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Responsible Leadership and Sustainable Performance: *The Roles of Pro-Environmental Behaviour and Digital Culture in IT Companies*

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Abstract

This study investigates the relationship between responsible leadership, pro-environmental behaviour, sustainable performance, and digital culture in selected IT companies. It aims to assess the current state of these aspects in the given situation. Furthermore, the study focuses on the direct influence of responsible leadership on sustainable performance. Moreover, it examines the mediating roles of pro-environmental behaviour and digital culture in shaping the relationship between responsible leadership and sustainable performance. The study employs causal and explanatory research methodologies to investigate the relationship between responsible leadership, pro-environmental behaviour, sustainable performance, and digital culture in IT companies. A cross-sectional design was used to collect data from 403 employees across eight (8) IT firms in the Lalitpur district of Nepal. A 5-point Likert-scale questionnaire was administered to collect responses. The study used correlation and regression analyses, as well as mediation analysis through Hayes Process Macro. Findings reveal a strong positive correlation among responsible leadership, digital culture, pro-environmental behaviour, and sustainable performance. Achieving superior, sustainable, and accountable performance requires setting clear ecological goals, encouraging employee involvement, and maintaining operational transparency.

Keywords: digital culture, IT companies, pro-environmental behaviour, responsible leadership, sustainable performance

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INTRODUCTION AND STUDY OBJECTIVES

In recent years, sustainable performance has become a critical focus for organisations, especially in the information technology (IT) sector, as they navigate growing environmental and social challenges. The increasing emphasis on aligning business practices with global sustainability goals has urged companies to move beyond profit maximisation and adopt a more balanced

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approach that incorporates economic, social, and environmental objectives (Xuecheng et al., 2022). This shift requires strategic leadership to drive sustainable performance while meeting stakeholder expectations and addressing broader societal needs. Central to this transformation is the concept of responsible leadership, which emphasises ethical behaviour, environmental stewardship, and long-term thinking. Responsible leaders play a pivotal role in aligning organisational goals with sustainable development by setting ethical examples and fostering collaboration among employees (Taiwei et al., 2022). By focusing on values and principles rather than solely on outcomes, responsible leadership encourages employees to adopt practices that benefit both the organisation and society (Robertson & Barling, 2013). However, despite its importance, there remains a limited understanding of the mechanisms through which responsible leadership drives sustainability outcomes, highlighting a critical gap in research (Zhao & Zhou, 2019). One potential avenue through which responsible leadership contributes to sustainable performance is by promoting pro-environmental behaviour (PEB) among employees. Pro-environmental behaviour, including actions such as energy conservation, waste reduction, and support for environmental initiatives, is crucial for fostering a culture of sustainability within organisations (Appiah-Kubi et al., 2024). Although the direct impact of responsible leadership on sustainability is well-established, more work needs to be done to pinpoint the exact processes that convert leadership concepts into observable results. Leadership frequently functions through formal, top-down organisational systems, as existing research across the banking, healthcare, and manufacturing sectors shows that Green Human Resource Management (GHRM) plays a crucial mediating role (Liu et al., 2023; Nakra & Kashyap, 2025). GHRM practices are fostered by leadership, which, in turn, propels green innovation and sustainable performance (He et al., 2021). However, voluntary, employee-driven pro-environmental behaviour (PEB) is a crucial bottom-up mechanism that is overlooked by this predominant focus on structured systems like GHRM. In the IT industry, where daily digital activities frequently have an indirect impact on the environment, this is a particularly noticeable gap.

In addition, the role of digital culture cannot be overlooked. With the integration of digital tools such as data analytics, cloud computing, and automation, organisations can streamline processes, reduce their environmental footprint, and monitor sustainability metrics in real-time (Grilli & Curtis, 2021). Digital culture also promotes collaboration and innovation, enhancing employees' ability to work toward shared sustainability goals (Li et al., 2023). By embedding digitalisation into organisational practices, companies can achieve operational efficiency while maintaining a strong focus on their environmental objectives (Proksch et al., 2024). Furthermore, the interconnection of these elements, such as responsible leadership, pro-environmental behaviour, and digital culture, lays a foundation for achieving holistic, sustainable performance. This performance involves balancing three core dimensions: financial, social, and environmental sustainability. Financial sustainability ensures that businesses can meet their present and future obligations, focusing on long-term growth rather than short-term gains (Ye & Dela, 2023). Social sustainability emphasises the importance of inclusivity, ethical labour practices, and

positive relationships with stakeholders, while environmental sustainability focuses on resource efficiency, emissions reduction, and ecological conservation. However, despite its growing importance, many organisations still struggle to integrate these dimensions into their strategies, often prioritising traditional financial metrics over broader sustainability goals (Pless & Maak, 2011). Moreover, the study aims to investigate how responsible leadership impacts sustainable performance by promoting pro-environmental behaviour and leveraging digital culture within IT organisations. The findings of this study are expected to contribute to academic discourse, practical implementation, and policy development, demonstrating that environmentally and socially responsible practices are not only attainable but also critical for ensuring long-term organisational success and societal well-being (Saher et al., 2023).

