

# Internal control on public organisation performance: A SmartPLS analysis using COSO framework

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## Abstract

**Purpose:** The study purpose is to evaluate the impact of various components of internal control systems on the performance of government organisations. Using the COSO framework to assess the relationship between these components and organisational performance. Furthermore, we employ Structural Equation Modeling (SEM) with the SmartPLS software as the method of analysis.

**Design/methodology/approach:** Data for this research was collected from 343 state government departments out of 459, representing a return rate of 74.7%, through the administration of questionnaires. We utilized the COSO framework as a global method for evaluating the effectiveness of internal control systems. SmartPLS was employed for structural equation modeling to analyze the relationships between the COSO components and performance.

**Findings:** Our findings reveal that each component of the COSO framework positively influences performance within the government organisations under investigation. Notably, the control environment is identified as the component that significantly impacts overall performance, as validated through SmartPLS analysis.

**Research limitations/implications:** The study shows the relationship between internal control systems and performance in government departments, it is important to acknowledge that there are some limitations. These may include potential biases in questionnaire responses and the specific context of the surveyed government departments. Future research could explore additional variables or sectors to further enhance our understanding through advanced SEM techniques.

**Practical implications:** The research underscores the importance for public sector organisations, particularly government departments, to prioritize the quality of employees and leadership. Focusing on these aspects can significantly contribute to the success of internal control systems, as confirmed by SmartPLS analysis, thereby enhancing the achievement of organizational objectives.

**Originality/value:** This study applied the COSO framework to assess internal control systems within government organisations and their impact on performance. The utilization of SmartPLS as an advanced analytical method further enhances the findings.

**Keywords:** Internal control systems, Malaysia, Performance assessment, SmartPLS analysis, COSO framework

## Introduction

Internal controls are established to safeguard assets, prevent misuse and fraud, and involve coordinated processes and procedures adopted by an organisation to achieve goals and maintain effectiveness (Grady, 1957; Abiodun, 2020). The concept of internal control has developed into a broader idea that influences the overall performance of an organisation. The systems approach is one of the main functions of internal control systems that take various parts of the organisation and process them through the COSO framework (Agbejule & Jokipii, 2009). The current systems approach involves other dimensions of accessibility in terms of improving the control environment related to the components of internal control systems (Lord, 2013).

Control systems are related to the objectives of such organisations, the effectiveness of internal control system generates further increase of their organisational efficiency (Hassan, Rahmat, & Muhamudun, 2015). This also improves the governance mechanisms within the organisation itself (COSO, 2013a). The strong points of having a good internal control system are that it helps the organisations achieve their goals and reduce any inefficiency that occurs. The effects would be that the organisation will have dependability and assumed to be compliant with the rules and regulation when they comply with internal control systems.

There are some limitations of internal control systems that must be taken into context. The system only provides specific guidelines that must be adhered to by the employees themselves. Human capital and empowerment are the ones responsible for the success of such systems (Spector, 1982). The control systems are maintained by the employees and should have adequate control values in order for the employees to have a common understanding of the system. If the system is too controlling, tedious or complicated, the compliance to such systems tends to become less ineffective (Gamage, Lock, & Fernando, 2014). The main controller or the leaders within the organisation itself are the ones responsible over the use of internal controls and are open to abuse the system for their own benefits (Agbejule & Jokipii, 2009). The weaknesses of internal control are that in the past it is not an active system that reacts to any form of strategic adjustments when such a situation arises in an organisation (Jensen, 1993). Organisations are also unable to comply with such control systems as the cost of implementation requires a lot of fund for instance towards the integrated systems and employees training (Dorminey, Fleming, Kranacher, & Riley Jr, 2012).

There will be a deficiency when there is a lack of substance in one of the internal control system components (COSO, 2013b). The more equity and resources the organisation has at its disposal, the higher the rate of compliance internal control will be as they have more resources to comply to such actions (Petrovits, Shakespeare, & Shih, 2011). These studies indicated that the rate of growth, size and resources are related to the levels of impact internal control systems would have towards an organisational.

