

THE IMPACT OF INTERNAL CONTROL SYSTEM ON ORGANIZATIONAL PERFORMANCE: THE MODERATING ROLE OF INFORMATION TECHNOLOGY AND HUMAN COMPETENCIES WITH SPECIAL REFERENCE TO GARMENT INDUSTRY IN SRI LANKA

Vajra Muthukumar^{1,*}, P. Pretheeba², K.G.R.K. Madhuwanthi³, and J.M.K.G.T.G. Wijerathna⁴

^{1,4}Department of Accounting and Finance, Faculty of Management Studies, The Open University of Sri Lanka.

^{2,3}Department of Management, Faculty of Commerce and Management, The Eastern University of Sri Lanka.

*Corresponding author: vajramuthukumar@gmail.com

Abstract

In contemporary business environments, establishing a robust internal control system is imperative to mitigate fraudulent activities and errors. Given this significance, this study aims to investigate the moderating role of technology and human competencies on the impact of internal control systems on organizational performance, in relation to the Sri Lankan garment industry. Employing a quantitative approach, data from 200 participants, including managers and supervisors from five representative factories, were analyzed. The results indicate a significant impact of internal control system implementation on organizational performance. It is also found that technology and human competencies moderate the impact of internal control system implementation on organizational performance. Thus, the findings conclude that integrating well-designed internal control systems with technological advancements and human skills are crucial in enhancing organizational performance. These unique insights about the interplay between internal controls, technology, human competencies and organizational performance offer significance theoretical practical implications for the growth of garment industry.

Keywords: Garment industry, human competencies, internal control system, information technology, organizational performance

Introduction

In contemporary business environments, establishing a robust internal control system is imperative to mitigate fraudulent activities and errors. The internal control system encompasses rules, policies, and procedures guiding organizations to enhance efficiency and ensure policy adherence (Zhou et al., 2017). It is essential for safeguarding assets, ensuring the accuracy of accounting data, and promoting operational efficiency. The Sri Lanka Auditing Standards and ICASL emphasize the pivotal role of internal control in organizations, as outlined by COSO, which consists of five components: control environment, risk assessment, information and communication, control activities, and monitoring. By incorporating information technology (IT) and human competencies, internal control extends beyond financial functions, targeting the efficiency and effectiveness of activities, reliability of financial and management information, and compliance with regulations (Putra and Elpisah, 2023). The success of such systems hinges on their compatibility with organizational culture, policies, human competencies, and adopted IT.

In the absence of a robust internal control system, organizations face risks such as financial fraud, theft, IT-related frauds, noncompliance, bribery, and corruption, jeopardizing reputation, growth, employee and customer satisfaction, employee welfare, investor trust, and overall organizational well-being. Given the complexities of the contemporary business landscape, organizations strive to enhance efficiency, flexibility, and performance (Arslan, 2022). An effective internal control system aids managers in accountability, goal achievement, and fulfilling organizational purposes (Westoline et al., 2019). It integrates efforts, attitudes, plans, and policies to ensure the organization's mission accomplishment. IT capabilities and human resource competencies play pivotal roles, as IT empowers organizations to improve services, create innovative products, enhance productivity, and foster connectivity, while human resource competency directly influences organizational performance through skill improvement, training, adaptability, and alignment with organizational goals (Buthayna, 2016).

Despite the critical role of internal control systems (ICSs) in safeguarding organizations, the corporate world continues to witness business failures and widely publicized frauds. Numerous empirical studies, such as those by Tetteh et al., (2020) and Zhang et al., (2018), have examined the relationship between ICSs and organizational performance, yet their findings are divergent. Some studies reaffirm a positive correlation between ICSs and

performance, while others report a relatively weak or ambiguous association. Additionally, the moderating impact of information technology on the effectiveness of ICSs remains inadequately explored (Saha, 2022). Furthermore, the role of human competency, a key organizational resource, has not been comprehensively studied regarding the effectiveness of ICSs and their impact on organizational performance. This gap in the literature has significant implications for organizations seeking sustainable competitive advantages.

This research seeks to address these gaps by exploring the relationship between ICSs and organizational performance in the context of evolving technology and human competencies. It hypothesizes that the integration of IT and the cultivation of a highly competent workforce can potentially strengthen the impact of ICSs on organizational performance. By investigating this intricate interplay, this study aims to provide a nuanced understanding of the complex relationship between ICSs, technology, human competencies, and organizational performance, offering valuable insights for organizations navigating the modern business landscape. The study's key contributions include identifying the types of controls in the company, examining the impact of the internal control system on organizational performance, and determining the moderating role of IT and human competencies in this relationship.

Literature Review

Internal Control System

In today's organizational landscape, characterized by increased complexity, dynamism, and potential threats, the central focus is on managing day-to-day operations and adapting to evolving environmental conditions. This focus extends to enhancing performance through greater effectiveness, efficiency, and adaptability. The mechanism facilitating this endeavor is the internal control system. This system serves as a lens for the managerial evaluation of an organization's efficiency and resource utilization. By instilling order, coherence, and uniformity, internal control imparts direction to organizational activities. A successful internal control system empowers managers with accountability for their initiatives, reasonably ensuring the realization of established goals and objectives (Mahadeen et al., 2016). Internally, these control systems function to forestall the misuse or unauthorized use of a company's assets, thus safeguarding them and mitigating potential fraudulent activities (Yoon et al., 2023). The American Institute of Certified Public Accountants (AICPA) defined internal control in 2003 as a comprehensive process influenced by the organization's structure, workflows, authority hierarchies, human resources, and management information systems, all aimed at advancing the organization's specific objectives or aims. It is important to note that internal control systems are not a novel concept within both government and private sector domains (Joseph et al., 2015).

The overarching goal of the internal control system is to holistically oversee and balance all transactions, ensuring the methodical and efficient functioning of an enterprise. This includes internal checks, internal audits, and other control mechanisms. Its core function extends beyond guaranteeing the dependability of accounting information. It also encompasses the safeguarding of assets and adherence to management directives. This system not only assures management of the reliability of received information but also facilitates the reliance of external auditors on the internal control system to determine the extent, nature, and scope of audit engagements (Raudhatinur, 2023).

