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RESEARCH ARTICLE

Exploring Private Sector Intentions for Nature-Based Reporting in the Caribbean

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Abstract

Nature-based reporting is gaining prominence as businesses face increasing pressure to disclose their environmental impacts and dependencies. However predominantly in the Caribbean, ecosystems are both vital to economic stability and highly vulnerable to degradation. Yet, corporate engagement in nature and biodiversity reporting remains limited. This study uses the Theory of Planned Behaviour (TPB) to analyse psychological and organizational factors influencing firms' intentions to adopt nature-based reporting. Using survey data from business leaders across multiple industries, a hierarchical multiple regression model was employed to assess the effects of attitude, subjective norms, perceived behavioural control, and sustainability commitment on reporting intentions. The results suggest that perceived behavioural control is the strongest predictor, emphasizing the role of internal capacity and feasibility in shaping reporting behaviour. Sustainability commitment also plays a significant role, indicating that firms with stronger internal environmental commitments are more likely to engage in reporting. In contrast, subjective norms exert a weaker influence, and attitude alone is insufficient to drive reporting behaviour. These findings suggest that enhancing firms' technical capacity and embedding sustainability into corporate strategy may be more effective than relying solely on external pressures. This study provides insights for policymakers, regulators, and industry leaders seeking to strengthen environmental disclosure in the Caribbean.

Keywords: Nature-Based Reporting; Sustainability Disclosure; Theory of Planned Behaviour; Caribbean private sector; Environmental Transparency

Introduction

Nature and biodiversity are the foundational pillars of life on Earth, sustaining healthy, balanced ecosystems that enable all living organisms to thrive. Biodiversity encompasses the vast array of life forms including plants, animals, and microorganisms, along with their genetic diversity and the intricate ecosystems they form. Beyond individual species, biodiversity represents a complex web of interactions that underpin ecosystems at multiple scales, ranging from microscopic communities to vast biomes (Díaz et al., 2015). The stability of these ecosystems is essential for sustaining human societies. However, ongoing biodiversity loss poses severe risks to both environmental and economic systems. The economy, as an embedded subsystem of nature, relies on natural capital (Dasgupta, 2021). Economic activities draw on natural resources for production, depend on ecosystem services such as pollination and water purification, and leverage biodiversity for resilience and innovation. Recognizing

and valuing these connections is critical for developing a sustainable economic framework that coexists harmoniously with the environment. However, the degradation of ecosystems due to industrial activities highlights the unsustainability of the prevailing 'business-as-usual' paradigm, necessitating a fundamental shift in corporate approaches to natural capital management. The urgency of biodiversity conservation is underscored by its foundational role in ecological and socio-economic stability. Healthy ecosystems provide essential services such as provisioning, regulating, cultural, and supporting services that sustain human well-being. Alarmingly, over one-third of the global economy and nearly two-thirds of global jobs depend on these ecosystems, making biodiversity preservation an economic imperative (WEF & AlphaBeta, 2020). As businesses increasingly recognize both the risks and opportunities associated with biodiversity, corporate strategies are evolving to integrate nature conservation principles. Yet, while corporate commitments to biodiversity protection are expanding, the depth and authenticity of these commitments remain uncertain (Smith et al., 2019). Stakeholders are demanding greater transparency, making corporate nature-related reporting subject to increased scrutiny.

Transparency in natural capital and biodiversity reporting is essential for evaluating how businesses address their impacts and dependencies on nature and ecosystems while managing related risks. Companies are beginning to align their strategies with nature conservation objectives, driven by a recognition of both the risks of biodiversity loss and the opportunities for sustainable development (zu Ermgassen et al., 2022). Despite these global trends, there is a significant gap in research on the determinants of nature-based reporting, particularly in developing regions such as the Caribbean. Given the region's vulnerability to climate change and biodiversity loss, structured and standardized reporting mechanisms are essential for fostering resilience. However, corporate engagement in sustainability reporting is shaped by various behavioural and organizational factors (Smith et al., 2019; Thoradeniya et al., 2022). Sustainability has become a cornerstone of modern corporate strategy, fuelled by increasing awareness of environmental, social, and governance (ESG) considerations among investors, consumers, and other stakeholders (Hoang, 2018). This awareness has led to the global development and adoption of sustainability reporting frameworks. However, the Caribbean lacks a standardized regional framework. Despite this, the private sector has shown an increasing willingness to engage in sustainability reporting, indicating anticipation of more formalized regulatory expectations in the near future. This raises an important question regarding corporate management's perceptions of integrating nature-based disclosures into business reporting.

The Theory of Planned Behaviour (TPB) provides a robust framework for analysing the reporting intentions of Caribbean businesses. This model proposes that behavioural intentions are shaped by three key constructs, including attitudes toward reporting, subjective norms, which refer to perceived social pressure to report, and perceived behavioural control, which pertains to the ease or difficulty of reporting based on available resources and capabilities (Ajzen, 1991). While TPB has been extensively applied in behavioural change research, its specific application to biodiversity-related reporting remains limited, particularly in the Caribbean context.

Literature Review

The Theory of Planned Behaviour (TPB), developed by Ajzen (1991), provides a validated framework for explaining and predicting human behaviour across diverse contexts. Building on the earlier Theory of Reasoned Action (Ajzen & Fishbein, 1980), TPB posits that behavioural intention is shaped by three core constructs, viz., attitude toward the behaviour, subjective norms, and perceived behavioural control. These constructs collectively determine an individual's motivation and perceived capacity to perform a specific action. The TPB model has been applied in many disciplines, such as health psychology, technology adoption, environmental sustainability, and organizational decision-making (Greaves et al., 2013; Jegede et al., 2024; Ogiemwonyi et al., 2022; Teo & Beng Lee, 2010; Yuriev et al., 2020). Emerging studies have found TPB to be an effective model for explaining pro-

environmental decision-making, including the adoption of sustainability initiatives(Lee et al., 2023; Yuriev et al., 2020). Emerging research highlights TPB's utility in explaining corporate sustainability practices, including voluntary environmental reporting. Studies show that managers' attitudes, perceived stakeholder expectations, and organizational capacity significantly influence firms' engagement in sustainability disclosure (Alam et al., 2020; Ofori-Owusu et al., 2024; Singh et al., 2021; Thoradeniya et al., 2015). However, while TPB has been consistently applied to environmental decision-making, its use in examining nature- and biodiversity-related reporting remains limited. This gap is particularly pronounced in developing regions, where institutional support for sustainability reporting is still evolving.

