

Examining the Adoption of Computer-Assisted Audit Tools and Techniques for Tax Audits in Indonesia: An Institutional Logics Perspective

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Abstract

Drawing on institutional logics perspective, this paper aims to examine the adoption process of CAATTs in the Directorate General of Taxation (DGT) of Indonesia by examining the interplay between assumptions, values and beliefs of actors of organization within the DGT institution. Examining the adoption of CAATTs in DGT is important because CAATTs holds out the promise of improving audit efficiency and effectiveness; the provisions needed by the DGT when assessing the compliance of taxpayers. In this study, secondary data analysis was conducted by evaluating tax laws and regulations pertinent to tax audit in DGT. Results indicate that the use of CAATTs for tax audit is an outcome of social construction among actors of organization within DGT institution.

Keywords: tax, audit, tools, techniques, electronics, evidences

Introduction

Implementing an effective tax system is a crucial role in Indonesia's ability to achieve increased domestic income and maintain a sustainable economic development.

Indonesia adopted self-assessment system, under which taxpayers are required to

calculate their taxable income, file tax returns, and pay their tax liability voluntarily in accordance with prevailing tax laws and regulations. In light of exercising administrative supervision, the Indonesian tax authority under the Ministry of Finance (MoF), Directorate General of Taxes (DGT), may conduct an audit and investigation to test compliance in fulfilling tax duties. According to article 1(25) of the General Tax Provisions and Procedures Law (hereinafter referred to as KUP Law), audit is a series of activities to find, collect, and process data and or other information in order to assess tax compliance and other objectives may necessary for complying with the provisions of the tax laws. In conjunction with the audit procedures stipulated in the KUP Law, the MoF enacted the Regulation of the Minister of Finance Number 17/PMK.03/2013 (hereinafter referred to as PMK-17) concerning tax audit procedures as well as the audit standard.

The KUP Law acknowledges the audit evidence generated from electronic data processing. Furthermore, PMK-17 authorized tax auditor to access and or download data that managed electronically and permit tax auditor to demand the taxpayers to provide assistance if tax auditor needs to access data that maintained electronically. Therefore, the use of CAATTS in Indonesian tax audit practice is inevitable and significant to support tax audit. Although the DGT seemingly recognize the existence of computerized accounting information system, however the level of CAATTS implementation in DGT is still minimal and little is known about the CAATTS adoption process by the DGT.

This paper aims to develop an analysis of CAATTS adoption framework based on the dynamic of institutional logics of stakeholders within DGT. We argue that the each members within the DGT has a set of common values, beliefs and collective memory that help develop a socio-organizational interactions that facilitate the decision to adopt CAATTS within the DGT. This paper contributes to DGT audit policy with an analysis of organization's CAATTS factors that are crucial in the adoption process. This research will help DGT as an institution to build and implement its strategy to increase CAATTS acceptance within the institution. This study also contribute to existing literature of institutional logics in studying technology adoption in public sector.

Literature Review

Computer Assisted Audit Techniques

Auditing is the process by which a competent auditor accumulates and evaluate evidence about quantifiable information to determine whether the information being audited is stated in accordance to the generally accepted accounting principles ([5]; [7]). The types and forms of evidence becomes more diverse with the increasingly

pervasive use of computer-based information systems in data processing in an organization especially in the e-commerce era. Weber [11] argued that the use of computers affect audit environment in the way of collecting audit evidence and in evaluating the evidence. These changes encourage exploration of the use of computer assisted audit technique or the CAATs ([1]; [10];[3]).

CAATs is a concept with many perspectives. In essence, CAATs is about how to utilize various computers tools and techniques such that an auditor can automatically performs certain audit routine such as: testing the correctness of the calculations, making confirmation letter, specify the audit sample. In sum, CAATs are computer tools and techniques that an auditor uses as part of their audit procedures to process electronic data automatically. Figure 1 depicts the adaption and rearrangement of various concepts of CAATs [3]. The framework helps to sort out and to reconstitute various terms associated with CAATs. This framework will be utilized to discuss the role of CAATs in tax audits.

