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# IMPACT OF INTERNAL CONTROL SYSTEMS ON FRAUD PREVENTION AND DETECTION: EVIDENCE FROM REGISTERED NON-GOVERNMENTAL ORGANISATIONS IN THE WESTERN PROVINCE, SRI LANKA

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## ABSTRACT

This study primarily focuses on examining the impact of internal control systems on fraud prevention and detection in registered non-governmental organisations (NGOs) in the Western Province, Sri Lanka. Built upon the Committee of Sponsoring Organisations of the Treadway Commission (COSO) internal control-integrated framework, this study conceptualises the internal control system using five core components: control environment, risk assessment, control activities, information and communication, and monitoring activities. Adopting a quantitative research design, data were collected from a sample of 120 senior finance personnel in selected NGOs through a cross-sectional survey using stratified sampling and subsequently analysed using ordinary least squares (OLS) multiple regression. The empirical findings revealed that only the control activities emerged as a statistically significant and dominant predictor of fraud prevention and detection in NGOs. In contrast, the control environment, information and communication, and monitoring activities did not demonstrate statistically significant effects, while risk assessment was found to be marginally significant. These findings indicate that for NGOs within the Western Province, the implementation of rigorous operational procedures and physical safeguards remains the most effective strategy for the prevention and detection of fraudulent behaviour. The study recommends that NGO management and donors prioritise the rigorous implementation of operational control activities to strengthen fraud prevention and detection, thereby enhancing financial integrity and organisational accountability within the sector.

**Keywords:** COSO Framework, Fraud Prevention and Detection, Internal Control Systems, Non-Governmental Organisations

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## 1 INTRODUCTION

Globally, the importance of robust internal controls has been underscored by a rise in fraudulent financial reporting and accounting-related irregularities across various jurisdictions (Joseph 2015). Although multiple internal control systems exist, this study adopts the Committee of Sponsoring Organisations of the Treadway Commission (COSO) framework, which conceptualises an internal control system as a structured set of procedures and practices designed to provide reasonable assurance regarding the achievement of organisational objectives (COSO 2013). These objectives specifically encompass operational efficiency, the reliability of financial reporting, and strict compliance with applicable statutory and regulatory requirements (COSO 2013).

An internal control system facilitates the mitigation of enterprise risks by integrating with the comprehensive business processes of an organisation. The COSO framework posits that the overarching efficiency and effectiveness of an entity are fundamentally dependent on a well-established internal control system. While investors typically engage with organisations to maximise wealth, other stakeholders focus on achieving specific interests; however, all parties maintain a shared concern regarding the safeguarding of physical and monetary assets. This concern is rooted in agency theory, which addresses the inherent conflict arising when asset ownership and operational control are held by separate groups within an organisation. Consequently, the expectation gap between the principal and the agent can create significant societal and business risks if not properly managed through robust oversight (Gruber 2012).

In the specific context of non-governmental organisations (NGOs), the necessity of effective mechanisms to address fraud is paramount. Fraud prevention refers to the proactive measures taken to discourage fraudulent activities and reduce the opportunities for misconduct before they occur (Alayli 2022). In NGOs, prevention is often linked to the "tone at the top" and the establishment of ethical cultures that minimise the motivation to commit fraud (Arogyaswamy & Byles 1987). Conversely, fraud detection involves reactive processes designed to identify fraudulent acts that have already taken place or are currently in progress (Alayli 2022). Studies suggest that while prevention is the first line of defence, detection mechanisms such as whistleblowing systems and internal audits are essential for limiting the "loss size" and duration of asset misappropriation (Feess & Thun 2020, Handayani & Aris 2021). Within the NGO sector, fraud not only leads to financial loss but also results in "reputational damage," which can jeopardise future donor funding and the ability to serve target communities (Hossain 2021, Kassem 2019).

The structural separation between fund providers and organisational management in the NGO sector creates a significant susceptibility to fraud and operational errors. Unlike the commercial sector, where investors maintain rigorous oversight to protect personal wealth, NGO donors often prioritise social outcomes, which can lead to comparatively less stringent external monitoring (Hossain 2021). This governance gap exposes NGOs to a spectrum of risks extending beyond simple asset misappropriation, encompassing money laundering, corruption, and statutory non-compliance (Hossain 2021). Notwithstanding these vulnerabilities, NGOs remain indispensable to Sri Lanka's socio-economic resilience. They serve as a critical mechanism for alleviating the impacts of national financial emergencies through essential humanitarian and developmental initiatives, making the integrity of their internal control systems a matter of national and institutional significance.

Although registered NGOs in the Western Province of Sri Lanka are expected to implement internal control systems aligned with the COSO framework, it remains unclear whether these controls effectively contribute to the prevention and detection of fraud. Limited empirical evidence exists on how the internal control systems function within the NGO sector and whether they adequately safeguard organisational resources (Hossain 2021). This ambiguity highlights a critical need to examine the effectiveness of internal control implementation in mitigating fraud risks. Accordingly, the central research question guiding this study is: what is the impact of the internal control system (i.e., components of a system) on the fraud prevention and detection in registered NGOs in the Western Province of Sri Lanka?. Accordingly, this study adopts the five sub-components of the COSO framework, namely the control environment, risk assessment, control activities, information and communication, and monitoring activities (COSO 2013), to conceptualise the internal control systems in NGOs.