LITERATURE REVIEW

In the Global context, many studies in Sustainability have explored the relationship between responsible leadership and Sustainable performance derived through Digital culture, along with Pro-environmental behaviour (Afsar et al., 2016). Responsible leadership serves as a catalyst in building trust, fostering collaboration, and empowering employees to engage in eco-friendly practices ethically. By aligning organisational goals with environmental sustainability, leaders inspire a collective commitment toward sustainable development (Elia et al., 2021). Pro-environmental behaviour, grounded in social exchange theory, acts as a mediator by linking leadership's vision to sustainability outcomes. Social distance, which moderates the leader-employee dynamic, further influences the effectiveness of this behaviour (Laura & Sung-Jun, 2022). Moreover, Digital culture complements these efforts by enhancing collaboration, promoting innovation, and enabling data-driven decision-making. It empowers employees to optimise resource use and align their work processes with environmental objectives, thus bridging the gap between technological advancements and sustainable practices (Zhao & Liang, 2023).

Furthermore, theories such as the Resource-Based View (RBV), Transformational Leadership Theory, Social Learning Theory, and the Technology Acceptance Model (TAM) collectively explain how responsible leadership, pro-environmental behaviour, and digital culture contribute to sustainable performance in IT companies. RBV highlights leveraging organisational resources like human capital and digital tools for sustainability (Rafiq et al., 2024), while Transformational Leadership Theory emphasises inspiring employees toward eco-friendly innovation (Zhao & Liang, 2023). Social Learning Theory demonstrates how employees emulate leaders' sustainable behaviours (Chin et al., 2024), while TAM explains how digital culture facilitates collaboration and resource optimisation (Tian & Suo, 2021). These frameworks illustrate how leadership and technology, when combined, foster sustainability, particularly in Nepal's expanding IT sector (Pless & Maak, 2011).

Responsible Leadership and Sustainable Performance

Responsible leadership encompasses key dimensions, including ethical decision-making, stakeholder engagement, and promoting a vision for sustainability, i.e., alignment with environmental, social,

and governance (ESG) principles, which ultimately contribute to improved financial and non-financial outcomes (Dai et al., 2022). It significantly impacts sustainable performance by promoting ethical practices and fostering long-term, strategic approaches. Sustainable performance refers to a company's ability to achieve long-term success by integrating economic, social, and environmental objectives. This holistic approach extends beyond focusing solely on financial outcomes, emphasising the need for companies to support social well-being and environmental protection (Bing & Qi, 2023). It means ensuring financial stability while fostering positive social relationships and addressing the needs of stakeholders. Additionally, it includes safeguarding natural resources to preserve the biosphere for future generations (García & Ávila, 2019). Empirical studies have demonstrated that organisations led by responsible leaders achieve improved environmental and financial outcomes (Freire & Gonçalves, 2021). Thus, the following hypothesis has been proposed based on the literature discussed above:

H_1: Responsible Leadership has a positive impact on Sustainable Performance.

Responsible Leadership and Pro-Environmental Behaviour

Responsible leaders inspire employees to actively participate in environmentally friendly initiatives, such as conserving energy, recycling, and reducing waste (Ren et al., 2021). Pro-environmental behaviour refers to the actions taken by individuals or groups to mitigate adverse environmental impacts; these may include practices such as implementing energy-saving initiatives in the workplace and supporting corporate sustainability policies (Xuecheng et al., 2022). In this sense, pro-environmental behaviour acts as a mediator that channels the leadership's efforts into action, specifically directing intent toward achieving sustainable performance (Rafiq et al., 2024). Through role modelling and open communication, these leaders create a workplace culture that values sustainability and motivates employees to align their actions with organisational goals (Freire & Gonçalves, 2021). In light of the preceding literature, the following hypothesis is proposed:

H_2: Responsible Leadership positively influences Pro-Environmental Behaviour.