This study provides an overview related to control systems would have towards performance in the public sector. Whether the government departments are complying with international standards of control that would affect the overall organisational performance. This strength and weaknesses can then be measured and evaluated in order to further improve its levels of compliance.

This study provides an overview of the impact of internal control systems would have towards performance in the public sector. Whether the government departments are complying with international standards of control that would affect the overall organisational performance. This strength and weaknesses can then be measured and evaluated in order to further improve its levels of compliance. The real issues or problems motivating this study could include a desire to understand and evaluate the ongoing applicability of the 2013 COSO framework in contemporary organisational contexts. It may seek to address questions surrounding on whether such control systems of the COSO framework would have if which principles advocated by the 2013 COSO framework still hold significance in the face of evolving organisational practices. Additionally, the study might aim to contribute insights into why practitioners continue to prefer and find value in the 2013 framework, despite the availability of a more recent version. Understanding these dynamics could inform discussions around standard-setting, organisational governance, and the practical implementation of internal control systems. This study assesses how internal control systems, following the 2013 COSO Framework, affect the performance of government departments, particularly in terms of compliance with international standards. Despite a revision in 2017, the study examines whether the 2013 framework remains effective and relevant today and explores why it continues to be preferred by researchers and practitioners (Addy & Berglund, 2020; Park, Qin, Seidel, & Zhou, 2021). The insights aim to enhance understanding of internal control compliance and inform organisational governance practices.

### **Literature Review**

The American Institute of Certified Public Accountants (AICPA) had contributed towards the Cohen Contribution which consists of elements important contributions towards the COSO framework. The commission recommended that management report concerning internal controls and this initially received feedback from auditors stating that there were unclear definitions and meaning concerning internal control (Evans, 1978; Norby & Stringer, 1978). The Securities and Exchange Commission (SEC) of the United States then proposed in 1979 calling that internal control is mandatory in management reports (ABA., 1994). The proposal was again criticised of not having a clear definition of internal control. AICPA had then published the statement of auditing standards number 55 in the year 1988, this standard requires auditors to have an understanding towards an organisation's internal control (Johnson, 1990). The standard had also defined internal control in terms of the control environment, accounting system and control procedures. The Treadway Committee was formed in 1985 to support the National Commission on Fraudulent Financial Report (which is then now called the Treadway Commission). The Treadway commission was then tasked to identify factors relating to fraud and propose any recommendations in preventing fraud to the United States Congress. The commission had also indicated that management of companies should include reports of the effectiveness of internal control in their organisation. The committee had a purpose and contributed towards raising the level of concern regarding internal control at that period of time.

The Sarbanes-Oxley (SOX) Act of 2002 was the bill of law that was passed in July 2002 by the United States Congress (U.S. Federal Register, 2002). This bill was the result of a large amount of corporate and accounting scandals that were occurring in the United States during

that period of time. The bill had also played a major influence on the global scale on how organisations are more transparent in their internal process and control. The senior management of any organisations is now held liable for the information that is reported. This is to ensure fraudulent activities can be reduced and penalties are incurred towards any organisations that do not act accordingly towards the bill. Multiple areas of research consist of the after-effects and post-effects of the implementation of the bill (Wolfe & Hermanson, 2004; Kinney, 2005; Ofori, 2011; Bash, 2015). The bill had made important changes towards the accounting, corporate governance and financial reporting methods as these reports will have consequences to those publishing them are now held accountable. The regulations development had helped control the number of fraud cases occurring post implementation of the bill (Power, 2013). Since then, the Public Company Accounting Oversight Board had been established with the purpose of providing oversight and audit on companies that required to report in the Securities Commission (PCAOB, 2016). The PCAOB is a non-profit private sector corporation with the purpose of overseeing audits of public companies to ensure that the investors and the public interest are protected. This is through the information of accurate and informative audit reports. There are sections in the bill that are material information in this discussion. The following table provides a summary of the Sarbanes-Oxley Act bill.

