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Analysis of factors affecting the level of corruption: A study of ASEAN countries

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Abstract

This study aims to examine the influence of information systems, human resource quality, and economic capability on corruption levels in 10 ASEAN countries from 2010 to 2020. This study uses secondary panel data regarding the E-Government Development Index (HDI), Human Development Index (HDI), GDP per capita (PPP), and Corruption Perception Index (CPI). The data were analyzed using panel data regression with a Fixed Effects Model (FEM), selected based on the results of the Hausman test. The findings indicate that human resource quality has a significant negative effect on corruption levels. Meanwhile, information systems have a significant effect, indicating that technological progress contributes to reducing corruption, although its effectiveness may depend on institutional factors. On the other hand, economic capability does not show a significant effect on corruption. These results suggest that improving human resources is a crucial strategy in eradicating corruption in ASEAN countries, while technology and economic growth alone may not be sufficient without strong institutional support.

Introduction

Based on the legal view, corruption is said to be if it fulfills the elements of unlawful acts, abuse of authority, opportunity, or means, enriches oneself, others, or corporations, and harms state finances or the country's economy (Law no. 31 of 1999). Corruption is a severe problem in most ASEAN countries, so it is essential to know the factors that affect the level of corruption. The corruption figures in ASEAN countries are high. The 2024 Transparency International report supports that almost all countries in the region are below 50, which means all countries in the ASEAN region have a relatively high level of corruption (Transparency International, 2024).

Table 1. Corruption Perception Index 2024

No	Country	CPI
1.	Singapura	84
2.	Brunei	60
3.	Malaysia	50
4.	Indonesia	37
5.	Thailand	34
6.	Vietnam	40
7.	Filipina	33
8.	Laos	33
9	Kamboja	21
10.	Myanmar	16

Corruption is broadly explained through the fraud triangle theory, which identifies pressure, opportunity, and rationalization as the primary drivers of fraudulent behavior. Although this framework has been widely used in previous research, most studies on the determinants of corruption still focus on economic indicators, such as regional income levels, or governance mechanisms involving information systems, which often fall within the scope of agency theory. However, the quality of human resources—including factors such as competence, professionalism, and ethical awareness—is rarely explored as a potential contributor to corrupt practices. In fact, countries with high levels of corruption often also exhibit low levels of human resource quality, suggesting a possible relationship that has not been adequately addressed in the literature. Therefore, it is crucial to conduct research that specifically investigates how human resource quality influences the propensity for corruption. As noted by the World Bank (2017), corruption—defined as the offering, giving, receiving, or soliciting of something of value to improperly influence the actions of others—undermines economic development by eroding the rule of law and weakening institutions. Furthermore, in countries experiencing slow economic growth, the prevalence of information systems is often not matched by human resource capacity, thus limiting the effectiveness of anti-corruption efforts (Martitah et al., 2021).

Literature Review

Corruption Theory

To deepen our understanding of corruption, researchers are encouraged to contribute to the theoretical development of corruption frameworks, moving beyond traditional models such as the Fraud Triangle to more comprehensive constructs such as the fraud diamond and the fraud hexagon. These models incorporate additional dimensions, such as capability, arrogance, or collusion, which can offer more nuanced explanations of corrupt behavior across different institutional environments. According to Cárdenas and González (2022), corruption is not limited to illicit financial transactions, but encompasses any act or omission involving the abuse of decision-making authority, whether in the public or private sector, for personal or third-party gain, whether economic, political, or social, and subject to criminal, civil, or administrative sanctions. To assess the extent of this phenomenon globally, Transparency International developed the Corruption Perceptions Index (CPI), which combines data from various sources to evaluate perceived levels of public sector corruption across countries. In the ASEAN region, corruption has become a entrenched issue, posing serious challenges to governance, institutional integrity, and sustainable development. This reality reinforces the need for a multi-theoretical approach that incorporates emerging behavioral, organizational, and systemic factors, such as the quality of human resources, to explain and reduce corruption more effectively.

