

# Sustainability Reporting by Owner-Managers of SMEs: The Perspective of Theory of Planned Behavior (TPB)

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## Abstract

**Purpose:** The study assessed how owner-managers' psychological attributes (attitude towards behavior, subjective norms, and perceived behavior control) influenced sustainability reporting among SMEs.

**Design/methodology/approach:** The study was based on cross-sectional data gathered using a structured questionnaire as the research instrument. The population of the study comprised SMEs in Kumasi metro of Ghana. The study focused on 213 SMEs, and respondents were owner-managers. The data analysis was based Structural Equation Modeling (SEM) run in Amos (v.23).

**Findings:** Owner-managers' attitude towards behavior had a significant positive influence on sustainability reporting among SMEs. Similarly, SME owner-managers' subjective norms positively influenced sustainability reporting. Also, SME owner-managers' perceived behavior control positively influenced sustainability reporting. Among these variables, however, attitude towards behavior had the greatest impact.

**Research limitations/implications:** The study used a closed-ended questionnaire to solicit responses from respondents. Such a questionnaire acknowledges the presence of inherent problems of not permitting respondents to explicitly express their own views as they may wish.

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**Practical implications:** The findings of the study have an important implication for considerations by the government in trying to encourage owner-managers to adopt or improve sustainability reporting behavior among SMEs in Ghana.

**Social implications:** This study contributes to solving the societal need for sustainability by identifying how owner-managers' psychological characteristics influence sustainability reporting.

**Originality/value:** The theory of planned behavior has been used widely in a number of studies, but very little is known about how it could predict sustainability reporting among SMEs, especially in developing countries.

**Keywords:** theory of planned behavior, sustainability reporting, SMEs, subjective norms, perceived behavioral control.

**JEL:** G30, G39, G40

## Raportowanie kwestii zrównoważonego rozwoju przez właścicieli-menedżerów MŚP – perspektywa teorii planowanego zachowania

### Streszczenie

**Cel:** w opracowaniu oceniono, w jaki sposób atrybuty psychologiczne właścicieli-menedżerów (postawa wobec danego zachowania, subiektywne normy i postrzegana kontrola behawioralna) wpłynęły na raportowanie kwestii zrównoważonego rozwoju wśród MŚP.

**Metodologia:** badanie oparto na przekrojowych danych zebranych za pomocą ustrukturyzowanego kwestionariusza jako narzędzia badawczego. Badana populacja obejmowała MŚP w Kumasi w Ghanie. Badanie koncentrowało się na 213 MŚP, a respondenci byli ich właścicielami-menedżerami. Analiza danych została oparta na modelowaniu równań strukturalnych (Structural Equation Modeling – SEM) w programie Amos (wersja 23).

**Wyniki:** postawa właścicieli-menedżerów wobec danego zachowania miała znaczący pozytywny wpływ na raportowanie kwestii zrównoważonego rozwoju wśród MŚP, podobnie jak subiektywne normy właścicieli-menedżerów MŚP na raportowanie tych kwestii czy postrzegana kontrola behawioralna właścicieli-menedżerów MŚP na raportowanie kwestii zrównoważonego rozwoju. Wśród tych zmiennych największy wpływ miała jednak postawa wobec danego zachowania.

**Ograniczenia/implikacje badawcze:** w celu uzyskania odpowiedzi od respondentów w badaniu wykorzystano kwestionariusz z pytaniami zamkniętymi. Tego rodzaju kwestionariusz stwarza nieodłączne problemy, gdyż respondenci nie mają możliwości dobitnego wyrażenia własnych poglądów zgodnie z własną wolą.

**Implikacje praktyczne:** wyniki badania mają istotne znaczenie z punktu widzenia ewentualnych kroków, które mogłoby rozważyć państwo w celu zachęcenia właścicieli-menedżerów do przyjęcia lub poprawy praktyk raportowania kwestii zrównoważonego rozwoju wśród MŚP w Ghanie.

