

Employees' Perceived Risk Management in Public Procurement and Finance: Evidence in Malaysia

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ABSTRACT

This study evaluated employees' perspectives about goal setting, the internal environment, information sharing, risk response, monitoring, risk assessment, control activities, and awareness of internal controls. Five hundred thirty-seven public workers responded to a questionnaire survey based on the Committee of Sponsoring Organizations (COSO) Enterprise Risk Management (ERM) (2004). In general, all employees in the public sector perceived procurement and risk management as high-risk sectors within the government's procurement and payment divisions. This study demonstrated that employees comprehend risk management, although their understanding of internal controls is somewhat lacking. In addition, the employees voiced their concerns regarding the conflict of interest among review team members, the significant inertia, the numerous contact points, the preferred supplier indicators, the quantity of proposals, the ties between bidders that inhibited competition, and especially the size of bids. To achieve government goals, public personnel concurred that they must comprehend the systematic and procurement processes for all activities. This study implies that the employees may persuade top management to adopt a robust risk management strategy prior to establishing ministry and departmental goals, thereby aiding the government in enhancing risk management and combating corruption and the government's Sustainable Development Goals (SDG) 12 and 16.

Keywords: Risk management, Committee of Sponsoring Organizations (COSO), Enterprise Risk Management (ERM), Malaysia, Sustainable Development Goal (SDG).

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INTRODUCTION

Organisations will always face risks in various ways. The public sector is not an exception to this scenario, which faces issues involving corruption, fraud, cyberattacks, and operational risks, among others. The annual report of the Malaysian Anti-Corruption Commission (MACC's) 2021 showed that corruption is one of the risks facing the Malaysian government. At the same time, the MACC has also used two main initiatives to strengthen the prevention of corruption in organisations, namely the Corruption Risk Management (CRM) and Organisational Anti-Corruption Plan (OACP). Based on the financial statements of 2021, procurement and finance are the areas with the highest risk of corruption (risk areas) for the cluster of ministries, state governments, and local governments. While there is a cluster of enforcement agencies, the offences that often occur are related to regulations. There has also been a failure to take action against the offenses (MACC, 2021). Therefore, risk management is important for procurement and finance in the Malaysian public sector. This is evidenced by the fact that the Anti-Corruption Advisory Board Review (ACAB) 2021 suggested that the government and MACC work together in formulating a proactive and effective crisis management plan, including examining contingency risks to respond to the public's (Malaysian and international) bad perception of the government.

Furthermore, according to Transparency International (2020), a significant proportion of Malaysians, specifically 71%, perceived government corruption as a substantial issue. It is noteworthy that a significant proportion of the respondents, specifically 39%, held a strong belief that corruption was seeing an upward trend. The CPI score for Malaysia reflects the perceived extent of corruption within the public sector, measured on a scale of 0 to 100. A score of 0 signifies a high level of corruption, while a score of 100 indicates a very low level of corruption. According to the data from Transparency International (2023), from 2012 to 2014, there was a moderate upward trend observed in the CPI score, which rose from 49 in 2012 to 52 in 2014. During 2015 to 2019, the CPI score exhibited fluctuations, reaching a minimum of 47 in both 2017 and 2018, and attaining a maximum of 53 in 2019. The score exhibited a reduction from 51 in the year 2020 to 47 in the year 2022.

Furthermore, the MACC reported a series of offences that have occurred in the public sector, such as charges of misuse of power, corruption, and money laundering; embezzlement of allocations; government tender cartels; money laundering; transaction structuring; supply tender bribery; illegal sales activities; illegal withdrawals; maintenance procurement fraud; and false claims. According to the report, approximately 46.1% of cases in 2021 involved employees of the public sector, showing the need for risk management (MACC, 2021). Therefore, examining this issue can assist the public sector to identify, analyse, control, and monitor existing risks; strengthen the sector's framework; provide a discussion platform; help achieve its strategy; and minimise the impact of the probability of any event. This can improve public sector employees' understanding of risk management and, subsequently, effectively and efficiently manage procurement and finance. However, studies that have examined employees' perceptions of risk management in the public sector are limited.

This study examined how employees in the public sector perceived risk management in procurement and finance. The findings of this study are expected to assist the government in developing a more comprehensive risk management system. The primary outcome of this study will be advantageous to the many parties involved in an endeavour to reduce the danger of corruption in the public sector. This study is consistent with the government's Sustainable Development Goal (SDG) 12.7 (2023), which promotes public procurement practices that are sustainable, in accordance with national policies and priorities and the SDG 16 (2023) initiative, which seeks peace, justice, and strong institutions. Goal 16.5 of the SDG aims to reduce corruption and bribery in all their manifestations. Public procurement has a close relationship to the SDG and risk management. Governments are significant purchasers of products and services, and they can use their procurement practices to promote sustainable development and mitigate risks associated with procurement activities.

