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Corporate Social Responsibility and Firm Performance: Evidence From Selected ICT Firms in Kiambu County, Kenya

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Abstract

This study examined the relationship between corporate social responsibility (CSR) and the performance of selected ICT firms in Kiambu County, Kenya. It focused on four CSR dimensions including environmental responsibility initiatives, community engagement programs, workplace responsibility practices, and ethical business practices. The study used a descriptive and correlational cross-sectional survey design. Stratified random sampling was applied in selecting 105 of the 142 registered ICT firms, with two respondents expected per firm. The structured questionnaires led to 182 usable responses from 95 firms which is 86.7% response rate. The responses were analyzed using SPSS using descriptive statistics, Pearson correlation and multiple linear regression. All the four CSR dimensions correlated positively with firm performance. The strongest was community engagement ($r=0.657$, $p<0.01$), then ethical business practices ($r=0.629$), followed by environmental responsibility ($r=0.591$), and workplace responsibility ($r=0.562$). The regression model was significant $F(4, 177) = 44.125$, $p < 0.001$, with $R^2 = 0.499$. Community engagement ($\beta = 0.317$), ethical business practices ($\beta = 0.226$) and environmental responsibility ($\beta = 0.215$) were significant predictors, whereas workplace responsibility was not ($\beta = 0.039$, $p = 0.652$). The findings indicate that CSR is positively associated with ICT firm performance, even if the dimensions do not contribute equally. ICT firms need to prioritize locally associated programs and credible ethical governance, with the support of environmental initiatives.

Keywords: corporate social responsibility, firm performance, ICT firms, community engagement, ethical business practices, environmental responsibility, Kiambu County

1. Introduction

1.1 Introduce the Problem

Corporate social responsibility (CSR) has moved from the margins of corporate philanthropy to the center of strategic management. Today's views understand CSR as a set of voluntary

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principles, policies and processes through which firms discharge their economic, legal, ethical and philanthropic responsibilities to society (Carroll, 2016; Crane & Matten, 2021). The stakes are especially visible in information and communication technology (ICT), where firms handle sensitive customer data, depend on a small pool of skilled workers, use a great deal of energy, and generate electronic waste. Many also operate in communities where the digital divide is still wide (Warschauer, 2019). Firms are increasingly expected to respond well to these pressures, and how they do so can shape not only their social license to operate but also their commercial results.

Kenya's ICT sector is a useful place to look at this expectation. It contributed about 2.1% of national gross domestic product in 2022 (Kenya National Bureau of Statistics, 2022), and its growth has spread beyond Nairobi into the neighboring counties. Kiambu County, which borders the capital, has become a peri-urban technology corridor, with software developers, IT consultancies, digital infrastructure providers and cybersecurity firms clustered in Thika, Ruiru, Juja, Kikuyu and Kiambu Town. The county's Integrated Development Plan also ties technology development directly to social responsibility (Kiambu County Government, 2023).

ICT firms in the county practice corporate social responsibility (CSR) in at least four ways. The first is environmental responsibility, which includes e-waste recycling, energy-efficient servers and paperless operations. The second is community engagement, such as coding boot camps, digital literacy programs in schools and partnerships with local organizations. The third is workplace responsibility, covering employee development, inclusive policies and flexible work arrangements. The fourth is ethical business practices, including data privacy, transparent billing and anti-corruption measures.

It is less clear whether these practices actually pay off. Firm performance in ICT has many dimensions, including financial results, operational efficiency, market competitiveness, employee productivity and stakeholder satisfaction (Kaplan & Norton, 1992; Richard et al., 2019), and studies in Kenya give mixed results. Njeri et al. (2022) found that while 65% of ICT firms in Nairobi reported good financial performance, only 30% reported successful stakeholder engagement and sustainable operations. Kamau and Wario (2021) reported that 55% of ICT firms in Kiambu struggled to sustain their performance, especially in community engagement and environmental responsibility, and Mutua et al. (2024) noted that CSR activities in the county were poorly linked to the strategic goals of firms. None of these studies tested which specific dimensions of CSR are associated with performance, and most relied on Nairobi or on large firms. This article addresses that gap by examining four CSR dimensions (environmental responsibility, community engagement, workplace responsibility and ethical business practices) as predictors of the performance of ICT firms in Kiambu County.

1.2 Importance of the Problem

For managers, the question comes down to how to allocate resources. Most ICT firms in Kiambu are small or medium-sized and cannot fund every CSR initiative at once. If managers know which dimensions are most strongly associated with performance, they can put their limited

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budgets and staff time where they count most, and begin to treat corporate social responsibility as part of firm strategy rather than a public-relations exercise (Mutua et al., 2024).