Fraud Triangle

This theory shows that a person will commit fraud when there are financial problems that cannot be resolved together (pressure), believes and knows that the problem can be solved in a hidden way using his job or position (opportunity), and changes thinking from the concept of a person who is given the responsibility to hold assets to the idea as a user of the assets entrusted (rationalization) (Tickner & Button, 2020). Companies need the fraud triangle to analyze the motive or possibility of fraud. Many fraud perpetrators know and realize that the actions taken are illegal, but the perpetrators of fraud think that the actions taken are standard. So, Cressey (1953) classifies three main factors that cause fraud: pressure, opportunity, and rationalization.

Pressure

Pressure is the motivation behind fraud, and it can be personal financial pressure or pressure from superiors (Kagias et al., 2022). This pressure is related to a person's intention to commit fraud.

People can be encouraged to cheat because of economic capacity problems, such as debt, installments, electricity bills, luxurious lifestyles, and other financial needs. This is the same for companies. In addition, the urge to cheat can also be caused by unrealistic work targets. This condition can trigger someone to commit fraud, for example, corrupting company funds for personal gain. The motive to commit fraud is often attributed to emotional and corporate pressure on individuals. However, the motive is a deliberate desire to achieve the fraudulent act.

Opportunity

Opportunity is the chance for an employee to commit an act of fraud. For example, a staff accountant may realize that financial audits are not conducted daily. So, he could take advantage of the opportunity to embezzle company funds (acts of corruption). The opportunity to commit fraud can be even more fantastic if the company's internal supervision is not good or done manually without a good information system upgrade. To save corruption, a person must have access to assets or manage control procedures that allow the commission of such an action scheme. A person's position, responsibilities, and authorizations also contribute to the opportunity to influence a person's level of corruption. If a company improves its information system, for example, by utilizing electronic systems, there will be fewer opportunities for a person to commit fraud.

Rationalization

When fraud has been detected, the perpetrator will usually provide a rational reason as a form of self-defense. This rationalization occurs to make the mistake that occurs a normal action and refers to the individual's justification for committing fraud (Gleason et al., 2022). In committing fraud, a person will believe that the fraud committed is more important than the possibility of being caught. The perpetrator will assume that no one will know his actions. Apart from that, someone who cheats may also think that the cheating they are doing is right. Rationalization is a conscious decision by the perpetrator to place their needs above the needs of others. The ethical decision process varies according to the quality of individual human resources, culture, and experience. This will easily increase a person's tendency to commit corruption within the company.

Information System

One mechanism for reducing corruption is to minimize direct contact between government officials and the public. This is because face-to-face interactions often involve discretionary decision-making, which increases the potential for irregularities such as bribery or favoritism. Klitgaard (1988) explains that corruption arises when monopoly power and discretion are not balanced with accountability, a condition commonly found in manual, paper-based bureaucratic systems. In such systems, lengthy procedures, data verification, and queues not only burden citizens but also encourage the use of intermediaries to expedite services, often through informal payments. Nan (2021) emphasizes that increasing transparency by simplifying procedures and improving public access to information significantly reduces the opportunities for corrupt behavior. In line with this, Adam (2020) highlights that the implementation of e-government—the use of information technology to deliver public services—reduces physical interactions, ensures traceability, and minimizes discretion by standardizing administrative processes. This digital transformation supports the creation of clean, transparent, and efficient governance, making it a key pillar of bureaucratic reform. According to the findings of the World Bank (2016) and UNDP (2017), reducing direct contact through digital services is a globally recognized strategy to reduce both petty and systemic corruption.

H1: The higher the level of information systems, the more the level of corruption will be reduced.

Quality of Human Resource

Human Resources is crucial in developing, reinforcing, and changing an organization's culture. Human resource professionals have two requirements that must be met when their companies begin to pursue quality. The Quality of Human Resources is the value of a person's behavior in taking responsibility for all his actions in his personal life and the life of society and the nation (Yap et al., 2020). The Human Development Index (HDI) is one of the measurement tools that can reflect the status of human development (Sarabia et al., 2020). HDI can be used to see how human development indicators affect a country's corruption level. The measured human development index can be in the form of life expectancy, knowledge of each person, and living standards (Domashova & Politova, 2021). Countries that have high Human Development tend to have good environmental performance because a good environment will not lead individuals in the atmosphere to commit corruption.
H2: The higher the quality of human resources will reduce corruption.