Sustainable development necessitates the management of a vast array of risks, including environmental, social, economic, and political risks, making risk management a crucial aspect of attaining the SDG. Effective risk management can aid in identifying and mitigating these threats, ensuring the achievement of the SDG in a sustainable and accountable manner. Overall, risk management effectiveness is crucial for attaining the SDG through

public procurement. Governments can identify and mitigate risks, promote sustainable development, and contribute to the achievement of the SDG by integrating risk management into their procurement practices. Effective risk management can contribute to the attainment of the SDG through public procurement. Effective risk management can aid in the identification and mitigation of corruption, fraud, and other forms of malfeasance in public procurement. Governments can promote transparency and accountability through their procurement practices by assuring fair and competitive procurement processes, preventing corruption, and promoting accountability and integrity in public procurement. The next section, Section 2, presents the literature review. Following this is Section 3, which presents the research design, and then Section 4, which presents the findings and discussion. The final Section 5, concludes.

LITERATURE REVIEW

Risk Management and Internal Control

Risk management is a procedure that can assist an organisation in identifying and assessing potential risks based on their possibility and impact, as in the procurement and payment processes. Hatvani (2015) asserted that the term ‘risk’ refers to the positive and negative connotations of ambiguity in connection to the satisfaction of an organisation’s needs. To guarantee that an organisation’s goals and objectives are realised, the leadership must be prepared to manage all of its risks effectively (Pawi et al., 2012). This opinion may suggest that risk management, as a process, can add value to an organisation’s decision-making process, which can emphasise the organisation’s improvement, particularly in the government sector.

A body of the risk management literature has extensively examined risk management and internal control in the private sector. Some of the studies were done on Malaysian publicly listed companies (Abdurrahman et al., 2020; Lai, 2014), construction industries (Adeleke et al., 2020; Mustapha & Adnan, 2015; Kang et al., 2015), Islamic banks (Ariffin & Kassim, 2014; Adam et al., 2021), and small and medium enterprises (Ariffin & Kassim, 2014; Tan et al., 2021) Besides that, there is also a study related to the risk management model involving government-linked companies (GLCs) (Daud

& Yazid, 2009) and the influence of the risk management officer and board of directors towards risk management implementation (Yazid et al., 2011).

Another body of literature has examined risk management and internal control in the public sector. These studies include risk management and accountability (Bakar et al., 2016), risk management for Malaysian public-private partnership projects (Ahmad et al., 2018), risk management and analysis for local government (Hatvani, 2015), assessment of risk management practices in the Malaysian public sector (Said et al., 2020), and the implementation of risk management practices (Mustapha & Abidin, 2017; Ilias et al., 2023). As a result, there are now opportunities for future studies to focus more on internal control and risk management in the public sector, which includes all stakeholders in an organisation. The public sector's need to implement appropriate advice in risk management and internal control practices could be satisfied through the private sector's most widely used Committee of Sponsoring Organizations (COSO) Enterprise Risk Management (ERM) (2004) or the ISO 31000 Risk Management frameworks. Previous studies, such as Tarjo et al. (2022) and Araújo and Gomes (2021) have utilised both the COSO ERM (2004) framework and ISO 31000 as part of their research designs.

The COSO ERM framework has undergone three transitions: COSO ERM 2004 (Integrated Framework), COSO ERM 2014, and the latest document, COSO ERM 2017 (Integrating Strategy and Performance Framework). This study examined seven (7) main processes, including objective setting, internal environment, information and communication, risk response, monitoring, risk assessment, and control activities, so that employees in the public sector could comprehend the first model of risk management and the framework for internal control. According to the Association of Certified Chartered Accountants (ACCA) (2022), there are several steps in this model: First, the objective setting, where the board should establish goals that complement the organisation's mission and align these with its risk tolerance. To determine objectives properly, the board must be aware of the risks associated with pursuing diverse objectives. Second, the organisation's tone is determined by its internal environment, which influences its appetite for risk, risk management attitudes, and ethical principles. Third, information systems should ensure that data is identified, captured, and delivered in a manner and timescale that permit managers and

employees to carry out their duties. The data presented to management must be pertinent and of sufficient quality. It must also encompass all objectives. Fourth, risks are aligned with risk tolerance and appetite by selecting appropriate management activities. Four primary responses characterise this stage: decrease, accept, transfer, and avoid. Fifth, the management system should be monitored and, if needed, updated. Sixth, the evaluations of the likelihood and effects of risks are used to decide how to handle them. Managers must not only map the likelihood and impact of each risk, but also look at how they affect each other. Finally, the policies and procedures should be followed to make sure that responses to risks work.

