

## THE IMPACT OF ETHICAL LEADERSHIP ON INTERNAL CONTROL SYSTEMS

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### ABSTRACT

**Purpose:** The paper aims to investigate the impacts of ethical leadership on the effectiveness of internal control systems in government departments

**Design/methodology/approach:** The investigation is based on 182 distributed survey questionnaires provided to government department employees in managerial positions. The questionnaire items relating to ethical leadership are based on the components of role-modelling, strictness and openness. Internal control systems were evaluated based on the COSO framework, and the hypotheses were tested using regression models on the correlation between ethical leadership and internal control systems.

**Findings:** The major conclusion of the study is that there is a significantly positive correlation between ethical leadership and internal control systems. The study points out the importance of ethical leadership in ensuring the effectiveness of internal control systems.

**Contribution:** The results provide insight and information on how to enhance internal control systems through ethical leadership. The study also contributes to internal control systems literature by providing empirical evidence on the causal effect that a leader has on systems effectiveness.

**Keywords:** Ethics, government, internal control, leadership, public sector.

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## 1.0 INTRODUCTION

Ethical leadership is a timely contemporary issue that deserves further scientific attention. Works of literature in leadership have used sophisticated models, empirical investigations, theoretical development, and research advancement to obtain great leadership compositions (Stogdill, 1974; Rush, Thomas, & Lord, 1977; House, Wright, & Aditya, 1997). Studies of leadership have been vast through the investigation of leadership styles such as transformative, democratic and charismatic styles leadership with the aims of effectiveness for organisational success (Lok & Crawford, 2004; Hoel et al., 2010; Muresan et al., 2010). Ethical leadership is one of the important styles for the organisation to have a conducive working environment (Demirtas & Akdogan, 2015).

Ethical leadership provides the virtues of honesty and truthfulness, whereas the adverse virtues are corruption, immorality and dishonesty (Velasquez et al., 2015). Trust is a crucial factor in motivating employees towards achieving the corporate philanthropy goals of enabling firms (Abdillah, Anita, & Zakaria, 2021). These are all the principal parts of the principles of ethics, the values that come from the current state of belief and acceptable conduct of the present society (Paine, 1994). Corrupt leadership is the opposite of ethical leadership. Leaders are faced with the possibility of dirty hands, which are events where interventions are made to the leader that will compromise their moral principle (Calhoun, 2004). Corrupt leaders influence the environment's moral judgement by doing ethical practices a normative experience (Ashforth & Anand, 2003). These are reasons that studies on leadership are in demand, as they would be able to change the effectiveness or behaviours of an organisation.

Internal control systems assure users that their objectives are met effectively and efficiently (COSO, 2013a). The employees must adhere to these systems of control, and the leaders have to shoulder the trust of the stakeholders in ensuring that these control systems are followed by the employees (Lather et al., 2009). The roles of leaders have always been multi-functional in their quest to determine the organisation's success. Various leadership style studies have shown that the behaviour and style of leadership will affect the success of the organisation in achieving its mission and designated profit.

Internal control systems assure the organisation will achieve the set operational objectives (Kendrick, 2000; Badara & Saidin, 2013; Zahari, Said, & Arshad, 2019). The common framework used in evaluating internal control systems is the COSO framework, established by the Committee of Sponsoring Organisation (COSO) of the Treadway Commission (COSO, 2016). The COSO model states that internal control is the process of the organisation determined by the leaders to achieve a common objective (Maycock, 2011). Studies often state that when there are weak internal control systems, there are risks of the occurrence of corrupt behaviour (Bowrin, 2004; Yurniwati & Rizaldi, 2015). The tone at the top or leaders is often responsible for ensuring sufficient control for the organisation to achieve its goals (Staicu, Tatomir, & Lincă, 2013). They can shape the organisation based on their leadership values. The main purpose of the study is to investigate whether ethical leadership would affect internal control systems.

### **1.1 Statement of the Problem**

The public sector is responsible for ensuring its missions are achieved through the assigned organisation. Public sector employees in Malaysia have different motivations from private sector employees. The motivations of public sector employees are based on the assigned objectives set out by the ruling government (Frank & Lewis, 2004). Private sector employees focus on gaining profit and reducing costs (Goulet & Frank, 2015). There are notions that internal control systems would not serve any function when the leaders are corrupt and do not intend to follow such systems (Jensen, 1993). The control systems are said to function only to fail without proper leaders and employees following such systems.

The internal control system is the core component of an organisation (Hansen, 1997). The system provides assurance to the stakeholders that their agent is following the guidance of the control system to achieve the objectives (Agbejule & Jokipii, 2009). The crisis involved multinational organisations such as Enron and WorldCom raising concerns about control systems' effectiveness (Morehead, 2007). These scandals, such as in Enron, are due to the leaders taking action against fraudulent behaviours in taking care of their benefit (Junior & Sorking, 2001)

These fraud and corruption scandals had shown the assumption that having weak leaders and weak control systems would negatively impact the organization (ACFE, 2014). Internal control systems are a measure to control organisations, but it also enables strategic roles and functions for the organisation (Rubino, Vitolla, & Garzoni, 2017). The effectiveness of internal control systems is also helpful for controlling and preventing acts of fraud and

corruption (Mizan et al., 2016). Effective internal control systems can also improve audit effectiveness in an organisation (Badara & Saidin, 2013).

The leader's ethical values determine the direction of their organisation (Staicu et al., 2013). Studies on ethical leadership show that leaders can exert moral values on other members of the employee by being a symbol of morality (Mayer et al., 2012). The study of ethical leadership amongst leaders in Singapore shows that it is positively associated with transformational culture and employee outcomes (Toor & Ofori, 2009). The acts of corruption can be curbed by having strong leaders and consistency in a controlled environment (McCormack, 1996). Countries such as Bangladesh were also embroiled in severe levels of corruption due to weak political leadership (Zafarullah & Siddiquee, 2001). Leaders have roles in an organisation, whether to improve or destroy. The paper investigates the effect of ethical leaders on control systems.

