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Accrual Accounting Compliance Drivers: An Indonesian Public Sector Study

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General Background: The transition to accrual accounting in the public sector is widely considered essential for improving financial transparency, accountability, and management efficiency. However, its implementation presents significant challenges, particularly in developing countries. **Specific Background:** Indonesia's transition to accrual accounting, mandated by Government Regulation 71 of 2010, aimed to enhance financial reporting but has faced persistent compliance issues. **Knowledge Gap:** Despite the theoretical advantages of accrual accounting, empirical research on the factors influencing compliance, particularly in the Indonesian public sector, remains limited. Existing studies often rely on small sample sizes and qualitative approaches, leaving a gap in comprehensive, data-driven analyses. **Aims:** This study investigates the key drivers of compliance with accounting standards in Indonesian public sector institutions, focusing on audit opinions as a compliance proxy. **Methods:** A mixed-methods approach was employed, combining survey responses, structured interviews, focus group discussions, and panel data analysis using an ordered probit regression model. **Results:** Adoption time was the most significant factor influencing compliance, with institutions requiring at least five years for full adaptation. Contrary to expectations, central government entities exhibited lower compliance than local governments. Regional factors and resource dependency showed no significant impact. **Novelty:** This study bridges methodological gaps by integrating quantitative and qualitative data, offering a holistic perspective on compliance determinants. **Implications:** Policymakers should allow extended implementation timelines, tailor support mechanisms for different government levels, and prioritize long-term capacity building over immediate compliance benchmarks. The findings provide valuable insights for developing countries undergoing similar public sector accounting reforms.

Keywords: Public sector accounting, Accounting Reform, Government Financial Reporting, Mixed methods

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INTRODUCTION

The Shift to Accrual Accounting: A Global Perspective

Adoption of accrual basis in the public sector became a focal point in realising the New Public Management (NPM) and New Public Financial Management (NPFM) reforms (Adhikari & Gårseth-Nesbakk, 2016; Castañeda-Rodríguez, 2022; Lampe et al., 2015). Indonesia, as well as other countries, also believe in the idea because accrual accounting offers more advantages compared to cash-based. Flynn et al. described four advantages from accrual adoption: a) accrual could offer a comprehensive indicator of the government's financial performance and the cost of bureaucratic activities; b) accrual helps policymakers and the public to focus on the management of public assets, revenue, liabilities by recognising all assets and liabilities at their market value; c) accrual gives a bigger perspective of government's financial position by consolidating all institutional units financed by public funds; d) accrual has internationally-accepted standards or guidelines such as International Public Sector Accounting Standards (IPSAS) enhancing reliability and validity of the government financial data (Flynn et al., 2016). These benefits can be fully realized only if governments comprehensively adhere to the established standards. However, despite these perceived advantages, the implementation of accrual accounting in the public sector has faced significant challenges and criticism (Pina & Torres, 2003).

Several studies have highlighted the reluctance of some governments to fully embrace accrual accounting as the new norm. Pilcher (2011) noted that the implementation process was often time-consuming and expensive, with minimal perceived benefits. Arnaboldi & Lapsley (2009) argued that the intended purpose of enhancing accountability through improved accounting information has largely failed, as local authorities showed little interest in their financial reports beyond satisfying auditors' requirements. Other challenges identified in the literature include a shortage of skilled accountants proficient in accrual accounting, which can delay the full impact of the reform (Blöndal, 2003). Moretti (2016) emphasized that the process of "cultural change" within government and parliamentary circles could be protracted, with considerable time required before accrual accounting is effectively used for decision-making purposes. Moreover, Government agencies that don't operate like businesses should not adopt accrual-based accounting methods (Christiaens & Rommel, 2008).

These contrasting perspectives on the adoption of accrual accounting in the public sector highlight the complexity of implementing such reforms and underscore the need for a nuanced understanding of the factors influencing their success or failure in different contexts.

International Trends and Challenges in Public Sector Accounting Reform

Public sector accounting has two bases for accounting and budgeting purposes, represented by cash and accrual. The cash basis was traditionally becoming a standard of the Organisation for Economic Co-operation and Development (OECD) countries and the rest of the world for its governmental activities. However, half of the OECD member countries have adopted accrual with varying degrees of acceptance (Blöndal, 2003). This trend did not occur overnight, but it is a cumulative event over the past 25 years in the name of NPM reforms (Christiaens et al., 2015; Hood, 1995). The reform was designed to keep government accounting on the right track and safeguard the public treasury by preventing and combatting collusion and corruption (Chan, 2003; Changwony & Paterson, 2019).

There is a shared perspective among the OECD countries that believe accruals are considered better for financial reporting than for budgeting purposes (Blöndal, 2003). Blöndal also notes that at least two factors influenced this perspective. First, cash can provide harmonisation between political decisions to spend money and budget allocation. There is a stigma that accrual would increase expenditures if, for example, the projects have the adequate appropriation of depreciation expense. Second, legislatures have often shown resistance to the adoption of accrual budgeting, which is often due to the complexity of accruals. It is noteworthy that the legislative body in accrual budgeting countries tends to have a weak role in the budget process. However, the rise of NPM and the perceived advantage of accrual accounting over traditional cash accounting from the perspective of government transparency, accountability, and financial management contribute to the acceptance of accrual as a new norm in many countries (Flynn et al., 2016).