For policymakers and industry bodies, the findings can help shape sector-specific CSR guidance and incentives. The county's development plan promotes both technology growth and social responsibility (Kiambu County Government, 2023), yet there is little evidence on how local firms can bring the two together. County-level evidence is also needed because the performance and CSR profiles of a peri-urban cluster may not look like those of Nairobi's established technology districts (Kiprop et al., 2021).

For scholarship, the study adds dimension-level evidence from an emerging technology hub in a developing economy. Much of the literature on CSR and performance treats CSR as a single construct (Wang et al., 2016). By testing four dimensions together in one model, the study shows whether they are equally associated with firm performance or whether some stand out once the others are held constant. The results are interpreted through Stakeholder Theory, the Resource-Based View and Institutional Theory.

1.3 Relevant Scholarship

Stakeholder Theory holds that firms create lasting value by looking after the interests of everyone affected by their activities, including employees, customers, communities and regulators (Freeman, 1984). Its descriptive, instrumental and normative claims are well established (Donaldson & Preston, 1995), and firms that manage stakeholders well have been shown to perform better (Post et al., 2002), though critics point out that balancing competing demands is hard in practice (Jensen, 2001). The theory suggests that CSR aimed at communities, employees and the environment builds the trust and legitimacy that eventually show up in performance.

The Resource-Based View (RBV) argues that lasting competitive advantage comes from resources and capabilities that are valuable, rare, inimitable and hard to substitute (Barney, 1991). Seen this way, CSR capabilities such as environmental management systems, trusted data governance and deep community ties can become distinctive intangible assets. It also implies that the same CSR investment can pay off differently from one firm to another, depending on the resources each has, which matters for technology firms working in fast-changing environments (Teece et al., 1997; Helfat & Peteraf, 2015).

Institutional Theory explains corporate social responsibility as a response to regulatory, normative and mimetic pressures that reward firms for meeting the expectations of their environment (DiMaggio & Powell, 1983). Firms in the same field therefore tend to adopt similar, mutually reinforcing practices, although they keep some strategic choice in how they respond (Oliver, 1991; Scott, 2008). This helps explain why CSR dimensions may be strongly correlated within a county's ICT cluster.

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Empirical work on technology firms links structured environmental programs to better outcomes. Rahman and Chen (2021) found that technology firms with such programs recorded 15% higher operational efficiency and 12% better financial performance than those without them. In Kenya, Ochieng and Muturi (2023) reported that ICT firms with broad environmental management systems had 23% better resource use and 18% higher stakeholder satisfaction, and Ndegwa et al. (2022) found that firms spending more than 5% of their operating budget on environmental measures did better on resource efficiency and market image. The benefits are not automatic, though. Wong et al. (2022b) found that isolated environmental programs, disconnected from wider strategy, mainly raised costs. Most of this evidence comes from large firms or urban centers (Mutiso & Njeru, 2023; Gathoni et al., 2024).

Community engagement is associated with brand strength, market access and stakeholder loyalty. Chen et al. (2023) found that community involvement in developing economies gave technology firms long-term market access and stronger stakeholder relationships. In Kenya, Mwangi et al. (2023) reported that technology firms investing at least 3% of annual budgets in community programs enjoyed stronger brand value and customer interest, and Wandera and Hussein (2023) found that sustained engagement improved customer retention and local recruitment. Culturally adapted programs raised stakeholder satisfaction and local market share (Davidson & Lee, 2023), and digital education programs were linked to higher market penetration and employee retention (Akinyemi, 2023). A review of 55 studies concluded that co-created, long-term programs led by local people outperform generic ones (Rodriguez & Smith, 2023), while Zhang et al. (2023) cautioned that short-lived or poorly aligned programs may bring no benefit.

In talent-constrained ICT markets, employee-focused practices are widely expected to improve productivity and retention. Harrison and Lee (2022) found that firms with clear workplace responsibility programs, including inclusive policies, professional development and work-life balance, had lower turnover and higher productivity. Kumar et al. (2023) linked investment in employee wellbeing to innovation capacity and operational efficiency, and Carter and Wong (2023) found that engaged employees delivered better project outcomes. Kenyan studies point the same way: Otieno et al. (2023) and Kimani and Hassan (2024) found that ICT firms with strong employee development and welfare programs reported better performance, higher satisfaction and more successful projects. County-level evidence is thin, though, because most work has been done in large urban areas (Mutiso & Wangari, 2023).