In the realm of public practice of internal control systems in developing countries in Southeast Asia, discussions surrounding the Sarbanes-Oxley Act implementation can offer valuable insights (Rahman, Jamaluddin, Hamzah, & Aziz, 2019). While Sarbanes-Oxley Act is a U.S.-specific regulation, the principles it embodies, such as the importance of strong internal controls, transparency, and accountability, are universally applicable (Su, Zhang, Ge, & Chen, 2022). Recent studies mentioned had evaluated the association of internal control and sustainability. Developing nations in Southeast Asia, undergoing economic expansion and increased global integration, face challenges in ensuring effective internal control systems within public institutions. Sarbanes-Oxley Act, with its emphasis on preventing fraud and enhancing the reliability of financial reporting, provides a benchmark for effective control practices (Rahman et al., 2019). Public entities in Southeast Asia can draw inspiration from the SOX framework to strengthen their internal controls, particularly in government departments entrusted with executing policies and objectives. Lessons learned from Sarbanes-Oxley Act implementation, especially in terms of leadership commitment and control environment, can inform the development and enhancement of internal control systems in the public sector of Southeast Asian and developing countries. This cross-cultural exchange of governance practices contributes to the ongoing evolution and refinement of internal control systems in the context of public administration and financial management in the region. The following table provides a summary of the Sarbanes-Oxley Act bill.

**Table 1**  
**Summary of Sarbanes- Oxley Act**

Section	Function
101	This section establishes PCAOB as a non-profit corporation with the purpose of overseeing all audits related to the SEC
201	The establishment of new rules on auditors' independence and prohibited practice The limitations include the financial information system design and implementation, internal audit outsourcing and others
301	The section states that all audit committee members be independent

	Any external audit reports are to be overseen and compensated by the audit committee
302	The Chief and Executive Officer and Chief Financial Officer must certify the annual reports
	The SOX bill will impose fines or jail term on individuals violating this requirement
404	The management is responsible for maintaining internal control
	The management is also responsible for the annual assessment of internal control
Others	Other titles in the act include that the organisation required to adopt a code of ethics for a senior officer
	It is required that there is a financial expert on board the audit committee
	There is also the mention of whistleblowers protection and policy

One of the most cited studies concerning control was done in the early '80s, whereby the findings had shown that the control of individuals is related to motivation, effort, performance, satisfaction, perception of the work, compliance, and the supervisors (Spector, 1982). The locus of control was the centre in determining how control affects individualistic behaviours. Further studies had focused on the locus of control in assessing behaviours and patterns related to analyse patterns of behaviour on control towards individuals. Prior studies in 2005 had examined the effect of the Sarbanes-Oxley Act. Such studies had shown that internal control is positively correlated with business complexity, whereas it is negatively correlated with firm size and firm profitability (Weili & Sarah, 2005).

### **COSO Framework**

The Committee of Sponsoring Organisations of COSO is an organisation that is tasked towards providing development of frameworks and guidance concerning enterprise risk management (ERM), fraud and internal control (Mcnally, 2013). The five major professional associations that are involved in COSO are the Institute of Internal Auditors (IIA), the National Association of Accountants (now the Institute of Management Accountants (IMA)) the American Accounting Association (AAA), the American Institute of Certified Public Accountants (AICPA), and Financial Executives International (FEI) (COSO, 2016). The internal control framework of COSO is the common framework based on the definition of internal control in order to evaluate controls in an organisation. The COSO framework was initially released in 1992 and was generally accepted throughout business organisations (Mcnally, 2013). Through the internal control framework, the board of directors and management of the organisation are required to provide reasonable assurance concerning their control operations, financial reporting together with the compliance with the law, rules and regulations. The COSO framework consists of five components which are control environment, risk assessment, control activities, information, and monitoring activities. Control environment serves as the foundation of the COSO framework, risk assessment, control activities and monitoring activities are the subcomponents of the whole framework. The interactions between these components are communication and information which serves as connectivity amongst each other. For instance, the information of control between control activities and risk assessment are correlated to each other. The risk can be assessed with the analysis of proper internal control in control activities.