The remaining sections of the study are structured as follows: Section two provides a review of the existing literature, while section three elaborates on the research methodology. Section four presents the data analysis and a detailed discussion of the empirical findings. Finally, the conclusion of the study is presented in section five.

## 2 LITERATURE REVIEW

This section reviews the relevant literature of the study.

### 2.1 Internal Controls

An effective internal control system is fundamental to the operational efficiency and strategic management of organisations globally (Dzomira 2024). It involves personnel and management information systems designed to assist the organisation in achieving specific strategic goals (AICPA 2003). Robust internal controls assist an entity in preserving and enhancing stakeholder value, which can indirectly contribute to long-term wealth maximization. To provide reasonable assurance regarding the security, efficacy, and efficiency of organisational operations as well as the reliability of financial reporting and adherence to regulatory requirements, the board of directors and senior management must establish and maintain rigorous internal control systems (Hossain 2021). In the non-profit sector specifically, well-defined control activities serve as the primary mechanism for ensuring financial accountability and preventing the bypass of organisational policies (Sarea & Al-Hashimi 2022). However, it is important to note that even a positive ethical culture may fail to prevent fraud if monitoring processes are treated as administrative formalities rather than active oversight tools (Udeh 2020).

While internal control systems originate from diverse theoretical backgrounds, the global standard for classifying these controls is the COSO framework. As COSO defines, an internal control is a process implemented by an organisation’s board of directors, management, and other personnel (COSO 2013). This process is designed to provide an assurance regarding the achievement of objectives in several key areas: the effectiveness and efficiency of operations, the reliability of financial and management reporting, compliance with applicable laws and regulations, and the preservation of the organisation's reputation.

### 2.2 COSO Internal Control Framework

According to the COSO framework, an internal control system is composed of five interrelated components that work together to support the achievement of an organisation's objectives (COSO 2013). These components provide a comprehensive structure for identifying, managing, and monitoring risks. The five main components are categorised as:

the control environment, risk assessment, control activities, information and communication, and monitoring activities. Each of these dimensions is descriptively examined below.

### 2.2.1 Control environment

The control environment serves as the foundational pillar of an organisation's internal control system, establishing the standards, processes, and structures necessary for effective internal control (COSO 2013). It is often described as the element that encompasses the other four components of internal control, fundamentally shaping the ethical consciousness and control awareness of the organisation’s employees (Berkeley 2010).

According to the COSO (2013), the effectiveness of the control environment is rooted in a collective commitment to corporate integrity and core ethical values. A critical factor in this environment is the independence and oversight of the board of directors, which provides the necessary governance to supervise management. Furthermore, management under the board's guidance is responsible for establishing clear reporting lines, organisational structures, and defined responsibilities to ensure that strategic objectives are met. Beyond structural requirements, a robust control environment reflects an organisation’s commitment to attracting, developing, and retaining competent individuals who align with its mission. Ultimately, this component defines the organisational culture and sets the prevailing attitude toward risk management and accountability.

### 2.2.2 Risk assessment

Risk assessment is the dynamic and iterative process of identifying and evaluating potential threats that could impede the achievement of organisational objectives. As modern administrative, operational, and economic conditions evolve, organisations must employ robust mechanisms to perceive and address emerging dangers associated with these changes. Furthermore, recent empirical evidence suggests that a formal risk assessment process is a prerequisite for identifying vulnerabilities that could be exploited for fraudulent gain, particularly in resource-constrained environments like the non-profit sector (Hossain 2021).

Once identified, risks are typically categorised into levels such as high, medium, or low to prioritise mitigation efforts. The accuracy of this evaluation allows management to establish a precise degree of risk tolerance, ensuring that the internal control system remains resilient. Furthermore, the effectiveness of risk management is dependent on the systematic gathering and timely dissemination of relevant risk data throughout the organisation. This transparent flow of information enables staff, management, and stakeholders to assess and refine the entity’s defensive posture against potentially fraudulent activities (Omar 2023).

### 2.2.3 Control activities

Organisations employ diverse control activities to mitigate risks that threaten institutional success (Joseph 2015). These activities are generally categorised into two primary groups: preventive and detective controls. Preventive controls are proactive measures designed to deter undesirable events, such as fraud or errors, before they occur (Joseph 2015). The development of these controls requires management to predict potential vulnerabilities and implement restrictive safeguards. In contrast, detective controls are designed to identify and alert management to undesirable events after they have transpired (Joseph 2015).

While prevention is often prioritised, it can be more costly and, if implemented excessively, may hinder organisational productivity and operational flow. Therefore, a cost-benefit analysis is essential before executing specific control activities. Recent literature suggests that in the non-profit sector, the effectiveness of these activities is significantly enhanced when they include robust physical controls and the rigorous segregation of duties (Sarea & Al-Hashimi 2022). Furthermore, as NGOs transition to digital financial environments, the integration of automated control activities such as system-generated audit trails has become a critical factor in maintaining the integrity of financial reporting and reducing the opportunity for manual override (Tarek et al. 2021).