Malaysian Procurement

Procurement is the process of buying goods and services and paying for them. It is a shared responsibility between the public and private sectors. Buying things is a multi-step process that starts with planning and getting ready and continues with finding products or services, evaluating needs, choosing suppliers, and managing contracts. The procedure by which government agencies and public sector organisations acquire goods and services from vendors is known as public procurement. The public procurement process is governed by a collection of laws, regulations, and policies designed to ensure transparency, impartiality, and accountability. The objective of public procurement is to obtain the best value for money while fostering competition and assuring the responsible use of public funds (World Bank Group, 2018; The Institute for Public Procurement, 2012). Private procurement, on the other hand, refers to the purchasing activities of enterprises and other private sector organisations. Private procurement is governed by market forces and driven by an organisation's requirements and priorities. Private procurement, unlike public procurement, is not governed by any specific laws or regulations; however, private organisations may establish their own procurement policies and procedures to ensure efficiency, effectiveness, and compliance with applicable laws and regulations (Larson, 2009). The process by which the government purchases goods, services, and works is referred to as public procurement. It is the government's responsibility to ensure that the procurement process is carried out effectively and with reasonable efforts to protect public interest and guarantee the quality of the provision of public services.

In Malaysia, ‘government procurement’ means the procurement of supplies, services, or any combination thereof, carried out by an agency authorised by the Treasury, using federal appropriations (in whole or in part) for the purposes of the agency’s operations, the delivery of government services, or public interests (MOF, 2023a). Circular P.K.1 (MOF, 2023a) defines ‘procurement’ as follows: direct purchase (supply or services or work), direct appointment (work), direct appointment with ceiling cost (consultant services), requisition (work), quotation (supply or services or work), prequalification open tender (supply or services or work), open tender (supply or services or work), and request for proposal (RFP) - open tender (supply or services or work). These criteria can also lessen the likelihood of problems occurring and make the government’s procurement process more effective. Guidelines and approval limits are also provided in the government procurement process, incorporated in Financial Circular P.K.2 (MOF, 2023b). According to Rustiarini et al. (2019), who examined high-risk sectors for fraud, procurement is one of the tasks associated with procurement risk.

Previous studies have examined the relationship between procurement risk and corruption and fraud at length. For instance, Kamal and Tohom (2019) reported that there were 171 instances of procurement fraud in Indonesia, which accounted for 25% of the 688 fraud cases and showed an upward trend based on the number of occurrences of procurement corruption. Other examples of risks for procurement were bribery and corruption, poor communication in the code of conduct, lack of good quality fraud control (Rosli et al., 2015), a lot of complaints, inefficiency and ineffectiveness in its operation, limited hu-man resources (Ibrahim et al., 2013), lack of accountability and transparency, mismanagement over public anxiety, waste in public funds, low level of enforcement, bribery, and corruption in the Malaysian local government (Salleh & Khalid, 2011), improper management of public infrastructure and facilities, deteriorating public satisfaction (Pawi et al., 2012), risk of abuse, unethical manipulations and corrupt practices (Othman et al., 2010), non-compliance to scope, vague specifications and terms of contracts, delayed completion/non-completion of project, poor documentation, low quality of products, ser-vices, and work, little or no prior planning, and procurement weaknesses in direct pur-chase (Azmi & Ismail, 2022). Therefore, there is a need to know how the risks related to procurement are managed in both the private and public sectors.

According to Ahmeti and Vladi (2017), public sector risk management is essential because of its societal impact. Arguably, risk management could be important in the public sector, especially in the ways that money is spent and bought. Consequently, it could accelerate the process of identifying, analysing, responding, communicating, and monitoring any possible risks that could be faced by entities in the public sector. Additionally, employees could be considered as playing an important role in ensuring the implementation of risk management is widely implemented in the public sector. The understanding of the need for risk management could be limited due to the limitations of risk management and internal control among public sector entities in Malaysia.

Malaysia's public sector is an integral part of the country's governance and administration system. It consists of various government agencies, ministries, statutory bodies, and local authorities tasked with implementing policies, regulations, and programmes to service the public and advance national development. Malaysia's public sector is an integral part of the country's governance system and plays a significant role in determining the country's development trajectory and promoting public welfare. Malaysia's public sector is structured at the federal, state, and local levels. At the federal level, the public sector is led by the Prime Minister's Department and consists of various ministries that oversee various economic and social sectors, including education, health, finance, commerce, and industry (MyGovernment, 2023). The federal government is also responsible for immigration, foreign affairs, and defence and security of the nation. Putrajaya is the capital of Malaysia's federal administration and is governed by the federal government. The government of Putrajaya follows the same system of governance as the federal government, with a Prime Minister as the head of government and a Cabinet of Ministers responsible for supervising the various sectors of governance. The composition of Putrajaya's ministries is as follows: Prime Minister's Department, Ministry of Finance, Ministry of Home Affairs, Ministry of Defence, Ministry of Foreign Affairs, Ministry of Education, Ministry of Health, Ministry of Transport, Ministry of Works, Ministry of Energy, Science, Technology, Environment, and Climate Change, Ministry of International Trade and Industry, Ministry of Agriculture and Agro-based Industry, Ministry of Tourism, Arts and Culture, Ministry of Communication and Multimedia, Ministry of Human Resources, Ministry of Rural Development, Ministry of Housing and Local

Government, Ministry of Women, Family and Community Development, Ministry of Youth and Sports and Ministry of Entrepreneur Development and Cooperatives (MyGovernment, 2023). In conclusion, there is an integral relationship between procurement and risk management among government agencies and the public sector in Malaysia. Therefore, there is a need to be concerned about COSO ERM and procurement risks.