The literatures discussing the international experience of accrual adoption in the public sector are mixed in opinion and varies between positive and negative results. However, the most challenging aspect of public sector accounting reform is the identification and valuation process of assets and liabilities at the initial stage of the reform. This identification and valuation process is inevitable, considering that many countries did not have reliable or complete records of non-financial assets, especially the asset values. Other things to be considered are the conceptual challenges at recognition and valuation of special accounts such as civil service, military pension liabilities, and depreciation of public-private partnerships (Moretti, 2016).

At the implementation phase, a significant investment in information technology could present a challenge. This challenge comes in two forms: developing a new system that accommodates government business processes, which differs from a commercial product, and upgrading the hardware for handling the increasing transactions that are reported and included within a consolidated financial report (Blöndal, 2003; Moretti, 2016). Following the acquisition of a new IT system, governments also need to hire accountants skilled in accruals and retrain many accountants who have been trained in the cash basis to adapt to accrual accounting in its agencies. There can be a shortage of these skills in the meantime, which should be considered when establishing schedules for accruals implementation (Blöndal, 2003; Heiling et al., 2023).

Evolution of Public Sector Accounting in Indonesia

Indonesia's accounting evolution started in the Dutch colonisation era. The Dutch imposed the first accounting regulation, Indische Comptabilies Wet, in 1864, which was cash-based for budgeting and trade purposes. This legislation was a top-down administration, mixing elements of the Dutch and Roman law. At that time, Dutch had believed accounting plays a significant role in managing the local government of this archipelago (Harun et al., 2012). This phase is lasting from 1945 to 1967. Since 1968, the Government started to publish a statement of financial performance that contains the realization of budget from the perspective of income and expense. In this era, the report, for the first time, was audited by BPK then discussed with the legislative. There was not much change in the accounting system from the Dutch era to the Reformation era in 1998. However, the spirit of reform for implementing accrual accounting in the Indonesian public sector began after the 1983 oil crisis. This event seemed to inspire the Ministry of Finance (MoF) bureaucrats to adopt the NPM method centred on "accrualization" -- a term used by Harun and Robinson (Harun & Robinson, 2010). The MoF bureaucrats believed the NPM could become a more manageable method for controlling and reflecting the actual performance of the budget.

The Reformation era in Indonesia, started by the fall of Suharto's regime in 1998, quickly changed social and political constellations. The event became an impetus for setting transparency and public accountability as the main goals in every aspect of government c Several legislations after the collapse of Suharto's regime in 1998 set mandates for accrual accounting. The legislation consisting of Law 17 of 2003 of State Finance and Law 15 of 2004 of Audit of State Financial Management and Accountability requires the existence of Government Accounting Standards (GAS). Then, in the next year, the government published a Government Regulation 24 of 2005 containing Modified Cash Basis Accounting Standard. After five years of Cash based implementation, government then published Government Regulation 71 of 2010 which stipulates that all government institutions should apply accrual accounting no more than 2015.

Recent studies about the adoption of accrual government accounting in Indonesia has suggested that accruals' institutionalization in government bodies was far more complex than expected. In the end, what has been achieved under accrual accounting contradicts the intended benefits from the adoption. There is a gap between the idealised purpose of nurturing public efficiency and its practice transparency, which has been undermined only as formalities with no value-added output (Harun et al., 2012). Post-adoption studies indicated the same problem. Two qualitative studies indicated that compliance with the new standard was low because there was no employee with the necessary skill to implement it; another contributing factor was because the Ministry of Home Affair imposing a more complex regulation than the original standard (Harun et al., 2015; McLeod & Harun, 2014). This evidence is supported by another study in Palembang's municipal government, concluding that the failure of the implementation was caused by the lack of socialisation and human resources who understood how to operate the accounting software (Maimunah, 2016).

Research Objectives and Contribution

The extant literature on public sector accounting reforms has extensively explored the theoretical of potential benefit, and challenges associated with the implementation of accrual accounting. However, several significant gaps persist in these reforms as described below.

Firstly, while the theoretical advantages of accrual accounting in the public sector have been well-documented, there is a notable scarcity of empirical research examining the actual impact of these reforms on accounting practices (Adhikari & Gårseth-Nesbakk, 2016). However, the missing discussion is particularly in understanding the factors that influence governmental institutions' adherence to new accounting standards.

Secondly, from a methodological perspective, there is a marked shortage of quantitative and mixed-methods studies in this field. The majority of existing research has relied primarily on qualitative approaches, limiting our ability to generalize findings across different contexts (van Helden & Ouda, 2016). This methodological gap is particularly evident in the Indonesian context, where recent studies have typically employed small sample sizes, often limited to three or fewer municipalities (Harun et al., 2015; McLeod & Harun, 2014). Such limited samples affect the explanatory power and generalizability of the findings, highlighting the need for more comprehensive studies.

Thirdly, while individual factors influencing accounting reform implementation have been explored in isolation, a holistic analysis of the interplay between various institutional, political, and technical factors remains absent from the literature (Christiaens et al., 2015). This gap underscores the need for a more comprehensive approach to understanding the complex dynamics of public sector accounting reforms.