### 2.2.4 Information and communication

Information and communication systems are vital mechanisms that enable personnel within an organisation to identify, capture, and exchange the knowledge required to fulfil their operational responsibilities. These systems facilitate both internal and external communication, providing the necessary data flow to support internal control activities and the achievement of strategic objectives (COSO 2013). Through effective communication channels, employees gain a comprehensive understanding of their specific internal control roles and the significance of their contributions toward organisational goals.

In essence, business entities must generate or acquire relevant, high-quality information to sustain the functionality of the internal control framework (Karagiorgos et al. 2011). As a result of its critical role in shaping professional relationships and operational transparency at all hierarchical levels, contemporary literature increasingly prioritises information and communication as a cornerstone of a resilient internal control system. Recent studies emphasise that for NGOs, the quality of information is directly linked to donor trust and financial accountability, as transparent communication reduces the information asymmetry that often precedes fraudulent acts (Kusumawati 2021). Furthermore, the integration of digital reporting platforms has become essential for the timely dissemination of control-related data across geographically dispersed project sites (Maama 2023).

### 2.2.5 Monitoring activities

Monitoring serves as a critical process for evaluating the quality and performance of an internal control system over time. This is accomplished through a combination of ongoing evaluations, separate assessments, or a strategic blend of both approaches. Ongoing monitoring is integrated into the regular, recurring activities of an organisation, encompassing the routine management and supervisory actions taken by employees as they fulfil their daily responsibilities (Kouzes & Posner 2017).

Monitoring involves the consistent review of an organisation's operations and transactions to ascertain whether controls remain effective and relevant (Joseph 2015). The scope and frequency of separate evaluations are primarily determined by the results of risk assessments and the perceived effectiveness of existing ongoing monitoring procedures. It is essential for executive leadership to prioritise monitoring efforts that align with the organisation’s core mission and ensure the long-term sustainability of the internal control framework (Kouzes & Posner 2017). Recent research suggests that for non-profit organisations, monitoring acts as a vital feedback loop; without it, even the most well-designed controls can degrade or be bypassed over time (Appiah et al. 2023).

### 2.3 Fraud

Black's Law Dictionary defines fraud as the intentional misrepresentation or concealment of material facts to deceive another party, resulting in legal or financial harm (Black 1927). In organisational settings, fraud is commonly classified into two broad categories: fraudulent financial reporting and asset misappropriation. Protecting an organisation's physical and financial assets is therefore a key concern for stakeholders, particularly given the governance challenges highlighted by agency theory. Agency theory explains that conflicts can arise when ownership (principals) and operational control (agents) are separated, creating opportunities for self-interested behaviour (Gruber 2012). While senior management typically acts as agents on behalf of investors and donors, employees across the organisation also exercise day-to-day control over resources. Where monitoring is weak, differences between principals' objectives and agents' incentives may widen, increasing the likelihood of fraud within business processes (Gruber 2012). Accordingly, fraud, whether arising from management override or employee misconduct, signals a breakdown in the agency relationship and poses a direct threat to organisational sustainability and stakeholders' invested capital.

Fraudulent occurrences often highlight critical loopholes within an internal control system, reflecting failures in oversight or the mismanagement of organisational resources (Gruber 2012). Consequently, a robust internal control system serves as a vital mechanism to bridge these gaps, mitigating the risk of fraud across various business sectors while simultaneously enhancing operational efficiency and institutional integrity.

### 2.4 Non-Governmental Organisations (NGOs)

NGOs are independent, non-profit entities established to promote social welfare, environmental protection, religious activities, sports, or other philanthropic purposes (Lewis 2009). The governance of these organisations is typically overseen by a board of directors or a management committee. Notably, in the NGO sector, the individuals responsible for high-level management and decision-making are often distinct from the primary fund providers, as these organisations are not driven by profit maximization; there is a unique structural vulnerability regarding financial oversight.

This separation between the fund providers and the management creates a high risk for the occurrence of fraud and errors. Since fund providers often focus on social outcomes rather than the direct protection of personal wealth, there may be less rigorous external monitoring compared to the commercial sector (Hossain 2021). Consequently, NGOs face significant risks beyond asset misappropriation, including money laundering, corruption, and non-compliance with statutory regulations (Hossain 2021). Despite these vulnerabilities, NGOs remain fundamental to the socio-economic landscape of Sri Lanka, playing a vital role in alleviating the impact of national financial emergencies through humanitarian and development initiatives.

## 3 METHODOLOGY

This section outlines the research approach, population, study sample, data collection methods, conceptual framework, hypothesis development, operationalisation of variables, and data analysis strategies of the study.

### 3.1 Research Approach

This study employed a quantitative, cross-sectional survey design (Saunders et al. 2019). A structured questionnaire was administered to senior finance personnel such as chief financial officers, finance managers, accountants, and heads of finance, who possess direct knowledge of internal control practices and fraud-related procedures in their organisations. Given that NGOs rarely disclose fraud-related information publicly, primary data collection through a survey was considered the most appropriate approach.

### 3.2 Population and Study Sample

The target population comprised all registered NGOs listed under the National Secretariat for Non-Governmental Organisations in the Western Province. According to the National Secretariat for Non-Governmental Organisations (2023), a total of 454 registered NGOs existed in the Western Province as of 5 October 2023. A stratified convenience sampling approach was used, with strata based on the three districts in the Western Province: Colombo, Gampaha, and Kalutara. A total sample of 120 NGOs was selected proportionately across districts.