Economic Capabilities

A country's low level of economic capability will illustrate that a person's income is low as well. Therefore, it will be easier for pressure to appear to support his life by committing fraud. Based on the official website of the Central Statistics Agency (BPS), GDP (Gross Domestic Product) is an important indicator for determining economic conditions in a country in a period, both based on current prices and the basis of constant prices. GDP can also be used to study the economy over time or simultaneously compare several economies. One measure of a country's growth can be seen from GDP, which is the economic statistic that is most closely watched because it is considered the best single measure of people's welfare (Gokturk & Yalcinkaya, 2020).
H3: The higher the level of economic capability will reduce corruption:

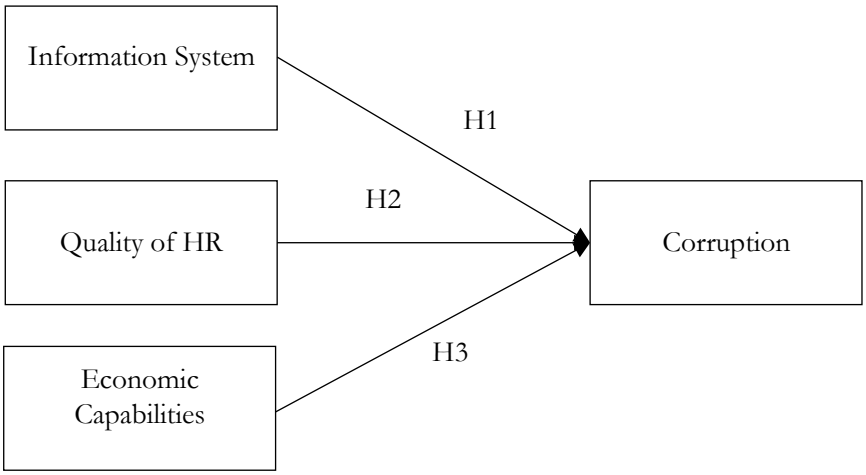

Figure 1. Theoretical Framework

Research Method

In this study, the population and samples used were 10 countries in ASEAN, consisting of Indonesia, Malaysia, Singapore, Thailand, Philippines, Vietnam, Laos, Myanmar, Brunei, and Cambodia. At the same time, the measuring instruments or indicators used in the research are data on the e-government index, human development index, GDP/capita, and corruption perception index from 2010-2020. From the data taken based on the indicators in each country, if there is empty data in the following year, it will be taken from the previous year or the next year again. The

Corruption Perception Index is one of the instruments used to measure corruption in a country's public sector. This index has a value from 1 to 100, where the higher the value, the lower the level of corruption in a country. The E-Government Development Index (EGDI) describes the E-Government development of United Nations Member States. EGDI combines three essential dimensions of e-government: Online Service, Telecommunication Infrastructure, and Human Capital. Human Development Index (HDI) is a composite index covering three areas of human development (Health (longevity), Education (knowledge), and Economy (decent living). GDP per capita is based on purchasing power parity (PPP). GDP at purchaser prices is the sum of gross value added by all resident producers in the country plus product taxes and minus subsidies not included in the product's value.

This method is often used in time-series or panel data research to maintain a balanced data structure, which is required by many econometric models (Baltagi, 2008). The rationale is that national-level indicators such as the CPI, HDI, and EGDI typically evolve gradually from year to year, so near-year estimates may still capture the underlying trend with reasonable accuracy (Little & Rubin, 2002). However, this imputation approach also has the potential to introduce bias, particularly if the missing data years coincide with periods of policy change, crisis, or reform that significantly alter a country's performance on those indicators. Substituting missing values can inadvertently smooth out critical variation, dampen the effects of short-term shocks or policy interventions, and potentially introduce attenuation bias in regression estimates (Allison, 2001). To mitigate this, researchers report the imputation approach transparently and encourage careful interpretation of the results, especially for countries or indicators with a higher incidence of missing values.

