Review of the Public Sector Organizations' Environment: Accounting and Internal Control Systems, and Audit Quality

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Abstract The external auditor's evaluation of the audit client's environment, in particular the accounting and internal control systems, is crucial in order to provide a high audit quality. Especially in PSOs, the importance of this evaluation increases because of their specific characteristics, such as the type of PSO, laws and regulations, governance method (including internal auditing), and accounting information system (including the accounting basis). The organization's management is responsible for establishing and maintaining an efficient accounting and internal control systems, but the external auditor is responsible for evaluating and determining the efficacy of these systems in order to determine whether or not to rely on them and to what degree. This paper reviews the main elements of environment of the PSOs which they may have significant impact on the audit quality and contributes to audit quality literature by reviewing the characteristics of PSOs, particularly the internal control and its effects on the audit quality. And it provides a basis for discussing the effect of several potentially elements of environment of PSOs on audit quality for future research.

Keywords Internal controls · Accounting basis · Internal auditing · Laws and regulations · Audit quality

1 Introduction

A high audit quality increases the confidence of the public with the audit financial statements which are issued by the governmental accountants, but this confidence according to Kusumawati and Syamsuddin (2018) decreases, because some corruption were still found in the government agencies that got unmodified auditing opinion. All the scandals and the corruption in the public sector are related to control system which the accounting and auditing procedures are the core it. Corruption is reduced

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as governments move ahead in public-sector accounting reforms by adopting International Public Sector Accounting Standards (IPSAS), or implementing accounting accrual basis (Cuadrado-Ballesteros et al. 2019).

International Auditing and Assurance Standard Board (IAASB) as part of International Federation of Accountants (IFAC) stated in its proposed strategy for 2020 to 2023 this objective "Sustained public trust in financial and other reporting, enhanced by high-quality audits, assurance and related services engagements, through delivery of robust global standards that are capable of consistent and proper implementation", and this objective concerns 128 jurisdictions uses International Auditing and Assurance Standards (IAASs) or committed to use them (IAASB 2019). The quality of audit is still an essential requirement for all stakeholders of the audit profession in the present and in the future, but till now no agreement among the practitioners, regulators, and researchers on one definition and valid measurements for the audit quality, therefore, the audit quality is defined and measured in various ways (Bauer 2015; Griffith et al. 2015; Aobdia 2016; Zhukun et al. 2018). This returns to that the actual audit quality which is unobservable before and when an audit is performed (Chadegani 2011), also, the auditors' efforts in audit engagement is unobservable (Donatella et al. 2019), moreover the differences in the regulators and the culture in cross-countries (Tepalagul and Lin 2015). Therefore, most the previous studies have studied many variables as proxies of the audit quality to measure the audit quality either in private or public sector organizations (Chadegani 2011). For examples on the audit quality proxies as follow: industry specialization (Mohd Kharuddin et al. 2019), audit firm size (Harris et al. 2019), audit fees (Ghafran and O'Sullivan 2017), audit team structure and auditor years tenure (Cameran et al. 2017), time budget pressure (Kesuma 2019), locus of control, audit ethics, time pressure and a commitment to deviant behavior in audit (Siregar et al. 2018), cognitive moral development and moral evaluation factors (Purnamasari 2019).

These proxies either related with the elements of audit inputs, outputs, or process could not give relevance and valid measures for the audit quality if they are used individually, bilaterally or more, because each proxy indirectly measures audit quality and has some weaknesses (Bell et al. 2015; Gaynor et al. 2016; DeFond and Zhang 2014). And some studies found some conflicts in the result of using the same proxy of the audit quality, such as non-audit services (NAS) (Tepalagul and Lin 2015; Ashbaugh et al. 2003; Knechel et al. 2012; Chu and Hsu 2018), and audit tenure leads to mix results (Mali and Lim 2018; Hartono et al. 2016; Azizkhania et al. 2018; Kyriakou and Dimitras 2018). However, there are some definitions for the audit quality that disclosed the concepts of it, for example, Ismail et al. (2019) confirmed that the famous audit quality definition and widely used among the researchers is the DeAngelo (1981) definition which defined the audit quality as the probability that an auditor will discover a breach in the financial reporting system and report this breach in the audit report. While Dickins et al. (2018) defined the audit quality as the auditor's ability to detect and report errors or fraud, meet the regulator professional procedures, guidance, and the related laws, or meet the needs of stakeholders. As for Chadegani (2011) revealed that the actual high audit quality means providing financial statements without errors, fraud, omissions or biases (Chadegani 2011). Most of these definitions focused on the auditor characteristics and audit firm attributes such as the auditor's ethics, auditor's independence, auditor's competence, audit fees, and audit firm size (Kusumawati and Syamsuddin 2018; Ismail et al. 2019; Butcher et al. 2013; Boon et al. 2008), but there is scarcity in the prior studies of audit quality in PSOs particularly the effect of the effectiveness of the client internal controls, particularly, the internal auditing, the accounting basis, and the laws and regulations.

