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Perceived Effectiveness of Internal Control Systems in a Private Higher Education Institution

EDWIN M. DELOS SANTOS, JR.
ORCID NO. 0000-0002-2735-6897
edelossantos@liceo.edu.ph

Liceo de Cagayan University
Cagayan de Oro City, Philippines

ABSTRACT

This research evaluated the influence of internal control components on the perceived effectiveness of the internal control system (ICS) at the examined university. These components were derived from the Committee on Sponsoring Organizations' Internal Control (COSO) Framework, which encompassed *control environment*, *risk assessment*, *control activities*, *information and communication*, and *monitoring*. A researcher-developed instrument was created based on the key aspects of these components. The instrument's validity was established through expert panel validation, followed by pilot testing with 30 individuals who were not included in the final study. Using Cronbach's alpha, the reliability coefficient yielded 0.91. Participant selection involved a random sampling method to ensure a representative sample. The collected data underwent rigorous analysis. It used statistical measures such as descriptive statistics, Pearson Product Moment Correlation, and Multiple Linear Regression were applied to organize and interpret the data, forming a robust foundation for the study to attain its objective. Among the components, *monitoring* had the strongest influence on perceived ICS effectiveness. However, all the five internal control components taken together exerted a significant influence on the subject university's perceived ICS perceived effectiveness. The study led to recommendations that may be done to strengthen the ICS of the institution.

Keywords: Control environment, risk assessment, control activities, information and communication, effectiveness of internal control system (ICS)

INTRODUCTION

One global perennial problem is graft and corruption. A counterpart of graft and corruption in the private sector is fraud, which has not been thoroughly addressed and has mutated with technology. Graft, as defined by Integrity (2021), is a political corruption that often involves misdirection or misappropriation of public funds by government officials for the interest of a selected few. Fraud beneficiaries are usually private companies where an involved corrupt official owns a financial stake or has friends who will pay kickbacks or bribes in exchange for preferential treatment. Political grafting as a technique takes place in decision-making situations where public officials choose a supplier for goods and services or select the winning bid for a government contract. A corrupt official would award a lucrative contract to a nice company, often at a cost that substantially exceeds the fair market rate. This friendly company might compensate the corrupt official with a financial kickback or pay bribes to other government officials to continue circumventing proper oversight (GAN Integrity, 2021). In August 1960, the Philippines Republic Act 3019, also known as the Anti-Graft and Corrupt Practices Act, is an assertion of policy that a public office is deemed a public trust. Consequently, the Philippine Government strictly prohibits both public officers and private individuals from engaging in actions that comprise graft or corruption.

In the Transparency International (TI) Corruption Perception Index (2020), more than two-thirds of the countries scored below 50 out of 100. The research showed that corruption is more pervasive in countries least equipped to handle the COVID-19 pandemic and other global crises. The Philippines scored 34 with a rank of 115. Also, Time Magazine (2010) reported that corruption and carelessness were at least partially responsible for the hefty death toll in the massive earthquake that struck Haiti.

Fraud is the counterpart of corruption from the perspective of private organizations. In the broadest sense, it can encompass any crime for gain that uses deception as its principal modus operandi. More specifically, fraud, as defined in Black's Law Dictionary, is a misrepresentation of the truth or concealment of a material fact to induce others to act to their detriment.

According to the 15th Global Fraud Survey (Ernst and Young, 2020), 38 % of respondents said that bribery and corrupt activities abound in their country's companies. Furthermore, the study discovered that, despite gains in some nations, fraud and corruption had not decreased overall since the previous poll in 2012. In the last two years, more than one of every ten respondents was aware of a

significant fraud in their company, with the number of scams being substantially higher in some areas like the Middle East, Latin America, and Japan. In addition, the Global Fraud Survey reported that the proportion of respondents who would justify fraud to meet financial targets had increased internationally since 2016. Approximately 13% of respondents indicated a willingness to prolong the monthly reporting period, while seven percent expressed a tendency to backdate contracts. Additionally, the other seven percent revealed a propensity to recognize revenues prematurely to meet financial objectives.