Data Analysis Model

The data in this study comes from the United Nations (U.N.), World Bank, and Transparency International. The method used in this research is the quantitative analysis method of panel data regression. Panel data regression is a regression of a combined equation of cross-section data with time series data (Sriyana, 2014). Panel data regression equation model for this study:

$$〖Y〗_{it} = \beta_0 + \beta_1 X_{it} + \ldots + e_{it}$$

$i = 1, 2, \ldots, N$
$t = 1, 2, \ldots, N$

Description:
N = the number of observations
T = amount of time
N dan T = number of panel data

Common Effect Model

The Common Effect Model (CEM) is the first-choice approach in panel data regression estimation. The method used in the Common Effect Model (CEM) approach in estimating the panel data regression model is Ordinary Least Square (OLS). Widarjono (2018) states that the standard effect method combines cross-section and time series data without regard to time and individual dimensions. The method used for regression is the ordinary least squares method. The regression equation model used is as follows:

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + e_{it}$$

Fixed Effect Model

The Fixed Effect Model (FEM) is the second selection approach in panel data regression estimation, estimating this approach using dummy variable techniques as a catcher for intercept differences between companies. The method used in the Fixed Effect Model (FEM) approach in assessing the panel data regression model is Least Square Dummy Variable (LSDV). There are 2 assumptions in the fixed effect model (Sriyana, 2014): In the first assumption of this model, it is assumed that there are differences in intercepts due to differences in individual objects of analysis while the slope is constant based on time and personal objects of study. The second assumption assumes a change in intercept between particular objects of analysis and time, but the slope is constant.

Random Effect Model

Using dummy variables, the random effect model is used to overcome the fixed effect model's weaknesses (Widarjono, 2018). The amount of cross-section data to be regressed must be greater than the number of research variables. It is necessary to do an error component model with the Generalized Least Square (GLS) estimation method to meet the degree of freedom that cannot be completed in the fixed effect model estimation. Random Effect Model (REM) is the third selection approach in panel data regression estimation; this approach estimates the presence of nuisance variables that may be interconnected over time and between companies. The method used in the Random Effect Model (REM) approach in assessing the panel data regression model is the Error Component Model (ECM) or Generalized Least Square (GLS).

Chow Test

The Chow test is used to select one of the models in panel data regression, which is seen from the Residual Sum of Square (RSS) value. The model selection is the Common Effect Model (CEM) and the Fixed Effect Model (FEM). If the p-value is smaller than 10% alpha, it rejects the null hypothesis and accepts the alternative hypothesis. If the Probability Cross-section Chi-square value> α 0.05, then H0 is left, which means that the Common Effect Model (CEM) model is selected and used for further testing. However, if the Probability Cross-section Chi-square value < α 0.05, then H0 is accepted, and this means the Fixed Effect Model (FEM) model is selected and used for further testing.

Hausman Test

The Hausman test is used to select the appropriate model in panel data regression between the Fixed Effects Model (FEM) and the Random Effects Model (REM). According to Widarjono (2018), the null hypothesis (H_0) of the Hausman test states that the Random Effects Model is more appropriate. If the cross-section random probability value (p-value) > α (0.05), then H_0 is accepted, which indicates that the Random Effects Model (REM) is appropriate and can be used for further testing. However, if the p-value < α (0.05), then H_0 is rejected, and the Fixed Effects Model (FEM) is more appropriate to use.

Coefficient of Determination (R2)

The coefficient of determination is a coefficient that explains the relationship between the dependent variable and the independent variable in a model. The greater the coefficient of determination (close to one), the better and able to explain variable Y. This shows that there is a close relationship (high goodness of fit) between variable Y and variable X. The coefficient of determination test (R2 test) is used to assess how much the dependent variable is explained by the

independent variable (Widarjono, 2018). The panel data regression model can be used appropriately if the coefficient of determination test value (R2 test) is close to the value of one.