This paper will focus on the unique environment of the PSOs particularly the effectiveness of internal control and its relationship with the audit quality through the discussing the following topics: the environment of the PSOs and the external audit quality in the previous studies, the nature and the types of the PSOs, financial reporting system in the PSOs, the laws and regulations in the PSOs, the governance of the PSOs, the auditing of the PSOs, and the internal control which includes the internal controls in the context of PSOs, the internal auditing, the accounting basis, and the laws and regulations.

2 The Environment of the PSOs and the External Audit Quality in the Previous Studies

The previous studies have identified audit quality attributes which can contribute in assessments of audit quality in the PSOs. This paper discusses main issues of the environment of the PSOs as follow: the nature and the types of the PSOs, financial reporting system, the laws and regulations, the governance method, the auditing, and the internal control through discussing these factors: the internal auditing, the accounting basis, and the laws and regulations.

2.1 The Nature and the Types of the PSOs

PSOs include all entities of federal government, states governments, municipalities (cities and towns), joint services councils, governmental universities and hospitals, governmental corporations, and the entities are established by government by statute, or if they have one or more of the following conditions: their directors are publicly elected or appointed by governmental officials, they have the power to designate and enforce a tax levy, they have the authority to directly issue debt with interest exempt from federal tax, or they face the possibility that the government will dissolve them unilaterally and assume their assets and liabilities (Ives et al. 2004). The governmental organizations play a vital role in providing the basic services such as electricity, water, health, education, garbage collection and others (Edmonds et al. 2020; Boex 2010). PSOs differ from the business companies in their purposes, while the business companies focus on achieving a maximum profit to the benefit of their owners or shareholder (investors), the PSOs organizations focus on the benefits of the public community (Rashman et al. 2009). Carhill and Kincaid (1989) revealed that public sector organizations activities must be authorized by legislation through a strict framework. And these organizations are considered as service-oriented without regarding to the cost factors and profitability incentives (Goodwin 2004). The market conditions do not rule the operating activities of the PSOs as the business organizations which they consider the figures of the amount of sales, expenses, and the net income as direct indicators for the decision makers when they make any decision (Visser and Togt 2016). In general the PSOs work under political rules and many laws and regulations, and they be going to attain and achieve the primarily policy goals and objectives (Visser and Togt 2016). But the hybrid organizations, such as the municipal corporations, have public and private characteristics, and they are operated at the intersection of the market and the public sector purposes (Grossi and Thomasson 2015).

The absence of ownership interests in the PSOs results in less strict governance and accountability mechanisms as compared to business entities which ownership interests are divided into marketable shares or owned by individual investors (McGowan et al. 2018). In the municipalities the governance body, such as mayors and the members of the council is appointed by the higher authority or elected by public election, always those members have no professional skills in management, technical, accounting and finance (Axén et al. 2019). The PSOs operate their activities on the basis of achieving the balance between available income and the expenditure over a given period, therefore the role of public sector entities is providing the public services to the citizens as a form of wealth redistribution (Eulner and Waldbauer 2018). The importance of the PSOs increased in most countries especially in 1970s to 1980s, therefore the size and budgets of the public sector entities increased (Carrington et al. 2019), and the new public management (NPM) is adopted (Lonsdale 2000).

2.2 *Financial Reporting System in the PSOs*

The managements in PSOs are responsible for operating appropriate financial reporting system according to the agency theory (Dewi et al. 2019). Nur (2017) stated that the management in the reporting system works as agent who provides valuable information to the related stakeholders as principal in order to enable them from evaluating of the accountability and deciding in the issues of social, economic, and political decisions. Also the stakeholders theory determined that the related stakeholders of the entity have right to receive proper information about the performance of the entity that may influence on their decisions, therefore the management in the governmental units is responsible for issuing the financial statements to the interested users (Anggriawan and Yudianto 2018). These statements must be useful and relevant for decision makers particularly in the accountability (Dewi et al. 2019). Accountability required the truth and factual, credible and reliable, comparable information (Eulner and Waldbauer 2018), relevant and understandable (Dewi et al. 2019). IFAC

(2012) declared that if the government wants to be trusted, it should issue correct and all information which related to its financial transactions either expenditure or revenues, in order to demonstrate the accountability and good governance and to support its own reliability.

The basis of the financial reporting system in PSOs in the world is unlike as it the private sector which uses accrual accounting basis only around the world, but the PSOs may use more than one basis such as cash basis, modified cash basis, modified accrual basis, and full accrual basis. According to IFAC International Public Sector Financial Accountability 2018 Status Report that around 25% of countries (150 jurisdictions in the world 2018) report their financial statements on accrual accounting basis for governmental entities, while 45% transferred partially from cash to accrual accounting basis, but 30% of the governments still report in cash basic (IFAC, 2018). Although the application of these bases is not uniform at the same level, the trend of using the accrual accounting basis in accounting systems in the public sector around the world is growing, but there are many differences due to the content, timing, and method of adoption accrual accounting basis (Christiaens et al. 2010; Cohen et al. 2019).