**Implikacje społeczne:** badanie przyczynia się do zaspokojenia społecznej potrzeby zrównoważonego rozwoju poprzez określenie, w jaki sposób cechy psychologiczne właścicieli-menedżerów wpływają na raportowanie kwestii zrównoważonego rozwoju.

**Oryginalność/wartość:** teoria planowanego zachowania była szeroko stosowana w wielu badaniach, lecz bardzo niewiele wiadomo na temat tego, w jaki sposób za jej pomocą można prognozować raportowanie kwestii zrównoważonego rozwoju wśród MŚP, zwłaszcza w krajach rozwijających się.

**Słowa kluczowe:** teoria planowanego zachowania, raportowanie kwestii zrównoważonego rozwoju, MŚP, subiektywne normy, postrzegana kontrola behawioralna.

## 1. Introduction

Sustainability reporting is a channel through which firms communicate to their diverse stakeholders the measures taken to address their economic, environmental, and social concerns (Hahn & Kühnen, 2013). The strategic decision of SMEs is largely dependent on chief executive officers' (CEOs) power because SMEs' organizational structure is less complex and less strained by organizational inertia (Tran & Pham, 2020; Saeed & Ziaulhaq, 2019). Thus, CEOs' role in SMEs is very significant as compared with large listed firms. Although empirical evidence of prior research on determinants of firms' sustainability reporting demonstrates that institutional and organizational factors have an impact on sustainability reporting (Girella et al., 2021), little is known about the role played by managerial attitude, intention, and executives' background characteristics in driving sustainability reporting. In the stream of sustainability reporting literature, the theory of planned behavior (Ajzen, 1991) finds that several background attributes of CEOs such as attitude (Weidman et al., 2010), subjective norm (Thoradeniya et al., 2015) and perceived behavioral control (Thoradeniya et al., 2015) influence their strategic decisions and choices.

Several documented research findings on sustainability reporting show a strong focus on large and multinational firms (Dong & McIver, 2020; Shan et al., 2021), yet there is a dearth of research on SMEs. This is not surprising since the predominant methodological approach in the literature is a content analysis of sustainability reports which is difficult to apply to SMEs. SMEs are largely managed by owner-managers and the activities of owner-managers of SMEs related to financial and other business issues are shielded in much secrecy. This situation makes it extremely difficult to gather data on SMEs for research and leads to more concentration on listed firms where data is relatively accessible for research (Buallay et al., 2020). To overcome this challenge, the study measured sustainability reporting by assessing the extent to which SMEs educate the public on their operations through diverse means such as product labeling, public relations, print and electronic media, social media, etc. Again, owner-managers of SMEs form their attitude, opinion and perception based on personal and psychological factors which subsequently determine their reporting intention and ultimately sustainability reporting behavior (Jain et al., 2021). However, there is a lack of studies that apply theoretical frameworks that seek to establish why individuals exhibit certain behaviors towards social and environmental accounting. Moreover, with the exception of few studies done in the context of Africa, viz. Egypt (Rizk et al., 2008), Ghana (Rahaman, 2000), South Africa (Mitchell & Hill, 2009) and Uganda (Tauringana, 2020), most of the documented evidence predominantly focuses on developed countries. Therefore, the objective of this study is to investigate the impact of owner-managers' psychological factors on sustainability reporting by SMEs in Ghana.

## 2. Theoretical and Literature Review

### 2.1. Theory of Planned Behavior

The Theory of Planned Behavior (TPB) is a well-known theoretical framework in the field of psychology that intends to predict and describe human behavior. This theory emanates from the Theory of Reasoned Action (TRA) by Fishbein and Ajzen (1975) that intends to predict top management voluntary behaviors and to comprehend their psychological factors. A great number of human behaviors of day-to-day life may be viewed under volitional control, with the logic that human beings can easily execute these behaviors if they have the desire to do so (Ajzen, 1985). TPB is centered on the core principle that people make systematic use of available information to attain a reasonable behavioral result and it connects a human's behavioral intentions to carry out their actions (Thoradeniya et al., 2015). Ajzen and Fishbein (1980) contend that people's intentions are theorized as a function of a human's attitude and are influenced by how the person perceives what behavior others expect of them.