T Test

The t-test is a test conducted to determine whether or not each regression coefficient of the independent variable affects the dependent variable. If the probability t-statistic value> α 0.05, then H0 is rejected, which means that the independent variable has no significant effect on the dependent variable. However, if the probability t-statistic value < α 0.05, then H0 is accepted, which means that the independent variable significantly affects the dependent variable. If the probability t-statistic value > α 0.05, then H0 is rejected, which means that the independent variable has no significant effect on the dependent variable. However, if the probability t-statistic value < α 0.05, then H0 is accepted, which means that the independent variable significantly affects the dependent variable

Results and Discussion

Descriptive Statistics

The data used in this study are secondary, in the form of panel data with cross-section data on 10 ASEAN countries (10 countries: Indonesia, Malaysia, Singapore, Thailand, Philippines, Vietnam, Laos, Myanmar, Brunei, Cambodia) and time series data in the period 2010-2020. The data in this study comes from the United Nations (U.N.), World Bank, and Transparency International. In this study, there are 3 independent variables, namely information systems, quality of human resources, and economic capabilities, while the dependent variable is corruption. Descriptive statistics provide an overview or description of data from the average value, variance, maximum, minimum, sum, range, etc.

Table 2. Descriptive Statistics

	Y	X1	X2	X3
Mean	34.015	0.509	0.697	23.205.330
Median	33.500	0.504	0.691	9.226.398
Maximum	87.000	0.915	0.938	98.336.960
Minimum	1.400	0.187	0.451	2706.992
Std. Dev	22.166	0.186	0.121	28014.460
Skewness	0.660	0.337	0.235	1.533
Kurtosis	3.212	2.408	2.183	3.864
Jarque-Bera	8.187	3.689	4.070	46.519
Probability	0.017	0.158	0.131	0.000
Sum	3741.600	55.969	7.717	2552586
Sum Sq. Dev.	53555.60	3.769	1.607	88.550
Observations	110	110	110	110

Source: Data processing results (2023)

This research uses panel data. In panel data regression models, classical assumption testing is not always necessary because panel data can minimize potential bias in the analysis results and provide more information, variation, and degrees of freedom. (Gujarati & Porter, 2012).

Panel Data Regression Model Selection

Panel data regression can be performed by testing three analysis models: common effect, fixed effect, and random effect.

Common effect model

Table 3. Common Effect Model

Sample: 2010 to 2020 Periods included: 11 Cross-sections included: 10 Total panel (balanced) observations: 110				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-42.671	16.098	-2.650	0.009
Informatiom systems	16.602	16.282	1.020	0.310
Quality of HR	93.728	33.205	2.823	0.006
Economic capabilities	0.000	9.570	1.293	0.199
R-squared	0.605	Mean dependent var		34.014
Adjusted R-squared	0.594	S.D. dependent var		22.166
S.E. of regression	14.127	Akaike info criterion		8.170
Sum squared resid	21155.75	Schwarz criterion		8.268
Log-likelihood	-445.338	Hannan-Quinn criteria.		8.210
F-statistic	54.113	Durbin-Watson stat		0.715
Prob(F-statistic)	0.000			

Source: Data processing results (2023)

Fixed Effect Model

Table 4. Fixed Effect Model

Sample: 2010 to 2020 Periods included: 11 Cross-sections included: 10 Total panel (balanced) observations: 110				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-169.454	23.489	-7.214	0.000
Informatiom systems	35.253	19.343	1.823	0.072
Quality of HR	246.169	42.747	5.759	0.000
Economic capabilities	0.001	0.001	1.133	0.260
Effect Specification				
Cross-section fixed (dummy variables)				
R-squared	0.736	Mean dependent var		34.015
Adjusted R-squared	0.704	S.D. dependent var		22.166
S.E. of regression	12.064	Akaike info criterion		7.929
Sum squared resid	14.116.860	Schwarz criterion		8.248
Log-likelihood	-423.089	Hannan-Quinn criteria.		8.058
F-statistic	22.583	Durbin-Watson stat		1.013
Prob(F-statistic)	0.000			

Source: Data processing results (2023)

After obtaining the regression results using CEM and FEM, the next step is to conduct a test to determine whether CEM, FEM or REM is more appropriate. In deciding between the two models, the Chow test is used as a test to select the panel data regression model.