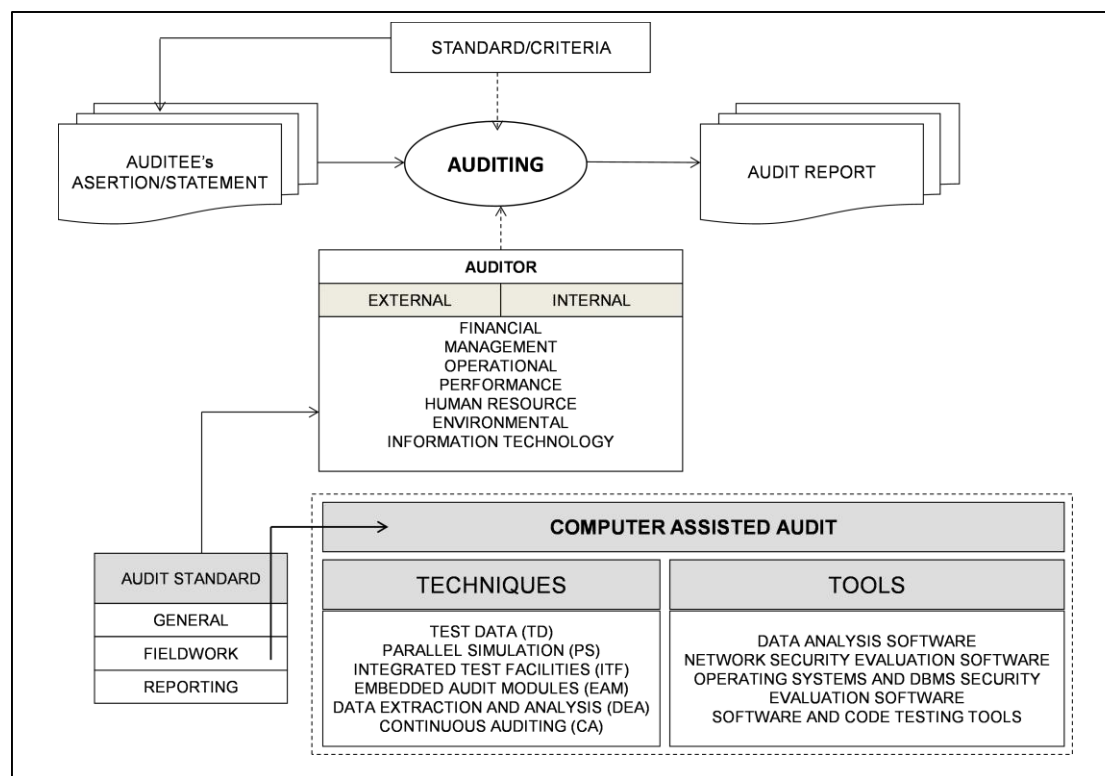


Figure 1. Relation between type of audit, audit standards, and tools and audit techniques (adapted from [2]; [3])

Electronic Data in Indonesian Tax Audits

As a result of tax laws amendments in 2007, the General Tax Provisions and Procedures Law (KUP Law) acknowledges the existence of computerized accounting information. Furthermore, the MOF enacted the Regulation of the Minister of Finance Number 17/PMK.03/2013 (PMK-17) concerning tax audit procedures as well as the tax audit standard. The PMK-17 defines electronically managed data as the data in electronic form, which is generated by a computer and/ or other electronic data processing and stored on disks, compact disks, tape backup, hard disk, or other electronic storage media. To support the implementation of the regulation, DGT passed a Circular Letter Number SE-25/PJ/2013 (hereinafter referred to as SE-25) as a technical guidance on how to obtain and process the audit evidence in the form of electronically managed data. This guidance defines CAATTS as e-Audit which is a process to analyze the organization, business processes, and electronic systems of taxpayers and to acquire and convert electronically managed data in order to assist the implementation of tax audit.

Institutional Logics

According to Thornton et. al [9] the institutional logics perspective is “*a metatheoretical framework for analyzing the interrelationships among institutions, individuals, and organizations in social systems*”. Thornton and Ocasio [8] define institutional logics as “*the socially constructed, historical patterns of cultural symbols and material practices, including assumptions, values, and beliefs, by which individuals and organizations provide meaning to their daily activity, organize time and space, and reproduce their lives and experiences*”. This current study utilize the concept of institutional logics that helps us to understand “*how individual and organizational actors are influenced by their situation in multiple social locations in an interinstitutional system. The institutional logics approach offers precision in understanding how individual and organizational behavior is located in a social context and the social mechanisms that influence that behavior*” [9].