The internal control system constitutes a dynamic framework, integrating all organizational governing structures to uphold ethical values, organizational integrity, and the optimization of performance across activities. This collective effort, involving management, the board of directors, and personnel, aims to efficiently attain the organization's goals and objectives (Mahadeen et al., 2016). An organization's pursuit of operational excellence invariably intersects with the components of the internal control system, underscoring its pivotal role in supporting the viability and continuity of the business entity. By fostering operational accountability, targeted procedures, and operational patterns, the internal control system enhances organizational effectiveness (Verburg, 2017; Adegboye et al., 2020).

As a continuum of activities involving leadership and all personnel, the internal control system is indispensable for ensuring efficient operations, reliable reporting, safeguarding public assets, and compliance with legal stipulations, thereby advancing institutional objectives. Its successful implementation can thwart and complicate fraudulent activities. The system incorporates a mix of hard controls (for example, segregation of duties and transaction authorization) and soft controls, which include ethical values and codes of conduct (Juliandini and Biduri, 2023). To underscore the quintessential concepts of the internal control system, the COSO Committee emphasized the following key points:

- Internal control operates as both a process and a means to achieve designated goals.

- Competent individuals undertake the execution of internal control, embodying the capability to fulfill their designated roles.
- Internal control yields reasonable assurance to management and the board of directors, rather than absolute certainty.
- The design and operation of internal control are shaped to effectively attain objectives across various domains, contingent upon management's comprehension of the extent of these accomplishments (Nashwan, 2018).

Theories Supporting Internal Control System

Agency Theory

The foundation of agency theory traces back to Steven Ross (1970), and Adams (1994), with Michael Jensen and William Meckling's work serving as a seminal reference. This theory underscores agencies' capacity to institute internal controls that mitigate opportunistic behavior among agents. This interaction between principal and agent gains potency when the principal designates an expert to oversee the agent, enhancing their relationship (Magu, 2021). Gupta (2001) affirms internal controls as vital for ensuring effective management, and they are integrated into policies, laws, and regulations to achieve institutional objectives. In this study, agency theory illuminates the principal-agent dynamic, contributing to organizational evaluation and understanding of internal controls' role (Magu, 2021). In the garment industry, the practical application of agency theory is evident in how companies structure their management and oversight processes. For instance, a garment manufacturer in Sri Lanka might appoint an internal auditor to monitor production managers and ensure they are not engaging in wasteful practices or unauthorized transactions. This auditor, acting as the principal's expert, ensures adherence to production schedules and cost controls, directly mitigating any opportunistic behavior by the managers. Gupta (2001) affirms internal controls as vital for ensuring effective management, and they are integrated into policies, laws, and regulations to achieve institutional objectives. In this study, agency theory illuminates the principal-agent dynamic, contributing to organizational evaluation and understanding of internal controls' role (Magu, 2021). A real-world example can be seen in MAS Holdings, a leading garment manufacturer in Sri Lanka. They have implemented stringent internal controls and regular audits to oversee the actions of factory managers. By doing so, they ensure that resources are used efficiently, production targets are met, and the interests of the owners (principals) are safeguarded against any self-serving actions of the managers (agents) (Akinleye and Kolawole, 2019).

Stakeholder Theory

Shareholder theory posits that corporate entities strive to harmonize the interests of diverse stakeholders, thereby ensuring varying degrees of contentment among each group (Babaali 2022). Correspondingly, Babaali (2022) emphasizes the evolving responsibility of companies, extending beyond shareholders to encompass societal considerations. Freeman (1984) defines stakeholders as entities influencing an organization's objectives, necessitating tailored internal control systems to accommodate differing needs. Adapting control systems to an organization's unique characteristics enhances both internal controls and organizational performance (Zhang et al., 2018). Consequently, corporate executives institute mechanisms like internal control systems to safeguard stakeholder interests (Akinleye and Kolawole, 2019).

In the garment industry, this theory is practically applied through initiatives aimed at balancing the interests of various stakeholders, including employees, customers, suppliers, and the community. For example, Hirdaramani Group, a prominent garment manufacturer in Sri Lanka, has adopted comprehensive sustainability practices that align with stakeholder theory. They have implemented environmental controls to reduce waste and emissions, benefiting the community and the environment. Simultaneously, they invest in worker welfare programs, ensuring fair wages and safe working conditions, thus addressing the interests of their employees.

Adapting control systems to an organization's unique characteristics enhances both internal controls and organizational performance (Zhang et al., 2018). For instance, by tailoring its internal controls to meet international labor standards and environmental regulations, Hirdaramani Group not only safeguards stakeholder interests but also enhances its market reputation and operational efficiency. Consequently, corporate executives institute mechanisms like internal control systems to safeguard stakeholder interests (Akinleye and Kolawole, 2019).

Information Technology

Technology encompasses tools, techniques, systems, and organizations employed to address specific problems or purposes. The fusion of computers and communication yields information technology (IT), particularly advanced

in dynamic, turbulent environments (Akinleye and Kolawole, 2019). Generally, technology encompasses methods, processes, machinery, and skills, in delivering products and services. Data is digital information processed automatically in the form of symbols (Zikran, 2022). IT is a system utilizing software, hardware, database management, telecommunications, and information processing to store, process, and communicate information (Van Esch et al., 2016).

Information technology profoundly influences organizational structure, inducing redundancies, narrower hierarchies, and reduced levels (Hakizimana and Rusibana, 2021). It transforms tasks through automation, centralizing information and reshaping organizational dynamics (Hakizimana and Rusibana, 2021). Information technology enhances an organization's responsiveness by processing abundant environmental information, enabling flexibility in uncertain contexts (Srimai et al., 2011). Farhanghi et al., (2013) highlight IT's efficiency by reducing coordination costs and enhancing project control. It functions as a proxy for a less centralized and formal structure, providing decentralized virtual models (Van Esch et al., 2016). In essence, technology, particularly IT, has a transformative impact on organizations, adapting them to intricate environments through enhanced information processing, improved coordination, and increased flexibility.