## **2.0 LITERATURE REVIEW**

### **2.1 Theory**

Ethics is the rules of behaviour that the individual or group practices (Fieser, 2018). The time transition shows that each value of ethics differs over time as social norms constantly change depending on the group of societies. For instance, policies on management accounting change over time depending on the acceptable set of guidelines that shaped the Code of Professional Ethics for certified public accountants (Herman, 1987). The demographics of ethics are also different in terms of cultural beliefs. Pakistan, for instance, still has the concepts of honour killings that are still practised in society (Bhanbhro et al., 2013). Family members that have brought shame and dishonour to the family are bound to severe consequences resulting in death. The cultural value is different compared to other countries that may view that as excessive. The belief is that social justice comes under the responsibility of the family, and the government does not hold any right to personal affairs (Dorjee, Baig, & Ting-Toomey, 2013).

The study uses the approach of normative ethics, that is, understanding the actions in terms of their levels of ethics (David, 2004). The normative ethical theory, which contains virtue theory, states that individuals should have certain traits such as generosity or courage. Actions in society should act based on these good virtues (Hursthouse, 2015). These positive values in ethics will ensure an organisational influence to push the employees towards having improved values (Neubert et al., 2009).

## **2.2 Leadership**

Leadership development has changed from the ongoing research development towards leadership styles and traits. An initial theory pioneer comes from trait, behavioural, contingency, and power and influence theories. (Stogdill, 1974) then included management and relationship theories that consider the impact on organisational efficiency (Simonet & Tett, 2013). Trait theories are studies and research based on human personalities. The dynamics of the trait approach consist of intelligence, self-confidence, determination, sociability and emotional intelligence (Northouse, 2012). Trait theory has three components, and leaders are not considered to be isolated and integrated within the organisation to influence organisational performance (Zaccaro, 2007).

Behavioural theories of leadership focus on the leader's behaviour (Gill, 2002). The notion of behaviour theory is that leadership capabilities can be adopted and learned compared to inherent. In line with the perception that leaders can be brought up in terms of their expected behaviour to provide the expected performance. Fiedler developed the contingency theory in 1958. The theory explains that effective leadership is dependent on control over the environment and situation. This is where task-oriented leaders will be effective in unfavourable situations and environments (Fiedler, 1978).

The power and influence theory in terms of leadership perception is when having power and using its ability to influence others (Lunenburg, 2012). The source of power can come from legitimate power, reward power, coercive power, expert power and referent power. These sources of power are various ways an individual in the organisation exerts their power and influence. Management theory is how the leaders develop and execute strategies to achieve the objectives of their organisation (Smircich & Morgan, 1982). Relationship theory contributes toward the current styles of leadership, such as transformational leadership in the context of when the leaders portray a good leadership value, that is then reflected towards the employees in the organisation (Mckee, 1991).

Literature has described influential leadership as transformational leadership, charismatic leadership, and coalition leadership (Robbins & Judge, 2005). Transformational leadership, amongst others, is the ability to initiate and cause significant effects on the organisation. Charismatic leadership is when the leaders impact the organisation in terms of emotions, which will bring inspiration and then improve organisational performance. Coalition leadership is the process of getting groups of individuals to form groups striving to achieve the organisation's mission and goals.

Great leaders bring inspiration to other people and influence them in taking actions that are good or bad (Sinek, 2009). Leaders can bring prosperity or chaos, such as the Yellow Vest Uprising in Paris, which shows accused leaders responsible for organizing a central level protest in the city without declaration (Chrisafis, 2019). Leaders of the movement were protesting over the leadership of the country's president over the general discontentment with fuel prices and the economy. These actions show that chaos can be organised with proper leadership and vision. There can also be the catalyst of positive impact on the organisation. The stories of tech company leaders such as Bill Gates and Steve Jobs that changed and transformed small level organisations into international companies with the right form, value, and strategy (Maccoby, 2001). Studies indicated that when there is corrupt leadership, the followers who have good moral behaviours are showing an indication that they are moving towards unethical behaviour (Bendahan et al., 2015)

Leaders are people who are appointed or designated a principal role with the responsibility of managing and handling the designated group, organisation, or country (Lather et al., 2009). They are the people who hold the power that can either be used for abuse or the improvement of other people's livelihoods (Sankowsky, 1995). The role of leaders in organisations has a broad context and concept as different leadership styles have shown that it would influence the conditions of the organisation (Abdallah & Forawi, 2017; Engelbrecht, Heine, & Mahembe, 2017). Practical leadership are individuals that delegate authority, direct the subordinates and ensured that there is motivation within the members of the organisation (Olmstead, 2000)

### **2.3 Ethical Leadership**

The notion of an effective leader will influence organisational behaviour and performance has been an area of research of various fields over the years (Staicu et al., 2013). Leadership represents the actions of leaders in the organisation of which they can influence an organisational activity (Stogdill, 1950). It is a set of processes when the individuals in the organisation can influence the group in achieving their missions and goals (Northouse, 2012). Leaders are important factors that can make or break the organisation in terms of efficiency and performance (Bello, 2012). That paired together with leaders who are ethical are then expected to positively influence the overall environment of the work culture (Kuenzi, Mayer, & Greenbaum, 2019).

The majority of the studies focus on the leadership and performance relationship. Through an effective leadership experience, the organisation will have better performance.

That in context is the analysis of leadership from their behaviour and effectiveness (Yammarino, Spangler, & Bass, 1993). The issues of these studies are that there are observations of employees' perceptions towards the organisation's leaders. The results can be biased towards popular and well-known leaders in the organisation (Rush et al., 1977). The employees or subordinates sometimes relate positively to the leadership style, although not having observed and analysed their leadership. This explains the reasons for why some results are biased in individual leadership and performance relationship contexts. The case study of an industry in India observed that effective leadership in an organisation would impact performance (Chathoth & Olsen, 2002). That is because effective leaders can communicate the goals and visions of the organisation and incorporate any changes to their process and structure.