In the Philippines, the Securities and Exchange Commission (SEC) revealed that securities fraud had peaked anew on the back of the country's healthy economy. The number of fraudulent companies has not only been rising this year, but it has already grown to new heights compared to the previous years (The Philippine Star, 2015). Despite the difficulty in measuring fraud, the increasing number of fraud cases is becoming a more significant concern. Everyone pays a percentage of the fraud bill, along with the costs of detection and investigation, because fraud impacts the price of goods and services. Albrecht et al. (2009) as cited by Mironiuc (2012), observed that the increase in fraud cases has become very alarming. In the past, when stealing, employees had to remove the physical assets of the company. Fraud tended to be minor because of the fear of getting caught with the items. Today, an employee who steals can do the following: make a phone call, misdirect purchase bills, bribe a supplier, manipulate a computer program, and press a key on the computer keyboard to delete business assets. All these ways are made possible through the computer and the Internet. Computerization and access to the Internet have led to the explosion of fraud.

Internal controls, in contrast, are fraud-prevention procedures. Therefore, the management and governing board develop policies, procedures, and practices as internal controls to ensure the security of the assets and the appropriate use of the assets in conformity with laws, regulations, and program compliance requirements. As outlined in the Committee on Sponsoring Organizations' Framework (COSO, 2013), internal control comprises key components: *control environment*, *control activities*, *risk assessment*, *information, communication, and monitoring*. While there exists a widespread acknowledgment of the fundamental aspects of internal control, certain factors such as traditions, conventions, and culture can also significantly influence the design and extent of its implementation. This underscores the importance of considering these contextual elements when evaluating the perceived effectiveness of the ICS with the impact of its components. This study, however, limits its investigation on the key components as mentioned earlier.

The subject university, a private higher education institution in Cagayan de Oro City, Mindanao, Philippines, is exposed to the international landscape of fraud risk. This 67-year-old university continues to grapple with the challenging changes of time and technology. The university continuously develops, designs, and implements internal controls based on emerging trends and business conditions. Internal controls are instituted to effectively prevent fraud. In the application of COSO's five internal control components, what are the most widely embraced practical approaches? The study will make a structure for a deeper comprehension of the weight of the effects of the five parts of internal control on the framework's viability to make suggestions to further develop the internal control framework of the university.

FRAMEWORK

This study is anchored on the Fraud Triangle Theory by Cressey (1953) and Control Theory by Maxwell (1868). Cressey (1953), a criminologist whose research centered on fraudsters, devised the Fraud Triangle concept. All fraudsters have three characteristics in common, namely (1) a sense of urgency, (2) a sense of opportunity, and (3) some rationalizations for why the deception is appropriate. The fraud triangle consists of these three pieces. Rationalization (justification of dishonest actions), Opportunity (ability to carry out misappropriation of cash or organizational assets), and Pressure (motivation or incentive to commit fraud.

Figure 1

The Fraud Triangle

Fraud is similar to fire in many ways. The three ingredients that form a fire triangle are oxygen, heat, and fuel. Firefighters know that eliminating any ingredient can extinguish the fire. Smothering, using chemicals, or generating explosions, as in the case of oil well fires, are all common methods of removing oxygen. Pouring water on a fire is the standard way to extinguish it. Building fire breaks/fire lines and shutting off fuel sources remove fuel.

