Structural Analysis for Assessing the Effectiveness of Anti-Corruption Strategies on Public Trust

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Abstracts

Anti-corruption initiatives are critical tools in the fight against unethical behavior, selling transparency and integrity in both the public and commercial sectors. This study explores the efficacy of anti-corruption techniques on public trust in organizations. Using a dataset comprising 300 employees from a legal aid center, the research assesses the impact of diverse anti-corruption measures on Public Trust Score (PTS). Data turned into collected through surveys measuring the Transparency Index (TI), Accountability Index (AI), Effectiveness of Oversight Bodies (EOB), Public Awareness Level (PAL), and Quality of Anti-Corruption Training (QACT). SPSS was employed for analysis, consisting of Structural Equation Modelling (SEM), Pearson correlation was used to assess the significance and direction of the correlation between each independent variable and the dependent variable, and Multiple Linear regressions (MLR) was used to assess the influence of numerous independent variables. Simultaneously at the dependent variable. The findings imply that more advantageous transparency, accountability, and powerful oversight significantly enhance public acceptance, while public recognition and training quality have a notable but lesser impact.

Keywords: Anti-corruption; public trust score; Pearson correlation; Multiple linear regression.

Introduction

Anti-corruption strategies are vital tools in the combat against unethical conduct, selling integrity, and openness in the community and commercial sectors. To prevent the misuse of power for non-public benefit, thereby influencing public trust in institutions [4]. Corruption, while left unchecked, weakens democratic governance, stifles financial development, and undermines the rule of law [12]. Effective anti-corruption measures consist of legal reforms, strengthening institutions, implementing moral standards, and ensuring accountability. Independent oversight, including anti-corruption commissions and ombudsman workplaces, are often hooked up to investigate and prosecute corrupt movements [7]. In addition, virtual equipment, inclusive of e-governance systems, is increasingly employed to enhance transparency and reduce opportunities for corruption by reducing direct human interplay in administrative procedures [3]. However, sustained political will, a robust legal framework, and a tradition of responsibility are essential for long-term fulfilment. Without these foundational elements, efforts to combat corruption risk falling brief, leading to further disillusionment and a decline in public trust [8]. Anti-corruption strategies are the lack of sustained political will, weak legal frameworks, and inconsistent enforcement that could avert long-term effectiveness and public trust.

To assess the effectiveness of anti-corruption techniques in enhancing public belief across exceptional sectors and governance systems.

The remaining section of the study holds the following: section 2 organizes the related work, section 3 provides the methodology, section 4 explores the result analysis, and section 5 concludes the study.

Related work

To scientifically investigate whether a digital government decreased corruption across nations was the goal of [11]. For that objective, longitudinal information from 214 nations was gathered from 2003 to 2016, and panel analysis of data used a model with fixed effects was performed. The analysis results show that digital government as an entire system greatly lowered corruption, but the impacts of open government, which was one sort of e-government, were uncertain. However, the administration of law served to balance relationship between democratic government and corruption.

To identify the gaps in their legislative framework that prevent their anti-corruption authorities from achieving the goal of the equitable dispensation of tasks were the purpose of [6]. The reasons for such problematic laws were also sought to be revealed. To deal with that situation, both the government and the people might take a sincere attitude, and be determined, resilient, and persistent.

Their investigation [9] revealed that there was a scarcity of empirical research demonstrating the effectiveness of corruption prevention methods in programs. However, their findings showed that regulation, managerial, investigating, receptive, and legislative actions could be beneficial. The two key processes explained how different anti-corruption strategies work increased openness in project management and incentives for contributors.

The consequences of corruption on trust among citizens in other country governments at various levels were investigated in [5], with a focus on variances between stable and weak nations. They examined Afro barometer data obtained from homes in 2019 to see whether that relationship exists. Utilizing sequential logit statistics and residual impacts, the investigation found that corruption considerably reduces trust in the government.

The threat of corruption to national security and analyses of several ways to resist it, include legal, institutional, and social approaches were explored in [10]. They examined the effectiveness of anti-corruption initiatives at multiple tiers of government, which includes legal norms and laws. It also provided a framework for corruption prevention groups and its function in national protection.

The use of survey and administrative records, as well as a government anti-corruption initiative that picks communities for inspection at random, was investigated in [2]. The finding contradicted the premise that audits improve trust among institutions. Individuals in audited towns had no greater faith in the local administration or an auditing organization compared to particularly in non-audited regimes, and correlation might reveal the adverse impact.