Addressing the identified gaps, this research investigates factors influencing governmental institutions' compliance with accounting standards in Indonesia. The selection of Indonesia as a research context is particularly pertinent, given its status as a G20 member representing Southeast Asia and its position as an emerging economy. Indonesia's unique geographical and cultural diversity presents a complex landscape for public policy implementation, offering a rich case study for understanding the intricacies of accounting reform in heterogeneous settings. This context provides valuable insights that may be applicable to other developing countries contemplating similar reforms.

This paper aims to firstly, provide empirically grounded insights into the factors that either enhance or hinder compliance with public sector accounting standards in a developing country context. This contribution is expected to advance our understanding of the practical challenges and facilitators of accounting reform implementation. secondly, enriching the existing public sector accounting literature by employing mixed-method approach which offering a more nuanced and comprehensive understanding of accounting reform processes. This methodological contribution is designed to bridge the gap between qualitative insights and quantitative generalizability, addressing a notable limitation in current research approaches. Thirdly, this research aims to contribute to the broader theoretical discourse on public sector accounting reforms especially in the context of developing countries.

Theoretical Framework and Hypothesis Development

This study draws upon three theoretical perspectives to develop its hypotheses: Positive Accounting Theory (PAT), Institutional Theory (IT), and New Public Management (NPM) Theory. According to Falkman and Tagesson, PAT and IT are two primary theories behind accounting literature that discuss accounting practice (Falkman & Tagesson, 2008). In addition, IT could complement PAT as a theoretical framework for the public sector context (Adhikari et al., 2013). In addition, since accrual is believed as a manifestation of NPM and NFPM (Adhikari & Gårseth-Nesbakk, 2016; Lampe et al., 2015), therefore, NPM theory by Hood (1995) is also relevant for explaining the public accounting practice (Almquist et al., 2013). Ultimately, these three frameworks provide a comprehensive lens through which to examine the factors influencing compliance with accounting standards in the public sector.

Positive Accounting Theory (PAT)

Watts & Zimmerman (1990) proposed three hypotheses within PAT: the bonus plan hypothesis, the debt covenant hypothesis, and the political cost hypothesis. These hypotheses primarily explain managerial behaviour in the private sector (Wiratama & Asri, 2020) However, aspects of PAT, particularly the political cost hypothesis, can be applied to the public sector context. The political cost hypothesis suggests that organizations with high visibility tend to adopt accounting practices that reduce reported profits to avoid political scrutiny. In the public sector, this can translate to the adoption of practices that enhance transparency and accountability to mitigate political pressure.

Researchers found in PAT that political cost is highly correlated with the institution size (Watts & Zimmerman, 1978, 1990). The political cost could affect the wealth in corporations or impact top management status in public sector organisations, which is likely a politician (Falkman & Tagesson, 2008; Watts & Zimmerman, 1978, 1990; Zimmerman, 1977). From the political perspective, institution size could be interpreted as an agency's hierarchical level of government, since the higher the hierarchical level, the bigger the authority, budget, and territory. Based on this perspective, we hypothesize:

H1. Compliance with accounting standards will increase following government hierarchical ranks.

The positive argument derived from the agency theory suggests that supporting an accrual accounting system will suit the politicians' self-interest nature and make them behave in a way that increases their opportunity to be re-elected or obtain a higher position in the general election (Zimmerman, 1977).

A study by Collin et al (2009) showed that PAT could be used to analyse the choice of accounting standards in Sweden's municipal corporations where the collected samples were solely made for the intention of public service. Collin proposes that the political agenda plays a significant role for municipal company's managers to choose specific accounting regulations. They are likely to choose the regulation which can boost their image as a replacement for wealth incentives. We argue that the success of public institutions in adhering to the standard can be leveraged by politicians to attract voters or by bureaucrats to gain fame. Consequently, this paper hypothesises that the distance of the government administrative location from the capital of Indonesia has a significant impact on political incentive gained by a politician since the closer the location, the bigger the exposure to media, infrastructure, educated citizens, and social network. Based on political incentives in PAT arguments, the second hypothesis is elaborated as follows:

H2. Government entities located closer to the Indonesian capital city will show a higher level of compliance compared with those in distant regions.

Institutional Theory (IT)

Institutional Theory, as defined by DiMaggio and Powell (1983), posits that organizations adopt legitimated norms and procedures through three mechanisms: coercive, mimetic, and normative isomorphism. Coercive isomorphism resulting from political influence and the need for legitimacy. Mimetic isomorphism resulting from standard responses to uncertainty, and normative isomorphism associated with professionalism. As a result of these pressures, public sector accounting and auditing may become more convergent and similar to other similar countries (Hay & Cordery, 2018).

Coercive isomorphism, which befalls under institutional theory, is discussing resource dependence. Organisations can exert pressure on the intended institution to act and structure itself in a particular way; otherwise, the institution will not obtain necessary resources or face sanctions. (Dimaggio and Powell, 1983). The more dependent the organisation is, the more pressure it will feel. In Bangladesh, coercive pressure from the World Bank can be easily traceable given the short timeline set by the central government to prepare financial statements under the IPSAS cash-based (Rajib et al., 2019). The same issue also occurs for Indonesia's central government, which depends on foreign loans from the International Monetary Fund (IMF), which became the most prominent international donor in 1998. IMF requested Indonesia to do bureaucratic reformation towards an accountable and transparent accounting system as a condition for the loan.