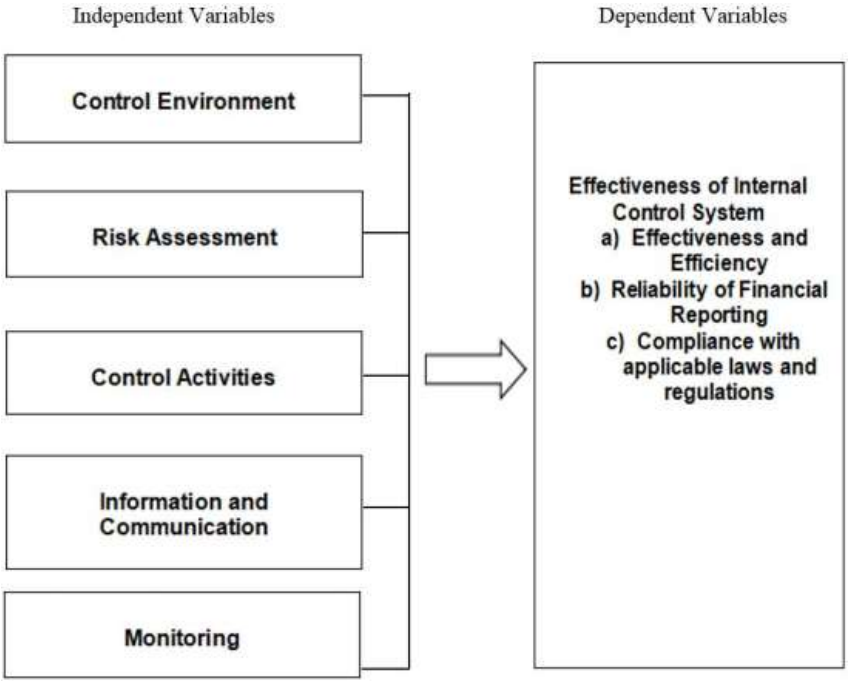
Like the fire elements, the fraud triangle has three interactive aspects. The fuel becomes more flammable when it takes less oxygen and heat to start a fire. Similarly, oxygen is purer when the fuel is less flammable for igniting. Concerning fraud, if the chance is significant or the pressure is intense, one is less likely to commit fraud. Conversely, one is more likely to be dishonest if the chance is less or the pressure is less to motivate fraud.

When it comes to preventing fraud, most people focus on just one element of the fraud triangle – opportunity. Fraud fighters believe that internal controls can eliminate opportunity and ensure compliance. They rarely concentrate on the pressures that drive fraud or the rationalizations used by perpetrators. According to the Committee on Sponsoring Organizations' Internal Control Framework, internal control is portrayed as a cyclical process influenced by an entity's top managerial officers, faculty, and staff. These stakeholders collectively ensure the achievement of the objectives, encompassing operational efficiency and effectiveness, conformity with relevant laws and regulations, and the reliability of financial reporting (COSO, 2013).

Further, COSO's Internal Control Framework argued that the certainty of achieving goals (operational, reporting, and compliance) is at a reasonable level. Figure 2 shows that internal control factors cover five components in COSO's Internal Control Framework's report.

Figure 2

Schematic Presentation of the Study Showing the Interplay of the Independent and Dependent Variables



The first component is the *Control Environment* consisting of standards, structures, and processes upon which internal control of an organization is based. The establishment of internal control and expected norms of behavior emanates from the highest echelons, namely the board of directors and senior management.

The second component is *Risk Assessment*, which entails an iterative and dynamic process in the identification and analysis of threats to the attainment of organizational objectives and in the establishment of a foundation that defines how threats should be dealt with. The management of an organization evaluates possible changes both in the external environment and within its business model that can obstruct its ability to meet its goals. The third component, *Control Activities*, pertains to the actions produced by policies and procedures to ensure that management directions help alleviate risks and attain objectives. Implementation of control operations takes place at all levels of the organization

and in the different stages of its business process.

The fourth component is *Information and Communication*, which is essential for an organization to meet internal control obligations to attain its objectives. Both internal and external communications provide an organization with the information needed to fulfill its day-to-day internal control responsibilities. The management must make known to its employees the internal control tasks and their essentiality in the attainment of organizational objectives. The last component is *Monitoring*, which involves continuous, separated, or a mix of two assessments to check whether every one of the five components of interior control, including controls to execute the principles within every component, is available and working. Significant issues are imparted to the top management and the board of directors (COSO's Internal Control Framework, 2013).

On the one hand, the Control Theory explains that the control process consists of three main stages: verification of the control aim, implementation and measurement of the effect, and correction of the implementation deviation. The theory further explains that the closed control process with a feedback loop is the most effective control. The necessity of internal control's dynamic repeating cycle adheres to this principle. The process consists of identifying issues, resolving issues, identifying new issues, and resolving new issues. The principle of continual improvement through redesigning and re-assessment of policies and procedures addresses new challenges and changes.

OBJECTIVE OF THE STUDY

The study determined the influence of the internal control components on the perceived effectiveness of the ICS of a higher education institution in a major city in the Southern Philippines.