Other countries might enhance their corruption prevention framework by using new technologies and learning from India's record of confronting corruption with technologies for communication and information (ICT) was investigated in [13]. The study used a method of qualitative study, examined Information from governmental sources, research papers, and discussions with experts to determine particular areas where other countries might establish from India's achievements and problems in implementing ICT solutions.

The crucial importance of ethics in governance and examined several anti-corruption strategies were investigated in [14]. They began by describing the need for a solid ethical basis in governance, emphasized the negative consequences of corruption. The research goals then specify the study's scope, with an emphasis on discovered and analysed successful anti-corruption strategies. Specific research topics govern the examination of various measurements, including implementation, strengths, and limits.

The importance of adopting a scientific anti-corruption program that maximizes government advantages was stated in [15]. To solve the issue, they provided a model that took into account different degrees of management and their related costs. The results showed that, for homogenous officials, the ideal degree of supervised input that increases governance benefit was almost zero because the national income was insufficient due to financial limits on anti-corruption supervision.

The administration and anti-corruption efforts to improve openness, accountability, and public confidence were demonstrated in [1]. The research examined institutional frameworks, anti-

corruption efforts, and geographical variances. Strong institutional structures had a favourable correlation with accountability and disclosure, suggesting greater institutional integrity.

Hypothesis development

Hypothesis 1: Higher levels of transparency in governmental operations (Transparency Index) are positively associated with an increase in the Public Trust Score. (TI → PTS)

Hypothesis 2: A higher Accountability Index is positively associated with a growth within the Public Trust Score, suggesting that more duty ends in higher public belief. (AI → PTS)

Hypothesis 3: Greater effectiveness of oversight bodies is associated with a higher Public Trust Score, indicating that more powerful oversight enhances public trust. (EOB → PTS)

Hypothesis 4: Higher degrees of public cognizance (Public Awareness Level) are undoubtedly correlated with the Public Trust Score, implying that increased consciousness contributes to extra public trust. (PAL → PTS)

Hypothesis 5: An improvement within the Quality of Anti-Corruption Training is potentially associated with a growth in the Public Trust Score, suggesting that better anti-corruption education complements public trust. (QACT → PTS)

Methods

I. Dataset

The data were collected from the 300 employees, who are all working in legal aid center employee. Legal aid center deal with cases associated with corruption, fraud, and public grievances. Legal professionals, public prosecutors, or even the overall public involved in those instances can provide insights into public consider in anti-corruption measures. Fig 1 shows the conceptual diagram of the hypotheses.

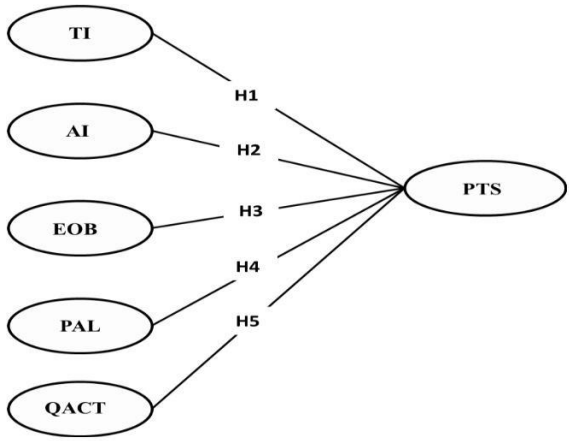

Fig 1 Conceptual module

II. Data collection

The table I provides a demographic breakdown of 300 individuals within the observations. It consists of gender distribution (with 50% female, 46.7% male), age organizations (with the largest institution being 30-39 years (YRS) at 33.3%), education levels (40% retaining a bachelor's diploma), political affiliations (40% identifying as liberal), and anti-corruption activity involvement (43.3% participating occasionally). Awareness of anti-corruption laws is moderate for 40%, even as experience with reporting and perceived corruption ranges vary, with maximum perceiving corruption at a moderate level.