Taylor and Rosair (2000) stated two types of the financial statements in the PSOs related with financial position (Balance Sheet) and performance of public (Performance Statement) and these statements are considered as the accountability tools, and they ruled with some regulations in order to be issued in specific period (Cohen and Leventis 2013) and these regulations may require additional statements depending on the country polices such as Budget Realization Report, Cash Flows Statements, Changes in Equity, and Disclosure Notes (Dewi et al. 2019; Brusca et al. 2015). Therefore the implementation of the financial reporting system and issuing the financial statement in specific period according the regulation will be costly, because it needs many services such as installing and running accounting system, operating employees, consultants, controls procedures, internal and external auditors, developing the regulatory systems, judicial procedures, and using different tools to present the financial reports (Cohen and Leventis 2013). As a result, the quality of financial reports in PSOs will be based on the nature of government regulations in each country. As an outcome, there is a growing demand for more relevant, uniform, and standard financial statements to be used in an increasing accountability function in PSOs, in order to aid in good governance, improve decision-making processes, and face the challenges (Rossi et al. 2016).

IFAC through its part International Public Sector Accounting Standards Board (IPSASB), which started in 1986 as the Public Sector Committee of the International Federation of Accountants (IFAC) and in 2004 became an independent standard setting board supported by IFAC, set 38 accounting standards for the PSOs (IPSAS) tell 2015, these standards are highly homogeneous with the IFRS which applicable in the private sector despite distinct, (Brusca et al. 2015). Since 1996 the IPSAS, as a unique set of high quality standards, has vital role to support the valuable characteristics of the financial statements as transparency, credibility and comparability which meet the stakeholders' needs of information (Rossi et al. 2016).

International Monetary Fund (IMF) and the World Bank (WB) has played a key role in persuading all countries throughout the world to adopt IPSAS and to make IPSAS compliance a condition of receiving any financial aid or loans (Rossi et al. 2016), and IMF declared that the financial information which presented according IPSAS as a solid and comparable basis will be ready to help the users in understanding and making proper financial analysis, to enhance the government accountability, and to improve risk management (Cavanagh and Benito 2016). The implementation of proper financial reporting system depends on the IPSAS that requires high quality experienced employees with high level of competences and knowledge (Mir and Sutiyono 2013), particularly in globalization of markets and the external world becomes more openness, and leads to accept and adopt the globalization in accounting practices in the public sector through the accounting harmonization (Christiaens et al. 2015; Mnif Sellami and Gafsi 2019).

Financial reporting system in the PSOs has a significant effects on the audit quality because it produces the financial statements which they form main element in the audit process inputs, therefore the high quality of the reporting system will produce high quality of the pre-audit statements (DeFond and Zhang 2014).

2.3 The Laws and Regulations in the PSOs

PSOs in general work under prearranged rules and operating procedures rather than subjective actions in which political conventions, governance of the administrative units, laws and regulations, yearly approved financial plan, emergent events, lobbies groups, and unclear indicators guiding the governance and management bodies in making decision (Rashman et al. 2009; Visser and Togt 2016). More legalism and politicized environment is anticipated has significant effects on public administration (Spanou 2008), accounting (Ballas and Tsoukas 2004) and auditing (Cohen and Leventis 2013). The laws and regulations ruled all aspects of the PSOs in most countries with some differences among these countries particularly the financial reporting system and the auditing of the financial reports, for example, Nurlis (2018) revealed that the financial statements must be prepared and issued in Sumatra—Indonesia according the Government Regulation No. 71 (2010). DeFond and Zhang (2014) mentioned that the government regulations in US and globally are increasing controls over the financial statements reporting and the activities of the audit.

The difference in level of the regulations in each country may affect the audit quality, Chase (1999) mentioned that the differences in the requirements of the disclosure notes on the financial statements among the states in US put some obstacles in front of the auditor to serve PSOs in multiple states, because the wide-ranging GAAP in high regulated states needs high experienced and specialized auditors. In this environment with different laws and regulations, the PSOs in each country or state represent a unique market for the audit, and the audit contract and the reporting quality determinants are also different (Yebba and Elder 2019).

2.4 *The Governance of the PSOs*

The outcomes of the social, economic and political issues in the society depending on the quality of the government, and Fukuyama (2015) argued that the quality of governance is affected by the capabilities of the administrative of state to provide general services and goods. IFAC (2001) defined the governance as processes related with organization structure, and decision-making processes, controlling tools, accountability, and the ethics and behavior of the top management. The Chartered Institute of Public Finance and Accountancy (CIPFA) and (IFAC) (2014) stated the governance function as ensuring that an entity meets its defined purposes and the intended outcomes for public and the users of the entity services, and the entity is operated in ethical behavior and in an efficient and effective manner. The governance in the PSOs is defined as procedures, policy, guidelines and programs used to direct the processes of an organization to provide reasonable and acceptable level that the entity's goals are met in accountable and ethical behavior, this leads to reduce corruption risk (Rosa and Morote 2016).