METHODOLOGY

The study used descriptive-correlational and causal research designs. This design is appropriate for this study as Bhandari (2021) explained that correlation is a statistical indicator of a relationship between variables. These variables change together: they covary. However, this covariation is not necessarily due to a direct or an indirect causal link. This study also employed causal relationships using multiple linear regression which implies a cause-and-effect relationship between variables. The participants were of two classifications: non-academic personnel and accounting and finance personnel. Each classification had sub-groups: top

management, middle management, and rank and file. Table 1 illustrates the classification and grouping of the respondents.

Table 1

Classification and Grouping of Participants

Participants	Academic	Non-Academic	Accounting and Finance
Top Management	Principals, Deans, and Vice-Presidents	Directors, and Vice-Presidents	Directors and Vice-Presidents
Middle Management	Chairpersons	Managers and Supervisors	Managers and Supervisors
Rank and File	Faculty Members	Staffs	Staffs

The study used random sampling in selecting the participants. Table 2 presents the sampling distribution of the study participants.

Table 2

Sampling Distribution of the Participants

Category	**Academic**	**Non-Academic**	**Accounting and Finance**	**Total**
Top Management				
Chairman of the Board		1		1
President		1		1
Vice-Presidents		3		3
Middle Management				
Directors/ Head of Office	1	5	4	10
Deans	5			5
Principals	2			2
Chairpersons	10			10
Faculty Members	33			33
Staff		20	20	40
Total	**53**	**33**	**24**	**110**

The first section of the questionnaire focused on evaluating the extent to which the components of internal control—such as the *control environment*, *risk assessment*, *control activities*, *information and communication*, and *monitoring*—

were manifested. Subsequently, the second part of the questionnaire appraised the ICS within the university.

Regarding its operations' effectiveness and efficiency, financial reporting trustworthiness, and compliance with relevant regulations and laws. The rating scale, score ranges, descriptive rating, and interpretation are the following:

Scale	Range	Descriptive Rating	Interpretation
5	4.50-5.0	Strongly Agree	Very High Extent
4	3.50-4.49	Agree	High Extent
3	2.50-3.4	Neutral	Moderate Extent
2	1.50-2.49	Disagree	Low Extent
1	1.00-1.49	Strongly Disagree	Very Low Extent

The researcher sent a letter endorsed by the research adviser and the dean of the School of Graduate Studies to the university president. The letter sought permission for the conduct of the study. The researcher conducted a focus group discussion with the participants to explain the purpose of the research and to ask them to complete the questionnaire. The researcher assured the participants of their right to confidentiality. The data organization involved the application of both descriptive and inferential statistics. Descriptive statistics, including frequency counts, percentages, mean, and standard deviations, were utilized to gauge the respondents' agreement or disagreement with the item indicators. The associational relationship was further explored using the Pearson Product Moment Correlation. Additionally, Multiple Linear Regression analysis was employed to identify which internal control components most accurately predict the perceived effectiveness of the ICS within the university under consideration.

RESULTS AND DISCUSSION

Manifestation of the Five Components of Internal Control. Table 3 presents the mean distribution of the five internal control components. Overall, the university's internal control had a mean of 4.30, indicating a consensus of agreement or a high extent. Among the components, *monitoring* and *risk assessment* exhibited the highest means, succeeded by *control activities*, *control environment*, and *information and communication*, in sequential order. Notably, Moeller (2007) suggests that the *control environment*, being integral to the internal control framework, may influence the attributes and procedures associated with *information and communication* within an organization.

Table 3

Summary of the Respondents' Levels of Manifestation of the Five Components of Internal Control

Indicators	Mean	Verbal Description	Interpretation
Control Environment	4.26	Agree	High Extent
Risk Assessment	4.39	Agree	High Extent
Control Activities	4.25	Agree	High Extent
Information and Communication	4.22	Agree	High Extent
Monitoring	4.39	Agree	High Extent
Overall Mean	**4.30**	**Agree**	**High Extent**

On *control environment*, the findings imply that the top management and middle management of the university firmly adhere to the vision, mission, and goals of the university Also, both management levels firmly observe ethical standards. The university has a clear philosophy, working forms, and standards on honesty, ethics, knowledge, skills, and capacity. On *risk assessment*, the university strongly observes norms of behavior reflecting integrity and ethical principles. Also, the university has a clear organizational structure defining essential areas of responsibility and establishing accountability, giving a strong message that infractions of acceptable behavior are not tolerated. That is, the university places a high value on honesty, integrity, and other ethical values.