Recent technological advancements have revolutionized the garment industry, with Information Technology (IT) playing a pivotal role. Key innovations include 3D printing and advanced design software, allowing manufacturers like Nike and Adidas to swiftly produce prototypes with precision, reducing lead times and costs (Akinleye and Kolawole, 2019). Automation and robotics, exemplified by Sewbots, streamline operations, cutting human error and boosting productivity (Hakizimana and Rusibana, 2021). Internet of Things (IoT) devices monitor equipment and processes in real time, optimizing efficiency by predicting maintenance needs and preventing downtime (Van Esch et al., 2016). Artificial Intelligence (AI) and Machine Learning revolutionize demand forecasting, quality control, and inventory management, with companies like HandM leveraging AI-driven analytics to enhance supply chain operations (Srimai et al., 2011). Blockchain technology ensures supply chain transparency and traceability, championed by brands like Everledger to bolster consumer trust (Farhanghi et al., 2013). Sustainable technologies like waterless dyeing and biodegradable materials address environmental concerns while meeting consumer demand for eco-friendly products (Van Esch et al., 2016).

Human Competencies

Competent employees are the cornerstone of an organization's competitive advantage, surpassing tangible assets like land or materials. This 'people capital' drives value creation from existing resources, with employees emerging as the paramount source of corporate differentiation (Marina, 2018). While strategies, products, and services can be replicated, skilled and efficient employees offer a sustainable edge. Organizational triumph hinges upon competent human resources, as their capabilities shape both employee and organizational performance. Competencies guide desired behaviors and performance levels within the workplace, aligning with organizational outcomes (Marina, 2018). An effective match between required skills and organizational objectives is pivotal. While competency models inform training, they are tools rather than panaceas. Koutoupis and Malisiovas (2019) underscore the potential of human resource development to elevate employee expertise and actualize business objectives. In essence, competent employees are the bedrock of organizational success, amplifying effectiveness and contributing significantly to overall performance and strategic attainment.

In the garment industry in Sri Lanka, specific competencies such as garment manufacturing techniques, quality control expertise, supply chain management, and sustainability practices are crucial (Salman, 2020). Organizations leverage employees' knowledge, skills, abilities, and other attributes (KSAOs) – referred to as a competency model – to attain their goals. An effective match between required competencies and organizational objectives is pivotal (Jessy, 2014). Competencies encompass both intellectual and ethical dimensions, shaping behaviors and qualities essential for success (Siddique, 2019). The strategic contribution competency is notable, involving customer understanding, quality enhancement, stakeholder management, and addressing public issues (Siddique, 2019). Ultimately, competent employees in the garment industry are vital for organizational success, amplifying effectiveness and contributing significantly to strategic attainment.

Organizational Performance

The concept of organizational performance is rooted in the idea that organizations represent voluntary associations of productive assets, encompassing human, physical, and capital resources, united to achieve shared objectives. The sustained commitment of asset contributors hinges on the perceived value derived from the organization's activities in comparison to alternative asset utilization. Thus, the crux of performance lies in value creation, where the value generated from asset deployment meets or exceeds expectations, ensuring the organization's continuity (Babaali, 2022). Organizational performance gauged against inputs, encompasses tangible outcomes reflecting efficiency in terms of cost, quality, and time. This aids companies in pinpointing areas necessitating improvement.

In the garment industry, this is exemplified by companies like MAS Holdings in Sri Lanka, which focuses on sustainable practices and innovative manufacturing techniques to enhance value creation. Organizational performance is evaluated through tangible outcomes such as cost, quality, and time efficiency (Babaali, 2022). Recent studies emphasize the importance of customer satisfaction and innovation in performance measurement, highlighting the need for continuous improvement and adaptation in the competitive garment industry (John, 2011).

Internal Control System and Organizational Performance

The importance of the internal control system in influencing organizational operational performance is widely recognized. This system encompasses managerial efforts to guarantee the effectiveness, efficiency, compliance, and reliability of business transactions and communications (Verburg et al., 2019). The Committee of Sponsoring Organizations (COSO) has underscored its crucial role, stating that the quality of internal control indicates management's awareness of the control environment, activities, risk assessment, information dissemination, and operational monitoring concerning operational performance (Adegboyegun et al., 2020).

Effectiveness assessment of internal control rests on criteria outlined by Coco (1992), evaluating achievement of operational objectives, reliability of financial statements, and adherence to regulations (John, 2011). Internal control, while a dynamic process, is deemed effective when it ensures reasonable assurance of objective accomplishment, involving the coordination of organizational components (John, 2011). Internal controls are integral to corporate governance, ensuring planned processes, risk treatment, correct attitudes, integrity, competence, and managerial oversight (Saha and Mondal, 2015).

Empirical evidence underscores the crucial role of internal control in promoting good corporate governance and fraud prevention, enhancing organizational performance (Nurmiati, 2017; Jeane et al., 2019). Yudianta and Erawati (2012) found a positive impact of internal control on accounting information quality, supported by Kiranayanti and Erawati (2016) who noted its effect on financial statement quality (Bambang, 2019). Internal control's positive effect on performance is highlighted by Hanim et al. (2005), demonstrating its influence on audit work and reporting (Shafawaty et al., 2016). The interplay between internal control and financial performance is evidenced by studies analyzing internal audits, control practices, risk management, and monitoring in various contexts (Abiodun, 2020; Sabina and Priya, 2010; Mahadeen et al., 2016) (Adegboyegun, 2020).

H1: Internal control system has a positive effect on Organizational Performance

Internal Control System, Information Technology, and Organizational Performance

In the rapidly evolving and turbulent business landscape, advanced IT strategies are gaining prominence through technological innovations (Bergeron et al., 2020; Chege et al., 2020; Puspitasari and Jie, 2020). Effective integration of IT and business operations offers entrepreneurs opportunities for high performance and sustainable competitive advantage (Sumito et al., 2020). The alignment of IT control mechanisms according to Teece et al.'s (1997) approach fosters dynamic integration, learning, and restructuring, enhancing performance (Belitski, 2020).

Comprising resources, organization, and quality, technology management interplays to impact corporate effectiveness and internal control assessment (Gaiman, 2008). Information technology contributes to operational efficiency, compliance, and reliable financial reporting, particularly in processes intertwined with internal control (Lexis, 2020). The Theory of Reasoned Action (TRA) posits that individuals embrace technology when it enhances their performance (Nurmiati, 2017). While IT can enhance efficiency, its competitive advantage hinges on organization-specific competency and complementary resource utilization (Tippins and Sohi, 2003). Empirical studies highlight IT capability's pivotal role in mediating IT investments and firm performance, and its moderating impact on the relationship between customer-focused strategies and organizational performance (Yongmei et al., 2008; Said et al., 2009) (Kabiru, 2012).