The COSO framework triangle provides a clearer picture of how these components relate to each other. As previously mentioned, the control environment sits at the top and serves as the



foundation of the COSO framework. Each of the components communicates with each other through information and control. There are three principles that are required in order for these components to function, which are present, functioning and operating together. The present is where the relevant principles exist in the design and implementation of the internal control system. Functioning is where the relevant principles continue to exist in the internal control system in order to achieve the organisation's objectives. Whereas operating together as all the five components of internal control has collectively reduced the risk of not being able to achieve the objectives. The five components of the control environment, risk assessment, control activities, information, and monitoring activities will be further discussed later in the following subsection. The COSO executive summary stated that internal control as a broad process of whereby the leaders of the organisation provide assurance in order to achieve the intended objectives. This is through certain criteria's such as effectiveness, reliability and compliance in order to complete the intended objectives (COSO, 2013b). The comparison with government organisations is that the leadership government are therefore responsible that the civil servants or workers are able to achieve intended targets. The consultant for the Institute of Risk Management (IRMI) explains that the COSO framework as too demanding which requires too much information that can be handled and processed by any organisation (Leitch, 2005). Such problems that arise when an organisation adopts the COSO framework includes the emergence of more gaps when listing the controls, and most organisations take up the COSO framework due to the Sarbanes Oxley Act (Addison-Hewitt Associates, 2003)

The basis that the control environment is the foundation of internal control as it is where the internal control system is built and operated in any given organisations. The control environment serves as the control centre which is established and maintained by the management and employees of the organisation (D'Aquila, 1998; GAO - Government Accountability Office, 2014; Yurniwati & Rizaldi, 2015). The control environment as stated is the key component of the internal control systems as it sets out the tone and influence of the organisation that could in either hand prevent fraudulent activities (Ramos, 2004; A. Zahari, Said, & Arshad, 2019a) The control environment is different as compared to the activity level control due to having a pervasive component that can influence the organisation activities. The control environment includes elements of the ethical values and management integrity to organisational competence. This is mentioned in various literature that control environment has elements of ethical values (Brewington, 2013; Ernst & Young, 2013; Wyk, 2013). The overall justification that control environment influences organisational environment should be able to be observed through the research framework.

Risk assessment is when the organisation is faced with various risks whether internal or external risks and evaluates and engages in the necessary countermeasures to counteract the risks. The precondition of risk assessment is the establishment of objectives which are linked to different levels and internally consistent, through having a set-out objective, the risks can be assessed accordingly (COSO, 2013). The practical utilisation of risk assessments is identifying the relevant risks that are associated with achieving the objectives. The risks are first identified and analysis is observed in terms of political, economic, social and technological areas of the organisation (KPMG, 1999). The risk assessment that addresses both financial and non-financial risk will be more efficient and effective in any given organisation.

The control activities are the policy and procedure that ensure the objectives of the management are being met. The activities that can be included in control activities can be from approvals, authorisations, verifications, reconciliation, reviews of the operating performance and the security of the assets (COSO, 2013). The evaluation of control activities will contribute towards improving efficiency and mitigations of risks in order to achieve the organisations objective. Such research of internal control in Malaysia had enabled valuations of good internal control

in organisational activities (Sulaiman, 2007; Masrek, Mohamed, Daud, Arshad, & Omar, 2014). When there are higher degrees of control activities in the organisation will lead to a more effective internal control system (Agbejule & Jokipii, 2009).

Through information and communication, the relevant information is captured and communicated to enable users to perform their responsibilities. The output of this information which are reports, financial reports or compliance information makes it possible to control the organisation. There are internal and external data that is also relevant information in order to maintain control over the organisation. In order to have an effective information and communication system, each of the parameters needs to have their own role in the internal control system. The method of communication is important for management in order to provide a better overview of the organisation's internal control (COSO, 2013). Prior literature examined the levels of effectiveness of information and communication brings better and enhanced decision making towards the objectives of the organisation (Ofori, 2011; Gamage et al., 2014). Through having better information, management of the organisations is able to make better sound decisions that will improve achieving the objectives of the organisation (Chatama, 2013; Handsome, 2016; Lansiluoto, Jokipii, & Eklund, 2016).