Responsible Leadership and Digital Culture

Responsible leadership emphasises ethical decision-making, trust-building, sustainable practices, and environmental responsibility. These leaders actively engage with stakeholders and address gaps in both theoretical knowledge and practical leadership challenges. This approach has garnered significant attention and research, with a particular focus on its impact on employee behaviour, including their views on corporate social responsibility and their commitment to citizenship behaviours (Groves, 2014). Within the organisations, responsible leaders promote a digital culture by enhancing technology that aids collaboration, innovation, and productivity. Digital culture refers to the collective behaviours, values, and tools that enable organisations to enhance and improve their operations and outcomes through the lens of digital technologies. Essential elements involve collaboration via modern digital platforms, openness to innovation, and endless learning pursuits. In addition, it moderates the relationship between leadership and pro-environmental behaviour, such that their cumulative effect becomes

more pronounced on sustainable performance (Al-Omush et al., 2023). To explain this further, leaders may invest in energy monitoring systems, cloud computing, or the use of digital communication platforms to create open and effective workflows that align with sustainability objectives (Dai et al., 2022). Based on the established connections in the literature, the following hypothesis is put forward:

H_3: Responsible Leadership positively influences Digital Culture.

Pro-Environmental Behaviour and Sustainable Performance.

Pro-environmental behaviour (PEB) refers to individual or organisational actions that aim to reduce environmental harm and promote sustainability. When employees engage in PEB, it leads to tangible outcomes, such as energy savings, reduced operational waste, and improved resource efficiency (Bing & Qi, 2023; Wang et al., 2023). The behaviour is a legitimate and acceptable stimulus for companies to report their environmental actions. Because its digital culture can impact pro-environmental behaviour, a strong digital culture might spur employee commitment to sustainable practices and boost system innovativeness, facilitating sustainability disclosures (Alsedrah, 2023). In IT companies, responsible leadership fosters pro-environmental behaviour, while digital culture facilitates the adoption of eco-friendly technologies and practices. Together, these variables interact to drive sustainable performance, with pro-environmental behaviour acting as a mediator and digital culture serving as a moderator in this dynamic relationship (Rafiq et al., 2024). These actions directly contribute to the organisation's ability to meet sustainability targets (Ren et al., 2021). Based on the literature presented above, the following hypothesis is formulated:

H_4: Pro-Environmental Behaviour enhances Sustainable Performance.

Digital Culture and Sustainable Performance

A strong digital culture enables organisations to leverage technology to monitor and improve their sustainability initiatives effectively. Digital tools offer advanced analytics, real-time monitoring, and automated solutions that optimise resource utilisation and minimise environmental impact. For example, utilising Internet of Things (IoT) systems to track energy consumption or employing AI-driven tools to optimise supply chain operations directly contributes to achieving sustainability objectives (Xuecheng et al., 2022). Thus, in light of the preceding literature, the following hypothesis is proposed:

H_5: Digital Culture positively affects Sustainable Performance.

Mediating Role of Pro-Environmental Behaviour

Pro-environmental behaviour that connects responsible leadership with sustainable performance is essential. Leaders who act conscientiously toward the environment motivate employees to adopt environmentally friendly practices, such as conserving energy and reducing waste. Empirical investigations support meaningful correlations between various leadership styles and employees' willingness to adopt such behaviours. Ultimately, sustainable performance stands out as the ideal: that is, achieving long-term business success while causing no harm to the environment, society, or the economy (Xuecheng et al., 2022). Based on the

established connections in the literature, the following hypothesis is put forward:

H_6: Pro-Environmental Behaviour mediates the relationship between Responsible Leadership and Sustainable Performance.

Digital Culture as a Mediator

Digital Culture is a collection of ideas, conduct, and desires on how people are supposed to act and interact in a modern world that is interlinked with other societies (Al-Omush et al., 2023). It advocates for openness and acceptance of digital information. Moreover, this enables innovation and knowledge creation, leading to the development of new products and services. Similar to organisational culture, digital culture can either hinder or facilitate digital transformation (Tian & Suo, 2021). Digital Culture mediates the relationship between Responsible Leadership and both Pro-Environmental Behaviour and Sustainable Performance by enabling the adoption of technology that supports sustainability initiatives. Through digital tools, employees can track and engage in eco-friendly practices, enhancing organisational efficiency. Ultimately, it amplifies leadership initiatives in fostering sustainability through technology (Al-Omush et al., 2023). The relationships identified in the literature review led to the formulation of the following hypothesis:

H_7: Digital Culture mediates the relationship between Responsible Leadership and Sustainable Performance.