Based on the stratified convenience sampling procedure, the total population of 454 registered NGOs in the Western Province was proportionately divided across the three districts: Colombo, Gampaha, and Kalutara. As shown in Table 1, Colombo district accounted for the largest share of NGOs (n = 365), resulting in 97 NGOs being selected for the sample, representing 80.8% of the total sample. Gampaha district, with 69 NGOs, contributed 18 NGOs to the sample (15%), while Kalutara district, which had 20 registered NGOs, contributed 5 NGOs (4.2%). This proportional allocation ensured that each district was represented according to its relative size within the overall population. After determining the district-wise sample sizes, individual NGOs within each district were selected using convenience sampling to identify a suitable respondent from each organisation. Within each selected NGO, one senior finance officer was chosen as the respondent. This approach ensured adequate representation across geographical sub-populations.

**Table 1: Sample Selection**

| District | Total Number of NGOs under each District | Number of NGOs selected after the Sampling Method | % from the Total Sample Selected |
|---|---|---|---|
| Colombo | 365 | 97 | 80.8% |
| Gampaha | 69 | 18 | 15% |
| Kalutara | 20 | 5 | 4.2% |
| | **454** | **120** | **100%** |

Source: Author Constructed

### 3.3 Conceptual Framework

The conceptual framework (Figure 1) was developed based on the extant literature to examine how the elements of internal control systems impact fraud prevention and detection in NGOs.

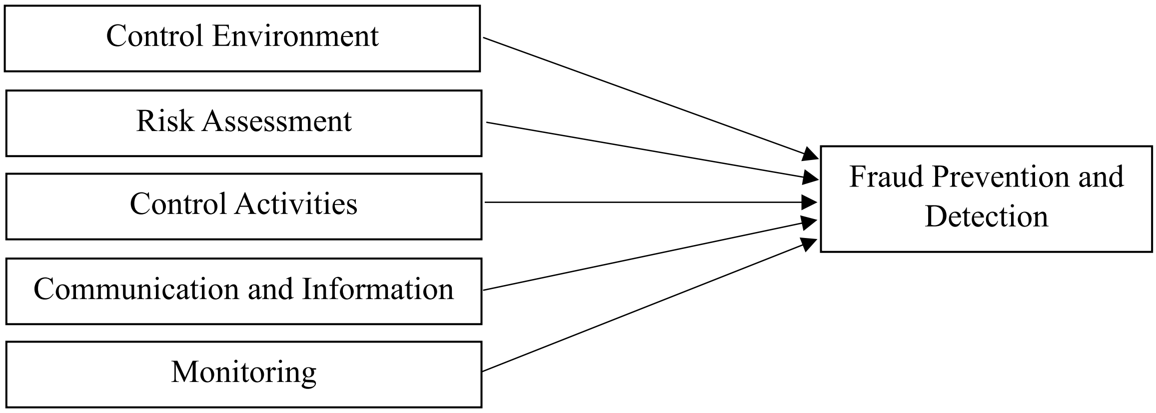


**Figure 1: Conceptual Framework**
Source: Author Constructed

### 3.4 Hypothesis Development

Building upon the framework of the COSO internal control-integrated framework and existing empirical evidence, the following hypotheses were formulated to examine the impact of internal control components on fraud prevention and detection in the NGOs of Sri Lanka's Western Province.

In the NGO sector, where public trust is paramount, an ethical climate acts as a psychological barrier against fraudulent intentions. According to recent studies, a strong commitment to integrity by senior management significantly reduces the opportunity for asset misappropriation (Peltier-Rivest 2022). In Sri Lanka, NGOs often face pressure regarding fund transparency; therefore, a disciplined control environment ensures that employees adhere to strict ethical codes (Jayasekara & Rathnayake 2021). Furthermore, research by Agyei-Mensah (2019) suggests that independent audit committees within this environment enhance the oversight of financial reporting. Consequently, it is expected that a robust control environment will directly lead to higher levels of fraud prevention and detection in Western Province NGOs. Based on the discussion above, it is hypothesised that,

> $H_1$: There is an impact of the control environment on fraud prevention and detection in the registered NGOs in Western Province, Sri Lanka

Recent literature emphasises that fraud risk assessment must be a continuous process rather than a one-time event to be effective against evolving cyber-fraud threats (Omar 2023). In the context of Sri Lankan NGO sector, the volatile economic landscape necessitates frequent assessment of financial risks to prevent internal collusion (Fernando & Danthanarayana 2022). According to Kassem (2019), organisations that formalise their fraud risk assessment procedures are 40% more likely to detect irregularities early. Thus, implementing a structured risk assessment process is crucial for NGOs to safeguard their assets from fraudulent activities. Based on the discussion above, it is hypothesised that,

> $H_2$: There is an impact of risk assessment on fraud prevention and detection in the registered NGOs in Western Province, Sri Lanka

Recent evidence suggests that the segregation of duties remains the most effective control activity in preventing "lone wolf" fraud (Tarek et al. 2021). Research in South Asia indicates that automated control activities, such as digital audit trails, significantly decrease the likelihood of manual record tampering (Othman 2020). Furthermore, Srimindarti et al. (2022) argue that the effectiveness of these activities is contingent upon their consistent application across all organisational levels. Therefore, strong control activities are expected to have a significant impact on fraud prevention and detection in the selected NGOs. Based on the discussion above, it is hypothesised that,