Despite TPB's robustness, many scholars argue that its original constructs do not fully account for the organizational and contextual realities shaping corporate behaviour. Consequently, extensions of TPB have been proposed to incorporate additional determinants such as perceived benefits and costs, dynamic capabilities, industry-specific pressures, and corporate sustainability commitment (Ofori-Owusu et al., 2024). Figure 1 presents the extended TPB model adopted in this study, illustrating how these additional determinants complement the core constructs of attitude, subjective norms, and perceived behavioural control. These extensions enhance TPB's explanatory power by accounting for the strategic motivations, resource constraints, and operational complexities firms encounter when adopting sustainability practices(Alhamad & Donyai, 2021; Kufaine & Kufaine, 2024; Ramos, 2024). Studies have shown that incorporating firm-specific determinants enhances the predictive accuracy of TPB, particularly in the domain of corporate environmental behaviour, where managerial discretion and organizational culture play crucial roles (Thoradeniya et al., 2015).

- *Attitude Toward Sustainability Reporting*

Attitude in the TPB framework refers to an individual's positive or negative evaluation of performing a specific behaviour (Ajzen, 1991). Several studies highlight that managers' attitudes significantly influence firms' engagement in sustainability initiatives. For instance, Acheampong and Simon Kofi Dogbe (2022) found that owner-managers with positive attitudes were more likely to adopt sustainability reporting practices in small and medium-sized enterprises (SMEs) (Acheampong & Simon Kofi Dogbe, 2022). However, some studies suggest that attitudes alone may not be a strong predictor of behaviour, as external constraints often moderate their influence (Yuan et al., 2023).

Hypothesis 1 (H1): There is a positive relationship between attitude and nature-based reporting intention.

- *Subjective Norms and Stakeholder Influence*
-

Subjective norms refer to the perceived social pressures to perform or refrain from a behaviour. These norms are shaped by the expectations of influential stakeholders such as regulators, investors, and consumers (Ajzen, 1991). Empirical studies confirm that subjective norms positively influence sustainability reporting intentions. Thoradeniya et al. (2022) found that accountants' perceptions of stakeholder expectations significantly affected their reporting behaviours(Thoradeniya et al., 2022). Similarly, Wahyuni et al. (2024) emphasize that businesses operating in industries with strong stakeholder scrutiny are more likely to prioritize sustainability transparency (Wahyuni et al., 2024).

Hypothesis 2 (H2): There is a positive relationship between subjective norms and nature-based reporting intention.

- *Perceived Behavioural Control and Reporting Feasibility*

Perceived behavioural control captures the perceived ease or difficulty of performing a behaviour, influenced by both internal and external constraints (Ajzen, 1991). It evaluates the resources, opportunities, and barriers that might affect the implementation of sustainability reporting. Some studies suggest that perceived behavioural control has a limited impact on sustainability reporting intentions (Kufaine & Kufaine, 2024; Ofori-Owusu et al., 2024). However, broader evidence supports its strong association with behavioural intentions, particularly in contexts where financial and knowledge-related barriers exist (Acheampong & Simon Kofi Dogbe, 2022).

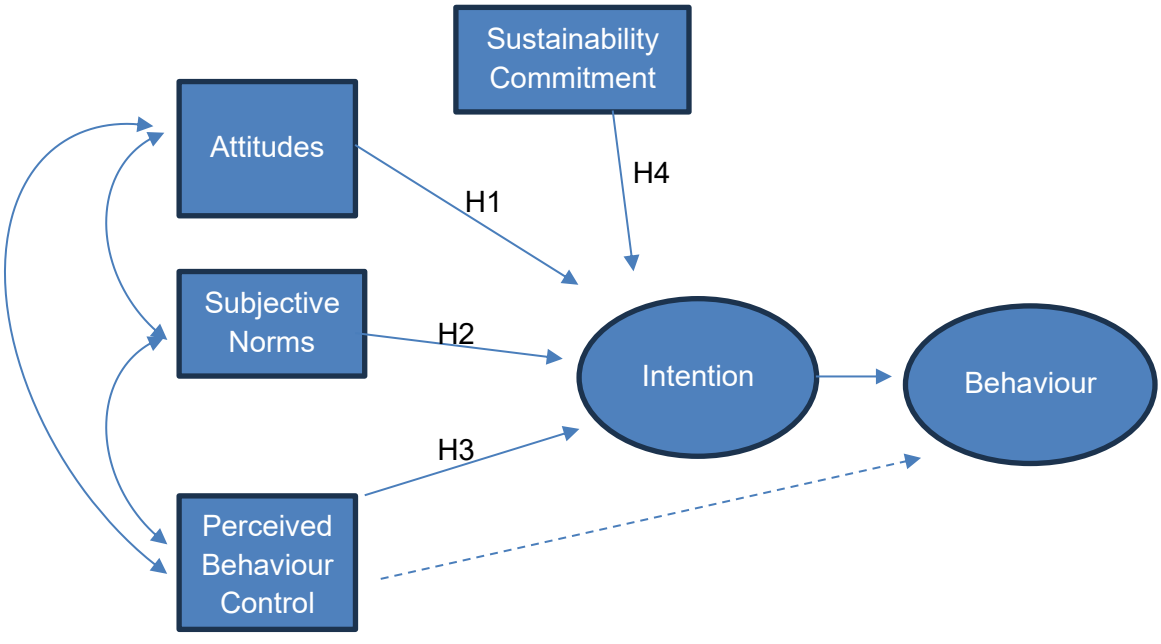
Hypothesis 3 (H3): Perceived behavioural control positively relates to nature-based reporting intentions.