On *control activities*, the university documents policies, and procedures for its primary operational processes. That is, statements of policies and recorded procedures of critical processes are in place. Further, the university has departmental financial managers whom to contact for budget and accounting questions or problems. On *information and communication*, the university employees are good at making strong and effective passwords, indicating how the employees value the importance of passwords as an essential control. Environmental variables (e.g., temperature, humidity, power) and adequate control and security of the physical location of computer equipment are in place. The university has a semi-automated accounting system, and most of its school processes are semi-automated. Basic control measures on passwords and control of environmental variables that may affect the conditions of the hardware are well-taken care of.

Regarding *monitoring*, the university maintains an internal audit department vested with the authority to scrutinize any facet of the entity's operations. This independent internal audit unit operates as a distinct department and directly reports its findings to the Board of Directors' Audit Committee.

The auditors perform an independent audit on any operational aspect of the university. Having an internal audit is an effective monitoring measure. In addition, the university reviews the controls and monitors their applications. Also, the management responds to the findings and recommendations of the internal auditor promptly.

Perceived Effectiveness of ICS

Table 4 reveals the overall mean rating (4.46, High) of the perceived effectiveness of ICS. The top three indicators were compliance with the relevant laws and regulations (4.65), reliability of financial reporting (4.43), and effectiveness of operations (4.34).

On operational effectiveness, the university effectively delivers its services to customers, manages alliances with partner schools and agencies, and equips employees to help them reach their full potential and productivity. With a strong and clear vision and mission in place, all faculty and staff are guided on the importance of delivering the kind of service that the university commits to the community and the world. The university emphasizes the importance of building alliances with other higher educational institutions. In addition, the faculty and staff are provided with the necessary training and tools to empower them to perform their tasks, thereby contributing to the realization of the university's vision, mission, and goals. Also, the university effectively selects, recruits, and retains students and effectively manages environmental and community involvement.

Table 4

Summary of the Internal Control System's Perceived Effectiveness in Terms of Operational Effectiveness, Financial Reporting Reliability, and

Indicators	Mean	Verbal Description	Interpretation
Effectiveness of Operations	4.34	Agree	High Extent
Reliability of Financial Reporting	4.43	Agree	High Extent
	4.65	Strongly Agree	Very High Extent
Overall Mean	**4.47**	**Agree**	**High Extent**

For the reliability of financial reporting, the university generates accurate information in its financial statements with proper documents, such as signed contracts and original invoices. The university's financial statements reflect a high level of honesty and fairness, indicating the management's commitment to complete and accurate disclosure of all economic transactions and occurrences. Further, the university submits to external audit requirements to increase its compliance with applicable standards and laws and to ensure conformity of financial statements to the accounting standards. In conformity with relevant laws and regulations, the university fully observes the regulations of the government agencies including the Commission on Higher Education (CHED), the Bureau of Internal Revenue (BIR), the City Government, and the Department of Education (DepEd).

Correlation between Perceived ICS Effectiveness and Manifestation of Internal Control Components

Table 5 shows the results of the test of correlation between perceived ICS effectiveness and manifestation of internal control components. The probability value of .000 less than 0.01 level of significance indicates a significant relationship between the paired variables. Internal controls safeguard properties, verify the quality and reliability of accounting data, promote operational efficiency, and ensure compliance with management policies (Alslihat and Alrawashdeh, 2016). Furthermore, solid internal controls permit firms to reach three significant goals. Cerini (2016) cited the following goals: financial reporting accuracy and trustworthiness, compliance with regulations and laws, and efficiency and effectiveness of an organization's activities.

Table 5

Results of the Test of Relationship between Perceived Internal Control Effectiveness and Manifestation of Internal Control Components

	Pearson Correlation	P-value	Interpretation
Control Environment	.595	0.000	**Significant**
Risk Assessment	.718	0.000	**Significant**
Control Activities	.664	0.000	**Significant**
Information and Communication	.579	0.000	**Significant**
Monitoring	.799	0.000	**Significant**

Predictors of Effectiveness of ICS

Table 6 reveals the power of the internal control components to predict, either singly or in combination, the effectiveness of the ICS. *Monitoring* and *risk assessment*s were the best predictors of the effectiveness of the ICS. *Risk assessment* has a probability value of .054 and a beta value of .194, whereas *monitoring* has a probability value of .000 with a beta value of .538. On the contrary, internal control effectiveness is unaffected by *control activities*, *control environment*, and *information and communication*. Although all five COSO-prescribed components have a tangible link with internal control effectiveness in the last analysis, only *monitoring* and *risk assessment* have a significant influence or impact on internal control effectiveness.