> $H_3$: There is an impact of control activities on fraud prevention and detection of the registered NGOs in Western Province, Sri Lanka

In the modern NGO landscape, digital communication tools facilitate the timely reporting of suspicious activities (Srimindarti et al. 2022). Recent studies highlight the importance of "whistleblowing" channels as a critical component of this communication flow, allowing for the anonymous detection of fraud (Maama 2023). In Sri Lanka, the flow of information between field offices and headquarters is vital for maintaining transparency in regional projects (Appiah et al. 2023). Moreover, high-quality financial information systems reduce the information asymmetry that fraudsters often exploit (Kusumawati 2021). Consequently, it is hypothesised that,

> $H_4$: There is an impact of information & communication on fraud prevention and detection in the registered NGOs in Western Province, Sri Lanka

Recent literature suggests that ongoing monitoring, such as real-time data analytics, is more effective than periodic reviews in identifying "red flags" (Appiah et al. 2023). For NGOs in the Western Province, regular internal audits and external evaluations by donors serve as a deterrent to potential fraudsters (Wijesinghe 2020). However, research by Bakri et al. (2020) notes that monitoring often fails when there is no follow-up action on identified weaknesses. Therefore, a significant impact of monitoring activities on fraud prevention and detection within the NGO sector is expected. Based on the discussion above, it is hypothesised that,

> $H_5$: There is an impact of monitoring on fraud prevention and detection in the registered NGOs in Western Province, Sri Lanka

### 3.5 Operationalisation

The study defines the control environment (*CE*) as the foundational set of standards and structures that shape the ethical climate of the organisation. This variable was measured using a scale adapted from Agyei-Mensah (2019), encompassing items such as the organisation's commitment to integrity and ethical values, the oversight responsibility of the board, and the establishment of clear reporting lines and accountability. These items were evaluated on a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree).

Risk assessment (*RA*) is defined as the iterative process of identifying and analysing risks to the achievement of organisational objectives, particularly those related to misappropriation. To measure this construct, the study utilised a scale from Hossain (2021). The items specifically focused on the organisation's ability to recognise and inspect potential risks, the exploration of risks specifically related to fraud, and the evaluation of changes that could impact the internal control system. Each item was assessed using a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree).

Control activities (*CA*) refer to the policies and procedures established to ensure that management's risk mitigation directives are executed. Measurement items were derived from Tarek et al. (2021) and focused on the selection and development of control activities, the implementation of policies and procedures, and the maintenance of regular operational controls over new technology. These items were measured on a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree).

Information and communication (*IC*) is defined as the flow of relevant and quality information that supports the functioning of internal control. This construct was operationalised using a scale from Srimindarti et al. (2022), with items measuring the utilisation of applicable and quality information, the effectiveness of internal communication regarding control responsibilities, and the clarity of communication with external stakeholders. All items were evaluated using a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree).

Monitoring activities (*MA*) are defined as the ongoing or separate evaluations used to ascertain whether the components of internal control are present and functioning. The measurement scale was adapted from Appiah et al. (2023), centring on the performance of regular evaluations, the use of performance measurements to track control health, and the systematic process for measuring and communicating control insufficiencies. Responses were captured on a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree).

The dependent variable, fraud prevention and detection, refers to how effective the fraud prevention and detection is in the NGOs. This was measured using a scale adapted from Joseph (2015) and Tarek et al. (2021), which assesses the performance of the organisation's anti-fraud measures. The items included the effectiveness of the system in preventing the misappropriation of assets, the effectiveness of procedures in preventing financial statement fraud, the effectiveness of the organisation in detecting irregularities in a timely manner, and the overall effectiveness in deterring fraudulent activities. These items were measured on a 5-point Likert scale, ranging from 1 (very ineffective) to 5 (very effective).

### 3.6 Sources and Collection of Data

The primary source of data for this study was a cross-sectional survey, administered through a structured questionnaire designed for quantitative analysis. The questionnaire was distributed to senior finance personnel, including chief financial officers, finance managers, accountants, and heads of finance within the selected NGOs, as these individuals possess direct knowledge of internal control practices and fraud-related procedures. A survey-based approach was appropriate because NGOs are not required to publicly disclose fraud incidents.

The questionnaire was developed based on insights from the literature and aligned with the COSO internal control framework. The instrument also included sections capturing organisational characteristics and respondents' demographic and professional profiles. This structure enabled the collection of comprehensive and comparable data across NGOs.

### 3.7 Data Analysis Strategies

Data were analysed using a combination of descriptive and multivariate techniques. Descriptive statistics were generated to summarise the characteristics of NGOs and the respondent demographic profiles. The internal consistency of the measurement scales was evaluated through reliability analysis using Cronbach's alpha, and the study hypotheses were tested using ordinary least squares (OLS) multiple regression. The relevant regression diagnostics were examined to support the robustness of the estimates.