As for the local government, its budget is mainly financed by grants from the central government. This paper proposes that budget dependency could affect the compliance level since the standard comes from the central government. In addition, the pressure resulted from a resource dependency such as a foreign loan required by the central government or local government reliance on a central government grant which leads to our third hypothesis:

H3. The tendency of the government to comply with the government accounting standards increases with the relative percentage of resource dependency in the government budget.

Mimetic isomorphism suggests that organizations may model themselves after similar entities perceived as more successful. Therefore, organisations may delay the adoption of standards until other organisations accept them. This step is intended to seek a legitimate implementation of the process on society and other stakeholders. The study of the implementation of accrual-based accounting in Indonesia proves that the lack of institutionalisation of its goal and purpose can undermine the spirit of implementation (Harun et al., 2012). When facing ambiguous goals, uncertainty arises, and organisations often respond by mimicking others who had adopted the norm earlier and succeeded (Dimaggio and Powell, 1983). This informs our fourth hypothesis:

H4. Standards conformity improves over time. As a result, the older the standard, the more stringent the observance.

New Public Management (NPM) Theory

NPM theory, as articulated by Hood (1995), has transformed the public administration for the past 25 years by incorporating private sector rationale into the business process of government (Christiaens et al., 2015; Pilcher, 2011). Accrual accounting became a central issue and was perceived as a better method for keeping the purpose of government accounting on the right track, safeguarding the public treasury by strictly controlling the budget and reflecting the actual performance of the government (Chan, 2003; Harun et al., 2012; Hood, 1995). The adoption of accrual accounting is expected to bring numerous benefits, including more comprehensive financial reporting and improved asset management. Based on this perspective, we propose our fifth hypothesis:

H5. The implementation of the accrual-based standard brings the public sector compliance higher than the previous cash-based standard.

METHODS

To comprehensively address the research objectives and test the proposed hypotheses, this study employs a mixed-methods approach. This methodology facilitates a detailed analysis and provides valuable insights into the factors influencing compliance with accounting standards in the Indonesian public sector. The research design incorporates both primary and secondary data sources, allowing for a robust examination of the research questions.

Primary Data Analysis

Primary data were collected to obtain perspectives regarding the suitability of audit opinion as a dependent variable for quantitative analysis and to gather perceived opinions regarding the impact of the hypothesized factors on accounting standards compliance. This study accumulates data from three groups of respondents relevant to the government accounting process in Indonesia:

BPK (The Audit Board of the Republic of Indonesia): As the Supreme Audit Institution, BPK is authorized by the constitution to provide audit opinions on financial statements.

Government Agencies: This group includes all government agencies at local or central levels who function as preparers of financial reports, perform bookkeeping, and engage in other actions related to financial information.

BPKP (Finance and Development Supervisory Agency): BPKP serves as the government's internal auditor and official reviewer of government financial statements before they are submitted to BPK for audit.

Participants from these groups were civil servants from various positions and with diverse working experiences who interact with public sector accounting on a daily basis.

To collect primary information, a survey was employed. The questionnaire consisted of closed-ended questions, with each factor having two or three control questions to ensure the consistency of the responses. All questions were measured using a Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree).

Before conducting the full-scale survey, pretesting the questionnaire was an important step to eliminate bugs and enhance response quality. This phase involved 15 participants who were experienced in public sector accounting. After pretesting and finalizing the questionnaire, the survey was launched to the intended respondents. The respondents self-identified as members of one of three groups by selecting their group from a list of options.

To validate the survey results, structured interviews were conducted. The interview participants were selected from different settings or professions, an approach that has been adopted in previous public sector accounting studies (de Sousa et al., 2013; Falkman & Tagesson, 2008; Harun et al., 2012). Interviewees were asked about their survey responses and to explain their reasoning from their point of view. Two interviewees were chosen as representatives for each group of respondents.

Secondary Data Analysis

Secondary data were drawn from BPK's audit reports, which include audited versions of government financial reports and audit opinions. The secondary data analysis aimed to determine which factors are relevant to compliance with accounting standards and to quantify the magnitude of these factors empirically using STATA statistic software.

The sample selection encompassed Indonesia's major islands and three time zones (western, central, and eastern), ensuring broad geographical representation. However, to prevent potential anomalies in the model, major financial hubs were excluded from the sample, as these centers typically demonstrate economic patterns that diverge significantly from regional norms. This sampling strategy maintained representativeness while controlling for the outsized influence of dominant economic centers.

As for the secondary data analysis, a panel data model was constructed. The observation period spans five years. The dependent variable in this analysis is the audit opinion, which serves as a proxy measure for compliance with accounting standards. This choice is justified by the nature of financial statement audits, which are performed to ascertain whether financial statements are prepared in accordance with accounting standards and applicable laws.