#### **2.4 Internal Control Systems**

As quoted by a scholar in the 1950s, internal control is the plan coordination and procedures an organisation uses within its operations to safeguard assets from fraud loss and maintain the accuracy and reliability of accounting data (Grady, 1957). Studies on the history of internal control have shown that internal control was apparent even before the seventeenth century (Lee, 1971). The rich history of the analogy of internal control indicates that it has always been a core component in any organisation. The public, private, and other sectors each have their adherence to internal control. Current internal control involves greater dimensions in terms of components. The whole control environment is related to other internal control components, primarily based on the COSO framework.

Internal control heavily relates to government objectives. One benefit of effective internal control is that the government will be able to reduce fraud and increase its awareness concerning accountability. The public's confidence will be higher in the government when higher or stronger levels of internal control are in place (COSO, 2013a). Strong internal control can help organisations achieve their desired targets and prevent the loss of precious resources or assets. Through robust internal control systems, it is assumed that the organisation is compliant with the rules, laws and regulations, which benefit the organisation as a whole when they adhere to these parameters.

There are, however, some things that internal control is limited to. The Treadway Commission Executive summary stated that internal control does not ensure the organisation's success, whether in obtaining a profit or achieving its objectives. The judgments and decision-making, in reality, can be disoriented and not accurate, these all can occur due to mistakes or simple errors during the decision making concerning internal control. The adherence and

upholding of the internal control systems depend on the end-user using it. The end-user or even the management can override the internal control system for their benefit as leaders or management of the organisations are people held responsible for maintaining proper internal control systems (Agbejule & Jokipii, 2009).

## **2.5 Hypotheses Development**

Through the perspective of the control paradigm, leaders can ensure the compliance of control systems within their organisations. An internal control system aims to achieve designated objectives efficiently and effectively (COSO, 2013b). The dimensions of an ethical leader are determined through the adaptation of past studies based on the leader's role in becoming a role model, their strictness within the organisation and to the employees, and the leader's openness to other employees in the organisation (Lasthuizen, Huberts, & Heres, 2011).

The three core dimensions or styles of ethical leadership had previously shown in the past as having an impact on reducing the amount of unethical behaviour in the organisation. The components used to evaluate internal control systems are based on the five components of the COSO framework. The framework states that internal control systems consist of a control environment, risk assessment, control activities, information and monitoring activities (COSO, 2013a). The relationship of ethical leadership towards internal control systems is then observed in the study.

Leaders are expected to show ethical values to their employees to ensure good moral values are cultivated in the organisation (Engelbrecht, Wolmarans, & Mahembe, 2017). Engelbrechts et al work shows the relationship of when leaders are ethical through providing equal opportunity and fair decision making, the employees become more engaged in their tasks. That reflects on the value the leader must have to become a role model to the employees (Parry & Proctor-Thomson, 2003; Free, Macintosh, & Stein, 2007; Parry & Proctor-thomson, 2012). Different studies have stated that the leader must also have knowledge and intelligence before they can present such ethical behaviour (Riggio & Reichard, 2008).

The role modelling function relates to how well the supervisor or manager and leaders are setting a good example for their employees (Huberts, Kapteinm, & Lasthuizen, 2007). The attitude shown in the management is influential in affecting the employee's behaviour (Neubert et al., 2009). The tone at the top is able to shape and nurture the values in the organisation itself (Staicu et al., 2013). When managers lead by example, the employees are expected to follow suit to such behaviours. That is where the first hypothesis states that:

H1: There is a positive relationship between role modelling and internal control systems.

Strictness in the context of organisational management is where the leaders apply the general standards toward the employees based on the desired effect of rules and procedures of the organisation (Huberts et al., 2007). Examples of operations are such as the leader allowing their employees some leeway in terms of operation hours or giving some slack to the employees to improve overall working conditions (Agrawal et al., 2018). Agrawal et al's study clearly showed that slack was related to how employees' creativity and emotions were higher, when they were allowed to slack during working hours. A balance between the leaders in strictness is needed to ensure the tasks and objectives are achieved together with the use of control systems.

The strictness often relates to how the leaders behave in carrying out their duties (Huberts et al., 2007). The organisation has control mechanisms to ensure that the employees are not free to roam or freely act independently. These control mechanisms can be in terms of handing out punishment to the employees who fail to follow orders or leadership instructions (Podsakoff & Schriesheim, 1985). The other common factor is that the employees themselves report to the leaders or management on other people who do not follow the control systems (Graaf, 2010). That is the relevance and reasoning for the need for the leaders to exercise their authority within the organisation. This finding leads us to the following hypothesis:

H2: The more leaders are strict in their leadership, the higher the levels of commitment the employees have toward the internal control systems

Openness is when the leaders are open to suggestions from employees or are open in their leadership directions. These leaders are flexible in the working environment, which suggests that they can change and receive employee feedback and communications (Zaccaro et al., 1991). The study of leader openness in a multinational management team shows that leaders are likely to benefit from the feedback and ideas from the employees. They also became more engaged in their tasks (Tröster & Van Knippenberg, 2012). The relationship between the leader and follower (for example, manager and employee) promotes recognition in which the employees will follow the leader's instructions and objectives (van Quaquebeke, van Knippenberg, & Eckloff, 2011). That is connected with the study as leadership openness would ensure employees' adherence towards internal control systems.

The leaders' openness to information about an employee's not following instructions must be dealt with professionally to not negatively affect the system's overall performance (Graaf, 2010). The openness here is more towards how the employees can be honest to the management regarding their organisational difficulties (Huberts et al., 2007). That can be in the form of the employee being unable to follow specific control procedures that directly influence their performance (Muresan et al., 2010). If the leaders are open to their employees, the employees can highlight their issues concerning the system and find effective ways of mitigating the issue. The third hypothesis of the study is:

H3: Openness has a positive significant effect on internal control systems.