Table 6

Multiple Regression Analysis of the Five Components of Internal Control and Effectiveness of Internal Control

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.397	.231		6.057	.000
Control Environment	.039	.074	.044	.530	.597
Risk Assessment	.153	.079	.194	1.946	.054
Control Activities	.085	.067	.118	1.268	.208
Information and communication	.000	.059	.001	.008	.994
Monitoring	.426	.078	.538	5.436	.000

R= .821 R^2=.674 Adjusted R^2= .658
F=43.017 P=.000

The adjusted R2 value provides the weight of an independent variable as it influences or impacts a dependent variable. In the case of the subject university, the five internal control components of COSO accounted for 65.8% (roughly two-thirds) of the perceived ICS effectiveness. This finding indicates that other variables not explored in the study accounted for only 34.2 percent of the perceived ICS effectiveness.

With value of F is 43.017, given P=.000, the model is significant. This finding indicates that perceived ICS effectiveness is significantly influenced by the manifestation of internal control components.

The beta (β) weight shows how much the criterion variable increases when the predictor variable is increased by one standard deviation — assuming other variables in the model are held constant. The p-values in regression analysis show which relationships in the model are statistically significant and the nature of those relationships. The coefficients describe the mathematical relationship between each independent variable and dependent variable. The p-values for the coefficients indicate whether these relationships are statistically significant. If the p-value is less than .05, a significant relationship exists, but if the p-value is higher than .05, no significant relationship exists. Among these components, *monitoring* had the strongest influence (β =.538, t=5.436, p=.000). *Risk assessment* (β =.194, t=1.946, p=.054), although not statistically significant comes next.

Results reveal that it is only monitoring activities that significantly influenced the perceived effectiveness of the university's ICS. There is a significant impact of monitoring activities on the perceived ICS effectiveness.

Perceived Effectiveness of ICS = 1.397 + .426 (*Monitoring*) + 0.153 (*Risk Assessment*) + 0.089 (*Control Activities*) + 0.039 (*Control Environment*) + 0.000 (*Information and Communication*) defines the influence of the COSO five components on the perceived effectiveness of the university's ICS. It is worthy to note that *information and communication* system singly do not influence the perceived effectiveness of the ICS.

According to Cerini (2016), it is the responsibility of the top management to monitor all controls and determine if the measures work effectively. The management ensures that the internal control procedures are being followed by its employees. Monitoring activities is an essential control measure.

The COSO Internal Control Framework of 1992 clarifies that an institution should have a rational assurance that it reaches specific objectives. Both internal and external auditors have several approaches to evaluate hazards. Additionally, Kinney (2003) observed a mounting need for monitors to build fortress in addressing and evaluating risks.

The university has a semi-automated system and processes to include the accounting system. There are still human interventions in the process chain, underscoring the importance of *monitoring* and supervision of procedures. *Monitoring* is defined as an examination of an entity's operations and transactions over time to measure service level and govern whether controls are operative. For internal control and achievement of the company's goals, the focus should be

on the management's monitoring activities. All employees must understand the organization's mission, objectives, duties, and risk tolerance level for monitoring to be most effective (Febriana et al., 2017; Shoimah, 2015; and Ariesa & Berasategu, 2009).

Information and communication has the lowest significance value among the five components. This finding reinforces the previous analysis that Filipino traits hinder open culture and the free exchange of vital information, especially from bottom to top management. These traits include *utang na loob*, crab mentality, *hiya*, and *pakikisama.*

Cerini (2016) asserted that it is the responsibility of the top management to monitor all controls and determine if the measures work effectively. The management ensures that the internal control procedures are being followed by its employees. Monitoring activities are an essential control measure. The COSO Internal Control Framework of 1992 clarifies that an institution should have a rational assurance that it reaches specific objectives. Both internal and external auditors have several approaches to evaluate hazards. Additionally, Kinney (2003) observed a mounting need for monitors to build a fortress in addressing and evaluating risks. The university has a semi-automated system and processes to include the accounting system. There are still human interventions in the process chain, underscoring the importance of monitoring and supervision of procedures. *Monitoring* is defined as an examination of an entity's operations and transactions over time to measure service levels and govern whether controls are operative.