# 4 ANALYSIS AND DISCUSSION

## 4.1 Diagnostic Testing – Reliability Analysis

Before proceeding with the data analysis, a series of diagnostic tests was conducted to ensure the robustness and suitability of the data for multivariate analysis. First, the internal consistency of the research instrument was evaluated through reliability analysis. The results indicated that Cronbach's alpha coefficients for all independent and dependent variables were well above the generally accepted threshold of 0.70, confirming the high reliability of the measurement scales (Hair et al. 2019).

## 4.2 Descriptive Statistics

A total of 120 senior finance personnel from registered NGOs in the Western Province of Sri Lanka completed the survey. The questionnaire included sections on organisational characteristics, respondent demographics, and the five internal control components of the COSO framework, as well as fraud prevention and detection.

### 4.2.1 Characteristics of the NGOs

Table 2 summarises the key organisational characteristics of the NGOs represented in the sample. The majority of respondents were from NGOs headquartered in the Colombo district (80.8%), followed by Gampaha (15%) and Kalutara (4.2%). With respect to organisational size, 35% of NGOs employed fewer than 50 staff members, while 40% employed between 51 and 100 individuals. Only 11.7% of the NGOs operated internationally, indicating that most organisations were locally focused. Regarding years of establishment in Sri Lanka, 41.7% had been operating for 11–20 years, whereas 25.8% were relatively young organisations with less than 10 years of operation.

**Table 2: Organisational Characteristics of NGOs**

| Characteristic | Category | Percentage (%) |
|---|---|---|
| District of Head Office | Colombo | 80.8 |
| | Gampaha | 15.0 |
| | Kalutara | 4.2 |
| Number of Employees | 1–50 employees | 35.0 |
| | 51–100 employees | 40.0 |
| | 101–150 employees | 22.5 |
| | 151–200 employees | 1.7 |
| | Above 200 employees | 0.8 |
| International Operations | Yes | 11.7 |
| | No | 88.3 |
| Years of Operation in Sri Lanka | 0–10 years | 25.8 |
| | 11–20 years | 41.7 |
| | 21–30 years | 22.5 |
| | 31–40 years | 5.0 |
| | 41+ years | 5.0 |

Source: Author Constructed

### 4.2.2 Respondent demographics

Table 3 presents the demographic and professional characteristics of the respondents. The sample consisted of 37.5% males and 62.5% females. A majority (67.5%) were between 36-45 years, indicating that most respondents were in mid-career stages. In terms of organisational position, 38.3% held senior management roles, while 60.8% were in middle management. Regarding work experience, 54.2% had been employed in their respective NGOs for 0-5 years, and 35.8% for 6-10 years, suggesting relatively new but sufficiently experienced managerial cohorts. Respondents also possessed strong professional qualifications: CA Sri Lanka (39.2%), CIMA (20.8%), ACCA (13.3%), and CMA/AAT (13.3%) were the most common. Nearly 46% were fully qualified members of their respective professional bodies.

**Table 3: Respondent Characteristics**

| Characteristic | Category | Percentage (%) |
|---|---|---|
| Gender | Male | 37.5 |
| | Female | 62.5 |
| Age Group | 18–25 years | 1.7 |
| | 26–35 years | 17.5 |
| | 36–45 years | 67.5 |
| | 46–55 years | 11.7 |
| | 56+ years | 1.7 |
| Job Level | Senior management | 38.3 |
| | Middle management | 60.8 |
| | Lower management | 0.8 |
| Years of Experience in NGO | 0–5 years | 54.2 |
| | 6–10 years | 35.8 |
| | 11–15 years | 6.7 |
| | 16–20 years | 2.5 |
| | 21+ years | 0.8 |
| Professional Qualification | CA Sri Lanka | 39.2 |
| | CIMA | 20.8 |
| | ACCA | 13.3 |
| | CMA / AAT | 13.3 |
| | Other | 12.5 |
| | None | 0.8 |
| Professional Status | Member | 45.8 |
| | Passed finalist | 11.7 |
| | Finalist | 23.3 |
| | Part-qualified / other | 19.2 |

Source: Author Constructed

### 4.2.3 Descriptive analysis of key study variables

This section presents the current levels of fraud prevention and detection and the five components of the COSO internal control framework among registered NGOs in the Western Province of Sri Lanka. Responses were categorised into three levels as high, moderate, and low based on the average Likert-scale responses to the items representing each construct. Table 4 summarises the percentage distribution for each variable.

**Table 4: Current Levels of Key Study Variables**

| Variable | High (%) | Moderate (%) | Low (%) |
|---|---|---|---|
| Fraud Prevention & Detection | 53.3 | 34.2 | 12.5 |
| Control Environment *(CE)* | 63.3 | 25.0 | 11.7 |
| Control Activities *(CA)* | 68.3 | 20.8 | 10.8 |
| Risk Assessment *(RA)* | 68.3 | 20.0 | 11.7 |
| Information & Communication *(IC)* | 68.3 | 20.8 | 10.8 |
| Monitoring Activities *(MA)* | 67.5 | 20.0 | 12.5 |

Source: Author Constructed

The descriptive results demonstrate that more than half of the organisations (53.3%) indicated that fraud prevention and detection mechanisms were highly effective, while 34.2% reflected moderate levels, and only 12.5% reported weak or insufficient systems. This suggests that overall, NGOs perceive themselves as having reasonably strong processes in place to mitigate fraud risks.