RESEARCH DESIGN

Sample

This study chose executives and non-executives from the public sector, particularly the procurement unit, as the sample. This sample was chosen because of respondents' experience in handling procurement and finance. Hence, they were deemed appropriate to be the respondents for this study. In total, there were 30,000 employees in the procurement and finance unit from 11 ministries in Putrajaya. Based on the general guideline by Krejcie and Morgan (1970) the minimum sample size is 380, and the study received responses from about 537 people. As suggested by Saunders et al. (2012) and Cohen (1988), a minimum sample size ensures that the study sample is large enough to be representative of the population. The minimum sample size depends on a number of factors, including the research design, the level of precision and confidence desired, the type of data being collected, and the statistical analyses to be performed. Therefore, this sample size among employees that handled the procurement unit was considered suitable and fit for this study as the context of this study was the procurement and finance units.

Research Instrument

This study used a questionnaire as the research instrument. The questionnaire was structured based on an extensive empirical review of articles on the procurement process, risk management, and internal control (Aziz, et al, 2018). The questionnaire contained items based on the COSO ERM (2004) related to the procurement process, risks, fraud, case evaluation, and internal control. Prior to its distribution to the ministries, the instrument was reviewed by practitioners to ensure the relevance of each item to the Malaysian public sector.

The questionnaire was divided into two sections. The first section was about the respondents' profiles, such as gender, age, working experience, position, role in the public sector, and level of awareness of the establishment of risk management and internal control in the public sector. The second section was on the factors of risk management and internal control in the public sector, based on COSO (2004) and Aziz et al. (2018). The purpose of this section was to examine the influence of risk management on fraud causes and challenges. It examined the respondents' perceptions of the procurement issues to identify their awareness of the issues.

The study showed the results of the analysis of the reliability of the seven risk management variables using Cronbach alpha coefficient. The 3 objective setting items had a Cronbach's Alpha of 0.906 and strong internal consistency. Internal environment contained 3 elements with a 0.907 internal consistency. Two (2) elements for information communication, had a Cronbach's Alpha of 0.719. Using 5 items, risk response showed great reliability with a Cronbach's Alpha of 0.917. Monitoring had 2 elements and a 0.943 internal consistency. Risk assessment was measured using 7 items and a strong Cronbach's Alpha of 0.938. Finally, Control activities had 8 items with a Cronbach's Alpha of 0.900 and good internal consistency. The items in each construct reliably assessed the concepts due to their high Cronbach Alpha scores. Based on Hair (2020), 0.719 could be considered good. Thus, all items in this study were considered good or high but not redundant.

Data Collection

At the beginning of the data collection process, emails and invitation letters were sent to the relevant personnel in each ministry for approval. After obtaining the approval, a cover letter and Google Form link were given to the representative for each ministry for distribution randomly to their employees (executives and non-executives) in the procurement and finance (payment process) departments. The questionnaires were completed between October 2022 and December 2022. The original duration for data collection was one month but was extended for particular ministries after follow-ups were done. At the end of the data collection period, 537 respondents from 11 ministries in Putrajaya contributed to the study.

Data Analysis

Descriptive analysis is an effective method for summarising and comprehending data, and it is utilised in a wide range of disciplines (Sekaran and Bougie, 2016). The objective of descriptive analysis is to summarise and describe a set of data so as to provide insight into and comprehension of its main characteristics and features. A dataset's frequency is the number of occurrences of a particular value or range of values. By calculating the frequency of each value or range, we can generate a frequency distribution that illustrates the data's distribution. This can be useful for identifying the most prevalent data values or ranges, as well as any outliers or unusual values. The purpose of the mean is to provide a statistic that summarises the central tendency of the data. Therefore, the data in this study was analysed by descriptive statistics about enterprise risk management, internal control and possible risks for procurement and finance.

RESULTS AND DISCUSSION

Demographic Profile

The participants in this study were primarily female (74.3%), aged between 31 and 50 (88.7%), with a significant proportion holding qualifications in the field of accounting (78%). The vast majority of individuals surveyed (80.3%) lacked a professional qualification, while a large proportion (60.9%) held positions as supporting staff. Furthermore, a substantial number of respondents (66.3%) possessed extensive experience in the public sector, ranging from 11 to 20 years. About 22% had less than 10 years experience, and 11.37% had more than 20 years experience. Approximately 37.6% of individuals were under the management and professionals category, while 1.5% were classified as top management. This implied the presence of employees who possessed substantial expertise in their respective positions, notably within the realm of public administration, coupled with a robust foundation in the field of accounting.