The internal control system needs to be monitors consistently in order to provide quality performance over a period of time in the organisation. The ongoing monitoring activities include supervision from the management of assigned individuals. Through more high-risk areas, a higher amount of monitoring activity will be required for those areas. Together with the other components of internal control, it will provide effective and higher efficiency over the operations of the organisations (COSO, 2013). The monitoring in organisational sometimes shows alternate results towards organisational behaviour. Studies had stated that optimal levels of monitoring improve the effectiveness of internal control (Agbejule & Jokipii, 2009). When there is too much emphasis towards monitoring, this will lead towards more pressure on managers which in turn yield negative results on the effectiveness of the organisation.

The COSO Enterprise Risk Management included three included three more additional components such as objective setting, event identification and risk response as compared to the 2017 framework (Udeh, 2020). The study focuses on the 2013 COSO framework for evaluating internal control systems, which lacks the additional components of objective setting, event identification, and risk response introduced in the 2017 framework. The 2013 framework remains more relevant for the study's purposes, as it encompasses core functions and values that are integral to assessing and enhancing internal control systems within organisations as the discussions and literature are still currently being done in recent settings (Rahman et al., 2019; Addy & Berglund, 2020; Su et al., 2022).

### **Malaysian State Government Departments**

Malaysian State Government Departments and agencies represent key administrative entities within each state. These organisations, overseen by the state secretary, encompass various structures such as departments, offices, corporations, councils, foundations, and commissions (Department of Information Malaysia, 2017). Each operates under the leadership and coordination of the respective state department, contributing to the effective governance and implementation of policies at the state level in Malaysia. Prior works of literature had attempted to study and evaluate internal control systems in various and different settings of the public office (Abd Aziz, Ab Rahman, Alam, & Said, 2015; Rosli, Aziz, Mohd, & Said, 2015; A. Zahari, Said, & Arshad, 2019b).

The public sector in the nation has long faced criticism for inefficiency, bureaucratic hurdles, inflexibility, inadequate accountability, and subpar performance (Berman, 2016). Malaysians continue to hold the perception that the public sector is susceptible to manipulation by

unscrupulous individuals (Rosli et al., 2015; A. Zahari & Said, 2019). This perception has, in turn, diminished public trust in the credibility of government institutions, particularly concerning reported instances of corruption in various public practice. This issue is relevant to the study, as it underscores the challenges and negative perceptions surrounding the public sector's performance and integrity, which may impact the evaluation of internal control systems.

### **Hypothesis Development**

The control environment is strongly related to the structure of the organisation. When there is strong internal control within the organisation, it indicates that there is strong leadership that had caused that control to have strong footings (COSO, 2012). The control environment is the standards and processes that are important for any organisations (COSO, 2013b). When there is a positive control environment, the objectives of the organisation would be met and there is the assumption that efficiency would increase (Hansen, 1997). Therefore, a positive relationship should exist between control environments and performance which leads us to the following hypothesis

#### **H<sub>1</sub>: The levels of control environment is positively related to the levels of performance**

Risk assessment is related to the levels of risks associated with the organisation. This can be through the decisions made or any upcoming actions that will affect the organisational performance. Every organisation relies heavily on the risks involved when making any decisions. The overall impact should be constantly evaluated in order to have improved control decisions. Organisations that properly assess their risks are often related to successful organisations (Kendrick, 2000). The following hypothesis is assumed that when organisations have strong levels of risk assessment there will be higher levels of performance that suggest the following hypothesis

#### **H<sub>2</sub>: The levels of risk assessment are positively related to the levels of performance**

The control activities are related to the practice and procedures within the organisation that helps the employee achieve the objectives set out by the management of the organisation (COSO, 2013a). The activities of control activities involve a wide range of categories such as the non-financial and financial functions of the organisation. Through such activities, the organisation is then able to improve their overall performance in effectively achieving the set targets. There is a need to have a proper set of control activities in order to achieve greater overall performance within the organisation (Jokipii, 2009). The following hypothesis states that