- *Sustainability Commitment as an Extension of TPB*

Sustainability commitment reflects a firm's dedication to integrating sustainable practices into its overall strategy and operations. This commitment often guides organizational behaviour, influencing the adoption of reporting mechanisms that align with environmental and social goals. Previous studies suggest that firms with strong sustainability commitments are more likely to prioritize transparency and accountability through comprehensive reporting (Acheampong & Simon Kofi Dogbe, 2022).

Hypothesis 4 (H4): There exists a positive relationship between sustainability commitment and nature-based reporting intentions.

Figure 1: Adaptation of the Theory of Planned Behaviour framework



Research Objective

This study extends TPB by incorporating additional firm-specific factors, such as sustainability commitment and an understanding of biodiversity dependencies. By evaluating these determinants, the study aims to provide empirical insights into the drivers of nature-based reporting in the Caribbean, thereby informing policy recommendations and strategies for strengthening corporate engagement in sustainability initiatives.

Methodology

Data Collection

Data collection for this study was conducted between March 15 and August 15, 2024, targeting business leaders across various industries and countries within the Caribbean. A stratified random sampling approach was utilized to enhance representativeness across industry classifications, company sizes, and geographic locations. In total, data were collected from 51 respondents. A mixed-method approach was employed, beginning with a structured digital survey followed by a scheduled interview phase to gather deeper qualitative insights. The survey was administered digitally via professional networks, industry associations, and direct outreach methods to ensure broad participation. All participants were informed about the study's purpose, provided assurance of anonymity, and advised that their responses would be treated confidentially.

The survey instrument was designed using multi-item scales, adapted from previously validated studies to ensure construct validity and reliability. Responses were recorded on a five-point Likert scale, selected for its high reliability and predictive validity in capturing nuanced perceptions (Chen et al., 2020). Core constructs included attitude, subjective norms, perceived behavioural control, and sustainability commitment, consistent with the extended Theory of Planned Behaviour model. For analysis, responses for each construct were aggregated into composite indices by computing the mean score for each multi-item scale. Respondents scoring above the sample mean were categorized as high, while those scoring below were categorized as low, enabling comparative analyses across behavioural profiles. Table 1 outlines the constructs, measurement items, and scaling structure used in the instrument.

Statistical Analysis and Tools

The quantitative data were analysed using SPSS 29.0, applying a combination of descriptive and inferential statistical techniques to evaluate relationships between the independent variables and reporting intentions. Descriptive statistics were computed to summarize the central tendencies, distributions, and variability of responses for each construct, providing an overview of the dataset. To examine the relationships between key TPB variables and reporting intentions, Pearson correlation analysis was conducted, as it is a widely accepted method for assessing linear relationships between continuous variables (Sauro & Lewis, 2016). This technique allowed for an evaluation of the strength and direction of associations between attitudes, subjective norms, perceived behavioural control, and sustainability commitment with reporting intentions.

Additionally, Chi-square tests were employed to determine whether statistically significant associations exist between categorical variables, particularly the high and low categories of TPB constructs and reporting intentions (Franke et al., 2012). To further quantify the strength of these associations, Cramér's V was utilized, as it is appropriate for measuring effect sizes in contingency tables and provides insight into the practical significance of observed relationships (Sun et al., 2010).

Table 1: TPB constructs and indicators

Construct	Questionnaire Items
Attitude (ATT)	ATT1. Caribbean companies' actions significantly impact nature and biodiversity, and addressing these impacts is part of responsible business practices. ATT2. Preserving nature and biodiversity is crucial for the long-term success of our sector/industry. ATT3. Reporting on nature and biodiversity is as important as reporting on climate change for Caribbean companies. ATT4. Engaging in nature-based reporting aligns with my organization's strategic vision and goals. ATT5. Disclosing my organization's impact or dependency on nature may lead to public scrutiny, but transparency strengthens accountability and trust. ATT6. Corporate nature-based reporting is a valuable tool for managing business risks and enhancing resilience.
Subjective norms (SN)	SN1. Our stakeholders and consumers expect businesses to support nature and biodiversity. SN2. Companies that my organization values and benchmarks against report on their impacts and/or dependencies on nature and biodiversity. SN3. Most internal stakeholders (employees and management) believe that integrating nature/biodiversity into business strategy is critical for long-term sustainability. SN4. Most internal stakeholders (employees and management) believe that nature-based reporting strengthens trust with stakeholders. SN5. External stakeholders actively seek information on our company's nature and biodiversity impact when making decisions.
Perceived Behavioural Control (PBC)	PBC1. Reporting on nature and biodiversity can help mitigate financial risks for the business. PBC2. I have a clear understanding of the indicators and metrics commonly used for nature-based reporting. PBC3. I am confident in my ability to integrate nature-based reporting principles into my daily work responsibilities. PBC4. It is feasible for my company to report on the business's impacts on nature and biodiversity. PBC5. It is feasible for my company to report on the business's dependencies on nature and biodiversity.
Sustainability Commitment (SC)	SC1. My organization is willing to actively contribute to corporate nature-based reporting initiatives in the Caribbean. SC2. Businesses should play a proactive role in supporting nature and biodiversity, beyond regulatory requirements.
Reporting Intent (RI)	RI1. My business intends to engage in (or continue) reporting on its impacts and dependencies on nature/biodiversity. RI2. At my organization, corporate nature-based reporting is regularly discussed at strategic meetings. RI3. How willing are you to incorporate nature-related reporting into your current work portfolio?

Table 1: TPB constructs and indicators

Construct	Questionnaire Items

All items were measured on a five-point Likert scale ranging from 1 = Strongly Disagree to 5 = Strongly Agree. Composite scores for each construct were calculated as the mean of the respective items.

To evaluate the predictive power of TPB constructs, hierarchical multiple regression analysis was employed. This technique allows for the assessment of incremental variance explained by predictor variables while controlling for potential confounding factors (Cohen et al., 2013; Turkson & Otchey, 2015). The regression model was structured in two tiers viz. (1) Model 1 included the four TPB variables (attitude, subjective norms, perceived behavioural control, and sustainability commitment); and (2) Model 2 incorporated firm-level and demographic variables (e.g., age, gender, work experience, industry type, and annual revenue) to test their additional explanatory contributions. Analysis of Variance (ANOVA) was used to determine the overall significance of each regression model and to evaluate whether the differences in means across respondent categories were statistically significant (Tabachnick & Fidell, 2019). Finally, qualitative data from open-ended survey responses were analysed thematically. This complementary approach helped to identify recurring themes related to corporate engagement in biodiversity reporting, perceived challenges, and key motivators for adoption.