Employees' Awareness of Risk Management and Internal Control in the Public Sector

According to the analysis, about half of the people who answered the survey knew about risk management and internal control in the public sector (298 or 55.5%). This outcome indicated that there were opportunities to implement risk management and internal control in organisations by adapting the risk management and internal control frameworks. This awareness among public sector employees could provide an idea to the top management to provide a good quality risk management process for procurement in each ministry before setting objectives to ensure that the objectives could be achieved. Together with awareness, the respondents also showed interest in training, since 46.6% (250) of the respondents agreed they need both procurement and risk management training, while 40% also preferred training on the procurement process and 13.4% on risk management training. This result indicated the need to implement risk management for procurement as raised by Abdul Gani et al. (2020) and Azmi and Ismail (2022).

Employees' Perception of Risk Management in the Public Sector

Table 1 presents the descriptive statistics of objective setting. Based on the establishment of risk management, the first important matter is setting objectives in each organisation. Table 1 shows that the respondents mostly agreed on the importance of risk alignment across ministries, departments, and units in the public sector (mean score = 4.61). Furthermore, organisations must ensure senior management is aware of the risk expectations (mean score = 4.61). In addition, the respondents agreed that organisations should ensure that their ministries, departments, and units have a clear risk tolerance (mean score = 4.6).

Table 1: Descriptive Statistics of Objective Setting

	SD	D	N	A	SA	Mean
Organisation should align its organisational risks with ministry's, department's, and unit's goals and objectives	0	0.93	1.86	32.03	65.18	4.61
Organisation should establish explicit, corporate-wide risk tolerance levels or limits for all major risk categories	0	1.3	2.23	31.66	64.80	4.60
Organisation should clearly communicate its expectations for risk-taking to senior management	0.37	0.74	2.23	30.35	66.29	4.61

Key: SD=Strongly disagree, D=Disagreed, N=Neither agree to disagree, A=Agree, SA = Strongly agree

The descriptive statistics for the internal environment are shown in Table 2. The respondents felt that senior management should clearly understand the mission of having risk management and the benefits to the organisation (strongly agree = 68.53%, mean score = 4.64). In addition, the organisation should incorporate the responsibility for risk management into the job description of senior management (strongly agree = 68.16%, mean score = 4.64). Together with senior management, everyone in the organisation should actively play their role in ensuring the success of the risk management process (strongly agree = 67.97%, mean score = 4.64). The results are consistent with Tarjo et al.'s (2022) suggestion that top management should be devoted to and supportive of values and moral standards to influence organisational behaviour, responsibility, attitude, and actions in the desired direction. They also mentioned that the upper management of a company believes that control is essential and that the entire organisation will recognise and react to the implemented controls.

Table 2: Descriptive Statistics of Internal Environment

	SD	D	N	A	SA	Mean
Organisation should communicate the risk management mission statement, value proposition, and benefits statement to senior management	0.19	0.37	2.79	28.12	68.53	4.64
Organisation should incorporate responsibility for risk management into the position description of all senior management	0.19	0.56	2.42	28.68	68.16	4.64
Senior management and all related committees should be actively involved in the risk management process.	0.37	0.56	2.05	29.05	67.97	4.64

Key: SD=Strongly disagree, D=Disagreed, N=Neither agree to disagree, A=Agree, SA = Strongly agree

Table 3 presents the descriptive statistics of information and communication. The respondents agreed to having a common understanding in communicating all types of risks, maintaining internal control, and monitoring all risks the organisation could face (mean score = 4.60). The respondents also agreed that there is a need to have methods to communicate the issues related to risks to the management of each organisation in the public sector (mean score = 4.35). The results are consistent with Tarjo et al. (2022), who suggested that the local governments establish information and communication channels to ensure that all information is distributed appropriately to all personnel responsible for internal control throughout the organisation. Besides that, Abdul Gani et al. (2020) also suggested that every employee should be made aware of the risk management policies and the benefits they provide.

Table 3: Descriptive Statistics of Information and Communication

	SD	D	N	A	SA	Mean
Organisation should have a corporate-wide common language for communicating risk-type exposures, control activities, and monitoring efforts	0.19	0.56	2.42	32.77	64.06	4.60
Organisation has regular briefs to the management on risk management issues	0.37	1.68	10.06	38.36	49.53	4.35

Key: SD=Strongly disagree, D=Disagreed, N=Neither agree to disagree, A=Agree, SA = Strongly agree

The descriptive statistics of risk response are presented in Table 4. The respondents mostly agreed that the impact of the major risks should be integrated into the whole process in the organisation (mean = 4.64). They also agreed that organisations in the public sector should know the best way to assess risks and the root cause (mean = 4.63) and impact (mean score = 4.62) for each risk. In this part, every unit and department should be responsible and cooperate in developing a strategy to reduce risks (mean score = 4.61).