Data privacy, transparency and trust are central to ICT. Anderson and Kumar (2023) found that firms with strong ethical governance earned greater stakeholder trust and better financial results, and Patel et al. (2023) found that ethical guidelines helped firms in developing economies manage risk and win investor confidence. Davidson and Martinez (2021) and Wilson and Chang (2020) linked ethical control systems to stronger financial performance, customer loyalty and staff satisfaction. In Kenya, Othiambo et al. (2021), Hassan (2021) and Njoroge et al. (2022) associated ethical frameworks, data privacy and transparency with reputation, revenue growth, efficiency and risk management. How strong these relationships are, depends on market

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maturity, regulation and firm size (Bonaparte & Gathiru, 2024), and semi-urban technology hubs remain under-studied (Kiprop et al., 2021).

Overall, the literature suggests that each CSR dimension can support performance, but three gaps remain. Most studies focus on large firms or major cities, so peri-urban hubs such as Kiambu are largely unexamined. Dimensions are also usually studied one at a time, which leaves their relative importance unclear when they operate together. And performance is often reduced to financial outcomes, even though ICT firm performance also covers operational, market, employee and stakeholder results. This study addresses all three gaps.

1.4 Hypotheses and Correspondence to Research Design

The hypotheses follow from the study objectives and the theoretical and empirical literature above. Stakeholder Theory and the Resource-Based View suggest that environmental, community, workplace and ethical practices build trust, capabilities and legitimacy that support performance, while Institutional Theory suggests that the four dimensions are likely to be adopted together and to be correlated. The study used a descriptive and correlational cross-sectional survey design. Descriptive analysis assessed how strongly respondents agreed that each CSR dimension contributes to performance. Correlation and multiple linear regression then tested the individual and combined associations at the 5% level of significance. The study tests the following null hypotheses:

H01: Environmental responsibility initiatives have no significant influence on the performance of ICT firms in Kiambu County, Kenya.

H02: Community engagement programs have no significant influence on the performance of ICT firms in Kiambu County, Kenya.

H03: Workplace responsibility practices have no significant influence on the performance of ICT firms in Kiambu County, Kenya.

H04: Ethical business practices have no significant influence on the performance of ICT firms in Kiambu County, Kenya.

Each hypothesis corresponds to one specific objective and one independent variable in the regression model.

2. Method

2.1 Research Design

The study adopted a descriptive and correlational cross-sectional survey design to establish the relationship between CSR and the performance of ICT firms in Kiambu County. The design allowed the strength and direction of relationships to be assessed without manipulating the study variables (Creswell & Creswell, 2023). Because the data are cross-sectional and non-experimental, the results are interpreted as predictive associations rather than causal effects.

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2.2 Target Population and Sampling

The target population was the 142 registered ICT firms in Kiambu County, concentrated in Thika, Ruiru, Kiambu Town, Kikuyu and Juja. The sampling frame was compiled by triangulating the Kiambu County Business Registry (Kiambu County Government, 2024), the ICT Authority of Kenya database (2024), the Kenya National Chamber of Commerce and Industry business directory (2024) and the ICTAK membership directory (2024). Firms were stratified by sub-county and by size (large, more than 100 employees; medium, 50 to 99; small, 10 to 49; micro, fewer than 10).

Using Yamane's (1974) formula at a 5% level of precision, a sample of 105 firms was required ($n = 142 / [1 + 142(0.05)^2]$). Firms were selected by proportionate stratified random sampling within sub-county strata. Within each sampled firm, respondents were selected purposively: each firm identified two informants who were well informed about both its CSR activities and its performance, either senior managers (including CSR or sustainability officers) or mid-level employees with that knowledge. This gave a target of 210 respondents (Table 1). Respondents were therefore not a random sample within firms, and the roles they held varied across firms (Table 3). Eleven pilot firms, drawn from different sub-counties and size groups, were excluded from the main study. The unit of analysis was the firm's CSR practice and performance as reported by individual respondents, so the unit of observation was the individual respondent.

Table 1: Population, planned sample and realized sample by sub-county

Sub-county	Firms in population	Firms sampled (planned)	Respondents targeted	Firms responding	Usable responses
Thika	48	36	72	25	46
Ruiru	35	26	52	21	39
Kiambu Town	29	21	42	20	40
Kikuyu	18	13	26	17	34
Juja	12	9	18	12	23
Total	**142**	**105**	**210**	**95**	**182**

Note. By firm size, the planned sample comprised 9 large, 26 medium, 48 small and 22 micro firms. Responding firms were assigned to sub-counties by matching their names to the population list. Source: Author (2026).