Internal control systems are a core component in any given organisation (Jokipii, 2009). Prior studies had investigated the relationship between leadership values and control systems to determine their effects on organisational impact and practice (Abernethy, Bouwens, & Van Lent, 2010; Abd Aziz et al., 2015). The exploration of ethical leadership toward internal control systems is almost non-existent, where there is a common assumption that good leaders will improve overall control. The study enforced these statements by providing empirical results on the relationship between ethical leadership and internal control systems. That leads to the following hypothesis:

H4: The overall ethical leadership has a significant positive effect on internal control systems.

### **3.0 RESEARCH METHOD**

#### **3.1 Sample**

The sample target is public sector employees currently employed in the Malaysian Government service, and the sample was given to the managerial equivalent employees. There are a total of 106 federal government departments in Malaysia. These federal departments consist of organisations, sections and agencies responsible for exercising duties related to the federal jurisdiction and exercise of government policies (Department of Information Malaysia, 2017). The identities of the participating government agencies and employees will not be disclosed in the study to not violate the terms of the agreement through participation in the study.

The research questionnaire was administered to a random sample of 450 government employees currently employed in the Malaysian federal government. These 450 employees are

part of the 106 government departments of Malaysia. These employees are the appropriate sample as they are managers who have to deal with employees with decision-making responsibilities. The government employees were from the following levels of employees, as indicated in the table. Table 1 illustrates the equivalent position if they are compared to private sector employees. Only the first and second levels, who are the senior management and management, were selected as the survey participants. A total of 182 usable responses were received, giving a response rate of 40.4%.

Table 1: Sample positions

No	Category	Qualification	Education Requirements	Equivalent Level
1	Senior management	JUSA C and above	Degree and above	CEO's
2	Management	Grade 41 to 54	Degree or Professional	Managers
3	Support group A	Grade 27 to 40	Diploma or STPM	Executive

Table 2 shows the demographic profile regarding their gender, age and years of service. The respondents are from managerial positions. Female is the majority of respondents consisting of more than half of the overall population (66.4%). Most of the respondents had been in service of the government for more than five years. That affects the quality of response, with more respondents having higher levels of experience in the public sector. The average age group of respondents is between 31 to 40 years old (75.3%). In terms of experience, the majority of the respondents have more than five years of working experience, which helps provide improved information on leadership and control systems.

Table 2: Demographic profile

Position			
	Frequency	Percent	Cumulative Percent
Senior management	4	2.1	2.1
Management	178	97.8	100.0
Total	182		
Gender			
	Frequency	Percent	Cumulative Percent
Female	121	66.4	66.4
Male	161	33.6	100.0
Total	182		
Age			
	Frequency	Percent	Cumulative Percent
20-30 Years	7	3.8	3.8
31-40 Years	137	75.3	77.1
41-50 Years	20	10.9	88.0
51 and above	18	9.8	100.0
Total	182		
Frequency	Percent	Cumulative Percent	
8	4.3	4.3	
85	46.7	51.0	
60	32.9	83.9	
29	15.9	100.0	
182			

### 3.2 Measurement of Variables

The scaling was used by implementing a seven-point Likert scale from the number 1 (strongly disagree) to the number 7 (strongly agree). The samples are given questionnaires relating to the areas of ethical leadership within their organisation and the standard practices of internal control systems.

The questionnaire was constructed based upon dimensions and components related to ethical leadership and internal control systems. The dimensions of ethical leadership are based on role modelling, strictness and openness (Lasthuizen et al., 2011). The components of internal control systems consist of a controlled environment, risks, control activities, information and monitoring of activities (Lansiluoto, Jokipii, & Eklund, 2016).

Table 3: Measured variables

No	Dimensions	Item (Internal Control Systems)
1	Control Environment	The governing body/board genuinely questions management decisions and proposes realistic alternatives
2		Managers and management have not been overworked
3		There has been a great deal of variation in control and management tasks
4		The personnel has understood the content and responsibilities of their tasks
5		The conduct of the personnel has demonstrated commitment to honesty and the ethical values of the company
6	Risk	The goals for the company's operations had credible and, in my opinion, reasonable measures
7		Management actively evaluated both internal and external risks preventing the achievement of goals
8		A risk analysis covering the entire company was carried out during the last year
9		Those in managerial functions were aware of the risks in their areas of responsibility and knew how risk management was implemented
10		In my opinion, the company's risk analysis and means of protection could have been more efficient
11	Control Activities	There were controls functioning in the company's processes which gave warning whenever something exceptional occurred
12		As soon as something exceptional and undesired was noticed it was promptly and appropriately dealt with
13		In the definition of tasks special attention was paid to authorization and the special demands of tasks
14		In my opinion, the internal control measures should have been stepped up still further
15		The entire personnel had updated job descriptions
16	Information	The personnel had no problems obtaining information pertaining to their own work tasks
17		The reports forwarded to management were sufficiently clear and contained relevant information from the management perspective
18		Sufficient information moved between the different divisions of the company to ensure the uninterrupted and smooth running of the operation

19		Our company's information and communications system were not quite up to date with respect to functions
20		The work was efficiently coordinated within the function and also with other functions
21	Monitoring	The operative information used in management was specified to the systems information of financial management
22		Line managers take excellent care of day-to-day control
23		There is active control of how the personnel follow the operating instructions issued
24		We made changes based on the analysis of customer satisfaction, job satisfaction or efficiency during the last year
25		Management has not requested accounts of the accomplishments of control measures in the last year
No	Dimensions	Item (Ethical Leadership)
1	Role modelling	My supervisor sets a good example in terms of ethical behaviour
2		My supervisor keeps to existing rules and agreements
3		My supervisor is morally trustworthy
4	Strictness	My supervisor calls the employee to account when they violate principles and standards of ethics
5		My supervisor is prepared to sanction employees for violating principles and standards of ethics
6		My supervisor clarifies ethical decisions and norms concerning my work
7	Openness	My supervisor is willing to clarify the ethical policy of the organisation
8		My supervisor is accessible to me to discuss personal dilemmas
9		My supervisor is accessible to me to discuss work-related ethical problems

Source: (Huberts et al., 2007; Lansiluoto et al., 2016)

Table 3 represents the detailed item contents used in the questionnaire. The instruments used are related to the inquired subject. Role modelling on ethical leadership is related to how the leaders behave ethically in front of their employees. The components of internal control

systems of control activities related to how activities are done in the organisation aligned to their process and responsibilities.