Table 4: Descriptive Statistics of Risk Response

	SD	D	N	A	SA	Mean
Organisation should conduct formal risk assessment across the organisation on a regular basis	0.19	0.74	2.23	31.10	65.74	4.61
Each unit and department should analyse the root cause, impact, and interrelationships of its risks	0.37	0.37	2.79	30.17	66.29	4.62

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Organisation should quantify its key risks to the best extent possible	0.37	0.56	1.68	30.35	67.04	4.63
Organisation should ensure that all process integrate the effects of the major risk types (strategic, operational, financial, hazard, and legal)	0.19	0.56	1.86	30.17	67.23	4.64
Each unit and department should develop and determine risk mitigation strategies	0.37	0.93	2.23	29.80	66.67	4.61

Key: SD=Strongly disagree, D=Disagreed, N=Neither agree to disagree, A=Agree, SA = Strongly agree

The descriptive statistics of monitoring in Table 5 show that monitoring, along with risk response, is supposed to ensure the existence of a risk policy and manual procedure that can cater to all risks in the organisation (mean score = 4.65). In addition, every unit and department under the ministry also needs to be capable of monitoring and communicating the status of risk management (mean score = 4.62). The results are consistent with Tarjo et al.'s (2022), which indicated that monitoring is crucial in guaranteeing risk management that can run effectively within the environment of the local government.

Table 5: Descriptive Statistics of Monitoring

	SD	D	N	A	SA	Mean
Organisation should establish written risk policy and procedure manuals that are consistent across major risks	0.19	0.56	2.23	28.49	68.53	4.65
Each unit and department should monitor and report on the current status of managing key risks	0.19	0.93	2.79	29.05	67.04	4.62

Key: SD=Strongly disagree, D=Disagreed, N=Neither agree to disagree, A=Agree, SA = Strongly agree

Tarjo et al. (2022) noted that risk assessment is also a key part of making a good internal control system and cutting down on fraud. Similarly, the descriptive statistics of risk assessment in Table 6 show that the respondents agreed that risk assessments of the financial aspects of procurements should be done in the organisation (mean score = 4.68). They also agreed that the organisation should assess the risks of a few crucial aspects, such as procurement, payment, compliance, technology, and economics. Additionally, Abdul Gani et al. (2020) cited the most important factor being the need to evaluate and manage the risks linked with other organisations.

Table 6: Descriptive Statistics of Risk Assessment

	SD	D	N	A	SA	Mean
Risks were analysed by considering the likelihood and risk impact as a basis to decide how to manage the risks	0.19	0.56	2.23	30.35	66.67	4.63
Risk assessment of financial aspects should be done	0.37	0.37	1.68	26.26	71.32	4.68
Risk assessment of regulation compliance aspect should be done	0.37	0.37	1.86	28.12	69.27	4.66
Risk assessment of technology aspects should be done	0.19	0.37	2.23	29.42	67.78	4.64
Risk assessment of economic aspects should be done	0.19	0.56	2.98	31.28	64.99	4.60
Risk assessment of payment should be done	0.37	0.37	1.49	28.31	69.46	4.66
Risk assessment of procurement should be done	0.37	0.37	1.86	27.19	70.20	4.59

Key: SD=Strongly disagree, D=Disagreed, N=Neither agree to disagree, A=Agree, SA = Strongly agree

The descriptive statistics of the internal control activities are displayed in Table 7. The results showed that the respondents mostly agreed on the need for task segregation (mean score = 4.69) and control over authority and documentation (mean = 4.67). Besides that, the organisation should have policies and procedures in place to respond to the risk that have been identified (mean score = 4.67). Other than that, the respondents also agreed for the need to have control over procurement and payment (mean score = 4.65), check on the effectiveness of internal control (mean score = 4.66), and implement the ERM process in the organisation (mean score = 4.64).

Table 7: Descriptive Statistics of Control Activities

	SD	D	N	A	SA	Mean
Policies and procedures were established and implemented to make sure an efficient risk response has been done	0.19	0.74	2.23	33.33	63.50	4.67
Control on payment and procurement aspect should be done	0.37	0.56	1.30	27.00	70.76	4.65
Control on emergency planning should be done	0.19	0.37	1.30	30.54	67.60	4.64
Control on routine check on control effectiveness should be done	0.19	0.56	1.49	30.17	67.60	4.66
Control on task segregation should be done	0.37	0.37	1.68	28.31	69.27	4.69
Control on authority to approve should be done	0.19	0.37	1.49	26.26	71.69	4.67
Control on document and record should be done	0.19	0.56	1.49	27.19	70.58	4.67
Control on the implementation process of ERM should be done	0.37	0.37	2.05	29.80	67.41	4.64