#### **H<sub>3</sub>: The levels of control activities are positively related to the levels of performance**

Any information is vital to the context of decision making in an organisation. Strategic and effective calls are often made when there is more information on the subject matter. Management, leaders, and employees often rely on information in order to have sound judgements in their decisions (Brown, Treviño, & Harrison, 2005). When there is reliable information in an organisation, this would positively impact the decisions in the organisation (Atkinson, Kaplan, Matsumura, & Young, 2012). It is proposed that



**H4: The levels of information and communication is positively related to the levels of performance**

Monitoring activities involve the employee's adherence to and compliance in the organisation (COSO, 2013a). The main purpose of monitoring is to properly assess the effectiveness of internal control systems through constant evaluations of activities of the organisation. This includes actions such as supervision of employees, compliance with the set of control systems or sudden audits to determine that such internal controls systems were in place (Simer, 2013). The following hypothesis states that

**H5: The levels of monitoring activities are positively related to the levels of performance**

The overall internal control systems include all the five components. The overall effectiveness of the system should positively influence organisational performance. This generates the last hypothesis

**H6: The levels of internal control systems are positively related to the levels of performance****Methods**

In this study, data collection involved administering questionnaires to a sample of 343 state government departments out of the total 459, resulting in a commendable response rate of 74.7% (Mucciarone, 2008; Mucciarone & Neilson, 2011; Haynes, 2017; Zahari, Said, & Arshad, 2019; Zahari et al., 2019b). The research method adopted for this investigation was a questionnaire-based survey, strategically utilizing purposive sampling. This deliberate sampling approach aimed to select respondents with specific expertise or experience related to internal control systems within state government departments. By employing purposive sampling, the study sought to ensure that the selected participants could provide valuable insights into the effectiveness and functioning of internal control systems. The high response rate underscores the commitment of the surveyed state government departments to actively contribute to the research, enhancing the reliability of the collected data. This approach not only maximized the likelihood of obtaining comprehensive and accurate information but also enhanced the overall validity of the study's findings by engaging participants who are well-equipped to answer the research questions effectively (Creswell, 2014).

This method is chosen to investigate the relationship between internal control systems, performance, and organisational effectiveness. The study as stated is based on the six hypotheses, primarily based on the premise that effective internal control systems, consisting of the five components defined by the COSO framework, have a significant impact on an organisation's performance. This relationship is rooted in existing literature, particularly studies that suggest a positive association between internal control and overall performance (Sanusi, Johari, Said, & Iskandar, 2015).

The survey development process is structured to assess the key elements of the research, starting with Section 1 dedicated to collecting demographic information from the participants. This information is important to understand any potential demographic variations in responses. In Section 2, the survey delves into the concept of Internal Control Systems. Respondents are queried on their familiarity with the COSO framework, a recognized standard for evaluating internal control systems. This section aims to gauge the participants' knowledge and background regarding the framework, acknowledging that prior knowledge may influence their

responses.

The subsequent sections of the questionnaire will delve into various facets of the study's constructs. These include Performance and Organizational Effectiveness, based on the parameters specified in the study. Performance is evaluated by assessing the objectives achieved by employees, including personal objectives, group objectives, and overall performance objectives. These measures aim to capture the multifaceted nature of performance within the organisation, ensuring a comprehensive evaluation.

The selection of respondents through purposive sampling is strategic and is informed by the specific criteria relevant to the research. In this case, the sample is likely to include individuals with a certain level of knowledge or involvement in internal control systems, possibly from various organisational backgrounds. This method is chosen to target respondents with expertise or experience relevant to the research topic, increasing the likelihood of obtaining valuable insights.