## 4.0 RESULTS AND FINDINGS

### 4.1 Hypothesis testing

The hypothesis of the study is tested using multiple regressions based on the following multiplicative model (Field, 2013):

$$YA = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + e$$

Where Y is internal control systems, X1 is role modelling (X1), X2 is strictness (X2), and X3 is openness (X3). Table 5 shows the regression results once the test was run through the data analysis software.

### 4.2 Results

The data assessment of normality indicated that it is within the acceptable range of the normal Q-Q plots (Pallant, 2007). The residual from the regression equation does not indicate any major violation towards the assumptions of normality. The model's R-square was within the acceptable range of explaining the variable around its mean ( $R^2=0.727$ ). The reliability analysis had also indicated that the data reliable range within the Cronbach alpha valuation (Cronbach's  $\alpha = 0.931$ ). These data were analysed using SPSS version 24.0. The result of the Pearson correlation is as follows:

Table 4: Correlation between the variables

Variables		YA	X1	X2	X3
Internal control systems	YA	1.000			
Role-modelling	X1	.405**	1.000		
Strictness	X2	.376**	.406**	1.000	
Openness	X3	.369**	.334**	.388**	1.000

Note: \*\* Correlation is significant at the 0.01 level

The correlation matrix shows that all the variables are significantly correlated with each other ( $p<0.01$ ). That correlated with the notion that when leaders become ethical in the workspace,

the control systems are subsequently improved within the organisation. Any increase in the dimensions of ethical leadership will have a positive effect on internal control systems.

Table 5: Regression analysis

Variable	Beta	t	Sig.
(Constant)		7.712	
Role-modelling	.427	7.285	**
Strictness	.192	2.973	**
Openness	.304	5.393	**

Note: Dependent Variable: (Constant = Internal control systems)

\*\* = Significant at  $P < 0.01$

The data shows that all of its data has significant values ( $p < 0.01$ ). The highest T-value was in role modelling. That indicates that when leaders show high values of role-modelling towards their subordinates, that will have a higher impact on improving internal control systems.

The findings indicate that ethical leadership components of role-modelling, strictness and openness have significant values towards internal control systems. That supports the first, second and third hypotheses. The results here provided information on the relationship between a leader's values and the function of a control system within an organisation. The employee's experiences resonating with their leaders are influential towards the employee's acceptance of the control system.

## 5.0 DISCUSSION

Ethical leadership studies have grown over the years in terms of style development and its impact on the organisation's environment (Thoms, 2008; Mayer et al., 2009; Lu & Lin, 2014). Studies have shown that ethical leadership can influence overall employees' level of organisational commitment to achieving their performance targets (Mayer et al., 2009). The reflection of caring leaders on their subordinates positively reflects its impact on the organisation's environment (Lu & Lin, 2014). The study investigated the levels of effect ethical leadership would have on internal control systems. The findings indicated that when leaders are ethical in their role model, strictness and openness context, the value of internal control systems will also increase with significance.

The study shows that when the organisation wants to improve the degrees of control systems, they should reflect on improving the ethical values of the leaders they employ. The results show that when leaders are more open and project ethical values by being an example

to the employees, the employees are assumed to follow such actions as the control systems have improved. The components of the control environment, for example, show that conditions within the organisation's control systems are related to the leaders when the employees fully understand their duties and values at work. A similar study had shown that when leaders are ethical, the employee's commitment to the organisation also increases (Demirtas & Akdogan, 2015). The study's unique approach is its variation in terms of its impact on a control system. Leaders are suggested to cultivate ethical values to improve the overall effectiveness of internal control systems. The construct of internal control systems indicates that when strong values exist in these areas, the employees are more likely to perform effectively and efficiently (Jokipii, 2009).

Previous examinations of ethical leadership are more focused on the impact it will have on the organisation or broadly. The study analysed individualistic behaviour and its impact on a control systems process. However, prior studies had strongly stated that internal control is a waste of procedural processes in an organisation (Jensen, 1993). The result supported the past observation in indicating that leaders are critical to effective internal control systems. That also shows that the styles of ethical leadership can influence the inner values of an organisation.

The findings suggest that having ethical values would influence a control system. From such information, the organisations should further cultivate ethical values to improve their support of the system. Organisations have often had cases of abuse towards any parts or components of the internal control systems that employees use for their benefit (Babatunde & Dandago, 2014). That often leads to acts of fraud and corruption which costs more to the organisation itself in mitigating such factors. When there are low ethical values within a leader, large scandals such as Enron and WorldCom were largely related to the abuse of control systems in their organisations (Glenn, 2013). The leaders themselves played a major role in using the system that directly reflects to the employee's that these behaviours are accepted in the organisation.

The survey instruments to assess leadership are limited to one area of identified respondents. Modern-day studies approach had utilised two-way samples of leaders and followers to analyse leadership behaviour. Studies have also adopted feedback from managers as one sample of leaders and the achieved results in the organisation as the corresponding sample of research (Brown, Treviño, & Harrison, 2005). That study had only been directed to leaders within the organisation, and areas such as direct results and employee feedback could further enhance the results of the study. The limitations of time and costs are the main factors that prevented these concepts within the study. Future studies with more resources would be

able to assess two-way directions of data and include other fields of industry that may provide further insight into the relationship between leaders and control.