Key: SD=Strongly disagree, D=Disagreed, N=Neither agree to disagree, A=Agree, SA = Strongly agree

Possible Risks on Procurement and Finance in Public Sector

Table 8 presents the ranking of the items used to measure the possible risks for the procurement and payment processes. Conflict of interest among the evaluation team members for tender application was ranked first since 86.41% of the respondents agreed with this statement. Strong inertia in the evaluation committee's members was ranked second, with 86.22% of people agreeing. The third issue was related to contact relationships with suppliers and any persons related to the government sector (85.29% agreement), followed by favouritism issues related to preferable suppliers (84.92% agreement). The number of bids received (83.61% agreement) and any relationship with bidders in public procurement (83.5%) were ranked fifth and sixth, respectively, on the list of indicators of procurement issues. Seventh on the list was a large amount of tender funds (82.87% agreement), which could lead to corruption or fraud in public procurement. The eighth risk (82.50% agreement) was substantial changes in the project scope and costs after the project has been awarded, followed by the possibility of communicating with a representative not employed by the tender provider (82.18% agreement). The final item in the top ten risks that could affect the procurement process was related to the time span that has been shortened for the bidding process (81.75% agreement). The results indicated that the risks could affect the possibility of corruption or fraud occurring in the public procurement process within the public sector. Table 8 shows that corruption or fraud could occur during the processes of selecting the supplier, evaluating the supplier's prior performance, preparing the contract agreement, overseeing the services or completion in accordance with the agreement, and ensuring that the goods are delivered on time, in good condition, and up to the standard of quality specified in the contract. These results are consistent with Azmi and Ismail (2022), who found that failure to meet the agreed-upon parameters of the project or specifications and terms of the contracts, failure to produce adequate documentation, products, services, or work, and failure to perform adequate planning are weaknesses of the procurement process. Therefore, there is a need to investigate the perception among public employees of the factors for ERM COSO (2004) since it has been proven that procurement has various risks that need to be identified and assessed.

Table 8: Possible Risks for Procurement and Finance

	Total Agree	Total Disagree	Rank
Conflict of interest amongst members of the evaluation team	86.41	13.59	1
Strong inertia in composition of evaluation team	86.22	13.78	2
Multiple contact points	85.29	14.71	3
Preferred supplier indications	84.92	15.08	4
Number of offers	83.61	16.39	5
Connections between bidders undermines competition	83.05	16.95	6
Tender exceptionally large	82.87	17.13	7
Substantial changes in project scope/costs after award	82.50	17.50	8
Contact person not employed by tender provider	82.12	17.88	9
Shortened time span for bidding process	81.75	18.25	10
Award contract has new bid specifications	81.75	18.25	11
Award contract and selection documents not all public	81.75	18.25	12
All bids higher than projected overall costs	81.75	18.25	13
Inconsistencies in reported turnover/number of staff	81.38	18.62	14
Not all bidders informed of the award and its reasons	80.82	19.18	15
Complaints from non-winning bidders	79.70	20.30	16
Artificial bids	78.77	21.23	17
Contact office not subordinated to tender provider	78.58	21.42	18
Time-to-bid not conforming with the law	77.28	22.72	19
Bids after the deadline accepted	71.14	28.86	20

CONCLUSION

This study investigated how public sector personnel perceived risk management in government procurement and finance. Using a questionnaire survey on 537 respondents, this study found that most public employees are aware that risk management and internal control practices have been put in place. This study explored the awareness and understanding of risk management and internal control which was different from past studies in Malaysia such as Abdul Gani et al. (2020). Even though there were no big issues for awareness Abdul Gani et al. (2020) suggested the Malaysian government employ a more formal and structured approach to risk management and develop a policy framework for risk management

at the central and local levels. While, Said et al. (2020) found that 94.7% of the heads of Malaysia's federal ministries consented to implementing risk management in their respective departments, albeit with a low level of priority. Therefore, there is an opportunity for the current findings to contribute to employees within public sector in Malaysia to ensure that the tone at top establishes the cultural environment and organisational values of an organisation for risk management and internal control.

Additionally, training for the procurement process was one of the concerns among the public employees in this study, indicating that procurement is an important process in the organisation. Understanding the function, policy, and process of procurement could help public sector employees be more accountable in the procurement process and reduce potential risks. The training for procurement could also help public-sector employees identify and assess possible risks prior to achieving the organisation's objective. As a result, employees must understand both the procurement process and risk management and internal control for the government sector and anticipate the top ten potential procurement risks: conflict of interest among members of the evaluation team, strong inertia in the composition of the evaluation team, multiple contact points, preferred supplier indications, number of offers, connections between bidders that undermine competition, exceptionally large bids, substantial changes in project scope or costs after award, a contact person not employed by the tender provider, and a shortened time span for the bidding process.