2.3 Measures and Data Collection

Primary data were collected with a structured questionnaire. Section A collected respondent and firm characteristics (role, gender, age, education, length of service, firm size, years in Kiambu and CSR policy status). The other sections measured the four corporate social responsibility dimensions and firm performance on five-point Likert scales (1 = strongly disagree, 5 = strongly agree). Environmental responsibility (7 items) covered management systems, waste and energy

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efficiency; community engagement (8 items), digital literacy, partnerships and youth skills; workplace responsibility (8 items), employee development, inclusion and safety; and ethical business practices (8 items), anti-corruption, data privacy and governance. Firm performance (5 items) covered financial, market, operational, employee and stakeholder outcomes (Kaplan & Norton, 1992). Because financial data from privately held ICT firms is sensitive, performance was based on respondents' perceptions rather than audited accounts.

2.4 Validity and Reliability

Content validity was assessed by a panel of specialists in CSR and firm performance together with the first author's supervisor. They rated the relevance of each item on a four-point scale, and items with a content validity index below 0.80 were revised or removed. The instrument was then pilot-tested on 11 firms, which were excluded from the main study, and items were reworded where respondents found them unclear. Evidence on the measurement properties in the main sample (n = 182) is summarized in Table 2 and Appendix B. Internal consistency was assessed with Cronbach's alpha, with 0.70 as the minimum acceptable value (Field, 2024), and with composite reliability (CR). Alpha ranged from 0.706 to 0.846 and CR from 0.716 to 0.846, so all scales met the threshold, although the five-item performance scale only just did. Corrected item-total correlations ranged from 0.35 to 0.66. Sampling adequacy was good (KMO = 0.87; Bartlett's $\chi^2(630) = 3{,}111.4$, $p < 0.001$).

Table 2: Reliability of the study constructs

Construct	Items	Cronbach's alpha	CR	AVE	Std. loadings
Environmental responsibility initiatives	7	0.788	0.794	0.362	0.39–0.76
Community engagement programs	8	0.846	0.846	0.409	0.54–0.70
Workplace responsibility practices	8	0.803	0.810	0.351	0.51–0.73
Ethical business practices	8	0.816	0.820	0.367	0.45–0.69
Firm performance	5	0.706	0.716	0.337	0.49–0.66

Note. CR = composite reliability; AVE = average variance extracted. Standardized loadings are from a five-factor confirmatory factor analysis (n = 182). Source: Field data (2026).

Construct validity was examined through confirmatory factor analysis (CFA) of the 36 items. The five-factor model fitted better than a single-factor model ($\Delta\chi^2(10) = 131.0$, $p < 0.001$), but its absolute fit was modest ($\chi^2(584) = 1{,}251.3$; CFI = 0.756; TLI = 0.737; RMSEA = 0.079) and below the usual benchmarks for CFI and TLI (0.90 or higher, preferably 0.95; Hu & Bentler, 1999). All standardized loadings exceeded 0.38, but AVE was 0.34 to 0.41, below the 0.50 benchmark (Fornell & Larcker, 1981), so convergent validity is only partly supported. Discriminant validity was not supported for the CSR scales. Latent correlations ranged from 0.69 to 0.90, the heterotrait-monotrait ratio (HTMT; Henseler et al., 2015) reached 0.93 for workplace

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responsibility with ethical practices and 0.90 for community engagement with ethical practices, and the square root of each scale's AVE (0.58 to 0.64) was smaller than its correlations with the other scales (Appendix B). A parallel analysis of the 29 CSR items also retained a single dominant factor.

2.5 Data Analysis

Data were screened, coded and analyzed in SPSS version 27. Descriptive statistics (frequencies, means and standard deviations) summarized the sample and the study variables, and a mean was computed for each construct. Pearson correlation examined bivariate relationships, and multiple linear regression was applied in testing the joint and unique associations of the four CSR dimensions with firm performance using the model:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

where Y is firm performance, X_1 is environmental responsibility initiatives, X_2 is community engagement programs, X_3 is workplace responsibility practices, X_4 is ethical business practices, and ε is the error term. Model fit was assessed with R^2 and adjusted R^2, overall significance with ANOVA, and individual predictors with t-tests at $p < 0.05$. Multicollinearity was checked with variance inflation factors (VIF) and tolerance values (tolerance = 1/VIF). Regression assumptions were examined through residual diagnostics (Shapiro-Wilk test and skewness and kurtosis for normality, the Breusch-Pagan test for homoscedasticity, the RESET test for linearity, the Durbin-Watson statistic for independence of errors, and Cook's distance for influential cases). Because the 182 respondents came from 95 firms, the model was also re-estimated with firm-clustered standard errors. Common-method bias was assessed with Harman's single-factor test on the 36 items. The results are reported in Section 3.5.

2.6 Ethical Considerations

The study received clearance from the university committee, a research permit from the National Commission for Science, Technology and Innovation Ref. No. 900643 (NACOSTI, 2023), and county government clearance. Participants gave informed consent after being told the purpose of the study, that participation was voluntary and that they could withdraw at any time. All the responses were coded to remove identifying details, stored securely and reported only in aggregate.