Good governance ensure the implementation of morals values, ethical principles, code and rules with considering understandable framework of risk management which includes clear set of accountabilities (Khalid et al. 2016). Elmasry and Bakri (2019) argued that the good governance encompasses five principles: efficacy roles, support value, accountability, clearness and transparency, and building abilities. Good governance needs the financial and analysis reports including performance reports, these reports must examined by an independent auditors in order to be more accountability and transparency, and the internal audit is considered as one of the mechanism of the good governance in the PSOs (Rosa and Morote 2016; Maldonado et al. 2019), therefore the auditors as important part of an entity's monitoring system have work together with other parts in the firm governance to guarantee the issuing of high quality financial statements to the interested users (Khalid et al. 2016).

2.5 *The Auditing of the PSOs*

PSOs have commitment to be responsible for the use of public resources (entity's assets) and to reach their goals with economy, effectiveness and efficiency. This may be guaranteed by the accountability and transparency through issuing audited information, therefore auditing is a tool that serves the need for public managers to account for their use of resources (Brusca et al. 2015).

DeFond and Zhang (2014) confirmed that auditing in the PSOs adds value, for example, mandated public school audits improve resource allocation efficiency, and that mandated public housing authority audits reduce overstatements.

The public confidence with the credible of the financial reporting in the PSOs is very important, and the auditors are considered as the main players in providing reliable and credible financial statements (Ismail et al. 2019). Auditing is defined by

Arens et al. (2017) as the process of accumulating and evaluating facts or evidences regarding information related with specific economic entities to determine and issue audit report about the level of correspondence or conformity between information and the agreed specific criteria, and they added auditing should be performed by a competent and independent person. The definition of audit quality depends on the objective of the audit, and could differ between the public and private sectors (Aleke et al. 2011).

The auditor of the PSOs must be highly specialized in this type audit because these organizations use sophisticated governmental accounting systems, and the disclosure of the financial reporting in the PSOs in US states is ruled by specific regulations were issued by state legislatures which may affect the audit contracts conditions (Yebba and Elder 2019; Salehi et al. 2019).

PSOs are subject to different types of audit depending on the countries' regulations (Rosa and Morote 2016), for examples, financial audit or performance audit (operating and compliance audit). Goodwin (2004) reported that the financial audit and the performance audit are suitable for the public sector, because in financial audit the auditor focuses in examining whether the resources which are owned by the entity are used to achieve its purposes, but in the performance audit the auditor focuses on the examining efficiency and effectively of usage of these resources according the prescribe of entity objectives. These types of audit may performed by three types of auditors: SAI auditors, internal auditors, and external auditors, but the SAI auditors are found in all countries to execute all types of audit, but the existence of other types of auditors varies among the countries depending on the country's policies and the regulations (Carrington et al. 2019; Brusca et al. 2015; Johnsen 2019; Gustavson and Sundström 2018).

The Council Directive 2011/85/EU for European Union (EU) states that public accounting systems shall be subject to internal control and independent audits (internal audits and external audit), internal audits are performed by public sector auditors who work in the entity, while external audits are performed by CPAs outside of the entity under audit. Internal control includes the control of procedures, such as legal intervention, financial control and, usually, the effectiveness controls (Brusca et al. 2015).

According the Single Audit Act of 1984 in American United States(US), any entity receives federal financial aid more than specified amount of money (this changeable amount according the related regulations) should be audit by external independent auditor as requirements of the Office Management and Budget (OMB) Circular A-133 which contains auditor opinion on the financial reports, fulfillment all federal programs and the grants conditions, and reports on the effectiveness of the internal control (Yebba and Elder 2019).

Elder et al. (2015) mentioned that the audit firm rotation policy is indirectly associated with higher audit quality and is well-known in the PSOs for many reasons such as entity-specific policies or specific regulation required from the entity to make solicitation audit bids periodically in order to keep the current auditor or replace him after technical evaluation.

Auditors use audit reports to encourage accountability and specific guidelines in the form of professional audit standards, which help them produce authoritative reports on government performance that are focused, transparent, and predictable (Rosa and Morote 2016). The nature of the audit reports depends on the types of the audit, the interested users with the information, the requirement of the applicable standards and regulations (Rosa and Morote 2016). But the type of audit implemented shows differences and the standards used have been developed nationally or international, in some EU countries the international standards have sometimes been considered as a reference (Brusca et al. 2015). Most audit standards in PSOs require that auditors not only report on the extent of the fairness of financial statements presentation, sometimes reports on internal control effectiveness and on compliance with laws, regulations, and provisions of contracts or grant agreements (Cagle and Pridgen 2015).

3 The Internal Control

Internal control is generally characterized as management's method of providing reasonable assurance about the achievement of productive and successful operations, accurate financial reporting, and compliance with laws and regulations (Petrovits et al. 2011; Länsiluoto et al. 2016; Younas and Md Kassim 2019). Romney and Steinbart (2018) defined the internal controls and their objectives as follows: "Internal controls are the processes implemented to provide reasonable assurance that the following control objectives are achieved:

- Safeguard assets-prevent or detect their unauthorized acquisition, use, or disposition.
- Maintain records in sufficient detail to report company assets accurately and fairly.
- Provide accurate and reliable information.
- Prepare financial reports in accordance with established criteria.
- Promote and improve operational efficiency.
- Encourage adherence to prescribed managerial policies.
- Comply with applicable laws and regulations.