RESEARCH METHODS

This study used a cross-sectional survey to collect quantitative data and a causal-explanatory research approach. The conceptual model positions sustainable performance as the dependent variable, which is directly influenced by three independent variables: digital culture, pro-environmental behaviour, and responsible leadership. According to the model, pro-environmental behaviour also mediates the relationship between the other independent variables and sustainable performance. According to Tian and Suo (2021), this design enables the

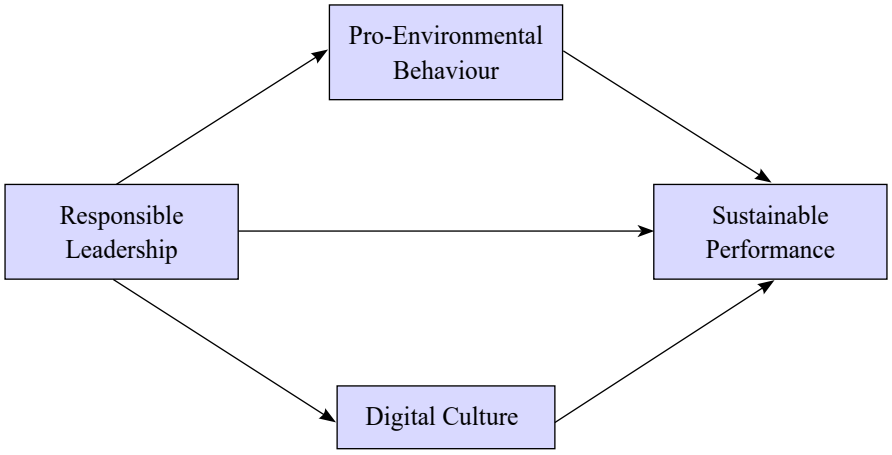

Figure 1. *Research Framework*
Note. Based on Appiah-Kubi et al. (2024)

evaluation of cause-and-effect relationships in line with established methodological practices. Additionally, this study used purposive sampling, selecting respondents affiliated with registered IT companies and with at least 1 year of industry experience. Two main factors led to the deliberate selection of this non-probability sampling strategy. First, because the IT industry is characterised by dynamic, project-based work, specific digital competencies, and distinct organisational cultures, the research objectives require insights from individuals with direct, contextual experience in this specific operational environment. The inclusion criteria of respondents with this crucial, domain-specific knowledge would not be ensured by recruiting a random sample from the general population. Second, the fundamental concepts being studied, such as responsible leadership, digital culture, and pro-environmental behaviour, are intricate organisational phenomena that require respondents to have sufficient time to observe and be meaningfully assessed.

In accordance with Krejcie and Morgan (1970) recommendations for determining an appropriate sample size in social science research, a sample size calculator based on a 95% confidence level, a 5% margin of error, and a 70% population proportion was initially used to determine a sample size of 384 respondents. Purposive sampling was used to select workers from eight registered IT companies in the Lalitpur District who had at least one year of work experience, ensuring sectoral relevance and contextual understanding. To ensure adequate statistical power, a total of 403 valid responses were gathered and utilised for the final analysis, exceeding the computed minimum requirement. For robust multivariate analyses, such as regression and mediation models, the final sample size satisfies Cohen's (1992) recommendations. The structured questionnaire was administered through both online (Google Forms) and physical distribution methods. Table 1 displays the research participants' demographic information.

Limitations: The study has a few limitations that might otherwise affect its generalizability or applicability. Firstly, it deals with IT businesses located only in the Lalitpur district, so the information obtained may not apply to firms in other regions with different market conditions, challenges, or policies. The same study conducted elsewhere would yield different results. Secondly, the research, being cross-sectional, captures data at a single point in time. In this manner, it merely gives us a typical point of view and does not help make changes happen over time or establish any cause-and-effect relationships between variables. A longitudinal study that lasts longer would reveal clearer trends and a more thorough account of causal links. Last but not least, the study uses purposive sampling, i.e., participants were selected for specific reasons. This procedure will not only assure that the study is relevant, but it may also establish bias, as the sample chosen may not reflect the entire IT industry. This, in turn, makes it challenging to implement the studies consistently. To gain a more comprehensive understanding of how responsible leadership promotes sustainable performance, future research should investigate the unexplained variance in the partial mediation by including elements such as psychological empowerment, organisational green climate, and external stakeholder pressure. In addition to highlighting the challenges and practical solutions, qualitative case studies of Nepalese businesses may offer more insights

Table 1.
Demographic Profile of Respondents

Demographic Variables	Frequency	Percentage
Gender		
Male	214	53.1%
Female	189	46.9%
Age Group (in years)		
21-30	250	62%
31-40	109	27%
More than 40	44	11%
Education Completion		
Bachelor Degree	97	24%
Master Degree	234	58%
Other	72	18%
Job position		
Intern	41	10.2%
Technical staff	243	60.2%
Supervisor	63	15.6%
Manager	33	8.3%
Others	23	5.7%
Job tenure		
1-2 years	146	36.2 %
3 – 5 years	180	44.7 %
more than 5 years	77	19.1%

Note. From the researchers' survey, 2025

into the practical application of digital culture and responsible leadership. Future studies could link these organisational dynamics to national sustainability strategies and the potential of public-private partnerships, given Nepal's expanding digital economy.

