit system, the related third parties periodically submit the data to BPK. As a result, in the execution phase for executing the confirmation procedure, it is not necessary for auditors to contact them directly. Instead, they use e-audit to conduct confirmation process and get the result straightaway. This is an innovative use of ICT by BPK to cut the formal bureaucratic procedure thus reducing the time needed for completing the confirmation process.

Cressey (1953) posits that there are three factors of people committing fraud. They are pressure, opportunity, and rationalization. Any fraud activities share these three factors. It is commonly known as the Fraud Triangle (Cressey, 1973). While Cressey believes that all three factors exist in any fraud, American Institute of Certified Public Accountants (AICPA) states that only one of these factors needs to be present in order for fraud to be committed. According to Statement of Auditing Standard (SAS) No. 99 about the Consideration of Fraud in Financial Statement Audit, there are three categories of proxies for opportunity to commit fraud; nature of industry, ineffective monitoring, and organizational structure (AICPA, 2002).

Aligned with those in SAS No. 99, e-audit is aimed to strengthen BPK's monitoring on government financial transaction. Using e-audit, BPK gain more control on

government financial data thus enabling its auditor to detect some irregularities and anomalies on government transaction records. This ability, through interview with selected seven senior auditors, has narrowed the opportunity of government officers to commit fraud such as fabricating the transaction record, forging up the travel allowance, and delaying the transaction recording process.

The following table shows an interesting audit finding within three years on fraud cases specifically on travel allowance. The audit findings are reported publicly on the website twice every year in the form of the Semester's Audit Report Summary (IHPS).



*Cases of Fraud on Travel Allowance, compiled from IHPS 2011-2013*

## Conclusions

This study has found that BPK has successfully utilized its institutional strength for implementing e-audit. BPK has introduced e-audit as its e-government flagship that highlights inter government collaboration for improving its audit authority, efficiency, and effectivity thus strengthening its role in monitoring government financial transaction. As a result, BPK has established a collaboration system that addressed to wipe out fraud in government institution.

E-Audit can be viewed as a model of context-based governmental collaboration. The collaboration model, considering its simplicity and scalability, is feasible to be implemented by other government institutions based on their specific institution strength. It offers a quasi-real-time process for data confirmation across participating institutions. Therefore, not only does the model improve the public service delivery, it also minimize the government officer's opportunity for committing fraud.

Finally, the BPK's experience in the development of e-audit as its e-government platform shows that government collaboration can be achieved using institutional

strength and ICT by reducing technical complexities which is commonly found in any government collaboration initiatives.

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