Chow Test

The results in Table 5 show that the probability of the cross-section chi-square of 0.000 is lower than 0.05. So, following the decision criteria, this model uses a fixed effect model. Because the selected Chow test uses FEM, it is necessary to conduct further testing with the Hausman test to determine which FEM or REM is used.

Table 5. Uji Chow

Redundant Fixed Effects Tests Equation: Untitled Test cross-section fixed effects			
Effect Test	Statistic	d.f.	Prob.
Cross-section F	5.374	(9.97)	0.000
Cross-section Chi-Square	44.450	9	0.000

Source: Data processing result (2023)

Random Effect Model

Table 6. Random Effect Model

Sample: 2010 2020 Periods included: 11 Cross-sections included: 10 Total panel (balanced) observations: 110 Swamy and Arora estimator of component variances				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-42.672	13.747	-3.104	0.002
Informatiom systems	16.602	13.904	1.194	0.235
Quality of HR	93.728	28.355	3.306	0.001
Economic capabilities	0.000	0.000	1.514	0.133
Effect Specification				
		SD		Rho
Cross-section random			0.000	0.000
Idiosyncratic random			12.064	1.000
Weighted Statistics				
R-squared	0.605	Mean dependent var		34.014
Adjusted R-squared	0.594	S.D. dependent var		22.166
S.E. of regression	14.127	Sum squared resid		21155.75
F-statistic	54.113	Durbin-Watson stat		0.715
Prob(F-statistic)	0.000			
R-Squared	0.605	Mean dependent var		34.014
Sum squared resid	21155.75	Durbin-Watson stat		0.715

Source: Data processing result (2023)

Hausman Test

Table 7. Hausman Test

Correlated Random Effects – Hausman Test Equation: Untitled Test cross-section random effects			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	45.879	3	0.000

Source: Data processing result (2023)

Determination of the Hausman test results includes an evaluation of the cross-sectional probability. If <0> 0.05, then the model used is REM. The results in Table 7 show that the cross-sectional random probability value of 0.000 is smaller than 0.05, meaning that the Hausman test results choose to use FEM. Based on the results of the panel data model selection, an evaluation is carried out with a panel data regression test using a fixed model to determine the results of this study.

Panel Data Regression Analysis

Table 8. Panel Data Regression Analysis

Periods included: 11				
Cross-sections included: 10				
Total panel (balanced) observations: 110				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-169.454	23.489	-7.214	0.000
Informatiom systems	35.253	19.343	1.823	0.072*
Quality of HR	246.169	42.747	5.759	0.000***
Economic capabilities	0.001	0.001	1.133	0.260
Effect Specification				
Cross-section fixed (dummy variables)				

Notes: Significance levels; ****p < 0.01, **p < 0.05, *p < 0.1*
Source: Data processing result (2023)

In panel data regression, it has been determined to use FEM, so the formula in this model is as follows:

$$Y = -169.453 + 35.253X1it + 246.169X1it + 0.000X1it + eit$$

R^2 Test

Table 9. R^2 Test

R-squared	0.605	Mean dependent var	34.015
Adjusted R-squared	0.594	S.D. dependent var	22.166
S.E. of regression	14.127	Akaike info criterion	8.170
Sum squared resid	21155.75	Schwarz criterion	8.268
Log-likelihood	-445.339	Hannan-Quinn criteria.	8.210
F-statistic	54.113	Durbin-Watson stat	0.715
Prob(F-statistic)	0.000		

Source: Data processing result (2023)

Discussion

The first hypothesis (H1) states that improved information systems can reduce corruption. However, the t-test results show a probability value for Information Systems (X1) of 0.072 ($p > 0.1$), indicating its statistically significant effect. This finding aligns with previous studies such as Adam (2020) and Nan (2021), which emphasize the effectiveness of e-government in reducing corruption through transparency and reduced discretion. A possible explanation lies in Klitgaard's (1988) argument that while digital tools can theoretically reduce opportunities for corruption, their effectiveness is highly dependent on the institutional capacity and human resources surrounding them. In ASEAN countries with weak law enforcement or low digital literacy, even sophisticated systems can be circumvented or underutilized. This also supports the findings of Martitah et al. (2021) that technology alone cannot reduce corruption without adequate institutional support and competent personnel.