Committee of Sponsoring Organizations of Treadway Commission (COSO) established and issued Internal Control-Integrated Framework in 1992, this framework includes five components, namely, control environment, control activities, risk assessment, information and communication and monitoring, the existence of these components produces an effective internal control, in addition, COSO framework states three objectives for internal control as: the effectiveness & efficiency of business, the reliability of financial report, and the compliance with applicable laws (Länsiluoto et al. 2016; Younas and Md Kassim 2019; Romney and Steinbart 2018). Ziegenfuss (2001) reported that COSO framework is widely used in public and private organizations in the United States, Europe, and Finland. For example, in the United States, the AICPA, IIA, and the General Accounting Office (GAO) incorporate the

COSO framework into their auditing standards, and he went on to say that the strength of a local government's control environment is inversely proportional to its fraud rate. All components of COSO framework rely on the control environment since it establishes the tone and culture of an organization, which all other activities are built upon (Länsiluoto et al. 2016). But control activities are the practices that ensure management that goals are met and risk mitigation measures are implemented successfully in terms of policies and procedures, for examples of these practices the segregation of duties, information processing, physical control and performance reviews (Aikins 2011). The major goal of control activities is to ensure that essential actions are made to address threats to the firm's objectives. These threats are discovered and studied in the risk assessment process, which is significantly weighted in the modern control framework (COSO Enterprise Risk Management (ERM), 2004) (Länsiluoto et al. 2016).

The last two components of COSO framework related all activities of the organization, therefore the information and communication system collects and exchanges the data required to conduct, communicate, manage, and control the operations of the organization, and the internal and external communication is required to provide information needed to carry out day-to-day internal control activities. But the monitoring component includes continuing evaluations which determine whether each component is present and working, and any defect is conveyed promptly, with major issue being addressed to top management and the board of directors (Romney and Steinbart 2018).

From the above discussion for the internal control elements and objectives, it is clear that the audit quality is affected by the strength degree of internal control, because the achieving of the internal control objectives supports the objective of the external audit which leads to improve the audit quality. For example, the efficiency and the effectiveness of operations facilitate the audit engagement and minimize its cost, particularly when the external auditor depends on the internal auditors' reports. Therefore, the internal auditing is considered as proxy of the efficiency and the effectiveness of the organization's operations. In addition, the accounting basis is considered as proxy for the reliability of the financial reports which affects directly the input of the audit process through producing reliable financial statements that improve the audit quality (DeFond and Zhang 2014). According the auditing standards, the external auditor is responsible for detecting of any violation of the applicable laws and regulations which they affect directly the financial statements and the going concern of the organization (Arens et al. 2017). It is clear that the internal control aims to keep the organization to perform its activities according the applicable laws and regulations (Länsiluoto et al. 2016). This supports the achieving of high audit quality. Because the audit quality and internal controls have such a close link, audit standards required from the external auditor to understand and evaluate effectiveness of the internal controls in the organizations under the audit process.

3.1 The Internal Controls in the Context of PSOs

The internal control system is a keystone in public sector governance, helping public agencies to improve their effectiveness, productivity, openness, transparency and accountability (Reginato et al. 2016; Troupin et al. 2010). Internal controls are the measures that a public sector manager devises and implements to aid in the achievement of the entity's financial targets and priorities, as well as the mitigation of organizational and financial risks, for example of these measures: approval of invoices prior to payment, division of duties relating to payment and recording of financial transactions, and inspection of reported transactions for consistency and procedural enforcement (Aikins 2011; Alareeni 2019; Areiqat et al. 2020).

Internal controls and reporting environments of the governmental entities are subject to single audit requirements and are impacted by related laws and regulations (Yebba and Elder 2019). The control activity in the public administration in the PSOs aims to ensure that the public authorities have considered the measures taken, in order to keep itself compliance with related laws and legal standards, to avoid ineffective and inefficient performance of tasks, and to avoid the uneconomic management of public resources and government entity assets (Stašová 2019). The purpose of any control should certainly be very interest of learning from existing unwanted effects and preventing them from happening in the future, and it is essential to ensure that day-to-day control is a part of governance in public administration, this leads to credibility and transparency at all levels of the administration (Novotný 2015). Control in the public sector should constantly provide incentives to get better all processes and serve as a tool of creating a superior relationship among the citizen, PSOs, and the public administration (Bovaird and Löffler 2003).