The study employs an ordered choice regression model, specifically the ordered probit regression model, to quantify the magnitude of independent variables relative to the dependent variable. This model is consistent with the nature of the dependent variable, which has more than two categories, an ordered rank, cannot be described by a single quantifier, and lacks a proportional scale. The equation model for this analysis is detailed below.

$$\mathbf{AO_{it} = HL_{i} + Reg_{ia} + RD_{it} + AT_{it} + AB_{i}}$$

AO_{it} = Audit Opinion

HL_{i} = Hierarchical Level

Reg_{ia} = Region

RD_{it} = Resource Dependency

AT_{it} = Adoption Time

AB_{i} = Accounting Basis

Audit Opinion

The audit opinions, issued by the Audit Board of the Republic of Indonesia (BPK), serve as the dependent variable in our quantitative analysis. This choice is grounded in the fundamental nature of financial statement audits, which are conducted to determine whether financial statements are prepared in accordance with applicable accounting standards and laws. BPK issues four distinct types of audit opinions, each reflecting a different level of compliance with accounting standards.

The most favourable opinion is "Unqualified". This opinion suggests the highest level of compliance with accounting standards.

The next level is a "Qualified" opinion. This opinion indicates a generally high level of compliance, but with specific areas of concern.

In cases where the auditor is unable to obtain sufficient appropriate audit evidence to provide a basis for an audit opinion, a "Disclaimer" of opinion is issued.

The least favourable opinion is "Adverse". This opinion suggests significant non-compliance with accounting standards.

These varying levels of audit opinions provide a nuanced measure of compliance, allowing for a more detailed analysis of the factors influencing adherence to accounting standards in the Indonesian public sector. Compliance level is illustrated in a degree of opinion: 1 = adverse, 2 = disclaimer, 3 = qualified, 4 = unqualified. Starting from one as the lowest rank and four as the highest rank.

Hierarchical Level

As stated in Law 32 of 2004, which had last amended with Law 1 of 2022, the hierarchical levels in Indonesia are grouped into central government and local government, which includes provincial and municipal in the latter category. The central government has the broadest authority in the government structure. However, some power is delegated to municipalities, such as managing a budget to develop their territory. In addition, the provincial become a coordinator for cities under its territory. Control variables are coded into three categories: 1 (municipal), 2 (provincial), and 3 (central government).

Region

Region variable signifies the proximity in the distance of the municipal, the capital city of the province, or the central government from the Indonesian capital (Jakarta), which is presented in kilometers. The hypothesis assumes that closer distance could increase compliance.

It is measured in the distance of the government administration location to Jakarta as a capital city (km). Central government has the lowest value because it is in Jakarta. Therefore, it has value of zero, but for other areas, the distance value is various.

Resource Dependency

This variable measurement is divided between central and local governments. The central government depends mainly on foreign loans to fill the gap between the revenue generated by tax or natural resources and public expenditure. As for the local government, this gap is filled by the central government grants.

Resource Dependency for Central Government

$$\frac{\textit{Foreign Loan}}{\textit{Total Budget Realization}}$$

Resource Dependency for Local Government:

$$\frac{\textit{Central Government Grant}}{\textit{Total Budget Realization}}$$

Scaled in a range from 0 to 1 using natural logarithm (ln).

Adoption Time

The adoption time represents the duration of adoption of the specific accounting basis. This variable is measured in years. This variable is valued in terms of year and accumulates from time to time based on the accounting basis.

This variable is intended to measure the magnitude from the accrual adoption to the accounting standard compliance level. Binary variable with cash basis as a base variable.

0 = Modified cash basis

1 = Accrual basis

Mixed Methods Integration

To facilitate multiple levels of analysis and obtain a richly varied picture (Bryman, 2012), this study utilized a focus group discussion (FGD) to bridge the results from primary and secondary data analyses. The FGD was held with nine competent participants with a minimum of 16 years of working experience in auditing and public sector accounting attended the FGD panel. This mixed-methods approach allows for a comprehensive understanding of the organizational behaviour behind accounting practices, integrating quantitative findings with qualitative insights to provide a nuanced picture of the factors influencing compliance with accounting standards in the Indonesian public sector.

RESULTS AND DISCUSSION

Primary Data Analysis

The survey gathered responses from 180 participants across three groups of institutions: BPK (n=97), BPKP (n=14), and Government Agencies (n=69). Responses were analysed by grouping each answer to their respective factor/variable to obtain a mean score. Each mean was tested against the null hypothesis (neutral perception with value 4) using a t-tail test. This statistical approach aimed to identify possible variations in perceptions due to different group profiles. Table 2 presents the results of this analysis:

[Table 1 about here.]

Dependent Variable Analysis

All groups demonstrated agreement that audit opinion is a relevant proxy for measuring compliance with accounting standards. This consensus was based on the understanding that the main criteria for financial audits are rooted in adherence to accounting standards.

Analysis of Independent Variables

H1 (Hierarchical Level): BPK and government groups tended to agree about the impact of hierarchical levels, while the BPKP group moderately agreed. This mixed perception reflects differing views on the relationship between organizational complexity and compliance.

H2 (Region): All groups expressed a neutral perception regarding the region variable. Respondents believed that societal culture had more impact on compliance than geographical location.

H3 (Resource Dependency): All groups tended to disagree that resource dependency could affect organizational compliance with accounting standards. For foreign loans, the accountability requirements were seen as consistent regardless of the loan amount. For local government budgets, the central government's constitutional obligation to fill budget gaps was seen as negating potential pressure.