Theoretical framework

We propose a new framework in analyzing the adoption of CAATTS by combining the institutional logics ([8]; [9]) with the four level of social analysis by Williamson [12] and the component of institutional analysis by Hollingsworth [6]. In this study we propose that institutional logics is a pattern that is based on a set of assumptions,

values, and beliefs of actors within an institution that can be used to determine the type of the institution along with governance structured of the institutio. This framework is the basis to analyze the adoption process of CAATTs in DGT.

Method

This study employs a qualitative-interpretive method that investigates the role of human actors as the center of scientific explanation on the process of how individuals make sense of knowledge, experience, relationships, and the self within the institutional logics framework and analytically disclose the process while showing how those practices configure to generate outcomes. We examine secondary data documentation of various kinds: tax laws, regulations, manuals and procedures pertinent to tax audits. Specifically, we investigate the role of human actors in the adoption process of CAATTs in DGT by examining tax audit policies relevant to the existence and the adoption of CAATTs. To analyze the documents, we conducted interpretive data analysis (IPA) method. This method is used to analyze public policy as proposed by [4]. We follow the sequence in IPA as suggested by [4] in analyzing the data: 1. Identification of all articles (language, objects, actions, documents) that develop the meaning of the tax audit policy; 2. Identification of related parties or actors within the organization associated with the policy; 3. Identification of relevant discourse; the specific meaning of the policy being communicated through the existing articles; 4. Interpretation of problems should be centered on the problem and to discover the sources that lead to differences in meaning between actors involved in the formulation and implementation of policy.

Results and discussions

This study find several situations that indicate a change in institutional logics at DGT in acknowledging the important role of CAATTs for tax audit. We explain and analyze the situations based on our personal experience and knowledge such that to understand acts and actors within our own frame of reference.

The early adoption of CAATTs was in the mid of 1990 when the DGT purchased a number of hardware such as notebooks or laptops and a number of native Generalized Audit Software (GAS) to be used by tax auditors, including the training on how to use the software. From the perspective of institutional logics, this action can be considered as the stage wherein the actors' beliefs play a role in the institution to adapt a new social structure (i.e. CAATTs). The acquisition of CAATTs hardware by the DGT develops a strong belief of actors that CAATs is important in improving tax audits performance. Various attempts were made to convince the actors

of the organization that there are significant value added in the adoption of CAATTs and that CAATTs can improve the performance of tax audits. According to [12], this action is a way to get the institutional environment right. Unfortunately the socio-legal relation within the DGT organization did not fully support the beliefs, values or assumptions about the implementation of the CAATTs in that period. In fact, there were no formal legal provisions that support the use and the implementation of the CAATTs in tax audits. Moreover, there were socio-technical constraints wherein the tax auditors did not have the ability to obtain and process electronic data within the taxpayers' computerized accounting information system.

Between 1990 and 2000, from the perspective of institutional logics, beliefs, values or assumptions about the importance of CAATTs in tax audit was preserved because of role of actors in the organization. That is, the absence of formal legal provision did not necessarily eliminate the institutional logics related to the importance CAATTs since tax auditors still had the enthusiasm in applying CAATTs in their daily activities. In particular, in the period of 2000 to 2007, there was a significant development of technology in the data acquisition technique using printer emulator. This technology helped the tax auditor to obtain and process data from taxpayers' computerized accounting system. However, due to the lack of support in legal provision, the use of the CAATTS was not that extensive as it should have been.

The situation continued until the year of 2000 when the DGT initiated the amendment to the KUP Law. Although the provision in the amendment to the KUP Law does not specifically highlight the importance of CAATTs in tax audits, the Article 28 of the amendments states that taxpayers are allowed to use electronic bookkeeping.

Pursuant to this article, PMK-17 was enacted in 2013 and it recognizes the existence of electronic data and also recognizes the device and audit techniques that can handle the data. At this point actually there had been a significant change in the institutional environment from "get the institutional environment right" to "get the governance structure right" wherein the formal provisions of the KUP law and ministerial regulation level allows the establishment of an institutional arrangement runs in a operational level. However, further step to implement this provision was needed in a form of a guideline of how CAATTs can be used to handle taxpayer computerized bookkeeping. Following the PMK-17, the DGT released the circular letter SE-25 as a technical guidance on how to obtain and process the audit evidence in the form of electronically managed data. From the standpoint of institutional logics, the release of the letter was an evident of materials-practices derived from the previously hold values, beliefs, and assumptions. Table 1 depicts the summary of the dynamic of the institutional logics of the CAATTs adoption in DGT. The chronological description of each situation is analyzed and linked to the relevant

aspects of institutional logics.