3. Results

3.1 Response Rate and Respondent Profile

Of the 210 targeted respondents in 105 firms, 182 returned complete and usable questionnaires, a response rate of 86.7%. These came from 95 of the 105 sampled firms (90.5%), with 87 firms giving two responses and eight giving one. This is well above the 70% regarded as excellent for organizational research (Bell et al., 2019). Table 3 summarizes the respondents. Technical staff, team leaders and middle managers made up 86.8% of the sample, so the findings reflect how CSR is experienced in daily operations and not just the views of senior management. Most

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respondents were aged 26 to 45 (67.6%), held at least a bachelor's degree (76.4%) and had served their firm for one to six years (75.9%). Small and medium-sized firms (10 to 100 employees) accounted for 64.3% of respondents, and 67.0% said their firm had a formal CSR policy.

Table 3: Respondent and firm profile (n = 182)

Characteristic	Category	n	%
Role	Senior management	24	13.2
	Middle management	50	27.5
	Team leader/supervisor	52	28.6
	Technical staff	56	30.8
Gender	Male	109	59.9
	Female	71	39.0
	Prefer not to say	2	1.1
Age	18 to 25 years	41	22.5
	26 to 35 years	69	37.9
	36 to 45 years	54	29.7
	Above 45 years	18	9.9
Education	Certificate/diploma	43	23.6
	Bachelor's degree	107	58.8
	Postgraduate	32	17.6
Length of service	Less than 1 year	14	7.7
	1 to 3 years	88	48.4
	4 to 6 years	50	27.5
	More than 6 years	30	16.5
Firm size (employees)	Fewer than 10	36	19.8
	10 to 50	66	36.3
	51 to 100	51	28.0
	More than 100	29	15.9
Formal CSR policy	Yes	122	67.0
	In development	25	13.7
	Not sure	24	13.2
	No	11	6.0

Source: Field data (2026).

3.2 Descriptive Statistics

Respondents agreed, on average, that all four CSR dimensions contribute to firm performance, and they rated their firms' performance positively (Table 4). Composite means ranged from 4.179 to 4.250 on the five-point scale, with standard deviations of about 0.5, which indicates strong agreement and limited dispersion across respondents. Workplace responsibility practices received the highest composite rating (M = 4.250, SD = 0.493), followed by ethical business

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practices (M = 4.230, SD = 0.488), community engagement programs (M = 4.186, SD = 0.531) and environmental responsibility initiatives (M = 4.179, SD = 0.499).

Within dimensions, waste reduction programs (M = 4.352) were the most highly rated environmental initiative, with 91.2% of respondents agreeing or strongly agreeing, while the ability of green initiatives to attract environmentally conscious customers was rated lowest (M = 4.049). In community engagement, local partnerships with schools, NGOs and community organizations scored highest (M = 4.286) and community-based innovation lowest (M = 4.099). Employee development programs led the workplace items (M = 4.368), and work-life balance policies were lowest (M = 4.093). Adherence to data privacy policies was the highest-rated ethical practice (M = 4.385), and whistleblowing and grievance mechanisms the lowest (M = 4.049).

Firm performance had a composite mean of 4.229 (SD = 0.479). Employee productivity was rated highest (M = 4.291) and consistent achievement of revenue and profitability targets lowest (M = 4.121), suggesting that financial targets were the hardest for firms to meet consistently.

Table 4: Descriptive statistics for the study variables (n = 182)

Variable	Items	Mean	SD	Highest-rated item (mean)	Lowest-rated item (mean)
Environmental responsibility	7	4.179	0.499	Waste reduction programs (4.352)	Green initiatives attract eco-conscious customers (4.049)
Community engagement	8	4.186	0.531	Local partnerships (4.286)	Community-based innovation (4.099)
Workplace responsibility	8	4.250	0.493	Employee development (4.368)	Work-life balance policies (4.093)
Ethical business practices	8	4.230	0.488	Data privacy adherence (4.385)	Whistleblowing and grievance mechanisms (4.049)
Firm performance	5	4.229	0.479	Employee productivity (4.291)	Financial targets (4.121)

3.3 Correlation Analysis

All four CSR dimensions were positively and significantly correlated with firm performance at the 0.01 level (Table 5). Community engagement had the strongest bivariate association (r = 0.657), followed by ethical business practices (r = 0.629), environmental responsibility (r = 0.591) and workplace responsibility (r = 0.562). The CSR dimensions were also moderately to strongly correlated with one another (r = 0.593 to 0.751), the highest coefficients being between community engagement and ethical practices (0.751) and between workplace responsibility and ethical practices (0.750). Variance inflation factors ranged from 1.954 to 3.032 (tolerance 0.330

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to 0.512), below conventional thresholds, so multicollinearity was not severe enough to invalidate the regression, although it is relevant to interpreting individual coefficients.