The respondents to this study were employees from the procurement and finance departments of Malaysian government ministries. They have indicated that they agree on the need for risk management and internal control in the procurement and finance processes. Thus, the findings on risk in this study indicate the importance of risk anticipation in the procurement and finance processes in the government sector to reduce the possibility of risks occurring and impacting the achievement of the organisation's objectives. Therefore, implementing risk management and internal control in the government sector, including the involvement of public sector employees, is crucial (Castellini & Riso, 2023). The employees from the government sector should understand the requirements of objective setting, internal environment, information communication, risk response, monitoring, risk assessment, and control activities for efficient procurement and finance processes.

COSO ERM could be seen as making all government processes better, especially the procurement process, if it were used (Tarjo et al. 2022; Castellini & Riso, 2023). However, there is a need to understand how COSO ERM could be applied within the government sector, which could ensure that the government can maximise the public's and society's wealth. It is critical for public employees to understand the systematic processes of all functions, including the procurement process, to ensure the government sector's objectives are achieved. In this study, all components of risk management can be considered important to public employees in terms of how organisations should set their objectives, structure, authority, and responsibility for risk management. On the other hand, organisations must facilitate communication to ensure adequate information for any decision-making. The public employees perceived that the best way for organisations to respond to all the risks they face is by conducting formal risk assessments regularly. Monitoring is an important component that works in tandem with risk response to ensure an adequate response to various types of risk via risk policy and the risk management process (Tarjo et al. 2022).

Additionally, employees in the public sector perceived that it is important to analyse risks based on the likelihood and impacts of each type of risk, such as financial, technological, economic, payment, and procurement risk, that suits the organisation's objectives. Finally, the government sector should establish control activities using policies and procedures to mitigate the risks. Based on the responses of the employees, it appears that directive, preventive, and detective controls are important to understand and apply within the organisation. This study is different from past studies in that it examined the perceptions of public employees on both procurement and risk management, as procurement can be considered a high-risk area within the procurement and payment departments in the government sector (Azmi & Ismail, 2022).

The are practical implications of this study that government agencies can take to improve risk management and internal controls in procurement and finance. Several steps can be taken by government agencies to enhance risk management and internal controls in procurement and finance. Incorporating risk management strategies for identification, analysis, and mitigation throughout the entire public procurement. First, throughout the acquisition and procurement process, government agencies typically

employ multiple levels of hierarchy and rigorous division. To gain a more holistic view of procurement, government agencies must communicate more effectively and gather the right stakeholders to anticipate questions that will arise at critical points during the acquisition and procurement process, such as the needs of end users, develop a clear statement of work, and consider how purchases might be bundled over time, eliminating common bottlenecks and inefficiencies in the process, and define roles and responsibilities. Second, the government should streamline internal operations that tend to work sequentially, which generates a significant amount of lag time between their specific steps. For agencies to fulfill their mission, efficacy is crucial, and every delay prolongs the time the end user must wait. By streamlining internal operations, organisations can significantly accelerate the acquisition and procurement process. Third, government agencies could begin by identifying and mitigating risks. Identify, for instance, the vendor management, sourcing process, invoicing and payments processing, or any other minor procurement subprocess. Identifying extant risks is the initial step in their management. Then, a risk analysis should be conducted to identify the contributing factors, and measures should be taken to mitigate the risk. Risk analysis entails making a concerted effort to comprehend the risk's significance and what can be done to mitigate it. In conjunction with this is risk prioritisation, as there are numerous opportunities for risks to arise in procurement. Government agencies must also implement risk registering to establish a record of the risk factors to which they are exposed, document any insights into their causes, and outline any best practices for preventing the risk in the future.

This study may contribute to the public sector since it looked at risk management and internal control according to the COSO ERM (2004). These insights could be used to improve governance, accountability, and openness in state and municipal governments and other federal agencies. However, there are certain limitations to this study. Firstly, all of the conclusions in this study are drawn from primary sources. The analysis only included federal ministries that consented to participate in the study. Specifically, this study only focused on public sector personnel in Malaysia. Future studies could include participants from other countries to provide a more global perspective on risk management in government procurement and finance. Future studies could include surveys of all public employees, contractors, and suppliers, the examination of procurement documents, and

interviews with relevant government agencies. Secondly, this study relied only on the COSO ERM (2004) as research instrument to examine the risk management and internal control attitudes among public sector employees. Therefore, future studies could also apply ISO 31000 (2018), COSO ERM (2017) or the NIST Cybersecurity Framework to enhance the results and understanding of ERM applications in the public sector. Thirdly, this study only tested descriptive statistical analysis for understanding the risk management and internal control. Therefore, future studies should conduct a robust analysis to test the hypotheses. Finally, this study relied solely on a questionnaire survey, which may not provide sufficient depth and detail. Future studies could incorporate other methods, such as interviews or focus groups, to gather more comprehensive data.

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