H2: Information Technology moderates the effect of internal control systems on organizational performance

Internal Control System, Human Competencies, and Organization Performance

Employee capabilities include an individual's assessment of their knowledge, skills, experience, networking, talents, and development potential, and are an important metric of organizational success (Mayo, 2000). Organizations improve these capacities through specific programs (McCowan et al. 1999). Highly pleased employees view themselves as more competitive, emphasizing the need to analyze HR processes in addition to traditional aspects like satisfaction, salary, and training (Serenko, 2007).

Competence, encompassing skills, knowledge, and ability, underlies high job performance (Hevesi, 2005; Spencer and Spencer, 1993). Armstrong (2003) asserts that competencies drive individual and organizational performance, with recent studies emphasizing biographical factors' role in these relationships (Uli, 2011). Human capital attributes are essential for firm performance, especially in generating distinctive expertise and competencies, thereby achieving competitive advantage in a dynamic business environment (Hatch and Dyer, 2004; Hitt et al., 2001; Emmy, 2017).

Internal control's function aids human resources in understanding work scope, duties, rights, and the role of information technology (Jones, 2008). Effective internal control relies on managerial commitment and a culture of ethical conduct (Ziad, 2014). Empirical studies suggest that human resource competencies positively influence internal control and financial reporting quality (Tugiman, 2000; Stefani, 2018; Bambang, 2019). Employee competencies like self-competence, team competence, communicative competence, change competence, and ethical competence correlate positively with organizational performance (Rambo et al., 2009; Salman, 2020). Overall, the relationship between employee competencies and organizational performance is a subject of extensive research and practical significance.

H3: Human Competencies moderate the effect of internal control system on organizational performance

Methodology

Conceptual framework

In this study, the conceptual framework delineates the relationship between the key variables under investigation. The framework, as illustrated in Figure 1, establishes a structured model for understanding the interplay among these variables. Central to this framework is the dependent variable, namely, "organizational performance." This critical aspect serves as the focal point of the study, representing the outcome or result of interest that we aim to comprehend and analyze. Conversely, the independent variable in this model is the "internal control system." This variable stands as the driver or catalyst that we hypothesize to influence organizational performance.

In recognizing the multifaceted nature of organizational dynamics, researchers introduce moderating variables that contribute to nuanced perspectives. Specifically, we consider two moderating variables, namely, "information technology" and "human competencies." These moderating factors are positioned within the framework to illuminate their potential role in shaping the relationship between the independent variable (internal control system) and the dependent variable (organizational performance). This conceptual framework serves as the foundation upon which this research endeavors to explore and elucidate the intricate connections among these variables. Through empirical analysis and data interpretation, it aims to unravel the extent to which the internal control system, guided by information technology and human competencies, influences and impacts organizational performance within the context of this study.

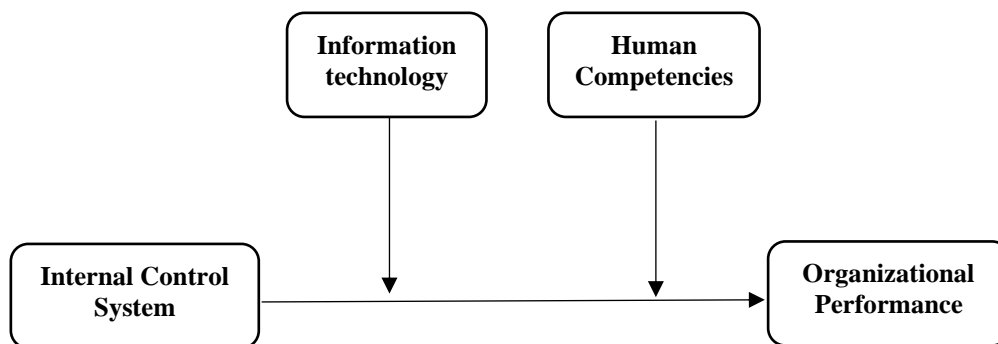


Figure 1: Conceptual Framework
(Source: Researcher's construction)

Data Collection and Analysis

The foundation of research philosophy aligns with the positivist approach, seeking to test theories and advance knowledge through systematic measurement and observational experiences. A quantitative research design characterizes the approach, where hypotheses are formulated to explore relationships and impacts among variables. The research design primarily takes the form of a quantitative approach. Numerical data are systematically collected and subjected to rigorous analysis to derive conclusions and inferences. Deductive logic underpins the research process, commencing with well-defined hypotheses and subsequently gathering data to

ascertain empirical evidence supporting or refuting these hypotheses. The temporal scope of the study is cross-sectional, with data collection spanning from August 3rd to August 31st, 2023.

Data collection is a vital component of the investigation. Both primary and secondary data sources are utilized. Primary data are derived from a standardized questionnaire delivered to chosen respondents at the five textile factories. The questionnaire contains essential questions on the research variables. The data are collected from a sample of 200 employees. The selection criteria for the 200 participants encompass various factors to ensure a comprehensive representation of managerial and supervisory roles within the garment factories. Managers and supervisors from five prominent companies in the Sri Lankan garment industry, including Brandix Casualwear, Smart Shirt Lanka (PVT) Ltd, Star VT Manufacturing (PVT) Limited, JK Garment (Pvt) Ltd, and Global Sports Lanka (PVT) Ltd, are included in the sample. For managerial roles, individuals with titles such as production manager, operations manager, quality assurance manager, and human resources manager are considered. These roles are pivotal in decision-making, overseeing operations, ensuring quality standards, and managing workforce dynamics within the factories. Supervisory roles include production supervisors, quality control supervisors, floor supervisors, and team leaders. These individuals are responsible for day-to-day operations, coordinating tasks, ensuring adherence to production schedules, and managing frontline workers. The selection of participants also considers their experience levels within the garment industry. Both seasoned professionals with extensive experience and relatively new entrants to the industry are included to capture a diverse range of perspectives and insights.