Table 5: Pearson correlation matrix (n = 182)

Variable	1	2	3	4	5
1. Environmental responsibility	1				
2. Community engagement	0.663**	1			
3. Workplace responsibility	0.593**	0.714**	1		
4. Ethical business practices	0.632**	0.751**	0.750**	1	
5. Firm performance	0.591**	0.657**	0.562**	0.629**	1

Note. Double asterisks denote $p < 0.01$ (two-tailed).

3.4 Multiple Regression Analysis

The four CSR dimensions were regressed on firm performance. Because the design is cross-sectional, the coefficients are read as predictive associations and not as causal effects. The model was statistically significant, $F(4, 177) = 44.125$, $p < 0.001$, with $R = 0.707$, $R^2 = 0.499$ and adjusted $R^2 = 0.488$ (Table 6). The four dimensions together therefore account for 49.9% of the variation in perceived firm performance, while the other 50.1% is linked to factors outside the model.

Table 6: Model summary and analysis of variance

Statistic	Value
R	0.707
R^2	0.499
Adjusted R^2	0.488
Std. error of the estimate	0.343
Regression sum of squares (df = 4)	20.768
Residual sum of squares (df = 177)	20.827
F	44.125 ($p < 0.001$)

ANOVA summary

Table 7 shows that three dimensions made statistically significant unique contributions. Community engagement had the largest standardized coefficient ($\beta = 0.317$, $p = 0.001$), followed by ethical business practices ($\beta = 0.226$, $p = 0.016$) and environmental responsibility ($\beta = 0.215$, $p = 0.004$). Workplace responsibility had a positive but non-significant coefficient ($\beta = 0.039$, $p = 0.652$). The fitted model is:

$$Y = 1.068 + 0.207X_1 + 0.286X_2 + 0.038X_3 + 0.222X_4 + \varepsilon$$

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Where Y is firm performance, X_1 is environmental responsibility initiatives, X_2 is community engagement programs, X_3 is workplace responsibility practices, X_4 is ethical business practices, and ε is the error term.

On this basis H01, H02 and H04 are rejected and H03 is not rejected. The three significant standardized coefficients are close in size, so their ranking should be read cautiously; only the gap between them and workplace responsibility is clear. The model's overall effect size was large (Cohen's $f^2 = 0.996$). Squared partial correlations, derived from the t-values, show each predictor's unique share of the variance left unexplained by the other three: 0.065 for community engagement, 0.045 for environmental responsibility, 0.033 for ethical practices and 0.001 for workplace responsibility.

Table 7: Regression coefficients

Predictor	**B**	**Std. error**	**β**	**t**	**p**
(Constant)	1.068	0.250		4.281	0.000
Environmental responsibility initiatives	0.207	0.071	0.215	2.894	0.004
Community engagement programs	0.286	0.082	0.317	3.506	0.001
Workplace responsibility practices	0.038	0.084	0.039	0.452	0.652
Ethical business practices	0.222	0.091	0.226	2.437	0.016

Dependent Variable: firm performance

3.5 Diagnostic and Robustness Checks

The residual diagnostics supported the regression model. Residuals were slightly negatively skewed (−0.28) with kurtosis of −0.29, both within ±1. The Shapiro-Wilk test was marginally significant ($W = 0.985$, $p = 0.046$), but a departure of this size is of little consequence with 182 cases. The Breusch-Pagan test gave no evidence of heteroscedasticity ($\chi^2 = 5.11$, $p = 0.277$), the RESET test gave no evidence of non-linearity ($F = 0.71$, $p = 0.401$), and the Durbin-Watson statistic was 1.94, close to the ideal value of 2. No case was influential (maximum Cook's distance = 0.068; largest absolute studentized residual = 2.67).

Because respondents were nested within firms (87 firms gave two responses and eight gave one), the model was re-estimated with firm-clustered standard errors (Table 8). Clustering was weak: ICC(1) was 0.08 for firm performance and between −0.06 and 0.13 for the four CSR scales, giving a design effect of 1.07 for performance, and the clustered standard errors were 1% to 16% larger than the conventional ones. The overall model remained significant (Wald $F(4, 94) = 35.35$, $p < 0.001$). Environmental responsibility ($p = 0.008$) and community engagement ($p = 0.002$) remained significant, ethical practices remained significant at the 5% level ($p = 0.039$), and workplace responsibility remained non-significant ($p = 0.657$). The bootstrap intervals for environmental responsibility and community engagement excluded zero, but the interval for ethical practices (−0.003 to 0.430) just included it, so this association is the least certain of the three.