## **5.1 Conclusion**

Studies of leaders and control are vital areas of research as most organisations are very concerned with obtaining the best values from their employees and organisation. The present study takes the approach of observing public sector employees that have different motivations compared to private sector employees. The study demonstrates that the value of ethics in a leader is an influencing factor as compared to other studies that had observed monetary values (in terms of salary packages or systems cost) and ambition or motivation to improve the employee's reliability. The study of leadership values is constantly evolving and changing with the times.

Implementing effective, ethical leadership in the government may help improve the overall system functions. Leaders with high levels of moral leadership values will provide the best results, like other governments in New Zealand, Denmark and Singapore. The Malaysian government can improve leaders' ethical values to improve control systems efficiency.

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## **REFERENCES**

- Abd Aziz, M. A., Ab Rahman, H., Alam, M. M., & Said, J. (2015). Enhancement of the accountability of public sectors through integrity system, internal control system and leadership practices: A review study. *Procedia Economics and Finance*, 28(1), 163–169.
- Abdallah, L., & Forawi, S. (2017). Investigating leadership styles and their impact on the success of educational institutions. *The International Journal of Educational Organization and Leadership*, 24(2), 19–30.
- Abdillah, M. R., Anita, R., & Zakaria, N. B. (2021). Trust in leaders and employee silence behaviour: Evidence from higher education institutions in Indonesia. *Human Systems Management*, 40(4), 567-580.
- Abernethy, M. A., Bouwens, J., & Van Lent, L. (2010). Leadership and control system design. *Management Accounting Research*, 21(1), 2–16.

- ACFE. (2014). Report to the nations on occupational fraud and abuse. *Association of Certified Fraud Examiners*, 15(2), 1–80.
- Agbejule, A., & Jokipii, A. (2009). Strategy, control activities, monitoring and effectiveness. *Managerial Auditing Journal*, 24(6), 500–522.
- Agrawal, A., Catalini, C., Goldfarb, A., & Luo, H. (2018). *Slack time and innovation*. Harvard Business School.
- Ashforth, B. E., & Anand, V. (2003). The normalization of corruption in organizations. *Research in Organizational Behavior*, 25(03), 1–52.
- Babatunde, S. A., & Dandago, K. I. (2014). Internal control system deficiency and capital project mis-management in the Nigerian public sector. *Procedia - Social and Behavioral Sciences*, 164(August), 208–221.
- Badara, M. S., & Saidin, S. Z. (2013). Impact of the effective internal control system on the internal audit effectiveness at local government level. *Journal of Social and Development Sciences*, 4(1), 16–23.
- Bello, S. M. (2012). Impact of ethical leadership on employee job performance. *International Journal of Business and Social Science*, 3(11), 228–237.
- Bendahan, S., Zehnder, C., Pralong, F. P., & Antonakis, J. (2015). Leader corruption depends on power and testosterone. *Leadership Quarterly*, 26(2), 101–122.
- Bhanbhro, S., Wassan, M. R., Shah, M., Talpur, A. A., & Wassan, A. A. (2013). Karo Kari: The murder of honour in Sindh Pakistan: An ethnographic study. *International Journal of Asian Social Science*, 3(7), 1467–1484.
- Bowrin, A. R. (2004). Internal control in Trinidad and Tobago religious organizations. *Accounting, Auditing & Accountability Journal*, 17(1), 121–152.
- Brown, M., Treviño, L., & Harrison, D. (2005). Ethical leadership: A social learning perspective for construct development and testing. *Organizational Behavior and Human Decision Processes*, 97(2), 117–134.
- Calhoun, L. (2004). The problem of “Dirty Hands” and corrupt leadership. *The Independent Review*, 8(3), 363–385.
- Chathoth, P. K., & Olsen, M. D. (2002). Organisational leadership and strategy in the hospitality industry. *Journal of Services Research*, 2(1), 5–29.
- Chrisafis, A. (2019, January 3). French police arrest Gilets Jaunes protests leader Eric Drouet. *The Guardian*. <https://www.theguardian.com/world/2019/jan/03/french-police-arrest-gilets-jaunes-protests-leader-eric-drouet>
- COSO. (2013a). Internal control: Integrated framework. <https://doi.org/978-1-93735-239-4>

- COSO. (2013b). Internal control: Integrated framework (Executive Summary).  
<http://coso.org/IC-IntegratedFramework-summary.htm>
- COSO. (2016). About us. <http://www.coso.org/aboutus.htm>
- David, S. (2004). Normative ethical theories. *The Encyclopedia of Bioethics*, 3(2), 812–824.
- Demirtas, O., & Akdogan, A. A. (2015). The effect of ethical leadership behavior on ethical climate, turnover intention, and affective commitment. *Journal of Business Ethics*, 130(1), 59–67.
- Department of Information Malaysia. (2017). Senarai jabatan atau agensi kerajaan persekutuan. <http://pmr.penerangan.gov.my/index.php/maklumat-kenegaraan/12071-senarai-jabatanagensi-kerajaan-persekutuan.html>
- Dorjee, T., Baig, N., & Ting-Toomey, S. (2013). A social ecological perspective on understanding “Honor Killing”: An intercultural moral dilemma. *Journal of Intercultural Communication Research*, 42(1), 1–21.
- Engelbrecht, A. S., Heine, G., & Mahembe, B. (2017). Integrity, ethical leadership, trust and work engagement. *Leadership & Organization Development Journal*, 38(3), 368–379.
- Engelbrecht, A. S., Wolmarans, J., & Mahembe, B. (2017). Effect of ethical leadership and climate on effectiveness. *SA Journal of Human Resource Management*, 15(0), 1–8.
- Fiedler, F. E. (1978). The contingency model and the dynamics of the leadership process. *Advances in Experimental Social Psychology*, 11(1), 59-112.
- Field, A. (2013). *Discovering statistics using SPSS*. Sage Publications.
- Fieser, J. (2018). Ethics. <https://www.iep.utm.edu/ethics/>
- Frank, S. A., & Lewis, G. B. (2004). Government employees: Working hard or hardly working? *The American Review of Public Administration*, 34(1), 36–51.
- Free, C., Macintosh, N., & Stein, M. (2007). Management controls: The organizational fraud triangle of leadership, culture and control in Enron. *Ivey Business Journal*, 71(August), 1–10.
- Gill, R. (2002). Change management--or change leadership? *Journal of Change Management*, 3(4), 307–318.
- Glenn, C. (2013, May 15). Non-financial fraud’s growing threat. *Daily News*.  
<https://www.memphisdailynews.com/news/2013/may/15/non-financial-frauds-growing-threat/>
- Goulet, L. R., & Frank, M. L. (2015). Organizational commitment across three sectors: Public, non-profit, and for-profit. *Public Personnel Management*, 31(2), 201–210.
- Graaf, G. de. (2010). A report on reporting: Why peers report integrity and law violations in