To ensure the effectiveness of the organization's ICS and the achievement of its goals, management must prioritize monitoring activities. Successful monitoring relies on the collective understanding of the organization's vision, goals, objectives, responsibilities, and risk tolerance level by all members of the organization (Febriana et al., 2017; Shoimah, 2015; and Ariesa & Berasategu, 2009).

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The study's findings reveal that the university strictly adheres to the COSO-prescribed components of its ICS. The COSO-prescribed internal control components significantly improve the university's ICS efficacy. Monitoring substantially impacts the effectiveness of the university's ICS and is a strong

predictor of the system's overall performance. Finally, the university's ICS was deemed adequate. When combined, these COSO-prescribed internal control components account for 65.8% of the institution's assessed efficacy of its ICS.

CONCLUSIONS

The perceived effectiveness of the university's internal control system or ICS is notably influenced by its monitoring system, as defined by COSO. However, given that only the monitoring system emerged as a strong determinant of ICS effectiveness in this study, the results underscore the imperative for higher education institutions to strengthen other components in their review and enhancement efforts.

To further boost the ICS perceived effectiveness, there is a need for the higher education institution to revisit its financial organizational structures specifically on their approach of implementing the COSO components that did not figure out as influencing factor of the ICS. *Information and communication* together with the *control environment, control activities* and *risk assessment* as used as variables in this study need to be further studied. These components apparently emerge as weak predictors of perceived effectiveness of ICS. Considering that only almost sixty-six of these components put together influenced perceived effectiveness of the university's ICS, reviewing how these components are managed can improve further the effectiveness of the ICS as perceived by employees.

RECOMMENDATIONS

The salient findings and conclusions of this study lead to the formulation of the following recommendations:

1. With the COSO-prescribed internal control elements having low scores, the university may review and intensify the implementation of its various activities. Improving specific activities may strengthen the components, thereby adding to the ICS's efficiency and effectiveness.

2. The university's top management may find ways to enhance its operational effectiveness and financial statement reliability. Also, the university may put more efforts on ensuring compliance with relevant laws and regulations. Researchers could conduct further studies to identify strategies that enhance these areas.

3. To establish a robust causal relationship between the COSO components and the ICS, the university may conduct a comprehensive review of its current work structure and ICS. Given the evolving work landscape prompted by the COVID-19 pandemic, adjustments to procedures are essential to address emerging constraints. This entails a careful consideration of modifying structural components and refining the ICS to align with the changing dynamics.

4. Not to discount other internal control components, the university may put a premium on monitoring for a more effective internal control. If prioritized and improved, both components will have more significant impact on the organizational effectiveness.

5. Further studies may be conducted to include other factors that may have bearing on the university's ICS's effectiveness.

6. Similar studies may be conducted:
    6.1 in different industries to develop a priority scheme to guide the SMEs in the Philippines, which are working on their internal control components;
    6.2 for the other members of the university's group of companies; and
    6.3 to determine how the Filipino culture influence the components of internal control.

LITERATURE CITED

Albrecht, W. S., Albrecht, C. O., Albrecht, C. C., & Zimbelman, M. F. (2006). *Fraud examination* (p. 696). New York, NY: Thomson South-Western.

Alslihat & Alrawashdeh. (2016). The Role of the Accounting System in the Internal Control. *International Journal of Science and Research (IJSR), 5*(10), 1464-1471. https://www.ijsr.net/get_count.php?paper_id=ART20162374

Ariesa, L., & Berasategu, R. G. (2009). *The analysis of internal controls on revenue and expenditure cycle in PT*. Levina. *Journal of Applied Finance Accounting, 1*(2), 268–280. https:// media.neliti.com/media/publications/243892-the-analysis-of-internal-controls-on-rev-92618d93.pdf

Bhandari, P. (2021). *Correlation vs Causation.* Source: https://www.unm.edu/~lkravitz/Article%20folder/understandres.html. Downloaded November 15, 2021