Länsiluoto et al. (2016) confirmed that the construct for internal control effectiveness is made up of three factors: effectiveness and efficiency of activities, financial reporting dependability, and compliance with laws and regulations. Therefore this paper discusses three proxies for the factors of internal control effectiveness as follows: the first, internal auditing which aims to ensure that weather that the operating activities are executed in efficient and effective ways including the procedures of internal controls, therefore the existence of the internal audit points out for the effectiveness and efficiency of activities, the second, accounting basis which is considered as the foundation of financial reporting system, and affects directly on the reliability of the financial reporting, and the last, the existence of sufficient and relevant laws and regulations and proper compliance of them may support the effectiveness of internal control.

As a result of the above discussion, the effective internal control can help the PSOs in producing a high-quality financial statement which help the auditor to provide a high audit quality. And the applicable audit standards, such as International Standards of Auditing (ISA) and AICPA auditing principles, require from auditors to understand and to consider the efficiency and the effectiveness of the client's internal control system in audit plan and other audit processes through the evaluation of three elements that influence directly or indirectly of the effectiveness of the internal control in the PSOs: the internal auditing, cash basis, and the laws and regulation either the relevancy or the degree of compliance of the applicable laws and regulations.

The Internal Auditing. Internal auditing is the practice of analyzing business processes or organizational issues and recommending solutions using a structured approach, and it is a profession and practice that advises the organization on how to better achieve their objectives by managing risks and improving internal controls (Asare 2009). Internal audit is defined by the Auditing Practice Committee of the Institute of Internal Auditors of the United States as "one element of the internal control system put in place by the management of the institutions for the purpose of valuation, examination, and disclosure of the accounting and other internal controls in the operation" (Dimitrova and Paneva 2019; Chalmers et al. 2019) Also, the Institute of Internal Auditors defined internal auditing as "an independent, objective assurance and consulting activity aimed to add value and improve an organization's operations". Internal audit assists the organization in achieving its objectives by reviewing and improving the performance of risk management, control, and governance systems in a methodical and limited manner (Goodwin 2004; Pilcher et al. 2013). There are four categories of the internal auditors' activities either in the private sector or public sector: (1) Systems and operational audits, (2) internal controls and financial audit, (3) risk management, (4) specific and other projects (Goodwin 2004). And the internal auditor competency is correlated with the effectiveness of internal control over compliance (Chang et al. 2019). Romney and Steinbart (2018) confirmed that internal audit examines the accuracy and consistency of financial and operational data, as well as the efficacy of internal controls and employee adherence to management policies and procedures, as well as applicable laws and regulations. Also, they added that internal audit should be organizationally separate from accounting and operations, reporting to the audit committee rather than the controller or chief financial officer.

The Importance of the Internal Auditing in PSOs. Internal auditing is an important part of governance process and can be a valuable method for PSOs (Janse van Rensburg and Coetzee 2016). The importance of internal auditing in the public sector is increasing because the government should make sure that available resources are used efficiently and that public assets are used to their full potential, but these resources are growing at a slower pace while the citizens are demanding better services and more transparency and accountability (Aikins 2011; Asare 2009).

Despite the internal audit is considered as part of the internal control on the firm as a whole, but the internal audit in the government unit investigates and assesses the internal control activities on the operation activities in order to assure that the functions of various organizational units are implementing in efficiency to assist the management of the government unit in controlling the operating activities of the unit, and may provide input to the directors of the government units that is concerning the outcomes, obstacles, and irregularities that occur over the route of government unit and development that are the responsibility of the directors of the government units (Sari et al. 2019). Ismail et al. (2019) reported that Njoroge (Kirima 2016) confirmed that competency of internal auditors in public sector has essential role in promoting good governance and help in effective use of PSOs resources. While Mazza and Azzali (2015) found that reduced severity and persistence of control deficiencies are correlated with improved internal audit efficiency.

The Relationship Between the Internal Auditing and the Audit Quality. There is an interaction between internal auditors and external auditors, and the external auditor always relies on the work of internal audit either in private sector or in the public sector, but this does not lead to reduce the audit fees in the public sector compared to the private sector (Goodwin 2004). The external auditor in his/her performance of the audit process must comply with the requirements of ISA 610 (Revised 2013) in the subject of Using the Work of Internal Auditors (International Federation of Accountants 2018).

In general, Aikins (2011) concludes that local government auditors (internal auditors) conduct further audits in operating areas including fiscal receipts and expenses. Furthermore, the role of auditors has a major effect on local government financial performance, both directly and indirectly, through improvements in internal controls and operational quality.

Research on the Internal Audit Function (IAF) is still in its babyhood, and the appealing questions include whether IAF substitutes or complements the external audit function, and whether outsourcing IAF impairs or enhances audit quality (DeFond and Zhang 2014). Sari et al. (2019) determine that the internal audit has quality assurance function and considers the risk of fraud which affects significantly on the audit quality objective.