Results

Demographic Characteristics

The demographic analysis of respondents highlights a diverse representation of business leaders across various age groups, gender identities, and professional roles. Table 2 shows that the majority of respondents were between the ages of 35-44 (32.1%), followed by 18-34 (26.4%) and 45-54 (26.4%), while 15.1% were over the age of 55. The gender distribution was relatively balanced, with 47.2% identifying as female and 43.4% as male, while 9.4% preferred not to disclose their gender. This relatively even gender split suggests an inclusive respondent pool. The survey captured insights from individuals with significant decision-making authority, whereby 43.4% of respondents were Chief Executive Officers (CEOs), while 35.8% held operational management positions. A smaller proportion, 20.8%, identified as owner-managers, founders, directors, or board members. The respondents also had varying levels of industry experience, with 34.0% having 6-10 years of experience, followed by 28.3% with 11-20 years, and 18.9% with 1-5 years. A smaller subset (18.8%) reported more than 20 years of professional experience. In regards to the firm, results show that the majority of respondents were associated with Limited Liability Companies (LLCs) and Corporations (43.4%), followed by Sole Proprietorships and Partnerships (39.6%), and Non-Profit Organizations (17.0%). This distribution suggests that a significant portion of the sample comprises private sector entities with formalized corporate structures, which may influence their approach to sustainability reporting due to regulatory requirements and stakeholder expectations.

Industry representation among respondents was diverse, with the largest proportions operating in Agriculture and Natural Resource Extraction (26.4%), which includes firms engaged in crop cultivation, fisheries, forestry, and mining. Marketing & Services (24.5%) encompassed companies in advertising, consultancy, retail, and hospitality sectors. Other represented industries included Finance & Insurance (20.8%), such as banks, credit unions, and investment firms; Education & Development Services (15.1%), covering universities, training centres, and research institutions; and Industry & Infrastructure (13.2%), which comprised construction firms, renewable energy providers (solar) and manufacturing enterprises.

The study also captured a concentration of micro, small, and medium-sized enterprises (MSMEs), aligning with existing research indicating that the Caribbean's private sector is largely composed of MSMEs (CBD, 2021). Financially, 60.4% of the firms represented in the study reported annual revenues of less than $250,000 USD, whereas 39.6% reported revenues exceeding $250,000 USD. This revenue distribution underscores the financial constraints faced by many MSMEs, which may impact their ability to engage in comprehensive sustainability reporting practices.

Table 2. Demographic Statistics

Factors	Percent	Mean (SD)
Managers		
Age		
18-34	26.4	
35-44	32.1	
45-54	26.4	
Over 55	15.1	2.24 (0.91)
Gender		
Male	43.4	1.61 (0.60)
Female	47.2	
Prefer not to say	9.4	
Position		
Operational Manager	35.8	1.80 (0.72)
Chief Executive Officer	43.4	
Owner-manager/Founder/Director/Board Member	20.8	
Years of experience		
1-5 years	18.9	
6-10 years	34.0	2.41 (0.93)
11-20 years	28.3	
> 20 years	18.8	
Firms		
Business Type		
Non-Profit Organization	17.0	2.27 (0.75)
Sole Proprietorship and Partnerships	39.6	
Limited Liability Company (LLC) and Corporation	43.4	
Industry		
Agriculture and Nature Resource Extraction	26.4	
Marketing Services	24.5	2.78 (1.54)
Industry & Infrastructure	13.2	
Education & Development Services	15.1	
Finance & Insurance	20.8	
Average annual revenue		
Less than $250,000 USD annual revenue	60.4	1.37 (0.49)
Greater than $250,000USD annual revenue	39.6	

N = 51

Descriptive Statistics of the Constructs

The descriptive statistics provide critical insights into the key constructs influencing nature-based reporting intentions among Caribbean firms. Table 3 shows:

Attitude (ATT): Attitude toward nature-based reporting was measured using six indicators, with mean scores ranging from 2.98 to 4.27. The highest-rated statement, *"Preserving nature and biodiversity is crucial for the long-term success of our sector/industry"* (M = 4.27, SD = 0.72), indicates a strong recognition of biodiversity's strategic importance. Conversely, the lowest-rated statement, *"Reporting on nature and biodiversity is as important as reporting on climate change for Caribbean companies"* (M = 2.98, SD = 1.16), suggests that nature-based disclosures are still perceived as secondary to climate-related reporting. The overall attitude score (M = 22.49, SD = 3.13) and a high Cronbach's alpha (0.860) indicate strong internal consistency, reinforcing the reliability of this construct. *Subjective Norms (SN):* Subjective Norms exhibited moderate variability across the five indicators, with mean scores ranging from 2.61 to 4.51. The highest-rated item, *"Companies that my organization values and benchmarks against report on their impacts and/or dependencies on nature and biodiversity"* (M = 4.51, SD = 0.76), underscores the influence of peer organizations in shaping reporting behaviour. However, the lowest-rated item, *"Our stakeholders and consumers expect businesses to support nature and biodiversity"* (M = 2.61, SD = 1.46), suggests weaker external pressure from stakeholders compared to internal industry norms. The total subjective norms score (M = 18.94, SD = 3.28) and Cronbach's alpha (0.760) indicate an acceptable level of reliability.

Perceived Behavioural Control (PBC): PBC was assessed using five indicators, with mean scores ranging from 2.86 to 4.12. The strongest agreement was observed for *"Reporting on nature and biodiversity can help mitigate financial risks for the business"* (M = 4.12, SD = 0.77), indicating that firms recognize the economic benefits of sustainability reporting. However, the relatively lower mean for *"I have a clear understanding of the indicators and metrics commonly used for nature-based reporting"* (M = 2.86, SD = 1.18) highlights a knowledge gap that may act as a barrier to reporting adoption. The overall PBC score (M = 18.04, SD = 3.23) and Cronbach's alpha (0.732) demonstrate reasonably strong internal consistency and predictive reliability.