Table I Demographic data

Demographic factors	Category	Number of participants (n)	Percentage
Gender	Male	140	46.7%
	Female	150	50.0%
	Other/Non-binary	5	1.7%
	Prefer not to say	5	1.7%
Age group	18-29 YRS	80	26.7%
	30-39 YRS	100	33.3%
	40-49 YRS	70	23.3%
	50 years and above	50	16.7%
Education Level	High School or Below	50	16.7%
	Bachelor's qualification	120	40.0%
	Master's qualification	80	26.7%
	Doctorate or Higher	50	16.7%
Political Affiliation	Conservative	90	30.0%
	Liberal	120	40.0%
	Moderate	60	20.0%

	Other	30	10.0%
Frequency of participation in Anti-corruption activities	Never	90	30.0%
	Occasionally	130	43.3%
	Frequently	60	20.0%
	Very frequently	20	6.7%
Level of Awareness about Anti-corruption Laws	Low	60	20.0%
	Moderate	120	40.0%
	High	80	26.7%
	Very high	40	13.3%
Experience with corruption reporting	Yes, reported an incident	90	30.0%
	No, unaware but did not report	150	50.0%
	No, unaware of any corruption	60	20.0%
Perceived corruption level in community	Very low	30	10.0%
	Low	70	23.3%
	Moderate	120	40.0%
	High	60	20.0%
	Very high	20	6.7%

III. Questionnaire design

To gather information for evaluation, 300 questionnaires were dispersed around various divisions and activities. Although some of the completed questionnaires were blank or only half completed, 250 surveys were deemed eligible for the study. The first stage in this procedure is to create a questionnaire with seven key components.

A 5-point Likert scale was used to rate 300 survey participants: 1: Firmly Oppose 5: Firmly support, 1: Very Low 5: Very High, 1: Very Opaque 5: Very Transparent, 1: Very Inaccessible 5: Very Accessible, 1: Not at All 5: Extremely Well, 1: Very Ineffective 5: Very Effective, 1: Very Opaque 5: Very Transparent. 1: Not at all aware 5: Extremely aware, 1: Not at all engaged 5: Extremely engaged, 1: Never 5: Always, 1: Not comprehensive at all 5: Extremely comprehensive, 1: Not at all effective 5: Extremely effective, 1: Never 5: Always.

IV. Statistical Analysis

Using SPSS version 28 for its advanced analytical competencies, Pearson correlation identified robust tremendous relationships between Public Trust Score (PTS) and the Transparency Index (TI), Accountability Index (AI), and Public Awareness Level (PAL). Multiple linear regression established that all predictors significantly inspired PTS, with transparency index and accountability index having the strongest outcomes. The model explained a sustainable portion of the variance in PTS, indicating robust average fit.

Result analysis

I. Correlation Coefficients

The coefficient of Pearson correlation (r) evaluates the degree and structure of the linear interaction of factors, with values ranging from -1 (great negative correlations) to 1 (great positive correlations). A correlation of 0.85 between TI and PTS shows a completely very strong

positive correlation, meaning higher transparency in government operations tends to increase public trust.

The $p-$ value allows to determine whether the observed correlation is because of chance. $P < 0.05$ indicates statistical significance, whereas $p < 0.01$ indicates high statistical significance. A $p-$ value of 0.02 for the correlation between AI and PTS shows there is a 2% chance, this correlation is due to random variation, displaying it's highly in likelihood the correlation is valid. The total wide variety of observations of study. Larger samples commonly yield extra reliable and generalizable correlations. These constitute a variable's correlation with itself, that's continually 1.00, displaying best self-correlation. Here's an extra targeted rationalization of correlation table with extra values, alongside a demographic variable table for assessment, as well as the hypotheses. The aim is to make clear the relationships between the variables while also integrating demographic data effectively. Table II shows the evaluation of correlation.

Table II Evaluation of Correlation

Variable	Transparency Index (TI)	Accountability Index (AI)	Effectiveness of Oversight Bodies (EOB)	Public Trust Score (PTS)	Public Awareness Level (PAL)	Anti-Corruption Training Quality (ACTQ)
TI	1.00	–	–	–	–	–
AI	0.75 (p = 0.01)	1.00	–	–	–	–
EOB	0.60 (p = 0.05)	0.65 (p = 0.04)	1.00	–	–	–
PTS	0.80 (p = 0.02)	0.85 (p = 0.01)	0.70 (p = 0.03)	1.00	–	–
PAL	0.70 (p = 0.03)	0.78 (p = 0.02)	0.62 (p = 0.05)	0.82 (p = 0.01)	1.00	–
QACT	0.65 (p = 0.04)	0.72 (p = 0.03)	0.58 (p = 0.06)	0.78 (p = 0.02)	0.80 (p = 0.02)	1.00

The strongest correlations are observed among Accountability Index (AI) and Public Trust Score (PTS) ($r = 0.85, p = 0.01$), and between Public Awareness Level (PAL) and Public Trust Score (PTS) ($r = 0.82, p = 0.01$). These suggest that improving responsibility and growing public recognition are key elements in enhancing public trust. Transparency Index (TI) also has a strong relationship with PTS ($r = 0.80, p = 0.02$) and PAL ($r = 0.70, p = 0.03$), suggesting transparency plays a significant role in developing public trust and awareness. Quality Anti-Corruption Training (QACT) has a statistically significant impact on Public Trust Score (PTS) ($r = 0.78, p = 0.02$) and Public Awareness Level (PAL) ($r = 0.80, p = 0.02$), showing that effective training complements each public trust and awareness.