The second hypothesis (H2) was supported, with human resource quality (X2) having a significant negative effect on corruption ($p = 0.000$, $t = 5.759$). This aligns with theoretical expectations based on human capital theory and is reinforced by empirical studies such as Yap et al. (2020) and Sarabia et al. (2020), which found that countries with higher levels of education, ethical standards, and professional competence tend to experience lower levels of corruption. Furthermore, these findings support the Fraud Triangle Theory (Cressey, 1953), particularly in the rationalization component, where individuals with stronger ethical reasoning and professional

integrity are less likely to justify corrupt acts. As explained by Gleason et al. (2022), ethical decision-making processes are shaped by education, norms, and personal values, all components of human development.

The third hypothesis (H3) explored whether economic capability (X3) reduces corruption. The results showed that this variable was not statistically significant ($p = 0.260$), thus rejecting the hypothesis. This contradicts the conventional assumption that higher GDP per capita leads to lower corruption due to reduced economic pressure. This finding aligns with that of Gokturk and Yalcinkaya (2020), who found that economic growth alone does not guarantee lower corruption, especially when income distribution is unequal. This reflects the "pressure" element of the fraud triangle, where not only economic hardship but also unequal access to wealth can trigger fraudulent behavior. Furthermore, in contexts where wealth is concentrated among the elite, corruption can persist or even increase due to rent-seeking behavior and weak accountability.

In short, this study reinforces the importance of human capital quality as a crucial factor in reducing corruption and challenges the assumption that economic growth or technological sophistication alone can address deep-rooted institutional problems. This study adds nuance to fraud theory by integrating behavioral, institutional, and systemic perspectives, an approach also suggested by Cárdenas and González (2022) and Tickner and Button (2020) in their critiques of linear models of corruption.

Conclusion

Based on the research question regarding the influence of information systems on corruption, the results indicate that information systems have a significant impact on reducing corruption at the 10% significance level. This suggests that improvements in e-government, digital infrastructure, and access to information can contribute to reduced corruption, particularly by minimizing direct interaction and discretionary authority.

Based on the formulation of the problem regarding the effect of the quality of human resources on the level of corruption. It is explained that the quality of human resources with the Human Development Index indicator has a significant positive effect on the level of corruption with the Corruption Perception Index indicator. The Corruption Perception Index has a value that is inversely proportional to the level of corruption. If the CPI value is high, the level of corruption will be lower. Meanwhile, if the CPI value is low, the higher the corruption. It can be concluded that human resources hurt corruption. The lower the quality of human resources, the higher the level of corruption in a country.

Based on the formulation of the problem regarding the effect of economic capacity on the level of corruption. It is explained that economic capability does not affect the level of corruption. A country's low or high economic capability does not influence corruption. The existing inequality can cause this. The supporters of a country's economic capabilities are dominated by the wealthy, while the rest come from those with low economic capabilities. Although the pressure to support their lives is high, they do not have the ability and opportunity to commit corruption.

This study has several limitations, including focusing solely on macro-level indicators (national averages), without considering variations within countries or the dynamics of corruption in specific sectors. Furthermore, the use of the Corruption Perceptions Index (CPI), although widely accepted, reflects perceptions rather than direct measures of corruption, which can lead to bias or generalization. Future research opportunities remain crucial to deepen our understanding of the complex relationship between corruption and its influencing factors in ASEAN countries. One important avenue is to conduct sectoral studies, such as those focused on corruption in public procurement, education, or healthcare. These sectors often involve large budgets and direct public interaction, making them vulnerable to various forms of fraud.

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