Table 1 presents the demographic profile of respondents, revealing that 53.1% were male and 46.9% were female. In terms of age, the majority (62%) were between 21 and 30 years old, followed by 27% (109) aged 31–40, and 11% (44) over 40 years old. Regarding education, 24% (97) held a bachelor's degree, 58% (234) a master's degree, and 18% (72) reported other qualifications. For job roles, 10.2% (41) were interns, 60.2% (243) were technical staff, 15.6% (63) were supervisors, 8.3% (33) were managers, and 5.7% (23) were in other roles. In terms of job tenure, 44.7 % (180) had 3-5 years of experience, 36.2 % (146) had less than 1- 2 years of experience, and 19.1 % (77) had over 5 years of experience.

The study utilised a five-point Likert scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree), designed to capture respondents' levels of agreement with each statement. The variables Responsible

Table 2.
Reliability Analysis

Variables	Cronbach's Alpha	N of items
Responsible Leadership	0.707	5
Digital Culture	0.774	5
Pro-environmental behaviour	0.843	6
Sustainable Performance	0.909	12

Note. From the researchers' survey, 2025

Leadership included five statements adopted from (Xuecheng et al., 2022), Pro-environmental Behaviour included six statements from (Appiah-Kubi et al., 2024), Digital Culture also included five statements from (Al-Omush et al., 2023), and Sustainable Performance, divided into economic, social, and financial constructs, adopted from (Appiah-Kubi et al., 2024). The reliability and internal consistency of these scales were validated through statistical analysis, as shown in Table 2.

Table 2 presents the results of a reliability analysis, focusing on Cronbach's Alpha values for different variables, which indicate how well they measure the same underlying construct. The 5-item scale measuring Responsible Leadership has a Cronbach's Alpha of 0.707, indicating acceptable internal consistency. The 12-item Sustainable Performance scale has a Cronbach's Alpha of 0.909, indicating excellent internal consistency. The six-item scale measuring pro-Environmental Behaviour has a Cronbach's Alpha of 0.843, indicating High internal consistency. Finally, the 5-item scale measuring Digital Culture has a Cronbach's Alpha of 0.774, indicating good internal consistency (Cronbach, 1951). The analysis of the collected data was performed using Microsoft Excel and SPSS (Version 20), including correlation, regression, and mediation analyses via the SPSS Process Macro (Hayes, 2017).

DATA ANALYSIS AND DISCUSSION

This section presents analysis of data and discusses their results.

Table 3 shows respondents' level of concern about sustainability. A significant majority (65.9%) expressed being "very concerned," while 23.9% were "extremely concerned." Only a small fraction (7.0%) were "moderately concerned," and a negligible number (3.2%) were "slightly concerned." No respondents indicated they were "not at all" concerned.

Descriptive Analysis

Descriptive analysis focuses on summarising and synthesising the key characteristics of the data collected for each variable. This analysis involves calculating measures such as the mean and Standard Deviation for each variable.

Table 4 shows that the average (mean) scores are 4.08, 3.96, 3.87, and 3.84 for overall responsible leadership, Digital culture, Pro-environmental behaviour, and sustainable performance, respectively. The results show that most factors fall between 3 and 4, with some exceeding 4. This indicates

Table 3.
Respondents' Concerns Regarding Sustainability

Concerns about Sustainability	Frequency	Percentage
Extremely Concern	96	23.9%
Very Concern	265	65.9%
Moderately Concern	28	7.0%
Slightly Concern	13	3.2%
Not concerned at all	0	0.0%

Note. From the researchers' survey, 2025

Table 4.
Descriptive of variables (n=403)

Variables	Mean	Std. Deviation
Responsible Leadership	4.08	0.443
Digital Culture	3.96	0.521
Pro-Environmental Behaviour	3.87	0.565
Sustainable Performance	3.84	0.501

Note. From the researchers' survey, 2025

a reasonable level of agreement among respondents and suggests a moderate to strong presence of these variables within the studied organisations.

Correlation Analysis

The correlation coefficient analysis, based on the Pearson correlation, is one method for studying and assessing whether the relations and their strength are positive or negative in nature. The value of correlation coefficients(r) falls within the range of -1 to +1 for Pearson correlation analysis, and can also be generalised to a bigger population of interest.

Table 5 presents strong positive correlations among the key variables examined in this study. Responsible Leadership significantly influences Digital Culture (.675**) and supports Pro-environmental Behaviour and Sustainable Performance (.583**). Digital Culture strongly drives both Pro-environmental Behaviour (.714**) and Sustainable Performance (.699**), while Pro-environmental Behaviour and Sustainable Performance exhibit the highest correlation (.758**). These findings show the crucial role of leadership and digital culture in fostering sustainability.