Owner-managers of SMEs form their attitude, opinion and perception based on psychological factors which subsequently determine their reporting intention and ultimately sustainability reporting behavior. Originating from the discipline of psychology, TPB (Ajzen, 1985) Heider, 1958 ; Lewin, 1951 has proven its applicability to some business research seeking to comprehend managerial decisions that impact on sustainability reporting (Cordano & Frieze, 2000). According to TPB by Ajzen (1985), there are three conceptually independent determinants of behavioral intention. *Attitude* refers to the degree to which an individual has a positive or negative appraisal or evaluation of the behavior in question; *subjective norm* is the perception of social pressure to perform or not a particular behavior; while *perceived behavioral control* is the perception of how easy or difficult it is to perform the behavior (Ajzen, 1991).

### 2.2. Attitude Towards Behavior and Sustainability Reporting

Attitude is the first determinant of behavioral intention, which explains the extent to which an individual has a favorable or unfavorable evaluation of the target behavior (Ajzen, 1991; Han et al., 2010). A person's attitude towards a certain behavior is assumed to be a function of their salient beliefs which signify the perceived outcomes of the behavior and the person's appraisal of the significance of the outcomes (Han et al., 2010). A manager is inclined to exhibit a favorable attitude when the consequences are positively appraised, thus, a person's positive attitude toward a certain behavior supports their intention to engage in that behavior (Ajzen, 1991). Based on the TPB concept and findings of prior studies, it is predicted that owner-managers' attitude is positively associated with their intention to engage in sustainability reporting. Thus, it is hypothesized that:

**H1:** Owner-managers' attitude has a direct positive effect on sustainability reporting among SMEs.

### **2.3. Subjective Norm and Sustainability Reporting**

The second determinant of intention, according to the theory of planned behavior is the subjective norm. Within TPB, subjective norm explains the perceived social pressure to engage or not to engage in the behavior by a person (Ajzen, 1991). Subjective norm reflects the normative belief, or a person's perception of others' opinion about the person's performance of the behavior (Baker et al., 2007). In the application of TPB in the sustainability reporting context, subjective norm reflects internal and external pressures from shareholders and legal obligation (Wilmshurst & Frost, 2000), regulators (Dillard et al., 2004), society/public, potential employees, financiers (Hedberg & Malmborg, 2003), environmental lobby groups (Deegan & Gordon, 1996), and other stakeholder groups (Daub, 2007). Thus, it is hypothesized that:

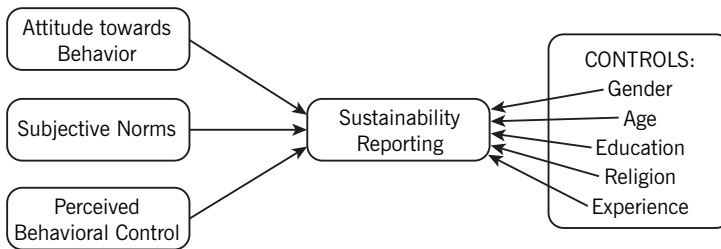
**H2:** Owner-managers' subjective norm has a direct positive effect on sustainability reporting among SMEs.

### **2.4. Perceived Behavioral Control and Sustainability Reporting**

Under TPB, perceived behavioral control is the third determinant of behavioral intention. According to Ajzen (1991), this determinant is the perceived ease or difficulty of engaging in the behavior which reflects the previous experience and the anticipated obstacles and outcomes (Baker et al., 2007). It is the perception of behavioral control which directly affects both intentions to engage in a behavior and the actual performance of the behavior in question (Baker et al., 2007). The two constituents of perceived behavioral control are control beliefs, which are associated with an individual sense of self-availability of resources, opportunities, and skills. The second factor is perceived facilitation, which is also associated with the assessment by an individual of the importance of those resources, opportunities, and skills for the achievement of anticipated outcomes (Baker et al., 2007). Perceived behavioral control is examined as an important factor which determines the intention to engage in an action. Prior studies suggest that, in firms where executives demonstrate an intention to engage in sustainability reporting, technical difficulties including the reliability of sustainability reporting data, the definition of procedures and the measurement of firms' performance for disclosure purposes are experienced (Park & Brorson, 2005; Thoradeniya et al., 2015). Based on the above, it is hypothesized that:

**H3:** Owner-managers' perceived behavioral control has a direct positive effect on sustainability reporting among SMEs.

Figure 1  
Conceptual Framework



Note. This figure presents the various hypothesized paths as well as the control variables of the study.

### 3. Methodology

#### 3.1. Population and Sample of the Study

The study focused on SMEs in Kumasi metro (Ghana), with an estimated population of 5,920 SMEs. For the purpose of fair representation of the target population and minimization of sampling error, firms are sampled based on industrial affiliation using a simple random sampling technique (Ezeah & Roberts, 2012). Yamane's (1973) formula was employed to establish an adequate sample size. The formula is  $n = N / (1 + N(e)^2)$  where:  $n$  = the sample size,  $N$  = the population, and  $e$  = the degree of error estimated at 5% for this study. The final sample consists of 375 firms belonging to manufacturing (154) and service (221) sectors. The total number of questionnaires received after the 4 weeks of data collection exercise were 213, with a response rate of 56.8%  $[(213/375) * 100]$ .

#### 3.2. Measurement of Variables

Data was collected using a structured questionnaire administered in person using the support of trained field assistants. The questionnaire was pilot-tested using 20 Executive MBA students from the KNUST School of Business who were all in managerial positions at their respective firms. This assisted the researchers in fine-tuning the wordings of the questionnaire to enhance its clarity for the main data collection. The study had four main variables which were attitude towards behavior, subjective norms, perceived behavioral control, and sustainability reporting. The study further controlled for the age of owners, years of working experience at the firm, education, religion, and gender. Table 1 presents the definition of the variables as well as the sources of the measurement items.

Table 1  
Variables Measurement

Variables	Source	Measurement
<b>Dependent:</b>		
Sustainability Reporting (SUST_R)	Tauringana (2020)	Measures the extent to which firms report on the indicators under the three dimensions of sustainability reporting (Economic, Environmental, and Social). Using a Likert scale of 1 – not at all; to 5 – always.
<b>Independent:</b>		
Attitude Towards Behavior (ATTI)	Han et al. (2010); Thoradeniya et al. (2015)	The extent to which an individual has a favorable or unfavorable evaluation of sustainability reporting. Using a Likert scale of 1 – strongly disagree; to 5 – strongly agree.
Subjective Norms (NORM)	Baker et al. (2007); Han et al. (2010)	The belief about whether most people approve or disapprove of sustainability reporting. Using a Likert scale of 1 – strongly disapprove; to 5 – strongly approve.
Perceived Behavioral Control (CONT)	Cordano & Frieze (2000); Baker et al. (2007)	An individual's perception of the ease or difficulty in sustainability reporting. Using a Likert scale of 1– strongly disagree; to 5 – strongly agree.
<b>Control Variables:</b>		
Gender	Tran & Pham (2020)	A dummy variable (0 – female; 1 – male) for owner-managers' gender
Age	Malik et al. (2020)	Number of years of owner-managers
Education	Musa et al. (2020)	Academic education level of owner-managers
Religious Affiliation	Longenecker et al. (2004)	A dummy variable (0 – others; 1 – christianity) for owner-managers' religious affiliation
Experience	Malik et al. (2020)	Years of working as owner-manager of the selected SME

*Note.* This table presents the definition of the variables as well as the sources of the measurement items.