Sustainability Commitment (SC): Sustainability Commitment was assessed using two indicators, yielding a total mean score of 6.12 (SD = 0.91). There was relatively strong agreement on the willingness of organizations to participate in corporate nature-based reporting initiatives in the Caribbean, with 78% responding "yes" (M = 1.78, SD = 0.42). However, while firms broadly support nature and biodiversity efforts in principle ("Businesses should play a proactive role in supporting nature and biodiversity beyond regulatory requirements"; M = 4.33, SD = 0.74), their actual commitment to reporting remains limited. Notably, Cronbach's alpha for this construct was low (0.258), suggesting potential measurement inconsistencies or divergent perspectives on sustainability engagement.

Reporting Intention (RI): Reporting Intention was evaluated using three indicators, with mean scores ranging from 1.82 to 4.29. The highest-rated item, *"How willing are you to incorporate nature-related reporting into your current work portfolio?"* (M = 4.29, SD = 0.78), suggests that individual willingness to engage in reporting is relatively high. However, the low mean for *"At my organization, corporate nature-based reporting is regularly discussed at strategic meetings"* (M = 1.82, SD = 0.79) indicates a lack of institutional prioritization. The overall RI score (M = 9.47, SD = 1.81) and Cronbach's alpha (0.629) suggest that while reporting intentions exist, organizational structures and leadership engagement may not yet fully support systematic implementation.

Table 3. Extended TPB Constructs and indicators.

Factors	Mean (SD)
Attitude (ATT)	
1. Caribbean companies' actions significantly impact nature and biodiversity, and addressing these impacts is part of responsible business practices.	3.65 (1.13)
2. Preserving nature and biodiversity is crucial for the long-term success of our sector/industry.	4.27 (0.72)
3. Reporting on nature and biodiversity is as important as reporting on climate change for Caribbean companies.	2.98 (1.16)
4. Engaging in nature-based reporting aligns with my organization's strategic vision and goals.	3.90 (0.78)
5. Disclosing my organization's impact or dependency on nature may lead to public scrutiny, but transparency strengthens accountability and trust.	3.75 (0.93)
6. Corporate nature-based reporting is a valuable tool for managing business risks and enhancing resilience.	3.94 (0.73)
ATT Total	22.49 (3.13)
Cronbach's Alpha	0.860
VIF	1.163
Subjective Norms (SN)	
7. Our stakeholders and consumers expect businesses to support nature and biodiversity.	2.61 (1.46)
8. Companies that my organization values and benchmarks against report on their impacts and/or dependencies on nature and biodiversity.	4.51 (0.76)
9. Most internal stakeholders (employees and management) believe that integrating nature/biodiversity into business strategy is critical for long-term sustainability.	4.00 (1.17)
10. Most internal stakeholders (employees and management) believe that nature-based reporting strengthens trust with stakeholders.	4.08 (0.77)
11. External stakeholders actively seek information on our company's nature and biodiversity impact when making decisions.	3.75 (0.93)
SN Total	18.94 (3.28)
Cronbach's Alpha	0.760
VIF	1.875
Perceived behaviour Control (PBC)	
12. Reporting on nature and biodiversity can help mitigate financial risks for the business.	4.12 (0.77)
13. I have a clear understanding of the indicators and metrics commonly used for nature-based reporting.	2.86 (1.18)
14. I am confident in my ability to integrate nature-based reporting principles into my daily work responsibilities.	3.57 (1.04)
15. It is feasible for my company to report on the business's impacts on nature and biodiversity.	3.84 (0.76)
16. It is feasible for my company to report on the business's dependencies on nature and biodiversity.	3.65 (0.82)
PBC Total	18.04 (3.23)
Cronbach's Alpha	0.732
VIF	1.496
Sustainability Commitment (SC)	
17. My organization is willing to actively contribute to corporate nature-based reporting initiatives in the Caribbean.	1.78 (0.42)
18. Businesses should play a proactive role in supporting nature and biodiversity, beyond regulatory requirements.	4.33 (0.74)

Table 3. Extended TPB Constructs and indicators.

Factors	Mean (SD)
SC Total	6.12 (0.91)
Cronbach's Alpha	0.258
VIF	1.760
Reporting Intention (RI)	
19. My business intends to engage in (or continue) reporting on its impacts and dependencies on nature/biodiversity.	3.35 (0.82)
20. At my organization, corporate nature-based reporting is regularly discussed at strategic meetings.	1.82 (0.79)
21. How willing are you to incorporate nature-related reporting into your current work portfolio?	4.29 (0.78)
RI Total	9.47 (1.81)
Cronbach's Alpha	0.629
VIF	1.771

Relationships Between Key Determinants and Sustainability Reporting Intentions

The correlation and chi-square analyses provide a deeper understanding of the relationships between key variables influencing firms' reporting intentions. As shown in Table 4, there is a significant association between perceived behavioural control and reporting intention ($r = 0.504$, $p < 0.001$), indicating that firms that perceive nature-based reporting as feasible and within their control are substantially more likely to engage in such practices. This strong positive correlation supports Hypothesis 3 (H3), reinforcing the critical role of self-efficacy in driving corporate reporting behaviours. Furthermore, the chi-square test ($\chi^2 = 12.950$, $p < 0.001$) and Cramér's V (0.504) confirm the robust association between PBC and reporting intention, indicating a medium to strong effect size.

Table 4: Correlations and Chi-Square Analysis of Determinants Influencing Nature-Based Reporting Intentions

	ATT	SN	PBC	SC
Pearson Correlation	.187	.251*	.504**	.390**
Chi-Square	1.776	3.207	12.950	7.746
Cramer's V	0.187	0.351	0.504	0.390

*Significance level ***p < .001, **p < .01, *p < .05*

Similarly, sustainability commitment (SC) exhibited a significant positive relationship with reporting intention ($r = 0.390$, $p = 0.005$), suggesting that firms with a strong internal dedication to sustainability initiatives are more likely to adopt nature-based reporting. This finding supports Hypothesis 4 (H4), emphasizing that an organization's strategic orientation toward sustainability directly influences its disclosure practices. The chi-square test result ($\chi^2 = 7.746$, $p = 0.005$) and Cramér's V (0.390) further substantiate this relationship, indicating a moderate effect size. In contrast, subjective norms (SN) showed a weaker yet marginally significant correlation with reporting intention ($r = 0.251$, $p = 0.072$), suggesting that while external stakeholder expectations may influence firms' reporting decisions, they do not serve as the dominant factor in the adoption of nature-based reporting practices. This finding provides partial support for Hypothesis 2 (H2). The chi-square test ($\chi^2 = 3.207$, $p = 0.072$) and Cramér's V (0.351) indicate a moderate association, but the results do not reach full statistical significance.