In summary, the research method employs a questionnaire-based survey to explore the relationship between internal control systems, performance, and organisational effectiveness. The questionnaire is thoughtfully structured to assess the key variables of interest, with demographic data collected to account for potential variations in responses. The use of purposive sampling ensures that respondents with relevant knowledge and expertise are included, making the results more meaningful and reflective of the study's objectives.

The current research employs a 7-point Likert scale, ranging from "strongly disagree" (1) to "strongly agree" (7), to assess both exogenous and endogenous variables, including the moderator. To determine the required sample size, G\*Power 3.0 software is utilized, applying an effect size of  $f^2$  equal to 0.15, a significance level ( $\alpha$ ) of 0.05, and a power ( $Gf$ ) of 0.95, with a single predictor being tested. Consequently, a minimum of 89 respondents is necessary for this study. However, we distributed 459 questionnaires and received 343 completed questionnaires suitable for analysis. Figure 1 provides an overview of the research framework, which comprises three variables under investigation. The data analysis and evaluation of the research hypotheses were conducted using SmartPLS 4.0 software.

The method used in this study which is through a questionnaire-based survey with purposive sampling is justified for several reasons. Firstly, questionnaires allow for efficient data collection from a large number of departments, making it possible to gather a wide range of insights as done by prior studies on public sector (Bakri, Said, & Karim, 2015; Othman, Aris, Mardziah, Zainan, & Amin, 2015; Kim, Cho, & Yang, 2024). Secondly, purposive sampling ensures that the respondents have relevant experience with internal control systems, which is important for obtaining accurate and meaningful data (Creswell & Creswell, 2017). This targeted approach helps in gathering detailed and knowledgeable responses about how these systems affect performance. Finally, the structured survey format facilitates consistent data analysis, which is important for testing the hypotheses about the relationship between internal controls and organisational effectiveness (Bloomfield & Fisher, 2019).

## Findings

The following table 2 provides an overview of the descriptive statistics for key variables related to internal control systems (ICS). The variables include ICS1CE (Internal Control System, Control Environment), ICS1RISK (Internal Control System, Risk Assessment), ICS1CA (Internal Control System, Control Activities), ICS1INF (Internal Control System, Information and Communication), ICS1MON (Internal Control System, Monitoring Activities), and ICSALL (Overall Internal Control System). Each variable is measured on a scale ranging from 1.00 to 7.00. Notably, the minimum and maximum values for each variable demonstrate the range of responses, with the mean providing a measure of central tendency. The mean values

indicate the average rating given by respondents, and the standard deviation reflects the extent of variability or dispersion in the responses. For instance, ICS1RISK has a mean of 5.4537 with a standard deviation of 1.36944, indicating a relatively higher level of dispersion compared to ICSALL, which has a mean of 5.2885 and a lower standard deviation of 1.19267. These statistics offer valuable insights into the central tendency, variability, and overall distribution of responses regarding different aspects of internal control systems within the studied sample.

**Table 2**  
**Descriptive Statistic**

	Minimum	Maximum	Mean	Std. Deviation
ICS1CE	1.20	7.00	5.1750	1.18459
ICS1RISK	1.00	7.00	5.4537	1.36944
ICS1CA	1.00	7.00	5.2709	1.28980
ICS1INF	1.00	7.00	5.3369	1.30792
ICS1MON	1.00	7.00	5.2487	1.31756
ICSALL	1.04	7.00	5.2885	1.19267

The following Table 3 shows the results of the relationships between the variables. Their results indicated that only the control environment has a significant relationship with organisational performance ( $p < 0.05$ ).

**Table 3**  
**Results**

	Beta	t	Sig.
(Constant)		9.189	.000
ICS1CE	.384	2.356	.019*
ICS1RISK	.075	.473	.637
ICS1CA	.318	1.830	.068
ICS1INF	.073	.338	.735
ICS1MON	.213	1.621	.351
ICSALL	.588	1.138	.256

a. Dependent Variable: PERF

The other variables involved within the internal control indicate t value was almost significant especially in terms of control activities ( $t = 1.830$ ). This, however, resulted in relationships that were not significant towards organisations performance. The only significant relationship was the control environment ( $t = 2.356$ ,  $p = 0.019$ ) towards performance. This result will be discussed in the following section in terms of overall analysis and discussions.