### 3.3. Common Method Bias (CMB) and Socially Desirable Responding (SDR)

In a self-administered questionnaire, there is a tendency for respondents to provide similar answers to the questions, either because they could not take adequate time to read and respond to the measurement items

appropriately or because they just wanted to complete the questionnaire as an obligatory requirement (Podsakoff et al., 2012). Also, the issue of sustainability has a key factor for the acceptance of a firm's products and success in the marketplace (Borah et al., 2021). For these reasons, owner-managers may be tempted to rate the level of sustainability reporting by firms higher than that level actually is. A few steps were, therefore, taken to address these potential challenges to the quality of the data used in the analysis.

As a procedural measure, this study gave ample time (4 weeks) to the respondents to complete the questionnaire. This was to reduce the tendency of respondents rushing through while completing the questionnaire. Secondly, as a way of addressing CMB, the measurement scale items were improved to eliminate ambiguity. The questionnaires were pilot-tested, and feedbacks were used to fine-tune the wordings to eliminate all ambiguous statements. Also, rather than just stating the end points of the Likert scale, every point on the scale was labeled, for example, *1 = not at all*, *2 = not often*, *3 = often*, *4 = very often*, and *5 = always*.

The correlation-based marker variable technique was adopted as a statistical measure of addressing CMB. With this technique, the marker variable (which is theoretically unrelated to the constructs studied) was expected to be used, and this study adopted Socially Desirable Responding (SDR) (Podsakoff et al., 2012) as presented in Appendix 1. In the study, a partial correlation was then conducted, which was done by controlling for the marker variable (SDR scale). When the correlation coefficients among the main variables were significantly different after controlling for the marker variable, CMB was said to be present. CMB and SDR were not a challenge in this study, as the correlation coefficients of both restricted and unrestricted (zero-order) results were not significantly different from each other (Borah et al., 2022).

### **3.4. Confirmatory Factor Analysis (CFA)**

After the Exploratory Factor Analysis (EFA) met the respective thresholds, the data was further tested using Confirmatory Factor Analysis (CFA), as presented in Table 2 and Figure 2. Just like EFA, all measurement items were expected to score a minimum of 0.5 standardized factor loading. Items scoring below were deleted, and the critical ratio (C.R.) for the retained measurement items was expected to be statistically significant, which was achieved in this study (Table 2). To achieve internal consistency of measurement items, Cronbach's alphas (CA) for the constructs were expected to be at least 0.7 (Bamfo et al., 2018). The results presented show that subjective norms had the least alpha score of 0.884. The CFA results show that the least factor loading under attitude towards behavior was 0.597, the least loading under subjective norm was 0.719, the least loading under perceived behavioral control was 0.806, the least loading under economic



indicator was 0.511, the least loading under environmental indicator was 0.660, and the social indicator was 0.768 as the least factor score.

As per model fit indices, CMIN/DF is expected to be less than 3, GFI should be at least 0.8, PClose should be greater than 0.05, TLI and CFI are all expected to be greater than 0.9, while RMSEA and RMR are also expected to be at most 0.08 (Hair et al., 2010). From Table 2, it was realized that the results met these thresholds, hence we concluded that our data appropriately fits the construct model. To achieve convergent validity, Average Variance Extracted (AVE) should be greater than 0.5, with Composite Reliability (CR) also being at least 0.7 (Fornell & Larcker, 1981), and this was achieved for all constructs.

Table 2  
Confirmatory Factor Analysis (CFA)