The control environment *(CE)* exhibited relatively strong implementation across NGOs, with 63.3% of respondents reporting a high level of adherence to principles such as ethical leadership, clarity in responsibilities, and accountability. However, 25% indicated a moderate level, and 11.7% reported lower adherence, suggesting that some organisations may still lack foundational behavioural and structural elements of effective internal control.

Control activities *(CA)* emerged as one of the strongest internal control components, with 68.3% of NGOs reporting high implementation. These activities typically include authorisation controls, segregation of duties, procedural documentation, and safeguarding of assets. Only 10.8% of NGOs reported low adherence, indicating that operational control activities are generally well established across the sector.

Similarly, 68.3% of respondents indicated high levels of risk assessment *(RA)* practices within their organisations. This includes identifying potential fraud risks, evaluating vulnerabilities, and monitoring changes in the internal and external environment. Although 20% reported moderate levels, a minority (11.7%) reflected limited implementation. Overall, the results suggest that many NGOs place considerable importance on anticipating and managing risks.

Information and communication *(IC)* systems were also reported to be strong, with 68.3% indicating high levels of effectiveness. This reflects organisations' efforts to ensure that relevant financial and operational information flows appropriately across levels of staff and to external stakeholders where necessary. Only 10.8% of NGOs reported inadequate communication systems, suggesting broad recognition of communication as a critical element of internal control.

Monitoring activities *(MA)* such as periodic reviews, internal assessments, and follow-up mechanisms also showed a high implementation (67.5%) in NGOs. Meanwhile, 20% reported moderate levels, and 12.5% reported low levels of monitoring. This indicates some variation in how consistently NGOs evaluate the performance of their internal control systems over time.

Overall, the descriptive analysis highlights that NGOs in the Western Province maintain generally strong internal control practices. The highest levels were observed in control activities, risk assessment, and information and communication, while monitoring activities and the control environment, though still relatively strong, showed more variability. The fraud prevention and detection were also present at high or moderate effective levels in the majority of NGOs.

### 4.3 Ordinary Least Squares (OLS) Regression Results

An OLS multiple regression analysis was conducted to examine the impact of control environment, control activities, risk assessment, information and communication, and monitoring activities on the effectiveness of fraud prevention and detection. All variables were entered simultaneously into the regression model to assess their unique contributions while controlling for the effects of the other variables. Table 5 reports the results of the OLS multiple regression analysis.

**Table 5: OLS Regression Results**

| Variables | B | SE B | β | t | p |
|---|---|---|---|---|---|
| Constant | $0.265^{**}$ | 0.089 | — | 2.988 | .003 |
| Control Environment *(CE)* | 0.030 | 0.102 | .030 | 0.295 | .768 |
| Control Activity *(CA)* | $0.393^{***}$ | 0.106 | .380 | 3.704 | .000 |
| Risk Assessment *(RA)* | 0.213 | 0.108 | .210 | 1.969 | .051 |
| Information and Communication *(IC)* | 0.109 | 0.104 | .106 | 1.047 | .297 |
| Monitoring Activities *(MA)* | 0.180 | 0.104 | .181 | 1.731 | .086 |
| $R^2$ | .655 | | | | |
| Model Sig. (F) | < .001 | | | | |
| Durbin-Watson | 2.083 | | | | |

Note: Significance - $^{***}p< 0.010$; $^{**}p< 0.010$; $^{*}p< 0.100$

Source: Author Constructed

The overall model exhibits strong explanatory power, with an $R^2$ of .655, indicating that approximately 65.5% of the variance in fraud prevention and detection is explained by the internal control components included in the model. The regression model is statistically significant ($F$ (5, 114) = 55.013, $p< .001$), confirming that the predictors jointly provide a meaningful explanation of the dependent variable. In addition, the Durbin-Watson statistic of 2.083 suggests no evidence of serious autocorrelation in the residuals, supporting the reliability of the estimated coefficients.

The control environment (*CE*) does not exhibit a statistically significant impact on the dependent variable ($t$ = 0.295, $p$ = .768), suggesting that variations in the control environment are not associated with meaningful changes in the outcome variable when other control components are held constant. Similarly, information and communication (*IC*) does not significantly predict the dependent variable ($t$ = 1.047, $p$ = .297), implying that improvements in information and communication mechanisms alone may not directly affect the outcome variable within the context of this model. Further, monitoring activities (*MA*) demonstrate a positive but statistically insignificant association ($t$ = 1.731, $p$ = .086). While the magnitude of the standardised coefficient suggests a moderate effect, the impact does not reach conventional levels of statistical significance.

In contrast, control activities (*CA*) show a positive and statistically significant effect on the dependent variable ($t$ = 3.704, $p< .001$). The standardised coefficient indicates that control activities have the largest relative explanatory power among all predictors included in the model, implying that stronger control activities are associated with higher levels of the dependent variable. The effect of risk assessment (*RA*) is positive but marginally significant ($t$ = 1.969, $p$ = .051). Although the coefficient suggests a meaningful practical effect, the impact narrowly misses statistical significance at the 5% level, indicating that its influence should be interpreted with caution.