- public organizations. *Public Administration Review*, 70(5), 767–779.
- Grady, P. (1957). The broader concept of internal control. *The Journal of Accountancy*, 103(5), 36-41.
- Hansen, S. C. (1997). Designing internal controls: The interaction between efficiency wages and monitoring. *Contemporary Accounting Research*, 14(1), 129–163.
- Herman, J. (1987). Ethics in our 100-year history. *Journal of Accountancy*, 163(May), 78-87.
- Hoel, H., Glasø, L., Hetland, J., Cooper, C. L., & Einarsen, S. (2010). Leadership styles as predictors of self-reported and observed workplace bullying. *British Journal of Management*, 21(2), 453–468.
- House, R., Wright, N., & Aditya, R. N. (1997). Cross-cultural research on organizational leadership: A critical analysis and a proposed theory. In P. C. Earley, & M. Erez (Eds.), *New perspectives on international/organizational psychology* (pp. 535-625). New Lexington.
- Huberts, L., Kaptein, M., & Lasthuizen, K. (2007). A study of the impact of three leadership styles on integrity violations committed by police officers. *Policing: An International Journal of Police Strategies & Management*, 30(4), 587–607.
- Hursthouse, R. (2015). Normative virtue ethics. In R. Shafer-Landau (Ed.), *Ethica* (pp. 19-36). Wiley Blackwell.
- Jensen, M. C. (1993). The modern industrial revolution, exit, and the failure of internal control systems the failure of internal control systems. *Journal of Finance*, 48(3), 831–880.
- Jokipii, A. (2009). Determinants and consequences of internal control in firms: A contingency theory based analysis. *Journal of Management and Governance*, 14(2), 115–144.
- Junior, R. O., & Sorking, A. R. (2001, December 3). Enron's collapse: The overview. *The New York Times*. <http://www.nytimes.com/2001/12/03/business/enron-s-collapse-the-overview-enron-corp-files-largest-us-claim-for-bankruptcy.html>
- Kendrick, M. (2000). Internal control: Guidance for directors on the combined code (The Turnbull Report). *Risk Management*, 2(4), 65–69.
- Kuenzi, M., Mayer, D. M., & Greenbaum, R. L. (2019). Creating an ethical organizational environment: The relationship between ethical leadership, ethical organizational climate, and unethical behavior. *Personnel Psychology*, 1(1), 1–29.
- Lansiluoto, A., Jokipii, A., & Eklund, T. (2016). Internal control effectiveness: A clustering approach. *Managerial Auditing Journal*, 31(1), 5–34.
- Lasthuizen, K. M., Huberts, L., & Heres, L. (2011). How to measure integrity violations: Towards a validated typology of unethical behavior. *Public Management Review*, 13(3),

383–408.

- Lather, A. S., Jain, V. K., Jain, S., & Vikas, S. (2009). Leadership styles in relation to conflict resolution modes: A study of Delhi Jal Board (DJB). *Vilakshan: The XIMB Journal of Management*, 6(1), 19–38.
- Lee, T. A. (1971). The historical development of internal control from the earliest times to the end of the seventeenth century. *Journal of Accounting Research*, 9(1), 150–157.
- Lok, P., & Crawford, J. (2004). The effect of organisational culture and leadership style on job satisfaction and organisational commitment. *Journal of Management Development*, 23(4), 321–338.
- Lu, C. S., & Lin, C. C. (2014). The effects of ethical leadership and ethical climate on employee ethical behavior in the international port context. *Journal of Business Ethics*, 124(2), 209–223.
- Lunenburg, F. C. (2012). Power and leadership: An influence process. *International Journal of Management, Business, and Administration*, 15(1), 1–9.
- Maccoby, M. (2001). The human side: Successful leaders employ strategic intelligence. *Research-Technology Management*, 44(3), 58–60.
- Maycock, S. (2011). Understanding COSO: Integrated framework. <http://auditandrisk.org.uk/tools/understanding-coso---integrated-framework>
- Mayer, D. M., Aquino, K., Greenbaum, R. L., & Kuenzi, M. (2012). Who displays ethical leadership, and why does it matter? An examination of antecedents and consequences of ethical leadership. *Academy of Management Journal*, 55(1), 151–171.
- Mayer, D. M., Kuenzi, M., Greenbaum, R., Bardes, M., & Salvador, R. B. (2009). How low does ethical leadership flow? Test of a Trickle-Down Model. *Organizational Behavior and Human Decision Processes*, 108(1), 1–13.
- McCormack, R. J. (1996). Police perceptions and the norming of institutional corruption. *Policing and Society: An International Journal*, 6(3), 239–246.
- Mckee, J. G. (1991). Leadership styles of community college presidents and faculty job satisfaction. *Community/Junior College Quarterly of Research and Practice*, 15(1), 33–46.
- Mizan, K., Nawawi, Z. A., Azlin, A. S., & Salin, P. (2016). Internal controls and fraud: Empirical evidence from oil & gas company. *Journal of Financial Crime*, 23(4), 1154–1168.
- Morehead, W. A. (2007). Internal control and governance in non-governmental organizations designed to provide accountability and deter, prevent and detect fraud and corruption.