The Accounting Basis. Accounting basis tells the accountant when the financial transaction must be recorded in the accounting records and they reported in the financial statements. IFAC Status Report (2018) defines cash accounting basis as recognizing the financial transactions when the cash received or paid, while in the accrual accounting basis the financial transaction is recognized in accounting records when the primary economic event occurs, and the assets and liabilities reported in the financial statements. According the accounting accrual basis, IPSAS requires the organizations to issue a number of financial statements, including a statement of financial position, a statement of financial performance, a statement of changes in net assets/equity, and when the government unit uses the accounting cash basis, the statement of receipts and payments must be issued at least (Zedan et al. 2020). The different nature of these bases in the time of recording financial process and different financial statement which they issued affect directly and indirectly on the objectives of the internal controls, particularly in measuring the efficient and effectiveness of the operations and the reliability and relevancy of the financial reports. This may influence on the level of the audit quality perception, particularly when the organization uses cash basis which discloses only the financial assets.

Accounting Basis in the PSOs. Dewi et al. (2019) reported according report of IFAC, (2018) that 25% of governments of 150 jurisdictions in the world published their financial statements on accrual accounting basis, while 30% of the government still report in cash basis, but the rest of the governments are in the way of switching to accrual accounting basis, and they report on the modified cash basis or modified accrual basis, which they have several accrual elements in their financial statements. In developed countries such as EU member states a few of them use cash accounting in their PSOs, for example German state permits using cash accounting basis or accrual accounting basis in financial reporting system in the public sector, because there is no convinced justification to go to accrual accounting depending on the cost–benefit relationship (Eulner and Waldbauer 2018).

Accounting cash basis addresses the accountability requirements for public sector earnings and expenditures through producing factual, reliable and comparable information, also it is simple in application and relatively inexpensive, and cash-based budgeting is common used in PSOs which it considers easy to understand (Eulner and Waldbauer 2018). But the accrual accounting basis has many benefits for different users which summarized by the researchers as follows: accrual accounting basis facilitates and provides more useful (relevant and reliable) information for decision makers, helps in achieving more effective and efficient public administration, provides transparency by issuing balance sheet based on the accruals, provides multiple reporting framework, enables the taxpayers and voters to access to the same information, and provides modern financial reporting and suitable for international comparison (Eulner and Waldbauer 2018; Dewi et al. 2019; International Federation of Accountants 2018; Ademola et al. 2019). In addition to the above benefits, adoption of the accrual accounting basis or IPSAS reduces the corruption in PSOs and increases the financial reporting quality (Cuadrado-Ballesteros et al. 2019; Ademola et al. 2019).

IFAC issued accounting standards for public sector based on accrual basis in order to make harmonization for accounting standards around the world and to issue high quality, credibility, and comparability financial reports (Ademola et al. 2019).

The adoption of IPSAS encourages a good functional performance and distribution of entity's resources efficiently by providing the trusted excellent financial processes which lead to acceptable of level of accountability and transparency (Abimbola et al. 2017). IPSASB (2015) states the objective of IPSAS as to assist the government managers in making choice alternatives and making decisions for public governance according the transparently and creditably. IPSASB supported the accrual basis and considered the cash basis insufficient to meet the demand of users of financial reporting, and the IPSAS provides a self-regulated internal control system (Ademola et al. 2019).

The Relationship Between the Accounting Basis and the Audit Quality. The nature of auditing services may differ between two types of audit governmental markets: uniform GAAP (accrual accounting basis) and multiple accounting bases such as cash basis, modified cash basis, modified accrual basis, and accrual basis (Yebba and Elder 2019). The usefulness of financial reporting system in any firm is measured by the reliability and the relevancy of the financial information which is issued by that system, and the type of the accounting basis is responsible for the quality of the pre-audited financial statements which are considered the main items of the audit process inputs (DeFond and Zhang 2014). Therefore, the accounting basis either cash basis or accrual basis influence on the audit quality through the quality of the financial statements which differ according to the nature of these bases.

The Laws and Regulations. Alareeni (2019) found evidence confirmed that the legal environment has vital impact on the audit quality in addition to the strength of auditing and accounting standards and procedures. And he further said that Big 4 audit firms are more cautious with their customers in countries with legal systems that provide greater protection to auditor report users, including the power to sue auditors. In other words, the auditor behavior is influenced by legal incentives. The level of enforcement of reporting standards and other regulations related to disclosure, as well as the level of governmental inspection of financial reports can affect the client's investment in reporting systems and assurance tools, which they provide more trustworthiness with financial statements to users (Yebba and Elder 2019). In high level of economic development countries, the quality of legal enforcement is higher, and the enforcement of laws is just as important as the substance of the laws (Alareeni 2019; Porta et al. 2000).

The laws and regulations include all the orders of superior authorities and regulators of the client industry. When the auditor responds to non-compliance or suspected non-compliance with the laws and regulations, his goals are to uphold the principles of integrity and professional behavior by alerting management or the client's governance to enable them to rectify, remediate, or mitigate the consequences of the identified or suspected non-compliance, as well as to deter future violations (International Federation of Accountants 2018). For examples of these laws and regulations: accounting standards and procedures, fraud, corruption and bribery, money laundering, terrorist financing and proceeds of crime, securities markets and trading, banking and other financial products and services, data protection, tax and pension liabilities and payments, environmental protection, and public health and safety and related regulations, and the regulations which related with the auditing and issuing of audited financial statements (International Federation of Accountants 2018). These laws and regulations are considered as part of the internal controls of the client's operations, and they have an effect on the audit quality (Alareeni 2019).