Regression Analysis

The regression analysis was used to assess the causal relationships among the key variables in this study.

Table 6 represents the summary of the regression model, which includes Responsible Leadership as a predictor and Sustainable Performance as the dependent variable, explaining 29.5% of the variance in Sustainable Performance (R Square =

Table 5.
Correlation of Dependent, Independent and Mediating Variables

	Responsible Leadership	Digital Culture	Pro-environmental behaviour	Sustainable Performance
Responsible Leadership	1			
Digital Culture	0.675**	1		
Pro-environmental behaviour	0.583**	0.714**	1	
Sustainable Performance	0.543**	0.699**	0.758**	1

***. Correlation is significant at the 0.01 level (2-tailed)*
Note. From the researchers' survey, 2025

Table 6
Regression Summary Model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.543a	.295	.293	.421	2.090

Predictors :(Constant), Responsible Leadership
Dependent Variable: Sustainable Performance
Note. From the researchers' survey, 2025

Table 7.
Regression Analysis of Independent and Dependent Variable

Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.335	0.220		6.055	0.000		
	Responsible Leadership	0.614	0.054	0.543	11.435	0.000	1.000	1.000

Dependent Variable: Sustainable Performance
Note. From the researchers' survey, 2025

0.295). The adjusted R Square, for the number of predictors in the model, is 0.293. Thus, the standard error of the estimate, 0.42137, indicates the average deviation of the actual Sustainable Performance values from the predicted values. The Durbin-Watson statistic of 2.090 suggests no significant autocorrelation among the residuals, indicating that the model assumptions are set.

Table 7 represents the regression analysis table where, the unstandardised coefficient for Responsible Leadership is 0.614, indicating that for every one-unit increase in Responsible Leadership, and Sustainable Performance is expected to increase by 0.614 units. The standardised coefficient (Beta) of 0.543 suggests a moderate positive relationship and the t-statistic (11.435) is highly significant (p-value = 0.000), confirming a strong

Table 8.
Model Summary of Mediating Variable (Pro-environmental Behaviour)

R	R-sq	MSE	F	df1	df2	p
0.583	0.34	0.212	160.615	1	401	0.000

Note. From the researchers' survey, 2025

Table 9.
Mediation Effect of Pro-environmental Behaviour

Path	Effect	SE	t	p	95% CI (LLCI)	95% CI (ULCI)	Standardised Effect
(RL→ PEB)	0.743	0.059	12.673	0.000	0.628	0.858	0.583
(PEB → SP)	.0592	0.040	14.958	0.000	0.514	0.670	0.668
(Direct: RL → SP)	0.174	0.050	3.444	0.001	0.075	0.273	0.154
(Indirect: RL→ PEB →SP)	0.440	0.045	-	-	0.356	0.530	0.390
Total Effect	0.614	0.054	11.435	0.000	0.508	0.720	0.543

(RL=Responsible Leadership, PEB=Pro-environmental Behaviour, SP=Sustainable Performance)
Note. From the researchers' survey, 2025

relationship. The collinearity statistics (Tolerance = 1.000 and VIF = 1.000) indicate no multi-collinearity issues, suggesting that the relationship is robust and is not influenced by other variables in the model.

Mediation Analysis

Mediation analysis examines how an independent variable influences a dependent variable through a mediator, explaining the underlying mechanism of their relationship. It separates the total effect of the IV on the DV into direct (not mediated) and indirect (mediated) effects. The approach, popularised by Baron and Kenny (1986), is commonly enhanced with bootstrapping for robust estimation (Preacher & Hayes, 2004).

Table 12 represents the model summary of the mediating variable (Pro-environmental behaviour). This model demonstrates a significant fit, explaining 34% of the variance in "Pro-Environmental Behaviour." The high F-statistic and low p-value strongly showing that the model is statistically significant.

Table 9 presents the mediation analysis, which reveals Responsible Leadership (RL) significantly enhances Pro-environmental Behaviour (PEB) ($\beta = 0.743$, $p < 0.001$) and directly improves Sustainable Performance (SP) ($\beta = 0.174$, $p < .001$). PEB positively influences SP ($\beta = 0.592$, $p < 0.001$) and partially mediates the RL-SP relationship. The indirect effect of RL on SP through PEB is significant ($\beta = 0.44$, $p < 0.001$), showing RL fosters SP both directly and by promoting pro-environmental practices.