II. MLR Analysis

MLR assesses the relationship among one dependent variable (Public Trust Score) and more than one independent variable. It estimates how adjustments in every independent variable (Transparency Index, Accountability Index, Effectiveness of Oversight Bodies, Public Awareness Level, Anti-Corruption Training Quality) have an effect on the structured variable, at the same time as controlling for the effect of the others. It is a statistical approach for understanding the connection between a single dependent and independent factor. Its pursuits to version and quantify the connection by estimating the coefficients of the independent variables.

Regression Coefficients (β) parameters showing the influence of the various independent variables (IV) on the dependent variable (DV). They represent a substitution in the DV for a change of one unit in the predictor factor. Intercept (β_0) is the anticipated measure of the DV while every indicator is zero. Residuals is the differences between discovered and predicted evaluate of the DV, indicating the model's fit. Table III shows the result of multiple linear regression.

The equation for multiple linear regression requires the following in equation (1):

$$Z = \beta_0 + \beta_1 W_1 + \beta_2 W_2 + \cdots + \beta_m W_m + \epsilon \quad (1)$$

Z is a dependent variable, β_0 is the intercept, $\beta_1, \beta_2, \ldots, \beta_m$ are the regression coefficient for the independent variables $W_1, W_2, \ldots, W_m$, ϵ denotes the error.

Table III Result of MLR analysis

Predictor	Coefficient (β)	Average Error	t-Value	p-Value	95% Confidence Interval	R^2	Adjusted R^2	F-Statistic	p-Value for F-Statistic
TI	0.40	0.11	3.64	<0.001	[0.19, 0.61]				<0.001
AI	0.50	0.12	4.17	<0.001	[0.26, 0.74]				<0.001
EOB	0.30	0.13	2.31	0.022	[0.05, 0.55]				<0.001
Intercept	1.80	0.85	2.12	0.035	[0.11, 3.49]				<0.001
QACT	0.28	0.14	2.00	0.047	[0.01, 0.55]				<0.001
PAL	0.35	0.10	3.50	0.001	[0.15, 0.55]				
						0.72	0.69	31.45	

The table shows the consequences of a multiple linear regression evaluation predicting the Public Trust Score (PTS). All predictors, Transparency Index (TI), Accountability Index (AI), Effectiveness of Oversight Bodies (EOB), Public Awareness Level (PAL), and Quality of Anti-Corruption Training (ACTQ) show widespread superb relationships with PTS, with $p - values < 0.05$. The version explains seventy 2% of the variance in PTS ($R^2 = 0.72$) and is fantastically sizeable (F-Statistic = 31.45, $p < 0.001$), indicating strong general model fit.

Conclusion

The effectiveness of anti-corruption techniques is crucial for enhancing public trust, as those measures play a vast role in promoting transparency, duty, and public confidence in governance. The study analysed the effect of such techniques using a dataset of 300 individuals from a legal aid center. Analysed with SPSS, incorporating SEM, Pearson correlation, and Multiple Linear Regression, the consequences discovered that Transparency Index (TI), Accountability Index (AI), and Effectiveness of Oversight Bodies (EOB) had strong advantageous correlations with Public Trust Score (PTS), with values of $r = 0.80$ ($p = 0.02$), $r = 0.85$ ($p = 0.01$), and $r = 0.70$ ($p = 0.03$), respectively. Additionally, Public Awareness Level (PAL) and Quality of Anti-Corruption Training (QACT) additionally undoubtedly impacted PTS, with correlations of $r = 0.82$ ($p = 0.01$) and $r = 0.78$ ($p = 0.02$). The multiple linear regression model

explained 72% of the variance in PTS ($R^2 = 0.72$), indicating that transparency, accountability, powerful oversight, public attention, and satisfactory education are important for enhancing public trust in anti-corruption efforts. The study became limited by way of its pass-sectional nature, proscribing the capacity to examine changes through the years. The recognition on an unmarried organisation would not completely represent broader contexts, and self-mentioned statistics could have introduced reaction biases. Expanding the study to include numerous organizational settings and using mixed-techniques ought to offer a more comprehensive expertise of the factors influencing public agreement in anti-corruption efforts.