The Laws and Regulations in PSOs. Yebba and Elder (2019) made a comparison between two states (Michigan & Pennsylvania in US) audit markets, these states nearly equal in all aspects in order to be comparable, particularly in design of their governments such as county, city, township, villages and boroughs. Additionally, both states require each governmental unit to hire an independent CPA firm to audit its financial statements. But there are some differences in the regulatory climate particularly in the state-level GAAP on audit markets and the interest to governmental regulators and standard setters, therefore each state is considered as a unique audit market. Yebba and Elder (2019) in their study found that there is an enhancement of audit quality with GAAP regulated state (Michigan), because the environment of reporting becomes stronger with these regulations, and requires specialist auditors who have practical experience in the applicable regulations. Ahmaro (2014) suggested that there is a need to modify the law of municipalities and the bylaw of the municipalities in order to develop and implement an efficient financial system with clear accounting standards, controls principles and procedure, and organizational standards that apply best practices. The governmental body in Europe Countries is responsible for setting the auditing regulation for external audit, usually the regulation passed through a legal document; normally, a law or decree is used to regulate central government audits, but professional auditors sometimes collaborate in the design of the auditing standards (Christiaens et al. 2015).

The Relationship of the Laws and Regulations with the Audit Quality. In the course of providing a professional (audit) service to a client, a professional accountant (auditor) may encounter into or be made aware of non-compliance or suspected non-compliance of the applicable laws and regulations, that are widely acknowledged as having a direct impact on the calculation of substantial amounts and disclosures in a client's financial statements, and the compliance with indirect effect laws and regulations may be critical to the client's operational elements, its ability to continue functioning, or its ability to avoid material penalties (International Federation of Accountants 2018).

The increasing of investment in the financial reporting system to meet the regulations' requirements may increase the effectiveness of an internal control environment over financial reporting which leads to decrease auditor's finding of control deficiencies (Yebba and Elder 2019). In other word, when the client fellows all the applicable laws and regulations, the objective of the effective internal control is achieved and the audit quality improves. Laws and regulations which applicable to the clients do as guidance for them in how to operate their works, including hiring the external auditors and the conditions of the audit agreements and the scope of the audit process and its outcomes. This causes the auditor to be more cautious when designing audit methods and processes, as well as more committed to reaching the audit objective in the most efficient manner possible. Accordingly, the laws and regulations have significant effects on the audit quality.

4 The Conclusion

The management of PSOs is responsible for establishing and maintaining an efficient accounting and internal control systems, but the external auditor is responsible for evaluating and determining the effectiveness of these systems in order to determine whether or not to rely on them and to what degree. The auditor must consider the environment factors of the PSOs when he is evaluating the client internal control, because the PSOs have different attributes in comparison with the privet sector organizations. From these attributes: the nature and types of PSOs, laws and regulations, governance method, auditing processes, accounting information system, and the effectiveness internal controls which includes internal auditing, accounting basis, and applicable laws and regulations.

Based on the foregoing discussion, the environment of PSOs may influence on the audit quality and must be considered when the auditor decides to evaluate the continuing with the current client or to accept the new one. Also the PSOs attributes must be considered by the management of the organization when it decides to hire a new auditor or to evaluate the current auditor performance. PSOs are distinguished by the absence of ownership interests, this means that the PSOs have less strict governance and accountability mechanisms as compared to business entities, operate their activities on the basis of achieving the balance between available income and the expenditure over a given period, and the laws and regulations ruled all aspects of the PSOs in most countries with some differences among these countries particularly the financial reporting system and the auditing of the financial reports. In general, the independent auditors add value to the financial statements and financial analysis reports, this leads to more accountability and transparency which they are enhancing the good governance in the PSOs, especially when we add the internal audit which is considered as one of the mechanism for good governance in the PSOs. And COSO framework integrated internal control confirmed that the information and communication system collects and exchanges the data required to conduct, communicate, manage, and control the operations of the organization, but the monitoring component includes continuing evaluations which determine whether each component of COSO (environment controls, control activities, risk assessment, and information and communication) is present and working, and any defect is conveyed promptly, with major issue being addressed to top management and the board of directors, this supports the achieving of high audit quality, because it leads to strong and effective internal control, which usually leads to issue reliable financial statements particularly when the client's management is adopting effective accounting basis, and hiring high quality auditors either in internal auditing or in external auditing which they are considered as assurance function. In addition to that, the Laws and regulations which applicable to the clients do as guidance for them in how to operate their works, including hiring the external auditors and the conditions of the audit agreements, and this causes the auditor to be more cautious when designing audit programs, as well as more committed to reaching the audit objective.

This paper confirmed through the audit quality prior literature that the selected environment of PSOs factors have significant effect on the audit quality, but there are other factors may influence on the audit quality such as the SAIs and the political issues which will be potentially elements of environment of PSOs on audit quality for future research.

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