Table 10 reveals a model summary of the variable Digital culture, which shows a moderate-to-strong relationship, with an

Table 10.
Model Summary of Mediating Variable (Digital Culture)

R	R-sq	MSE	F	df1	df2	p
0.675	0.445	0.149	260.51	1	401	0.000

Note. From the researchers' survey, 2025

Table 11.
Mediation Effect of Digital Culture

Path	Effect	SE	t	p	95% CI (LLCI)	95% CI (ULCI)	Standardised Effect
(RL→ DC)	0.793	0.049	16.14	0.001	0.696	0.889	0.675
(DC → SP)	0.587	0.052	11.229	0.001	0.484	0.690	0.611
(Direct: RL → SP)	0.149	0.061	2.417	0.016	0.028	0.269	0.131
(Indirect: RL → DC→SP)	0.465	0.057	-	-	0.353	0.581	0.412
Total Effect	0.614	0.054	11.435	0.001	0.508	0.720	0.543

(RL=Responsible Leadership, DC= Digital Culture, SP=Sustainable Performance)
Note. From the researchers' survey, 2025

Table 12. Hypothesis Testing

Hypothesis Statements		Result
H_1	Responsible Leadership has a positive impact on Sustainable Performance.	Accepted
H_2	Responsible Leadership positively influences Pro-Environmental Behaviour.	Accepted
H_3	Responsible Leadership positively influences Digital Culture	Accepted
H_4	Pro-Environmental Behaviour enhances Sustainable Performance	Accepted
H_5	Digital Culture positively affects Sustainable Performance	Accepted
H_6	Pro-Environmental Behaviour mediates the relationship between Responsible Leadership and Sustainable Performance	Accepted
H_7	Digital Culture mediates the relationship between Responsible Leadership and Sustainable Performance.	Accepted

Note. From the researchers' survey, 2025

R-squared of 0.445, explaining 44.5% of the variance in the dependent variable. The F-statistic is highly significant ($F = 260.51$, $p < 0.001$), indicating the model's overall significance and independent variables significantly influence the dependent variable. Hence, whereas the low MSE of 0.149 suggests the model fits the data well.

Table 11 represents that Digital Culture (DC) partially mediates the relationship between Responsible Leadership (RL) and

Sustainable Performance (SP). Strong RL ($\beta = 0.793$, $p < .001$) fosters a positive DC, which significantly enhances SP ($\beta = 0.587$, $p < 0.001$). RL also directly influences SP ($\beta = 0.149$, $p < 0.016$), but the indirect effect through DC ($\beta = 0.465$, $p < 0.001$) underscores DC's role in driving sustainable success. Overall, DC partially mediates the influence of RL on SP.

Discussion: This study follows the number of elements that foster sustainability in the IT sector in Nepal, to give a different perspective because of its regional and sectoral focus. The findings mean both overlaps and divergences from earlier studies. The results have shown that leadership, pro-environmental behaviour, and a strong digital culture are key to achieving organisational sustainability. It corresponds to the previous work done by Zhao and Liang (2023). This research also confirms the already-identified association of responsible leadership with superior sustainability performance. Responsible leadership instils confidence and pro-environmental behaviour among the employees, hence improving sustainability performance. The findings indicate that pro-environmental behaviour serves as an important missing link between responsible leadership and sustainable success. Furthermore, the results regarding the positive role of digital culture are consistent with the work of Al-Omush et al. (2023), who also found that digital culture inspires innovation and efficiency, thereby enhancing performance. The current study also identified that digital culture contributes to sustainability in the Lalitpur District IT industry by enhancing eco-friendly technology and simplifying operational activities.

However, it should be noted above all that this research differs on various parameters with previously conducted studies. Whereas García-Machado and Martínez-Ávila (2019) investigated the mediation of green innovation in the automotive industry, the current study investigated Pro-Environmental Behaviour and Digital Culture as mediators in the most relevant manner within the IT sector. While Awwad Al-Shammari et al. (2022) focused on the benefits of green human resource practices, the findings of the study found digital culture and leadership to be more contradictory terms to captivate sustainability within the IT sector of Lalitpur District. These differences underline the particularities of sustainability implementation: while general principles of sustainability are universally applicable, the specific application and drivers may well be very different for businesses and locales. In the same vein, this research combines several theoretical approaches to explore how IT organisations can enable sustainability through responsible leadership, organisational culture, and technology adoption. RBV signals the exploitation of unique resources like leadership and digital tools in achieving a competitive advantage, which tallies with what the study places emphasis on, such as intangibles, in the creation of sustainability.

Finally, TAM probes the significance of organisational culture on technology adoption and supports the deduction that strong digital culture facilitates technology use for monitoring sustainability in this study. Combined, these provide a holistic framework for the role of behavioural and technological elements in driving sustainable performance. The findings reveal how leadership accountability, as embedded in an enabling culture and catalysed by digital innovation, may significantly influence sustainability.