In terms of regression diagnostics, multicollinearity was assessed using the Variance Inflation Factor (VIF) and tolerance levels. All VIF values were found to be within the recommended parameters (less than 10), suggesting that there are no significant correlations between the independent variables that could distort the regression results. Additionally, tests for normality and homoscedasticity were performed; the distribution of residuals and the spread of data points confirmed no anomalies. Having satisfied these diagnostic criteria, the study examined the impact of internal control components on fraud prevention and detection through OLS regression as elaborated above. The overall results indicate that control activities emerge as the most influential predictor, while the remaining components do not demonstrate statistically significant effects.

### 4.4 Discussion

The primary objective of this study was to examine the impact of internal control components, based on the COSO framework, on fraud prevention and detection in registered NGOs in the Western Province of Sri Lanka. The OLS regression results indicate that, although the five internal control components are theoretically important, only control activities emerged as a statistically significant predictor of fraud prevention and detection.

The results indicate that control activities are the most influential predictor, which supports $H_3$, which hypothesised that control activities impact fraud prevention and detection. This finding aligns with the work of Tarek et al. (2021), who argue that in developing economies, the physical and procedural barriers to fraud, such as segregation of duties, transaction authorisations, and rigorous documentation, are often the most effective deterrents against asset misappropriation. In the context of Sri Lankan NGOs, where resource constraints may limit sophisticated digital oversight, the presence of strong, tangible control activities provides a direct and observable mechanism against fraudulent behaviour (Bakri et al. 2021). The significance of this variable suggests that for NGOs in the Western Province, the practical implementation of "checks and balances" remains the most reliable driver of financial integrity.

The impact of risk assessment on fraud prevention and detection was found to be marginally significant, leading to the rejection of $H_2$ at the conventional 5% level. While the practical effect is positive, it lacks the statistical strength to be confirmed. This suggests that while NGOs may be identifying risks, they may not be effectively translating those assessments into specific fraud mitigation strategies. Hossain (2021) notes that many non-profits perform risk assessments as a compliance exercise for donors rather than as a dynamic tool for fraud detection. This form-over-substance approach may explain why the variable does not reach statistical significance in this model.

$H_1$ was not supported, as the control environment did not demonstrate a significant impact on fraud prevention and detection. While the COSO framework defines the control environment as the foundation of internal control, this result suggests that "tone at the top" and ethical culture alone are insufficient to prevent fraud if not backed by rigorous activities. This contradicts Hossain (2021), who emphasises the ethical climate. However, it supports findings by Bakri et al. (2020), who observed that in environments with high inherent risk, such as the NGO sector, even a strong ethical foundation can be undermined by the lack of specific, enforceable controls.

Both $H_4$ (information & communication) and $H_5$ (monitoring activities) are not supported as per the findings. The insignificance of information systems suggests that the flow of data within these NGOs may be siloed or lack the transparency required to detect irregularities (Kusumawati 2021). Regarding monitoring, the insignificance implies that while internal audits and evaluations are present, they may lack the frequency to significantly impact fraud detection. As Appiah et al. (2023) suggest, monitoring only becomes a significant predictor of fraud prevention when it is continuous and leads to immediate corrective action, which may be lacking in the sampled organisations.

## 5 CONCLUSION

The primary objective of this study was to examine the impact of internal control systems, conceptualised through the COSO framework, on fraud prevention and detection in registered NGOs in the Western Province, Sri Lanka. The primary finding of this research is that control activities stand as the most significant and influential predictor of successful fraud prevention and detection in NGOs. In contrast, the control environment, information and communication, and monitoring activities did not demonstrate statistically significant effects, while risk assessment was found to be marginally significant. This suggests that hard controls are currently more impactful than soft controls or high-level oversight mechanisms within the sampled organisations.

The implications of these findings are substantial for various stakeholders involved in the NGO sector. For NGO management, the results underscore the necessity of moving beyond a superficial commitment and focusing instead on the granular details of operational procedures. Regulators and policymakers in Sri Lanka should consider developing sector-specific internal control benchmarks that prioritise enforceable control activities to enhance public and donor trust. Furthermore, international and local donors can utilise these findings to refine their audit requirements, ensuring that the organisations they fund possess not only a positive ethical "tone at the top" but also the functional mechanisms required to mitigate misappropriation risks effectively.

Despite the insights gained, the study is characterised by certain limitations that must be acknowledged. The geographical focus on the Western Province limits the generalisability of the findings to the entirety of Sri Lanka, as NGOs in more rural or conflict-affected regions may face different operational challenges. Additionally, the reliance on self-reported data from senior personnel may introduce a degree of social desirability bias, potentially reflecting an idealised version of internal control effectiveness. The cross-sectional nature of the study also means it provides a snapshot of the current environment rather than a longitudinal view of how control systems evolve alongside organisational growth or changing fraud tactics.

Future research should seek to address these gaps by expanding the geographical scope to include a multi-province analysis, which would allow for a comparative study of urban versus rural NGO governance. Longitudinal research designs would also be beneficial in tracking the long-term impact of internal control maturity on institutional sustainability. Moreover, incorporating qualitative methodologies, such as in-depth interviews or forensic case studies, could reveal the underlying reasons why components like the control environment and information systems failed to reach significance in the current quantitative model. Finally, exploring the integration of digital forensic tools and automated monitoring systems represents a vital frontier for research, as NGOs increasingly shift toward digitised financial management systems.

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