Cerini, K. (2016). *Key Components of Internal Control.* Source: https://ceriniandassociates.com/news-feed/2016/02/29/key-components-of-internal-controls/ downloaded October 21, 2021

COSO. (2013). Committee on Sponsoring Organization of the Treadway Commisssion *Internal Control- Integrated Framework* https://dair.nps.edu/bitstream/123456789/2964/1/SEC809-SMP-13-0077.pdf downloaded Septem 23, 2021

Cressey, D. (1953). *The Cressey hypothesis (1953) and an investigation into the occurrence of corporate fraud: an empirical analysis conducted in Brazilian banking institutions.* https://www.scielo.br/j/rcf/a/cNqDZDjjSK7fSL6gkKgTKzs/?lang=en#:~:text=Cressey's%20hypothesis%20(1953&text=Glencoe%2C%20IL%3A%20The%20Free%20Press.)%2C%20which%20is,pressure%2C%20opportunity%2C%20and%20rationalization. Downloaded October 28, 2021

Ernst & Young. (2018). *Integrity in the spotlight: The future of compliance 15th Global Fraud Survey.* https://www.ey.com/en_ph/assurance/the-global-fraud-survey-how-compliance-can-be-more-effective or https://assets.ey.com/content/dam/ey-sites/ey-com/en_gl/topics/assurance/assurance-pdfs/ey-integrity-in-spotlight.pdf

Febriana, L., Wardayati, S. M., & Prasetyo, W. (2017). The effect of internal control factors on the accountability of the auditor at the inspectirate of Jombang District. *Jurnal Dinamika Akuntansi, 9*(2), 166–175. https://doi.org/10.15294/jda.v9i2.9308

GAN Integrity. (2021). *Compliance Reference*. Retrieved November 14, 2021, from https://www.ganintegrity.com/compliance-glossary/graft/

Garcia-Pueyo, L., Bhaskar, A., van Zwol, R., Sellis, T., Ranade,G., Senthil Kumar, P., Sun, Y., and Zhang, J. (2020). I*ntegrity 2021: Integrity in Social Networks and Media*. In Proceedings of WSDM '21. ACM, New York, NY, USA, 5 pages. https://doi.org/10.1145/nnnnnnn.nnnnnnn https://snurb.info/files/2021/Integrity2021.pdf

Kinney, W. R. (2003). *Auditing risk assessment and risk management processes, The Institute of Monitoringors Research Foundation*, Altamonte Springs, Florida

Licuanan, P. (2016). *A Moral Recovery Program: Building a People- Building a Nation*. Source https://ourhappyschool.com/esp-values-education/moral-recovery-program-building-people-building-nation-patricia-licuanan. Downloaded November 14, 2021

Maxwell, J. (1868). *On Governors*. https://doi.org/10.1098/rspl.1867.0055. Downloaded October 15, 2021

Mironiuc, M., & Robu,I. (2012). Empirical Study on the Analysis of the Influence of the Audit Fees and Non Audit Fees Ratio to the Fraud Risk. *Procedia - Social and Behavioral Sciences, 62*, 2012, pp. 179-183,

Moeller, R. (2007). *'COSO Enterprise Risk Management: Understanding the new integrated ERM framework'*, New Jersey, USA, Wiley.

Republic Act 3019 *Anti-graft and Corrupt Practices Act.* Source: Philippines_Anti-graft and Corrupt Practices Act_1960_en.pdf https://publicofficialsfinancialdisclosure.worldbank.org/sites/fdl/files/assets/law-library-files/Philippines_Anti-graft%20and%20Corrupt%20Practices%20Act_1960_en.pdf downloaded October 25, 2021.

Shoimah, S. L. (2015). *The effect of internal control on the performance of hotel employees* in Jembe district. http://repository.unej.ac.id/handle/123456789/64462

The Philippine Star. (2015). *SEC issues warning vs Emgoldex* Philippines. https://www.philstar.com/business/2015/02/16/1424071/sec-issues-warning-vs-emgoldex-philippines. Downloaded November 10, 2022

Transparency International. (2020). *Corruption Perception Index.* Source: file:///C:/Users/Elmar/AppData/Local/Temp/Rar$DIa0.346/cpi-2020-americas-infographic.pdf. Downloaded November 14, 2021.