Time-frame	Description	Institutional logics	Institutional types and level
1994 - 2000	Acquisition of native GAS but no legal supports on the use of CAATTs	Social structure derives beliefs that CAATTs would help actors to improve tax audits. However, actors needed legal support that can hold their beliefs.	Get the institutional environment right Get the governance structure right
2000 - 2013	Increasing use of GAS, Development of data acquisition techniques using printer-emulator No legal supports on the use of CAATTs	Social structure derives beliefs that CAATTs would help actors to improve tax audits. However, actors needed legal support that can hold their beliefs.	Get the governance structure right

Time-frame	Description	Institutional logics	Institutional types and level
2007 - 2013	Amendment of KUP Law; acknowledgement of electronic data as audit evidence. PMK-17/PMK.03/2013	Material-practices to increase beliefs that CAATTs would help actors to improve tax audits. Material-practices to increase beliefs that the use of CAATTs is in accordance to the audit standard.	Get the governance structure right
2013 - current	SE-25/PJ/2013 – technical guidelines on the use of CAATTs in tax audit.	Material-practices to increase beliefs that CAATTs is important and it requires details guidelines. Material-practices of how to utilize CAATTs in tax audit activities.	Get the marginal conditions right

source: authors' analysis

Table 1. The Institutional Logics Dynamic on the Adoption of CAATTs for Tax Audit at DGT

Conclusion

From the perspective of institutional logics, the adoption of CAATs in tax audit within DGT is the result of the social construction of organizational actors. From the institutional logics perspective, the adoption process was a result of long time struggle in the space-time of the actors of the organization that developed through a variety of

assumptions, values, beliefs or actual practices. This paper will help DGT as an institution to build and implement its strategy to increase CAATs acceptance within the institution. This study also contribute to existing literature of institutional logics in studying technology adoption in public sector.

References

- [1] R. L. Braun and H. E. Davis, "Computer-Assisted Audit Tools and Techniques: Analysis and Perspectives", *Managerial Auditing Journal*, vol. 18, pp. 725-731, 2003.
- [2] A. Darono, "CAATs and Tax Audit (in Bahasa Indonesia)," in *Seminar Nasional Teknologi Informasi dan Aplikasi (SENTIA)*, State Polytechnic of Malang, 2009.
- [3] A. Darono, "Spreadsheet Software for DEA/GAS in Audit (in bahasa Indonesia)," in *Seminar Nasional Aplikasi Teknologi Informasi (SNATI)*, Islamic University of Indonesia, Yogyakarta, 2010.
- [4] J. Glynos, et al., "Discourse Analysis: Varieties and Methods," *ESRC National Centre for Research Methods Review* 2009.
- [5] R. Hayes, et al., *Principles of Auditing: An Introduction to International Standards on Auditing*. Essex, UK: FT Prentice Hall, 2004.
- [6] J. R. Hollingsworth, "Doing institutional analysis: implications for the study of innovations," *Review of International Political Economy* vol. 7, pp. 595–644, 2000.
- [7] K. H. S. Pickett, *The Essential Handbook of Internal Auditing*. West Sussex, England: John Wiley & Sons Ltd, 2005.
- [8] P. H. Thornton and W. Ocasio, "Institutional Logics," in *The Sage Handbook of Organizational Institutionalism*, C. O. Royston Greenwood, Roy Suddaby, Kerstin Sahlin-Andersson, Ed., ed Los Angeles, London, New Delhi, Singapore: : Sage Publications, 2008, pp. 99-129.
- [9] P. H. Thornton, et al., "The Institutional Logics Perspective: A New Approach to Culture, Structure and Process," in *The Sage Handbook of Organizational Institutionalism*, C. O. Royston Greenwood, Roy Suddaby, Kerstin Sahlin-Andersson, Ed., ed Los Angeles, London, New Delhi, Singapore: : Sage Publications, 2012, pp. 99-129.
- [10] M. Tulvinschi, et al., "Computer Assisted Audit Techniques," *Journal of Applied Computer Science*, vol. 2, pp. 1843 -1046, 2007.
- [11] R. Weber, *Information Systems Control and Audit*,. New York: McGraw-Hill, 2001.
- [12] O. E. Williamson, "The New Institutional Economics: Taking Stock, Looking Ahead," *Journal of Economic Literature*, vol. 38, pp. 595-613, 2000.