H4 (Adoption Time): Adoption time was viewed as a critical factor affecting standards implementation across all groups. Respondents agreed that accumulated experience in implementing standards correlates with higher compliance levels.

H5 (Accounting Basis): All groups expressed a neutral perception about the accounting basis as a factor affecting compliance with accounting standards. Respondents believed that compliance was more influenced by other factors than the specific accounting basis used.

Secondary Data Analysis

The secondary data analysis was based on a sample of 209 observations representing 45 entities, including one central government, 12 provinces, and 32 municipalities. Table 3 presents the descriptive statistics of the panel data:

[Table 2 about here.]

Ordinal Probit Regression Results

The result of the ordinal probit regression is detailed below:

[Table 3 about here.]

The regression results indicate that only adoption time (H4) and accounting basis (H5) have a statistically significant effect on compliance. To address potential heteroscedasticity, robust standard errors were used.

Average Marginal Effects

To interpret the magnitude of the effects, we calculated the average marginal effects for each variable. Table 5 summarizes these results:

[Table 4 about here.]

Key findings from the marginal effects analysis include Adoption Time (H4): Each additional year of experience with the accounting standards increased the probability of obtaining an Unqualified Opinion by 4.16% ($p<0.01$). This provides strong support for the importance of time and experience in achieving compliance. Accounting Basis (H5): The shift to accrual-based accounting increased the likelihood of obtaining an Unqualified Opinion by 50.7% compared to the cash-based standard ($p<0.01$). This substantial effect suggests that the adoption of accrual accounting has had a significant positive impact on compliance levels. Hierarchical Level (H1): Contrary to expectations, being a central government institution increased the likelihood of obtaining a Qualified Opinion by 7.55% compared to municipal governments ($p<0.05$). This challenges the initial hypothesis and suggests that higher levels of government may face greater challenges in achieving full compliance. Region (H2) and Resource

Dependency (H3): These variables showed no statistically significant impact on compliance levels, aligning with the neutral perceptions observed in the primary data.

Robustness Checks

To ensure the validity of our results, we conducted robustness checks by incrementally adding independent variables to the model and comparing the full ordinal probit model with an ordinal logit specification. The results of these checks, presented in Table 5, confirm the consistency of our findings regarding the significance of central government status, adoption time, and accounting basis on compliance levels.

[Table 5 about here.]

These empirical results provide a foundation for a deeper discussion of the factors influencing compliance with accounting standards in the Indonesian public sector, which will be explored in the following section.

Integration of Primary and Secondary Data Findings

The integration of primary and secondary data analyses reveals several important insights that provide a comprehensive understanding of the factors influencing compliance with accounting standards in the Indonesian public sector.

First and foremost, there is a strong consensus on the validity of using audit opinions as a proxy for compliance. This agreement is evident in both the qualitative responses from survey participants and the quantitative analysis of audit outcomes. Such alignment strengthens the methodological foundation of this study and suggests that audit opinions can serve as a reliable indicator for future research in this field.

The critical role of adoption time in enhancing compliance is consistently emphasized across both data sources. Survey respondents strongly agreed that time spent with the standards significantly affects compliance levels, a finding that is robustly supported by the quantitative analysis. This consistent result underscores the importance of allowing sufficient time for institutions to adapt to and fully implement new accounting standards.

An unexpected but significant finding is the negative relationship between central government status and compliance levels. This relationship is reflected in both the survey responses and the quantitative analysis, suggesting a complex interplay between organizational size, complexity, and compliance capabilities. The consistency of this finding across data sources highlights the need for a nuanced understanding of how hierarchical structures in government influence accounting practices and compliance.

The impact of geographical factors on compliance levels appears to be minimal, as indicated by both data sources. The neutral perceptions expressed in the survey align with the lack of statistical significance in the quantitative analysis, challenging initial assumptions about the role of distance from the capital in influencing compliance. This finding suggests that other factors may be more important in determining compliance levels across different regions.

Lastly, the adoption of accrual-based accounting presents an interesting contrast between quantitative and qualitative findings. While the quantitative data shows a strong positive effect of accrual basis adoption on compliance, the more neutral survey responses suggest a need for deeper investigation. This discrepancy points to a potential gap between the perceived and actual impacts of accounting system changes, warranting further exploration.

These integrated findings provide a nuanced picture of the factors influencing compliance with accounting standards in the Indonesian public sector. They highlight both expected and unexpected relationships, revealing the complex nature of implementing and adhering to accounting standards in a diverse and evolving public sector environment. The consistency of findings across different data sources in some areas, and the discrepancies in others, underscores the value of a mixed-methods approach in capturing the multifaceted nature of this topic. These results not only contribute to our understanding of the current state of public sector accounting in Indonesia but also provide valuable insights for future policy decisions and research directions in this field.

DISCUSSION

Audit Opinion as a Proxy Measure

Both primary data analysis and FGD confirm the suitability of audit opinion as a proxy measure for compliance with accounting standards. This consensus is based on the understanding that the primary criterion for issuing an audit opinion is adherence to accounting standards. This finding establishes audit opinion as a valuable proxy measure for future research, particularly when the audit is conducted by a single entity like BPK in Indonesia, ensuring comparability across different levels of government institutions.