Attitude (ATT), though positively correlated with reporting intention, did not reach statistical significance ($r = 0.187$, $p = 0.190$), implying that favourable perceptions alone do not necessarily translate into proactive reporting

behaviour. The chi-square test ($\chi^2 = 1.776$, $p = 0.190$) and Cramér's V (0.187) further confirm this weak association. Thus, Hypothesis 1 (H1) is not supported, suggesting that while firms acknowledge the importance of nature-based reporting, attitude alone is insufficient to drive reporting intentions.

Factors Influencing Firms' Reporting Intentions

The hierarchical regression analysis provides valuable insights into the factors influencing firms' intentions to engage in sustainability reporting. As shown in Table 5, Model 1 explains 67.2% of the variance in reporting intention ($R^2 = 0.672$, Adjusted $R^2 = 0.644$), suggesting a strong overall fit and indicating that the independent variables collectively account for a significant portion of the variation in reporting intention. Among the predictors, perceived behavioural control (PBC) emerges as the most significant determinant ($\beta = 0.656$, $p \leq .001$), highlighting that firms with a greater perception of their ability to engage in nature-based reporting are considerably more likely to adopt such practices. This finding aligns with existing literature, which emphasizes the role of organizational capacity and perceptions of feasibility in driving sustainability behaviours.

Sustainability commitment (SC) also demonstrates a positive relationship with reporting intention ($\beta = 0.192$, $p \leq .05$), though at a marginally significant level. This suggests that firms with a stronger commitment to sustainability are somewhat more likely to engage in sustainability reporting. However, the marginal significance of this relationship implies that additional enabling factors may be necessary to reinforce sustainability as a core strategic priority within organizations. Institutional frameworks, incentives, and organizational support could play a crucial role in strengthening this relationship. Subjective norms (SN), representing external stakeholder expectations, exhibited a weak, marginally significant effect on reporting intention ($\beta = 0.132$, $p \leq .01$). This finding suggests that while societal and regulatory pressures may raise awareness of sustainability reporting, they do not exert a strong enough influence to drive immediate reporting behaviour. However, attitude (ATT), although positively correlated with reporting intention, was the least significant predictor ($\beta = 0.071$), reinforcing the notion that positive attitudes alone are insufficient to compel firms to adopt sustainability reporting practices.

The second-tier analysis, which incorporates additional control variables such as demographic characteristics and industry type, further refines the model and explains 89.0% of the variance in reporting intention ($R^2 = 0.890$, Adjusted $R^2 = 0.820$). Key factors such as years of experience ($\beta = 0.087$ to 0.130, $p \leq .05$), industry sector (e.g., Finance & Insurance, $\beta = -0.125$, $p \leq .01$; Education & Development Services, $\beta = -0.119$, $p < .01$), and average annual revenue ($\beta = 0.131$, $p \leq .01$) all significantly contribute to explaining variations in sustainability reporting intentions. Notably, both sustainability commitment ($\beta = 0.318$, $p \leq .001$) and perceived behavioural control ($\beta = 0.773$, $p \leq .001$) remain robust predictors in this extended model, reinforcing their central role in shaping firms' reporting behaviours.

Table 5: *Hierarchical multiple regression analysis of the factors influencing reporting intentions on nature and biodiversity.*

Factors	**Model 1** **B (SE)**	**Model 2** **B (SE)**
(Constant)	-.071 (.087)	-.292 (.099)**
Extended TPC Variables		
SC	.192 (.105)*	.318 (.083)***
PBC	.656 (.109)***	.773 (.100)***
SN	.132 (.120)**	.108 (.115)
ATT	.071 (.169)	-.105 (.154)
Age		
35-44 years		-.066 (.046)

Table 5: *Hierarchical multiple regression analysis of the factors influencing reporting intentions on nature and biodiversity.*

45-54 years		-.024 (.040)
Over 55 years		-.106 (.059)*
Gender		
Female		.013 (.021)
Prefer not to say		.008 (.040)
Position		
Chief Executive Officer		.115 (.025)
Owner-manager/Founder/Director/Board Member		-.054 (.034)
Work Experience (years)		
6-10 years		.087 (.041)**
11-20 years		.130 (.045)**
20 years		.044 (.059)
Industry		
Marketing & Services		-.004 (.037)
Industry & Infrastructure		.002 (.040)
Education & Development Services		-.119 (.041)**
Finance & Insurance		-.125 (.055)**
Average annual revenue		.131 (.036)**
R^2	.672	.890
Adjusted R^2	.644	.820
F	10.599	14.435
Sig	0.001	0.001

*Significance level ***p < .001, **p < .01, *p < .05*

Discussion

The results indicate that perceived behavioural control is the most significant predictor of intention to engage in nature-based reporting among Caribbean companies. This finding is consistent with Ajzen's (1991), which explains that individuals or organizations with greater confidence in their ability to implement specific actions are more likely to undertake them (Ajzen, 1991). Specifically, firms that perceive sustainability reporting as feasible and within their control are more inclined to adopt such practices. This reinforces the notion that perceived organizational capacity and resources are crucial drivers of sustainability reporting behaviours. Sustainability commitment also emerged as a significant predictor, emphasizing the importance of internal corporate values in fostering transparency and accountability in reporting (Ofori-Owusu et al., 2024). Companies that demonstrate a stronger commitment to sustainability are more likely to adopt reporting practices, though this relationship was marginally significant, suggesting that further organizational support and external incentives may be necessary to strengthen this link.