In the data analysis process, descriptive statistics are used to summarize and present the characteristics of the dataset, providing insights into central tendencies and variability. Regression analysis is employed to explore the relationships between variables, identifying potential predictors of organizational performance. Additionally, moderation techniques are utilized to assess the influence of a third variable on the relationship between two other variables, enhancing the understanding of nuanced interactions within the data and adapting the approach to align with the research objectives and the nature of the data at hand. Throughout the research journey, adherence to ethical considerations remains paramount. The principles of confidentiality and anonymity are upheld to protect the identity and privacy of respondents. Informed consent is diligently sought, and the research is conducted with the utmost integrity and impartiality.

Results and Discussion

Descriptive Analysis

Tables 1 and 2 summarize statistics relating to the three dimensions of internal controls and the level of their implementation in the organizations.

Table 1: Descriptive Statistics of Internal Control System

Dimension/Variable	Mean	Standard Deviation
Process Control	4.02	0.58
Personal Control	3.94	0.58
Output control	0.53	0.53
Internal Control system	4.09	0.49

(Source: Survey Data)

According to Table 1, the average values (mean values) for the three dimensions of process control, people control, and output control are 4.02, 3.94, and 4.28, with standard deviations of 0.58, 0.58, and 0.53 respectively. Because of the analysis, output control in the firms has a higher mean value than the other two controls. It is 4.28. It indicates that companies prioritize output control over the other two controls. The total mean value of the Internal Control system is 4.09, with a standard deviation of 0.499.

Table 2: Implementation Level of Internal Control System

Level	Frequency	Percentage (%)
High Level	193	96.5%
Moderate Level	2	1%
Low Level	5	2.5%
Total	200	100%

(Source: Survey Data)

According to Table 2, most of the respondents 96.5% perceived that high level of internal controls enforced in the organization. Due to the large number of employees working in the factory, managers have to be more concerned

about implementing a proper internal control system. It is very important for an organization. It will be caused by reducing fraud, corruption, non-compliance with rules, and breaking the rules and regulations within the organization. Therefore, there is a high level of adoption of internal control systems in this industry.

Impact of Internal Control System on Organizational Performance

The regression analysis reveals an R square value of 0.041, indicating that 4.1% of the variation in Organizational Performance (OP) can be accounted for by the predictor of Internal Control System (ICS) at the 0.05 significance level. This suggests that 95.9 % of the variation in organizational performance is influenced by other factors within the organization. Additionally, the regression analysis demonstrates the significance of the ICS coefficient, indicating a positive impact of the internal control system on organizational performance, which supports H1. The β coefficient of ICS is 0.203, suggesting that for every unit increase in ICS, there is a corresponding increase of 0.203 units in OP. This underscores the significant positive impact of ICS on OP.

Table 3: Regression Analysis Results for the Effect of ICS on OP

	Coefficient	Std. Error	t-statistic	p-value
Constant	0.000	0.69	0.000	1.000
ICS	0.203*	0.70	2.913	0.004
R^2 0.041		Adjusted R^2 0.036	F-statistic 8.485*	

Note: *indicates the significance at a 1 percent level.

(Source: Survey Data)

Furthermore, the present findings align with previous research. For instance, Buthayna (2016) conducted a study showing a high positive impact of the study variables on organizational effectiveness, with R and R square values of 87.9% and 77.3%, respectively. Gideon (2019) found that the overall influence of COSO components of internal control on the performance of selected tertiary institutions in Ekiti state was significantly positive. Specifically, Control activities (CA), Information and Communication (IFC), and Monitoring activities (MA) had significant and positive influences on organizational performance, while Control environment (CE) and Risk assessment (RA) had positive but insignificant effects. Similarly, John (2011) observed a significant positive relationship between internal controls and organizational performance at Medpoint Industries Limited. Justine (2015) also found a significant positive relationship between internal controls and organizational performance at Monaco Business Institute. These findings collectively support the notion of the positive impact of internal controls on organizational performance, as evidenced by various studies in the literature. Thus, it is possible to infer that an internal control system improves organizational performance.

Moderating Role of Information Technology

The current study sought to investigate the possible moderating effects of information technology (IT) on the link between internal control systems and organizational performance. To achieve this goal, a moderated regression analysis was performed, with regression coefficients serving as the major indicators of the desired outcomes. IT was included as a moderating variable by incorporating an interaction term, ZICS*ZIT, into the analytical model. Tables 4, 5, and 6 summarize the hierarchical multiple regression analysis for examining the moderating role of information technology on the effect of ICS on OP. The results showed a significant increase in the coefficient of determination (R^2) of 0.017, suggesting a 1.7% increase in explained variance due to the inclusion of the interaction term. ANOVA analysis revealed the statistical significance of Models 1 and 2 ($p = 0.000, <0.05$).

Table 4: Model Summary of Hierarchical Multiple Regression Analysis for Moderating Role of Information Technology

Model	R	R^2	Adjusted R^2	R square change	F change	Sig. F change
1	0.470	0.221	0.213	0.221	27.903	0.000
2	0.487	0.226	0.226	0.017	4.282	0.040

(Source: Survey Data)

Table 5: ANOVA of Hierarchical Multiple Regression Analysis for Moderating Role of Information Technology

Model		Sum of squares	df	Mean Square	F	Sig.
1	Regression	43.928	2	21.964	27.903	0.000
	Residuals	155.072	197	0.787		
	Total	199.000	199			
2	Regression	47.244	3	15.748	20.339	0.000
	Residuals	151.756	196	0.774		
	Total	199.000	199			

(Source: Survey Data)

Table 6: Coefficient of Hierarchical Multiple Regression Analysis for Moderating Role Information Technology

	Coefficients	Std. Error	t-statistic	p-value
Constant	-0.015	0.063	-0.237	0.813
Z score (ICS)	0.148	0.063	2.361	0.019
Z score (IT)	0.450	0.064	7.047	0.000
Int_ICS_by_IT	0.118	0.57	2.069	0.040

(Source: Survey Data)

The scrutiny of the coefficient table, crucial for assessing the significance of moderation effects, uncovered a p-value of 0.040 for the interaction term, which remained below the preset alpha level of 0.05. This clearly illustrates the interaction's statistical significance, implying that IT has a significant moderating impact on the link between the internal control system and organizational performance. The interaction term's coefficient ($\beta = 0.118, p < 0.05$) showed significant results. This empirical data implies that incorporating information technology can strengthen the link between internal control systems and organizational performance, which supports the H2.