The Effect of Hierarchical Level and Compliance

Contrary to our initial hypothesis, both primary and secondary data analyses indicate a negative relationship between central government status and compliance levels. The FGD panel corroborated this finding, attributing it to the complexity and volume of transactions at the central government level. This complexity, combined with potential disparities in human resource capabilities across agencies, presents significant challenges for full compliance.

The central government's journey to achieving an unqualified opinion for the first time in 2016, after 12 years of accounting standard implementation, underscores these challenges. Interestingly, while provincial governments operate as 'mini countries' with diverse funds, their smaller scale appears to facilitate better compliance compared to the central government. Therefore, central government should focus on continuous capacity building and improving enterprise resource planning applications to boost compliance with accounting standards.

The Effect of Regional Influence on Compliance (H2)

All data sources, including the FGD, conclude that geographical distance from the capital does not significantly affect compliance. The spread of internet access across Indonesia appears to have mitigated the potential impact of physical distance on social monitoring and compliance. The FGD suggested that future research could consider internet coverage as a more relevant proxy for regional influence than physical distance.

The Effect of Resource Dependency and Compliance (H3)

Both primary and secondary analyses demonstrate that resource dependency is not significantly related to compliance which conforms with previous study (Falkman & Tagesson 2008). For foreign loans, the accountability requirements are consistent regardless of the loan amount, driven more by debt covenants and the need to avoid international sanctions. For local governments, the constitutional guarantee of central government funding to fill budget gaps appears to neutralize potential coercive pressure.

This study recommends strengthening compliance mechanisms through a dual approach. For local governments, implementing sanctions for entities that persistently receive disclaimer, or adverse opinions could enhance accountability.

Adoption Time and Compliance (H4)

Adoption time emerged as the most significant factor positively correlated with compliance. The empirical results show that each year of experience with the standard increases the probability of obtaining an Unqualified Opinion by 4.16%. The FGD panel attributed this to increased familiarity among employees and enhanced institutional knowledge, leading to better design and implementation of internal controls. This finding aligns more closely with the mimetic mechanism of Institutional Theory (Dimaggio and Powell, 1983) rather than PAT's political pressure hypothesis. It suggests that organizations learn from and model themselves after more successful peers, often through comparative studies of major cities that have achieved unqualified opinions. This results also in contrast with Falkman & Tagesson (2008) study, which stated that compliance will not increase by time.

Accounting Basis and Compliance (H5)

While secondary data analysis showed a significant positive effect of accrual basis adoption on compliance, primary data and FGD insights suggest a more nuanced interpretation. The increase in unqualified opinions following accrual adoption may be more attributable to the adoption time variable and statutory mandates rather than inherent benefits of the accrual system.

The FGD highlighted that the transition to accrual basis was preceded by a four-year preparation period (2011-2014) and seven years of modified cash-based implementation (2004-2010), facilitating a smoother transition. However, the panel noted that this transition might create an illusion of progress without fully internalizing the concepts of accountability and transparency which agrees with previous study (Harun et al., 2012). The finding itself is in accordance with the recommendations of Flynn et al. (2016) who suggest to focusing the transitition process on proper cash based implementation before introducing full accrual basis.

Additional Insights

The interviews revealed the importance of political motives in implementing accounting standards. The use of unqualified opinions as political capital by incumbent officials and as a tool for opposition criticism suggests that political factors play a significant role in driving compliance efforts, since people and their political representatives are main actor in public governance (Anttiroiko et al., 2011). Therefore, it presents an opportunity for citizens to transition from passive observers to active participants in the process of change (Cohen & Karatzimas, 2015).

These findings collectively suggest that while adoption time is crucial for improving compliance, other factors such as institutional complexity, political motivations, and the method of reform implementation play significant roles. The results underscore the need for a nuanced approach to public sector accounting reforms, considering both technical and socio-political factors.

CONCLUSION

This study investigated compliance factors with accounting standards during Indonesia's public sector transition to accrual-based accounting, employing a mixed-methods approach across a five-year observation period. The research revealed that audit opinions effectively served as compliance indicators with accounting standards, while adoption time emerged as the primary compliance driver, with institutions requiring at least five years for full implementation. Notably, central government entities showed lower compliance than local governments, contrary to expectations.

Geographic factors and resource dependency had minimal impact on compliance, possibly due to widespread internet access and constitutional funding guarantees. Compliance appeared more driven by statutory mandates and political motivations than the inherent benefits of accrual systems, with unqualified audit opinions serving as political capital.

The findings support Institutional Theory while challenging certain aspects of Positive Accounting Theory in public sector contexts. For practitioners and policymakers, the results emphasize the importance of implementing extended adoption timelines, developing level-specific approaches for different government tiers, and prioritizing long-term capacity building over immediate transition benefits.

Several promising research avenues emerge from this study: examining how adoption timing influences compliance outcomes, investigating the relationship between accounting reforms and political processes, and exploring internet connectivity as an alternative measure of regional influence, as suggested by focus group discussions.

The study reveals that compliance with accounting standards in Indonesia's public sector extends beyond technical considerations. These insights are particularly relevant for developing countries pursuing similar reforms, highlighting the need for comprehensive approaches that consider institutional, political, and practical factors in implementation strategies.