In contrast, attitudes and subjective norms were less influential than initially anticipated. Both factors showed weaker effects on reporting intention, suggesting that while business leaders may acknowledge the importance of sustainability reporting, social pressure (subjective norms) and personal beliefs (attitudes) alone are insufficient to drive actual engagement. Instead, the findings underscore the role of tangible capabilities, such as organizational resources and strategic priorities, as the primary drivers for adoption. These results are particularly pertinent considering the Caribbean's unique economic and environmental challenges. Many businesses in the region operate in sectors such as agriculture and tourism, which are highly vulnerable to environmental risks, including biodiversity loss (zu Ermgassen et al., 2022). Given the direct impact of biodiversity on long-term profitability,

the relatively low mean score for sustainability commitment observed in this study suggests that firms may be responding reactively to environmental challenges rather than proactively engaging in biodiversity reporting. This highlights a gap in the region's preparedness to address sustainability through transparent reporting practices.

To strengthen nature-based reporting in the Caribbean, policy interventions should prioritize building organizational capacity and providing regulatory incentives. Governments and industry groups can support the development of region-specific sustainability reporting frameworks aligned with leading global standards, including the Taskforce on Nature-related Financial Disclosures (TNFD), the Global Reporting Initiative (GRI), the International Sustainability Standards Board (ISSB) standards (IFRS S1 & S2), the EU Corporate Sustainability Reporting Directive (CSRD), and the Science-Based Targets for Nature (SBTN). Additionally, implementing targeted training programs, financial incentives, and technical assistance can help lower perceived barriers to reporting and drive greater firm-level commitment to sustainability and biodiversity integration.

Future research should delve into the qualitative aspects of corporate decision-making concerning nature-based reporting. A deeper understanding of the psychological, cultural, and organizational drivers behind sustainability behaviours could provide more nuanced insights into effective intervention strategies, enabling more targeted and contextually appropriate approaches to fostering nature-based reporting.

Conclusion

This study contributes to the understanding of the factors influencing nature-based reporting intentions among Caribbean firms, applying the Theory of Planned Behaviour framework. The results demonstrate that perceived behavioural control and sustainability commitment are the strongest predictors of reporting intention, while attitudes and subjective norms exert weaker effects. These findings underscore the importance of developing interventions that focus on building organizational capacity and reducing barriers to sustainability reporting. Policymakers and business leaders should prioritize initiatives that enhance corporate capabilities, align with regulatory frameworks, and provide incentives to encourage transparency and the adoption of biodiversity-conscious practices in the Caribbean.

Declaration

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Ethics approval/declaration: The study did not involve interventions requiring formal institutional ethics board approval. However, ethical standards were upheld in the research process, including voluntary participation, anonymity, and protection of respondents' information.

Consent to participate: Informed consent was obtained from all participants. Respondents were informed of the purpose of the study, their right to withdraw, and the confidentiality of their data before completing the survey.

Consent for publication: N/A

Data availability: The data supporting the findings of this study are available upon reasonable request from the corresponding author. Data are not publicly shared due to privacy and ethical assurances made to respondents regarding the confidentiality of their responses.

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References

Acheampong, O., & Simon Kofi Dogbe, C. (2022). *Sustainability Reporting by Owner-Managers of SMEs: The Perspective of Theory of Planned Behavior (TPB)*. *20*(3), 27–46. https://doi.org/10.7172/1644-9584.97.2

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

Ajzen, Icek., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior* (Paperback edition.). Prentice-Hall.

Alam, S. M. S., Akter, S., Helal, M., & Ahmed, U. (2020). Explaining Firms' Behavioral Intention towards Environmental Reporting in Bangladesh: An Application of Theory of Planned Behavior. *JIBM) Journal of International Business and Management*, *3*. https://doi.org/10.37227/JIBM-2019-04-24

Alhamad, H., & Donyai, P. (2021). The Validity of the Theory of Planned Behaviour for Understanding People's Beliefs and Intentions toward Reusing Medicines. *Pharmacy: Journal of Pharmacy Education and Practice*, *9*(1), 58. https://doi.org/10.3390/PHARMACY9010058

CBD. (2021, February 4). *MSME sector's big impact on economies | Caribbean Development Bank*. Caribbean Development Bank. https://www.caribank.org/newsroom/news-and-events/msme-sectors-big-impact-economies

Chen, X., Weerathunga, P. R., Nurunnabi, M., Kulathunga, K. M. M. C. B., & Samarathunga, W. H. M. S. (2020). Influences of Behavioral Intention to Engage in Environmental Accounting Practices for Corporate Sustainability: Managerial Perspectives from a Developing Country. *Sustainability 2020, Vol. 12, Page 5266*, *12*(13), 5266. https://doi.org/10.3390/SU12135266

Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2013). Applied Multiple Regression/Correlation Analysis for the Behavioral Sciences, Third Edition. *Applied Multiple Regression/Correlation Analysis for the Behavioral Sciences, Third Edition*, 1–704. https://doi.org/10.4324/9780203774441

Dasgupta, P. (2021). *The Economics of Biodiversity: The Dasgupta Review*. https://assets.publishing.service.gov.uk/media/602e92b2e90e07660f807b47/The_Economics_of_Biodiversity_The_Dasgupta_Review_Full_Report.pdf

Díaz, S., Demissew, S., Carabias, J., Joly, C., Lonsdale, M., Ash, N., Larigauderie, A., Adhikari, J. R., Arico, S., Báldi, A., Bartuska, A., Baste, I. A., Bilgin, A., Brondizio, E., Chan, K. M. A., Figueroa, V. E., Duraiappah, A., Fischer, M., Hill, R., … Zlatanova, D. (2015). The IPBES Conceptual Framework — connecting nature

and people. *Current Opinion in Environmental Sustainability*, *14*, 1–16. https://doi.org/10.1016/J.COSUST.2014.11.002

Franke, T. M., Ho, T., & Christie, C. A. (2012). The Chi-Square Test: Often Used and More Often Misinterpreted. *American Journal of Evaluation*, *33*(3), 448–458. https://doi.org/10.1177/1098214011426594

Greaves, M., Zibarras, L. D., & Stride, C. (2013). Using the theory of planned behavior to explore environmental behavioral intentions in the workplace. *Journal of Environmental Psychology*, *34*, 109–120. https://doi.org/10.1016/J.JENVP.2013.02.003