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Table 8: Firm-clustered regression estimates (dependent variable: firm performance; 182 respondents in 95 firms)

Predictor	B	Clustered SE	t	p	95% CI	Bootstrap 95% CI
(Constant)	1.068	0.303	3.527	0.001	0.467, 1.670	0.491, 1.649
Environmental responsibility	0.207	0.077	2.699	0.008	0.055, 0.359	0.048, 0.355
Community engagement	0.286	0.092	3.118	0.002	0.104, 0.468	0.113, 0.484
Workplace responsibility	0.038	0.085	0.446	0.657	−0.131, 0.207	−0.133, 0.212
Ethical business practices	0.222	0.106	2.091	0.039	0.011, 0.432	−0.003, 0.430

Note. B is identical to Table 7. Clustered standard errors use the CR1 correction, and t has 94 degrees of freedom. The bootstrap intervals are percentile intervals from 2,000 resamples of firms. Source: Field data (2026).

Three further checks gave a consistent but less sharply ranked picture. In a firm-level regression on mean scores ($n = 95$; $R^2 = 0.518$, adjusted $R^2 = 0.497$), environmental responsibility ($B = 0.244$, $p = 0.020$) and ethical practices ($B = 0.284$, $p = 0.026$) were significant, community engagement was borderline ($B = 0.231$, $p = 0.050$) and workplace responsibility was not ($B = 0.025$, $p = 0.831$). Adding sub-county and respondent role as fixed effects ($R^2 = 0.536$) left the pattern unchanged (environmental $B = 0.236$, $p = 0.001$; community $B = 0.271$, $p = 0.003$; ethical $B = 0.241$, $p = 0.018$; workplace $B = 0.000$, $p = 1.000$). An overall CSR index, the mean of the four scales, was strongly associated with performance ($r = 0.699$; $R^2 = 0.488$; $B = 0.763$, clustered SE = 0.070, $p < 0.001$). Together these results support a positive association between CSR, as measured here, and perceived performance, a null result for workplace responsibility, and similar-sized coefficients for the other three dimensions, whose order should not be emphasized.

We also ran Harman's single-factor test on the 36 questionnaire items, and the first unrotated factor explained 33.3% of the variance, below the 50% benchmark. The test is only indicative and cannot rule out common-method bias, which remains a limitation because the same respondents rated both corporate social responsibility and firm performance.

4. Discussion

This study examined whether four dimensions of corporate social responsibility (CSR) predict the performance of ICT firms in Kiambu County. CSR was positively associated with performance, but not as a uniform bundle: all four dimensions were rated highly and correlated with performance, yet only three kept a unique association once the others were controlled. Together they explained about half of the variation in performance ($R^2 = 0.499$), consistent with the view that CSR integrated into strategy is linked to better outcomes (Rahman & Chen, 2021).

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Community engagement had the strongest bivariate association (r = 0.657) and the largest unique coefficient (β = 0.317), in line with studies linking community involvement to market access, customer retention and local recruitment (Chen et al., 2023; Wandera & Hussein, 2023; Akinyemi, 2023). Stakeholder Theory offers a simple reading: digital literacy, school partnerships and youth skills training build trust, legitimacy and a talent pipeline among the stakeholders a locally rooted firm relies on (Freeman, 1984; Post et al., 2002). Local partnerships were rated highest (M = 4.286), fitting Rodriguez and Smith's (2023) finding that locally co-created programs work best, while the lower rating for community-based innovation (M = 4.099) echoes Zhang et al.'s (2023) warning about programs weakly linked to firm needs. The peri-urban setting may partly explain this strength, though the study did not test it.

Ethical practices were the second-strongest unique predictor (β = 0.226), consistent with evidence that ethical governance builds stakeholder trust and improves financial results (Anderson & Kumar, 2023; Davidson & Martinez, 2021), and that privacy, transparency and anti-corruption practices support reputation and efficiency in Kenyan technology firms (Njoroge et al., 2022; Othiambo et al., 2021; Hassan, 2021). Data privacy was the highest-rated item in the whole CSR battery (M = 4.385), which is unsurprising when firms hold client data. Institutional Theory adds that ethical conduct secures legitimacy with regulators and clients (DiMaggio & Powell, 1983). Whistleblowing and grievance mechanisms were rated lower (M = 4.049), suggesting internal accountability channels are less developed than outward-facing practices.
Environmental initiatives also had a significant unique association (β = 0.215), in line with Rahman and Chen (2021) and Ochieng and Muturi (2023), who linked structured programs to efficiency and stakeholder satisfaction. From an RBV perspective, environmental capabilities can become valuable, hard-to-copy assets (Barney, 1991), and the high-rating for waste reduction (M = 4.352) points to cost savings as the clearest mechanism. The lower rating for attracting environmentally conscious customers (M = 4.049) supports Wong et al. (2022b), who found that market benefits are weaker when environmental efforts are not tied to a firm's wider positioning.