Surprisingly, the conclusions of a relevant previous study done by Lexis (2020) coincide perfectly with the findings of the current analysis. This previous study confirms a substantial association between internal control systems and company performance, highlighting the function of information technology as a moderator that improves the favorable relationship between internal control and business success. Furthermore, findings from Nurmiati (2017) research tangentially corroborate the current study's premises by emphasizing the beneficial, but non-significant, influence of information technology on financial management performance.

However, in this study, IT had a noticeable influence on organizational performance. Based on rigorous selection criteria, it is concluded that IT plays an important moderating role in the interface between the internal control system and organizational performance. As a result, the established link between the internal control system and organizational performance is greatly strengthened by the integrative impact of information technology in this industry. In light of these findings, it is critical for businesses to focus more on strengthening their internal control systems, while also acknowledging the magnifying impact of IT on organizational performance.

Moderating Role of Human Competencies

In the pursuit of exploring the potential moderating role of Human Competencies in the relationship between the internal control system and organizational performance, an extensive examination was conducted through the application of moderated regression analysis. This analytical approach sought to unveil the nuanced interplay between these critical factors within organizational contexts. To ascertain the moderating influence of Human Competencies, the model introduced an interaction term, denoted as ZICS*ZHC, into the analysis. Tables 7, 8, and 9 summarize the hierarchical multiple regression analysis for examining the moderating role of information technology on the effect of ICS on OP. The results revealed a notable increase in the coefficient of determination (R²) by 0.034, indicative of a 3.4% augmentation in the explained variance, owing to the incorporation of the interaction term. The statistical assessment presented in ANOVA Table 8 underscored the significance of the model, with a calculated significance value of 0.000, surpassing the conventional threshold of 0.05. This underscored the collective statistical significance of both regression models under scrutiny.

Table 7: Model Summary of Hierarchical Multiple Regression Analysis for Moderating Role of Human Competencies

Model	R	R ²	Adjusted R ²	R square change	F change	Sig. F change
1	0.310	0.096	0.087	0.096	10.484	0.000
2	0.361	0.130	0.117	0.034	7.622	0.006

(Source: Survey Data)

Table 8: ANOVA of Hierarchical Multiple Regression Analysis for Moderating Role of Human Competencies

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	19.144	2	9.572	10.484	0.000
	Residuals	179.856	197	0.913		
	Total	199.000	199			
2	Regression	25.876	3	8.625	9.765	0.000
	Residuals	173.124	196	0.883		
	Total	199.000	199			

(Source: Survey Data)

Table 9: Coefficient of Hierarchical Multiple Regression Analysis for Moderating Role of Human Competencies

	Coefficients	Std. Error	t-statistic	p-value
Constant	-0.042	0.68	-0.619	0.537
Z score (ICS)	0.184	0.070	2.641	0.009
Z score (HC)	0.203	0.070	2.913	0.004
Int_ICS_by_HC	0.188	0.068	2.761	0.006

(Source: Survey Data)

Delving further into the statistical insights, it became apparent that Regression Model 1 and Regression Model 2 demonstrated statistical significance, as elucidated by the computed F-statistics. Specifically, Regression Model 1 exhibited statistical significance at $F(2,197) = 10.484$, with a p-value below 0.05. Similarly, Regression Model 2 showcased statistical significance at $F(3,196) = 9.765$, also with a p-value below 0.05. The pivotal interaction term's p-value was established at 0.006, a figure that unequivocally fell below the stipulated alpha value of 0.05. This compellingly affirmed the statistical significance of the interaction, thereby substantiating the notion that Human Competencies function as a moderator within the relationship between the internal control system and organizational performance. The specific coefficient associated with the interaction term, symbolized as β , was determined to be 0.188, and importantly, demonstrated statistical significance with a p-value below 0.05. This coefficient underscored the extent of the interaction's influence on the relationship between the internal control system and organizational performance. In consequence, supporting H3, this provided robust grounds for the researcher's assertion that human competencies augment the connection between the internal control system and organizational performance. These empirical findings align harmoniously with prior research. For instance, in a study conducted by Nurmiati (2017), it was observed that human resource competencies exhibited a noteworthy positive effect on financial management performance, a conclusion supported by a coefficient of 0.285 with a positive direction ($P\text{-Value} = 0.042 < 0.05$).

Moreover, a corroborative study by Julie (2015) found that managerial competence, as delineated by motives, traits, self-concepts, knowledge, insight, and skills, wielded a significant impact on enhancing government financial performance. This was evident through an array of indicators with substantial positive effects, as evidenced by a p-value of 0.000. The research landscape was further enriched by investigations, such as the one undertaken by Hunziker (2016), which highlighted the affirmative relationship between competencies and internal control effectiveness. A statistically significant path coefficient of 0.35 ($p < 0.001$) substantiated the direct and favorable influence of competence on internal control efficiency. However, in this study, human competencies (HC) have a significant impact on organizational performance (OP). According to the decision criteria, it can be concluded that human competencies play a moderating role in the relationship between internal control systems (ICS) and organizational performance. Additionally, the relationship between ICS and OP is enhanced by the effect of human competencies in this sector. Therefore, it can be inferred that garment factories should pay greater attention to internal control, with organizational performance moderated by human competencies.

Conclusion and Implications

This study investigates the relationships between internal control systems and organizational performance and the moderating effects of information technology and human competencies on this relationship in the Sri Lankan garment industry. The analysis indicated that output controls exhibited the highest mean value among the three, suggesting a considerable emphasis placed by garment sector organizations on monitoring and managing output processes. Furthermore, through simple regression analysis, it was determined that the internal control system has a statistically significant positive impact on organizational performance. This highlights the pivotal role of a robust internal control system in augmenting overall organizational effectiveness.

The study then delved into the moderating roles of information technology and human competencies in the relationship between the internal control system and organizational performance. The interaction term between the internal control system and information technology (ZICS*ZIT) was found to be statistically significant, indicating that IT acts as a moderator in this relationship within the garment sector. It was found to contribute an additional 1.7% of the total variance, signifying its influence in bolstering the impact of the internal control system on organizational performance. Similarly, the interaction term between the internal control system and human competencies (ZICS*ZHC) also demonstrated statistical significance, highlighting HC as another moderator. Human competencies explained an additional 3.4% of the total variance, emphasizing the critical role played by human competencies in moderating the relationship between the internal control system and organizational performance in garment sector organizations.