- <http://search.proquest.com.library.capella.edu/docview/304808938?accountid=27965>
- Muresan, A., Gabor-Supuran, R., Borza, A., & Lungescu, D. C. (2010). Leadership styles adopted in Romanian companies: The tension and transition toward a contemporary management.
- <http://search.ebscohost.com/login.aspx?direct=true&db=bth&AN=59389357&site=ehost-live%5Cnhttp://search.ebscohost.com/login.aspx?direct=true&db=bth&AN=59389382&site=ehost-live>
- Neubert, M. J., Carlson, D. S., Kacmar, K. M., Roberts, J. A., & Chonko, L. B. (2009). The virtuous influence of ethical leadership behavior: Evidence from the field. *Journal of Business Ethics*, 90(2), 157–170.
- Northouse, P. G. (2012). *Leadership: Theory and practice*. SAGE Publications Limited.
- Olmstead, J. A. (2000). Executive leadership: Building world-class organizations (NV-1 onl). <http://site.ebrary.com/id/10349867>
- Paine, L. S. (1994). Managing for organizational integrity. *Harvard Business Review*, 72(2), 106–117.
- Pallant, J. (2007). *SPSS survival manual—A step by step guide to data analysis using SPSS for windows* (3rd ed.). Open University Press.
- Parry, K. W., & Proctor-thomson, S. B. (2012). Perceived integrity of settings leaders in organisational. *Journal of Business*, 35(2), 75–96.
- Parry, K. W., & Proctor-Thomson, S. B. (2003). Leadership, culture and performance: The case of the New Zealand public sector. *Journal of Change Management*, 3(4), 376–399.
- Podsakoff, P. M., & Schriesheim, C. A. (1985). Field studies of French and Raven's bases of power. Critique, Reanalysis, and Suggestions for Future Research. *Psychological Bulletin*, 97(3), 387–411.
- Riggio, R. E., & Reichard, R. J. (2008). The emotional and social intelligences of effective leadership: An emotional and social skill approach. *Journal of Managerial Psychology*, 23(2), 169–185.
- Robbins, S. P., & Judge, T. A. (2005). *Organizational behaviour*. Pearson.
- Rubino, M., Vitolla, F., & Garzoni, A. (2017). The impact of an IT governance framework on the internal control environment. *Records Management Journal*, 27(1), 19–41.
- Rush, M. C., Thomas, J. C., & Lord, R. G. (1977). Implicit leadership theory - Potential threat to internal validity of leader-behavior questionnaires. *Organizational Behavior and Human Performance*, 20(1), 93–110.

- Sankowsky, D. (1995). Charismatic leader as narcissist. *Understanding the Abuse of Power*, 23(1), 57–71.
- Simonet, D. V., & Tett, R. P. (2013). Five perspectives on leadership–management relationship: A competency-based evaluation and integration. *Journal of Leadership & Organizational Studies*, 20(2), 199–213.
- Sinek, S. (2009). *Start with why: How great leaders inspire everyone to take action*. Penguin.
- Smircich, L., & Morgan, G. (1982). Leadership: The management of meaning. *The Journal of Applied Behavioral Science*, 18(3), 257–273.
- Staicu, A. M., Tatomir, R. I., & Lincă, A. C. (2013). Determinants and consequences of “Tone at the Top”. *International Journal of Advances in Management and Economics*, 2(1), 76–88.
- Stogdill, R. M. (1950). Leadership, membership and organization. *Psychological Bulletin*, 47(1), 1-14.
- Stogdill, R. M. (1974). *Handbook of leadership: A survey of theory and research*. Free Press.
- Thoms, J. C. (2008). Ethical integrity in leadership and organizational moral culture. *Leadership Quarterly*, 4(4), 419–442.
- Toor, S., & Ofori, G. (2009). Ethical leadership: Examining the relationships with full range leadership model, employee outcomes, and organizational culture. *Journal of Business Ethics*, 90(4), 533–547.
- Tröster, C., & Van Knippenberg, D. (2012). Leader openness, nationality dissimilarity, and voice in multinational management teams. *Journal of International Business Studies*, 43(6), 591–613.
- van Quaquebeke, N., van Knippenberg, D., & Eckloff, T. (2011). Individual differences in the leader categorization to openness to influence relationship: The role of followers’ self-perception and social comparison orientation. *Group Processes & Intergroup Relations*, 14(5), 605–622.
- Velasquez, M., Andre, C., Thomas Shanks, S. J., & Meyer, M. J. (2015). What is ethics? <https://www.scu.edu/ethics/ethics-resources/ethical-decision-making/what-is-ethics/>
- Yammarino, F. J., Spangler, W. D., & Bass, B. M. (1993). Transformational leadership and performance: A longitudinal investigation. *Leadership Quarterly*, 4(1), 81–102.
- Yurniwati, & Rizaldi, A. (2015). Control environment analysis at government internal control system: Indonesia case. *Procedia - Social and Behavioral Sciences*, 211(September), 844–850.
- Zaccaro, S. J. (2007). Trait-based perspectives of leadership. *The American Psychologist*,

62(1), 6–16.

Zaccaro, S. J., Gilbert, J. A., Thor, K. K., & Mumford, M. D. (1991). Leadership and social intelligence: Linking social perspectiveness and behavioral flexibility to leader effectiveness. *The Leadership Quarterly*, 2(4), 317–342.

Zafarullah, H., & Siddiquee, N. A. (2001). Dissecting public sector corruption in Bangladesh: Issues and problems of control. *Public Organization Review*, 1(4), 465–486.

Zahari, A., Said, J., & Arshad, R. (2019). The effect of internal control systems and procrastination on public sector employees. *Indian Pacific Journal of Accounting and Finance*, 3(1), 50–64.

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