CONCLUSION AND IMPLICATIONS

The primary objective of this study is to understand the interplay among key variables that foster organisational sustainability. The findings emphasise that responsible leadership is a cornerstone for fostering sustainable performance, acting as a catalyst for both pro-environmental behaviour and digital culture. These mediating variables were found to play a pivotal role in translating leadership practices into tangible organisational outcomes. Pro-environmental behaviour enables employees to adopt eco-friendly activities, such as reducing waste, conserving energy, and promoting green innovation, thereby directly contributing to environmental sustainability.

Similarly, a strong digital culture empowers organisations to integrate innovative technologies, streamline processes, and monitor sustainability metrics effectively, thus supporting the overall sustainability agenda. The results also reveal that responsible leadership not only drives sustainable performance but also by synchronising a culture of trust, collaboration, and shared responsibility. Leaders who prioritise on ethical decision-making and stakeholder involvement inspire employees to align their actions with organisational sustainability goals. Furthermore, digital culture was shown to enhance operational efficiency and facilitate environmental initiatives, highlighting its dual role as both a mediator and a critical enabler of sustainability. This highlights the importance of leveraging technology and leadership to create a balanced focus on financial, social, and environmental outcomes. Therefore, the study emphasises that IT companies in the Lalitpur District can achieve long-term success by adopting a holistic sustainability approach. Responsible leadership must be at the forefront of these efforts, with a strong emphasis on cultivating pro-environmental behaviour and embracing digital transformation.

The findings suggest that both pro-environmental behaviour and digital culture partially mediate the relationship between responsible leadership and sustainable performance, implying that there is still a significant direct impact, even though these mediators transfer a large amount of the influence of leadership. There are several reasons why this direct path persists. First, it is conceivable that responsible leadership influences sustainable performance through mechanisms beyond the current model discussed in the current study, such as improved stakeholder relations or organisational trust. Second, by establishing a strategic vision for sustainability that directly directs organisational actions and resource allocation, responsible leadership can have a direct impact. As a result, even though PEB and DC are crucial channels, they are just two of many ways that accountable leaders eventually steer their companies in the direction of long-term success.

These findings are not only relevant for academic and knowledge-sharing purposes but also provide futuristic insights for businesses and policymakers striving to align technological growth with sustainability objectives. This integrated approach ensures that organisations remain competitive while addressing critical environmental and societal challenges, paving the way for a more sustainable future.

Implications: IT companies can enhance their sustainable performance through practical strategies that integrate responsible

leadership, pro-environmental behaviour, and a strong digital culture into their core operations. Prioritising leadership development is essential, with targeted training programs focusing on ethical decision-making, stakeholder collaboration, and sustainability-oriented business strategies. Leaders play a significant role in setting the tone for sustainability by embodying eco-friendly practices and motivating employees to their daily efforts with environmental and social goals. To foster pro-environmental behaviour, companies should establish clear and measurable sustainability targets, such as reducing carbon footprints, minimising electronic waste, and promoting energy-efficient operations. Implementing incentive programs to reward employee contributions toward sustainability initiatives can further encourage active participation.

Additionally, integrating digital transformation is key to optimising resource efficiency and minimising environmental impact. Companies should diversify in emerging technologies such as artificial intelligence, data analytics, and cloud-based computing while ensuring employees receive proper training to leverage these tools effectively. Employee involvement is crucial in embedding sustainability into the organisational culture. Forming dedicated sustainability task forces, encouraging cross-departmental collaboration, and involving employees in green initiatives can instil a sense of collective responsibility.

Moreover, maintaining transparency through regular sustainability reports aligned with international frameworks like the Global Reporting Initiative (GRI) enhances accountability and builds trust among stakeholders. The study's findings could support Nepal's efforts to promote sustainable development and digital transformation by implementing a plausible strategy that connects pro-environmental behaviour, digital culture, responsible leadership, and sustainable performance. This model could be used by government agencies like the Ministry of Industry and the National Planning Commission to direct incentive schemes that reward businesses dedicated to all of these areas. Public-private partnerships can also be critical, particularly in helping SMEs acquire "green digital skills" by providing subsidised training on using digital tools for sustainable operations and energy efficiency.

Furthermore, establishing a national certification or award for sustainable businesses, under the joint leadership of the government and FNCCI, would honour and encourage companies that demonstrate strong leadership and environmental responsibility, raising corporate standards nationwide. Therefore, by adopting these strategies, IT companies in the Lalitpur District can achieve a balance between business growth and environmental responsibility, positioning themselves as pioneers in sustainable and socially responsible business practices.

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