Practically, these findings have significant implications for the garment industry in Sri Lanka. By implementing robust internal control systems, garment manufacturers can enhance operational efficiency, minimize risks, and ensure compliance with regulatory standards, thereby improving overall organizational performance (Joseph et al., 2015). Leveraging IT solutions such as inventory management systems and production planning software can streamline processes, reduce lead times, and enhance decision-making capabilities (Srimai et al., 2011). Additionally, investing in human competencies through training and development programs can empower employees to adapt to technological advancements, foster innovation, and contribute to organizational growth (Akinleye and Kolawole, 2019).

Based on the findings, several recommendations can be made for implementing internal control systems and leveraging IT and human competencies in the garment industry in Sri Lanka. Firstly, organizations should conduct regular assessments of their internal control systems to identify areas for improvement and ensure alignment with organizational objectives (Nashwan, 2018). Secondly, investing in advanced IT infrastructure and software solutions tailored to the garment industry's specific needs can enhance operational efficiency and decision-making processes (Hakizimana and Rusibana, 2021). Finally, organizations should prioritize continuous learning and development initiatives to nurture a culture of competence and innovation among employees, thereby strengthening the organization's competitive position in the market (Siddique, 2019).

Limitations of the Study and Future Research

This study is subject to several limitations. The research operates within a specific period and confines its focus to selected garment factories in Sri Lanka, potentially limiting the generalizability of the findings. Additionally, the reliance on self-reported data introduces the potential for response bias. Nevertheless, the combination of quantitative data collection and deductive reasoning allows for rigorous hypothesis testing and the derivation of meaningful conclusions regarding the internal control systems within the selected Sri Lankan garment factories.

Future research should address these limitations by adopting a broader and more diverse sample size and incorporating qualitative research methods to gain deeper insights into the experiences and perspectives of stakeholders within the garment industry. Moreover, examining the impact of external factors such as market trends, economic conditions, and regulatory changes on internal control systems and organizational performance would provide a more comprehensive understanding of the dynamics at play (Koutoupis and Malisiovas, 2019). Overall, further research in these areas would contribute to the continuous improvement and innovation within the garment industry in Sri Lanka and beyond.

References

Adegboyegun, A. E., Ben-Caleb, E., Ademola, A. O., Oladutire, E. O., and Sodeinde, G. M. (2020). Internal control systems and operating performance: Evidence from small and medium enterprises (SMEs) in Ondo state. *Asian Economic and Financial Review*, 10(4), 469â. DOI:[10.18488/journal.aefr.2020.104.469.479](https://doi.org/10.18488/journal.aefr.2020.104.469.479)

- Akinleye, G. T., and Kolawole, A. D. (2020). Internal controls and performance of selected tertiary institutions in Ekiti state: A committee of sponsoring organizations (coso) framework approach. *International Journal of Financial Research*, 11(1), 405-416. DOI: <https://doi.org/10.5430/ijfr.v11n1p405>
- Al Randi, S. I. A., Jalagat, R. C., and Bashayreh, A. (2022). Influence of Social Media Usage and Work Performance on Organizational Performance: The Case of A Broadband Company in Oman. *Journal of Management and Economic Studies*, 4(4), 419-435. DOI: [10.26677/TR1010.2022.1149](https://doi.org/10.26677/TR1010.2022.1149)
- Arslan, M. (2021). Effect of ownership structure on firm performance evidence from non-financial listed firms: Ownership structure and performance. In *Corporate governance and its implications on accounting and finance* (pp. 143-170). IGI Global. DOI: [10.4018/978-1-7998-4852-3.ch007](https://doi.org/10.4018/978-1-7998-4852-3.ch007)
- Babaali, A. (2022). Impact evaluation of the internal control system on the sales function performance within Moroccan companies' context. *International Journal of Multidisciplinary Research and Analysis*, 5(02). DOI: [10.47191/ijmra/v5-i2-02](https://doi.org/10.47191/ijmra/v5-i2-02)
- Farhanghi, A. A., Abbaspour, A., and Ghassemi, R. A. (2013). The effect of information technology on organizational structure and firm performance: An analysis of Consultant Engineers Firms (CEF) in Iran. *Procedia-Social and Behavioral Sciences*, 81, 644-649. DOI: [10.1016/j.sbspro.2013.06.490](https://doi.org/10.1016/j.sbspro.2013.06.490)
- Hagenimana, F. X., and Niyibizi, F. X. (2022). Taxpayers' financial statements audit and its influence on revenue collection in Rwanda. A case study of Rwanda Revenue Authority (2015-2018). *The Strategic Journal of Business and Change Management*, 9(4), 1600-1628. DOI: [10.61426/sjbcm.v9i4.2513](https://doi.org/10.61426/sjbcm.v9i4.2513)
- Juliandini, D. A., and Biduri, S. (2023). The Effects Of E-Procurement Implementation And Integrity to Fraud Prevention Against The Government Procurement Of Goods/Services Fraud With Intention As The Moderating Variable On The Government Of Makassar City. *Journal of Research in Business and Management*, 8(7), 2347-3002.
- Koutoupis, A. G., and Malisiovas, T. (2023). The effects of the internal control system on the risk, profitability, and compliance of the US banking sector: A quantitative approach. *International Journal of Finance and Economics*, 28(2), 1638-1652. DOI: [10.1002/ijfe.2498](https://doi.org/10.1002/ijfe.2498)
- Mahadeen, B., Al-Dmour, R. H., Obeidat, B. Y., and Tarhini, A. (2016). Examining the effect of the Organization's Internal Control System on Organizational Effectiveness: A Jordanian empirical study. *International Journal of Business Administration*, 7(6), 22-41. DOI: [10.5430/ijba.v7n6p22](https://doi.org/10.5430/ijba.v7n6p22)
- MarinaPalimbong, S., Rura, Y., and A, T. (2018). The Internal Control and Financial Statements As Moderating Of Ethical Climate. *Journal Akuntansi*, 26(3), 409-425. DOI: [10.24912/ja.v26i3.1046](https://doi.org/10.24912/ja.v26i3.1046)
- Mondal, K. C., and Saha, A. K. (2012). Internal Control Practices of Readymade Garments Sector (Textile Industry) in Bangladesh. *Asian Business Review*, 1(1), 67-71. DOI: [10.17613/cpv5-bf97](https://doi.org/10.17613/cpv5-bf97)
- Mungai, D. K., Maina, M., and Kungu, J. N. (2021). Effect of internal control systems on the financial performance of public universities in Kenya. *Research Journal of Finance and Accounting*, 12(16), 80-94.
- Nashwan, I. (2018). Impact of internal control system structures according to (COSO) model on the operational performance of construction companies in the Gaza strip: an empirical study. *International Journal of Business and Management*, 13(11), 176-191. DOI: [10.5539/ijbm.v13n11p176](https://doi.org/10.5539/ijbm.v13n11p176)
- Özçelik, G., and Ferman, M. (2006). Competency approach to human resources management: Outcomes and contributions in a Turkish cultural context. *Human Resource Development Review*, 5(1), 72-91. DOI: [10.1177/1534484305284602](https://doi.org/10.1177/1534484305284602)
- Putra, A. H. P. K., and Elpisah, E. (2023). Effect of Internal Control System and Reward System on Managerial Performance with Locus of Control as Moderating Variable in Banking. *Golden Ratio of Data in Summary*, 3(1), 1-6.
- Putri, D. P., Djuminah, D., and Narulitasari, D. (2019). Government Internal Control System and Reliability of Social Aid Fund Management Financial Statements. Indonesian *Journal of Contemporary Accounting Research*, 1(49). DOI: [10.33455/ijcar.v1i1.79](https://doi.org/10.33455/ijcar.v1i1.79)
- Raudhatinur, R., Meutia, R., and Saputra, M. (2023). The effect of human resource competency and government internal control system on the quality of local government financial report with information technology as a moderation variable in Aceh government. *International Journal of Current Science Research and Review*, 6(01). DOI: [10.47191/ijcsrr/V6-i1-67](https://doi.org/10.47191/ijcsrr/V6-i1-67)