Hoang, T. (2018). The role of the integrated reporting in raising awareness of environmental, social and corporate governance (ESG) performance. *Developments in Corporate Governance and Responsibility*, *24*, 47–69. https://doi.org/10.1108/S2043-052320180000014003

Jegede, O., Rivera, J., Jenkins, M., & Jordan, A. (2024). Tobacco, alcohol, and other drugs. *The Handbook of Health Behavior Change*, 164–191. https://doi.org/10.1891/9780826142658.0009

Kufaine, N., & Kufaine, N. (2024). Understanding Characteristics of Extended Theory of Planned Behaviour: Systematic Literature Review. *Open Journal of Philosophy*, *14*(4), 848–858. https://doi.org/10.4236/OJPP.2024.144057

Lee, S. S., Kim, Y., & Roh, T. (2023). Pro-environmental behavior on electric vehicle use intention: Integrating value-belief-norm theory and theory of planned behavior. *Journal of Cleaner Production*, *418*, 138211. https://doi.org/10.1016/J.JCLEPRO.2023.138211

Ofori-Owusu, C., Owusu, G. M. Y., Agyenim-Boateng, C., & Welbeck, E. E. S. (2024). What Drives the Sustainability Reporting Intentions of Firms? *Sustainability 2024, Vol. 16, Page 5052*, *16*(12), 5052. https://doi.org/10.3390/SU16125052

Ogiemwonyi, O., Harun, A., Hossain, M. I., & Karim, A. M. (2022). The Influence of Green Behaviour Using Theory of Planned Behaviour Approach: Evidence from Malaysia. *Https://Doi.Org/10.1177/09763996221080508*, *14*(4), 582–604. https://doi.org/10.1177/09763996221080508

Ramos, M. D. (2024). The Theory of Planned Behavior (TPB), Self-Determination Theory (SDT), and Health-Seeking Behavior. *Handbook of Concepts in Health, Health Behavior and Environmental Health*, 1–26. https://doi.org/10.1007/978-981-97-0821-5_27-1

Sauro, J., & Lewis, J. R. (2016). Quantifying user research: Practical Statistics for User Research. *Quantifying the User Experience*. O'Reilly for Higher Education

Singh, G., Sharma, S., Sharma, R., & Dwivedi, Y. K. (2021). Investigating environmental sustainability in small family-owned businesses: Integration of religiosity, ethical judgment, and theory of planned behavior. *Technological Forecasting and Social Change*, *173*, 121094. https://doi.org/10.1016/J.TECHFORE.2021.121094

Smith, T., Paavola, J., & Holmes, G. (2019). Corporate reporting and conservation realities: Understanding differences in what businesses say and do regarding biodiversity. *Environmental Policy and Governance*, *29*(1), 3–13. https://doi.org/10.1002/EET.1839

Sun, S., Pan, W., & Wang, L. L. (2010). A Comprehensive Review of Effect Size Reporting and Interpreting Practices in Academic Journals in Education and Psychology. *Journal of Educational Psychology*, *102*(4), 989–1004. https://doi.org/10.1037/A0019507

Tabachnick, B. G., & Fidell, L. S. (2019). *Using Multivariate Statistics Title: Using multivariate statistics*. https://lccn.loc.gov/2017040173

Teo, T., & Beng Lee, C. (2010). Explaining the intention to use technology among student teachers: An application of the Theory of Planned Behavior (TPB). *Campus-Wide Information Systems*, *27*(2), 60–67. https://doi.org/10.1108/10650741011033035/FULL/XML

Thoradeniya, P., Lee, J., Tan, R., & Ferreira, A. (2015). Sustainability reporting and the theory of planned behaviour. *Accounting, Auditing & Accountability Journal*, *28*(7), 1099–1137. https://doi.org/10.1108/AAAJ-08-2013-1449

Thoradeniya, P., Lee, J., Tan, R., & Ferreira, A. (2022). From intention to action on sustainability reporting: The role of individual, organisational and institutional factors during war and post-war periods. *The British Accounting Review*, *54*(1), 101021. https://doi.org/10.1016/J.BAR.2021.101021

Turkson, A. J. oe, & Otchey, J. E. ric. (2015). Hierarchical Multiple Regression Modelling on Predictors of Behavior and Sexual Practices at Takoradi Polytechnic, Ghana. *Global Journal of Health Science*, *7*(4), 200. https://doi.org/10.5539/GJHS.V7N4P200

Wahyuni, W., Syamsidar, S., Indasari, F., & Bualemo, L. E. G. (2024). Corporate Environmental Accountability: A Qualitative Study of Stakeholder Expectations and Corporate Practices. *Advances: Jurnal Ekonomi & Bisnis*, *2*(6), 323–336. https://doi.org/10.60079/AJEB.V2I6.352

WEF, & AlphaBeta. (2020, July 30). *New Nature Economy Report II: The Future of Nature and Business*. World Economic Forum (WEF). https://www3.weforum.org/docs/WEF_The_Future_Of_Nature_And_Business_2020.pdf

Yuan, Y., Sun, R., Zuo, J., & Chen, X. (2023). A New Explanation for the Attitude-Behavior Inconsistency Based on the Contextualized Attitude. *Behavioral Sciences*, *13*(3), 223. https://doi.org/10.3390/BS13030223

Yuriev, A., Dahmen, M., Paillé, P., Boiral, O., & Guillaumie, L. (2020). Pro-environmental behaviors through the lens of the theory of planned behavior: A scoping review. *Resources, Conservation and Recycling*, *155*, 104660. https://doi.org/10.1016/J.RESCONREC.2019.104660

zu Ermgassen, S. O. S. E., Howard, M., Bennun, L., Addison, P. F. E., Bull, J. W., Loveridge, R., Pollard, E., & Starkey, M. (2022). Are corporate biodiversity commitments consistent with delivering 'nature-positive' outcomes? A review of 'nature-positive' definitions, company progress and challenges. *Journal of Cleaner Production*, *379*, 134798. https://doi.org/10.1016/J.JCLEPRO.2022.134798