Workplace responsibility was rated highest overall (M = 4.250) and correlated with performance (r = 0.562), yet added no unique explanatory power (p = 0.652). This differs from Kenyan studies reporting clear benefits of employee development and welfare (Kimani & Hassan, 2024; Otieno et al., 2023). The likeliest explanation is overlap: it correlated at 0.714 with community engagement and 0.750 with ethical practices, so much of its link to performance is shared with them, a bundling Institutional Theory anticipates (DiMaggio & Powell, 1983). This does not mean employee-focused practices are unimportant. They may work indirectly, through engagement, retention or the quality of other programs, pathways this study did not test, and single-source, perceptual measurement limits the finding.

Overall, the results fit all three theoretical lenses. Stakeholder Theory explains the prominence of community and ethical practices, which speak to the trust of customers, communities and regulators. The Resource-Based View explains why environmental capabilities add value and why identical CSR spending can yield different returns across firms. Institutional Theory

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explains why the dimensions move together and are hard to separate. The unexplained 50.1% is a reminder that strategy, technological capability and market maturity also matter (Martinez & Kumar, 2023).

4.1 Theoretical Implications

The study shows that treating CSR as a single construct can hide real differences. In one model, community engagement, ethical practices and environmental responsibility were each uniquely associated with performance, but workplace responsibility was not. The findings extend dimension-level research to a peri-urban African technology cluster and suggest that theories of CSR value creation should specify which stakeholder relationships matter most in a sector. In ICT, where data trust and local talent are central, the community and ethical dimensions appear to carry the most weight.

4.2 Managerial and Policy Implications

Community engagement should be part of firm strategy, not a public-relations exercise. Firms should commit budget and staff time to local partnerships, digital literacy and youth skills programs that meet real community needs and feed the firm's own talent pipeline. Ethical governance should be built in through data privacy compliance, transparency and anti-corruption measures, along with working grievance and reporting channels, given the low rating of whistleblowing mechanisms. Environmental management and energy-efficiency programs should be sustained and communicated to staff and customers so their market value is realized. Workplace programs should continue, since they were rated most favorably, and could be tied to community work, such as staff volunteering in skills training.

The industry and the county government should develop CSR guidelines specific to ICT firms, covering environmental management, community engagement, workplace practice, data protection and ethical governance. The national ICT ministry could consider incentives for firms that implement and document credible programs, with clear eligibility and monitoring criteria, aligned with the county's development priorities (Kiambu County Government, 2023).

Limitations of the Study

Several limitations apply. The design is cross-sectional, so the associations are not causal, and performance may also encourage CSR spending. The same respondents rated both CSR and performance, and many items were worded evaluatively, which can inflate agreement (all composite means exceeded 4.0) and shared-method variance. Harman's single-factor test (first factor 33.3%) is reassuring but cannot rule this out. Performance was perceived rather than taken from audited accounts, since the records of private ICT firms are sensitive. Two respondents came from each firm, so responses are not fully independent, although firm-clustered standard errors gave the same conclusions (Section 3.5). The study covered one county and mainly small and medium-sized firms, which limits generalization to other regions and to large firms. Firm size, age and ownership were not tested as moderators.

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Recommendations for Further Studies

Future research could use longitudinal designs to test whether CSR precedes performance gains and whether the relationships strengthen or fade over time. Studies should examine how workplace responsibility might influence performance, through engagement, retention and innovation capacity, and test firm size, age and ownership as moderators. Objective financial indicators, multiple data sources and multilevel models would ease the common-method and nesting concerns. Comparing other Kenyan counties and sectors would show whether the weight of community and ethical practices is specific to ICT firms in Kiambu, and interviews with senior managers and community stakeholders could explain how firms choose, fund and evaluate CSR projects.

Conclusion

This study found that corporate social responsibility is positively associated with the performance of ICT firms in Kiambu County, with the four dimensions together explaining 49.9% of the variation in perceived performance. They do not contribute equally. Community engagement, ethical practices and environmental responsibility each had a significant unique association, while workplace responsibility, although highly rated, did not once the others were considered. For a peri-urban ICT cluster, locally rooted community programs and credible ethical governance should come first, supported by sustained environmental and workplace initiatives. Because the dimensions overlap, a balanced approach built into strategy will likely serve firms better than any single initiative.

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