## Discussion and Conclusion

The control systems placed in each of the organisation provides assurance to stakeholders that their intended objectives are met. This goes the same in the public sector as most policies are their objectives and government departments are the organisations that are entrusted to execute

these policies towards the public. Internal control systems do not only influence efficiency, but studies had also shown that the system could influence other factors within the organisation such as internal audit quality (Badara & Saidin, 2013). This study had evaluated each of the sections within internal control systems towards performance.

The values such as employee's knowledge or attitude in complying towards the use may have some influence on the overall effectiveness. The significant result here was that when the organisation focuses on the control environment, they are then able to positively influence the organisation's performance. These strong control environments are very much dependent on the leadership values maintained within the organisation. Such studies had shown that leaders who conform to control tend to improve overall organisational performance (Shields, Deng, & Kato, 2000). The direction of the management can positively or adversely influence the organisation's environment (Staicu, Tatomir, & Lincă, 2013). Though the overall internal control systems show no significant values, it should be noted that the correlations still shows positive values. This means that such efforts towards the overall internal control systems and their components will have some positive values and effect.

The findings suggest that while internal control systems as a whole do not show significant direct effects on organisational performance, focusing on specific elements like the control environment can positively impact performance (Lewis, 2016; Agyapong, 2017). Employee knowledge and attitudes towards compliance also play a role in the system's overall effectiveness. Leadership values are crucial, as strong control environments, supported by effective leadership, lead to better organisational outcomes (Staicu et al., 2013). Despite the lack of significant overall results, this would indicate that efforts to improve internal control systems and their components are still valuable and beneficial to the organisation's performance. Thus, targeting specific areas such as leadership and control environment can enhance the effectiveness of internal controls and contribute to better organisational results.

The size of the organisations in the study is in the majority of more than 50 people per organisation. This is related to the number of resources an organisation has at its disposal. A large amount of public sector organisational structures in these departments allowed deficiency that can potentially affect internal control systems (Hauner & Kyobe, 2010).

The managers are then able to further identify which parts of control systems to improve in order to have improved performance. The managers must also become a role model for their employees in following the control systems within the organisation. The employees tend to mirror such behaviour when the leaders show high levels of compliance (Rae & Subramaniam, 2008).

### ***Theoretical Implications***

The findings of this study represent theoretical insights in regards to internal control systems and organisational performance. By assessing each component of the COSO framework, the research has shown us the importance of the control environment, particularly influenced by leadership values, in positively affecting an organisation's performance. These results suggest that leadership's commitment to control practices can significantly enhance overall organisational effectiveness. Furthermore, while the overall internal control systems did not demonstrate significant effects, the positive correlations emphasize that efforts directed at both the entire system and its components can yield positive outcomes.

### ***Practical and Social Implications***

The following are practical implications for managers and leaders in organisations. The study shows us the importance of fostering a robust control environment within an organisation, led by leaders who exemplify compliance with control systems. Managers can use this insight to

identify areas for improvement and recruit competent employees to reinforce a positive control culture. In resource-constrained environments, like government departments, this understanding is crucial for optimizing control systems. This research encourages future studies to explore these dimensions across diverse populations and sub-cultures, recognizing the unique values and working attitudes that can impact internal control effectiveness.

### ***Limitations and Suggestions for Future Research***

The studies limitation was towards the sample data. This could have been further expanded through other sectors such as the private sector. There are also some limitations in terms of resources in the government departments which resulted in them not have high levels of compliance towards internal control systems (Zahari, Said, & Arshad, 2019c). This limitations in terms of resources can be in terms of funding's or resources that can adversely affect overall organisational performance.

The study was only towards the levels of use of internal control systems. Testing the basic function and knowledge of advanced internal control system may be limited as this study only evaluates on the overall basics. Further studies can include other dimensions and observe other government organisations.

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