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LIST OF TABLES

Table 1 / *Perception Towards Variables Related to Compliance of Accounting Standards*

Variable Name	Variable	BPK (n=97)		BPKP (n=14)		Government (n=69)		Sample Population (n=180)	
		Mean	Standard Error	Mean	Standard Error	Mean	Standard Error	Mean	Standard Error
Audit Opinion	Dependent Variable	5.711***	0.089	5.267***	0.089	5.507***	0.122	5.598***	0.710
Hierarchical Level	H1	4.335***	0.111	5.089***	0.202	4.579***	0.133	4.487***	0.081
Region	H2	4.059	0.121	4.571	0.329	4.195	0.157	4.151	0.092
Resource Dependency	H3	3.672**	0.139	3.946	0.253	3.692	0.158	3.701***	0.098
Adoption Time	H4	5.017***	0.108	5.214***	0.256	4.961***	0.136	5.011***	0.080
Accounting Basis	H6	4.209	0.121	4.095	0.382	4.086	0.133	4.153**	0.087

Source: Author

Table 2 / *Descriptive Statistic of Panel Data*

Variable	Mean	Std. Dev.	Min	Max
ID	22,77	13,13	1,00	45,00
Year	2014,12	1,40	2012	2016
Audit Opinion	3,38	0,70	1,00	4,00
Hierarchical Level	1,33	0,52	1,00	3,00
Distance	1428,21	1107,18	0,00	3770,64
Resource Dependency	0,63	0,25	0,01	0,92
Adoption Time	5,91	4,31	1,00	11,00
Accounting Basis	0,43	0,50	0,00	1,00

Source: Author

Table 3 / *Ordinal Probit Model Result*

Variable Name	Abbr	Coef.	Robust Std.Err.	z	P>z	95% Confidence Interval	
Hierarchical Level							
Provincial	H1	0.226	0.326	0.690	0.487	-0.412	0.865
Central Government		-0.931	0.411	-2.260	0.024	-1.737	-0.125
Region	H2	0.000	0.000	-0.120	0.903	0.000	0.000
Resource Dependency	H3	-1.106	0.827	-1.340	0.181	-2.726	0.515
Adoption Time	H4	0.115	0.033	3.450	0.001	0.050	0.181
Accounting Basis	H5	1.407	0.288	4.880	0.000	0.842	1.972

Source: Author

Table 4 / *Summary Result of Average Marginal Effect*

Variable Name	Abbr	Adverse Opinion (AO = 1)		Disclaimer Opinion (AO = 2)		Qualified Opinion (AO = 3)		Unqualified Opinion (AO = 4)	
		Probability	Standard Error	Probability	Standard Error	Probability	Standard Error	Probability	Standard Error
Hierarchical Level									
Provincial	H1	-0.82%	0.011	-2.07%	0.030	-5.36%	0.079	8.24%	0.119
Central Government		9.23%***	0.066	12.74%*	0.053	7.55%**	0.042	-29.51%	0.107
Region	H2	0.00%	0.000	0.00%	0.000	0.00%	0.000	0.00%	0.000
Resource Dependency	H3	4.73%	0.041	10.91%	0.079	24.19%	0.179	-39.83%	0.288
Adoption Time	H4	-0.49%***	0.002	-1.14%***	0.004	-2.53%***	0.009	4.16%***	0.013
Accounting Basis	H5	-6.02%***	0.021	-13.89%***	0.040	-30.79%***	0.087	50.70%***	0.104

Source: Author
*Note: *** p-value<1%; ** p-value<5%; * p-value<10%*

Table 5 */ Robustness Check Results*

Variable	Abbr	Oprobit 1 Variable	Oprobit 2 Variables	Oprobit 2 Variables	Oprobit 4 Variables	Oprobit Full Variables	Ologit Full Variables
Provincial	H1	0.503*	0.496*	0.257	0.283	0.226	0.326
		(0.262)	(0.263)	(0.317)	(0.324)	(0.326)	(0.563)
Central Government	H1	-0.223	-0.442*	-0.849**	-0.824*	-0.931**	-1.651**
		(0.159)	(0.233)	(0.414)	(0.426)	(0.411)	(0.735)
Region	H2		-0.000	-0.000	-0.000	-0.000	-0.000
			(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Resource Dependency	H3			-1.054	-1.051	-1.106	-1.890
				(0.849)	(0.883)	(0.827)	(1.479)
Adoption Time	H4				-0.026	0.115***	0.213***
					(0.020)	(0.033)	(0.063)
Accounting Basis	H5					1.407***	2.556***
						(0.288)	(0.551)
cut1_cons		-1.983***	-2.226***	-2.820***	-2.978***	-1.692***	-3.155***
		(0.211)	(0.287)	(0.541)	(0.592)	(0.582)	(1.093)
cut2_cons		-1.232***	-1.466***	-2.053***	-2.208***	-0.898	-1.438
		(0.182)	(0.245)	(0.552)	(0.614)	(0.622)	(1.166)
cut3_cons		0.162	-0.048	-0.617	-0.770	0.645	1.263
		(0.169)	(0.242)	(0.529)	(0.580)	(0.593)	(1.126)
N		209	209	209	209	209	209

Source: Author
*Note: *** p-value<1%; ** p-value<5%; * p-value<10%*