- Salman, M., Ganie, S. A., and Saleem, I. (2020). Employee competencies as predictors of organizational performance: a study of public and private sector banks. *Management and Labour Studies*, 45(4), 416-432. <https://doi.org/10.1177/0258042X209390>
- Shyaka, G. (2012). Internal control systems and financial performance of higher learning institutions in Rwanda (Doctoral dissertation, Kampala International University College of Economics and Management).
- Siagian, H., and Tarigan, Z. J. H. (2019). The effect of information technology application on organizational performance through cross-functional teams and total quality management implementation. *Petra International Journal of Business Studies*, 1(2), 98-105. DOI: [10.9744/ijbs.1.2.98-105](https://doi.org/10.9744/ijbs.1.2.98-105)
- Siddique, M., Mufti, O., and Khan, S. W. (2019). Internally oriented high-performance work systems and organizational performance: empirical evidence from the banking sector in Pakistan. *Global Social Sciences Review (GSSR)*, 4(2), 88-95.
- Srimai, S., Damsaman, N., and Bangchokdee, S. (2011). Performance measurement, organizational learning, and strategic alignment: an exploratory study in Thai public sector. *Measuring Business Excellence*, 15(2), 57-69.
- Sumayya, U., Kumari, K., Rashid, S., and Shakir, K. (2020). Role of Social Media in Enhancing Employee Performance. *International Journal of Psychosocial Rehabilitation*, 24(4). DOI: [10.37200/IJPR/V24I4/PR2020387](https://doi.org/10.37200/IJPR/V24I4/PR2020387)
- Sumito, N., Setiyawati, H., and Mappanyukki, R. (2021, January). Influence of internal audit and internal control system on quality of the financial statement. In Conference on International Issues in Business and Economics Research (CIIBER 2019) (pp. 26-31). Atlantis Press. DOI: [10.2991/aebmr.k.210121.005](https://doi.org/10.2991/aebmr.k.210121.005)
- Tetteh, L. A., Kwarteng, A., Aveh, F. K., Dadzie, S. A., and Asante-Darko, D. (2022). The impact of internal control systems on corporate performance among listed firms in Ghana: The moderating role of information technology. *Journal of African Business*, 23(1), 104-125. DOI: [10.1080/15228916.2020.1826851](https://doi.org/10.1080/15228916.2020.1826851)
- Van Esch, E., Wei, L. Q., and Chiang, F. F. (2018). High-performance human resource practices and firm performance: The mediating role of employees' competencies and the moderating role of climate for creativity. *The International Journal of Human Resource Management*, 29(10), 1683-1708.
- Verburg, R. M., Nienaber, A. M., Searle, R. H., Weibel, A., Den Hartog, D. N., and Rupp, D. E. (2018). The role of organizational control systems in employees' organizational trust and performance outcomes. *Group and organization management*, 43(2), 179-206.
- Yoon, I., Choi, D., and Lee, H. (2023). Pay disparity, investment in internal control personnel, and a firm's investment inefficiency: Korean evidence. *Investment Management and Financial Innovations*, 20(2), 66-78. DOI: [10.21511/imfi.20\(2\).2023.06](https://doi.org/10.21511/imfi.20(2).2023.06)
- Zhang, P., Long, J., and Ma, J. (2018). How IT awareness impacts its control weaknesses and firm performance. *Journal of International Technology and Information Management*, 27(2), 99-120.
- Zhou, Z., Guo, S., Lin, S., and Zhang, W. (2017, July). Internal model control on hybrid headbox system. In 2017 36th Chinese Control Conference (CCC) (pp. 4397-4401). IEEE. DOI: [10.14419/ijet.v7i3.4.16748](https://doi.org/10.14419/ijet.v7i3.4.16748)
- Zikran, G., Abd Majid, M. S., and Suriani, S. (2022, March). Role of Internal Control in Improving Financial Management-Based Performance: The Case of Mosques in Banda Aceh City, Indonesia. In 2022 International Conference on Decision Aid Sciences and Applications (DASA) (pp. 1254-1258). IEEE. DOI: [10.1109/DASA54658.2022.9765255](https://doi.org/10.1109/DASA54658.2022.9765255)