WORKS CITED

Agu, J.C., Nkwo, F.N. and Eneiga, R.U. "Governance and Anti-Corruption Measures in Nigeria: Strategies for Enhancing Transparency, Accountability and Public Trust," International Journal of Economics and Public Policy, 8(1), pp.1-15, 2024. https://doi.org/10.5281/zenodo.12576796

Barbabela, L. "Anti-Corruption Audits and Citizens' Trust in Audit and Auditee Institutions." Latin American Politics and Society, pp.1-14, 2024. https://doi.org/10.1017/lap.2024.10

Bukhanevych, O., Samsin, I., Nalutsyshyn, V., Kopanchuk, V. and Bukhanevych, K. "Effectiveness of Legal Anti-Corruption Mechanisms in the Financial Sector," Pakistan Journal of Criminology, 16(2), 2024.

Daud, Y.M. "A Review of Effectiveness of Anti-Corruption Strategies and Institutions in Kenya," African Journal of Commercial Studies, 4(4), pp.303-318, 2024. https://doi.org/10.59413/ajocs/v4.i4.5

Gebrihet, H.G. "The Effects of the Perception of Corruption on Public Trust in Government in Africa: A Comparative Analysis," Politikon, pp.1-22, 2024. https://doi.org/10.1080/02589346.2024.2344276

Gul, N., Khan, M.S., Farid, N., Shah, A.A. and Adeel, M. "Analysis of Effectiveness of Anti-Corruption Laws of Pakistan," Journal of Positive School Psychology, 6(8), pp.9954-9967, 2022.

Kesuma, D.A. and Uddin, M.N. "THE ENFORCEABILITY AND EFFECTIVENESS OF ANTI-CORRUPTION LAWS IN REDUCING CORRUPTION CASES IN INDONESIA," Kanun Journal Ilmu Hukum, 26(1), 2024. https://doi.org/10.24815/kanun.v26i1.35600

Lawan, A.A. and Henttonen, P. "Preserving Evidence Integrity: The Key to Efficient Anti-Corruption Investigations," Records Management Journal, 34(1), pp.41-57, 2024. https://doi.org/10.1108/RMJ-03-2023-0016

Lehtinen, J., Locatelli, G., Sainati, T., Artto, K. and Evans, B. "The Grand Challenge: Effective Anti-Corruption Measures in Projects," International Journal of Project Management, 40(4), pp.347-361, 2022. https://doi.org/10.1016/j.ijproman.2022.04.003

Nikolaienko, A., Nikolaienko, O., Avanesov, H., Koshmal, S. and Lukashuk, O. "Corruption as a Threat to National Security: Analysis of Anti-Corruption Mechanisms and their Effectiveness," Economic Affairs, 69, pp.23-31, 2024. https://doi.org/10.46852/0424-2513.1.2024.4

Park, C.H. and Kim, K. "E-Government as an Anti-Corruption Tool: Panel Data Analysis Across Countries," International Review of Administrative Sciences, 86(4), pp.691-707, 2020. https://doi.org/10.1177/0020852318822055

Tapenova, A. and Akparova, R. "Public Participation in Anti-Corruption Efforts," Pakistan Journal of Criminology, 16(3), 2024. https://doi.org/10.62271/pjc.16.3.295.310

Thommandru, A., Maratovich, F.F. and Saparovna, N.S. "Fortifying Uzbekistan's Integrity Landscape: Harnessing India's Tech-Driven Anti-Corruption Strategies," Sustainable Futures, 7, p.100206, 2024. https://doi.org/10.1016/j.sftr.2024.100206

Tomar, P.S. and Verma, A. "Ethics in Governance: Anti-Corruption Measures," NOLEGEIN-Journal of Business Ethics, Ethos & CSR, 7(1), pp.1-15, 2024.

Zhang, M., Zhang, H., Zhang, L., Peng, X., Zhu, J., Liu, D. and You, S. "Corruption, Anti-Corruption, and Economic Development," Humanities and Social Sciences Communications, 10(1), pp.1-13, 2023. https://doi.org/10.1057/s41599-023-01930-5