<b>Model Fitness:</b> CMIN=1159.124; DF=595; CMIN/DF=1.948; GFI=0.816; PClose=0.114; TLI=0.907; CFI=0.917; RMSEA=0.072; RMR=0.080	<b>Std. Factor Loadings</b>	<b>C.R.</b>
<b>Attitude towards Behavior (ATTI): CA=0.927; CR=0.927; AVE=0.617</b>		
Sustainability reporting will improve my firm's reputation (ATT1)	.699	
Sustainability reporting will improve the accountability of my firm to stakeholders (ATT2)	.740	13.477***
Sustainability reporting will enhance the knowledge of stakeholder of my firm concerning sustainability activities (ATT3)	.838	10.464***
Sustainability reporting will provide extensive information for improved decision-making for stakeholders about my firm (ATT4)	.858	10.668***
Sustainability reporting will improve communication within my firm (ATT5)	.802	10.118***
Sustainability reporting will maximize staff morale of my firm (ATT6)	.852	10.245***
Sustainability reporting will enable the attraction of competent workforce to my firm (ATT7)	.857	10.748***
Sustainability reporting will expose my firm to public scrutiny and criticism when unfavorable operations that impact on the society and environment are reported (ATT8)	.597	7.659***
<b>Subjective Norms (NORM): CA=0.884; CR=0.886; AVE=0.663</b>		
Shareholders (NB1)	.719	11.192***
Community (NB2)	.871	14.974***

Table 2 – continued

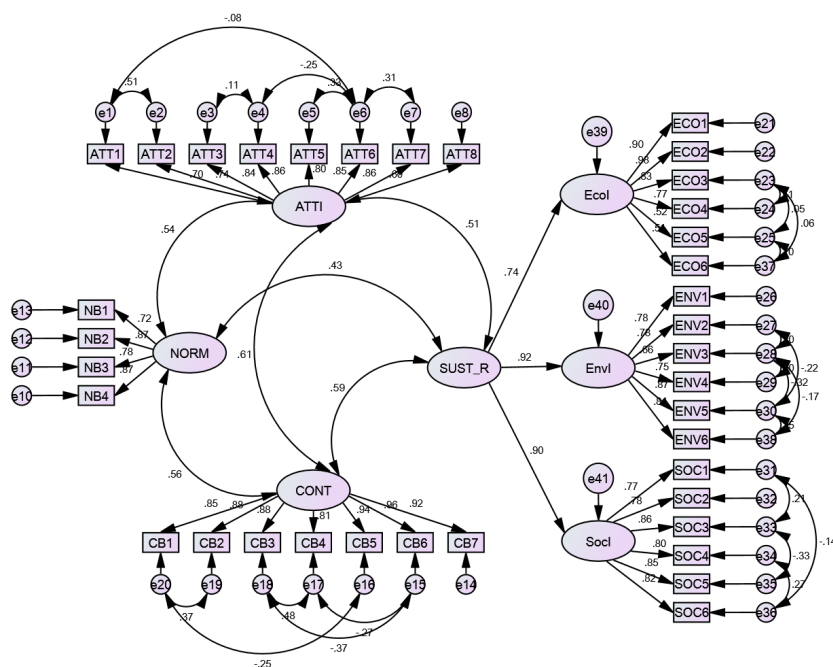
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Non-Governmental Organizations (NB3)	.785	12.757***
Shareholders (NB4)	.871	
<b>Perceived Behavioral Control (CONT): CA=0.965; CR=0.965; AVE=0.796</b>		
Availability of resources (financial and time) (CB1)	.852	17.893***
Assistance from employees and top management (CB2)	.880	19.538***
Availability of sustainability reporting standards (i.e GRI guidelines) (CB3)	.877	19.105***
Availability of data collection procedures for non-financial (CB4)	.806	15.593***
Presence of a stock of expert employees, skills and knowledge (CB5)	.939	24.017***
Awareness and knowledge of the potential advantages of sustainability reporting (CB6)	.959	25.774***
Familiarity with sustainability reporting practices (CB7)	.924	
<b>Sustainability Reporting (SUST_R): CA=0.911; CR=0.893; AVE=0.737</b>		
<b>Economic Indicators (EcoI): CA=0.921; CR=0.895; AVE=0.599</b>	<b>.742</b>	<b>5.489***</b>
Revenue (ECO1)	.901	
Operating costs (ECO2)	.984	65.960***
Employee wages and benefits (ECO3)	.832	20.043***
Payments to Government (ECO4)	.768	16.097***
Community Investments (ECO5)	.522	8.243***
Financial Assistance received from government (ECO6)	.511	8.008***
<b>Environmental Indicators (EnvI): CA=0.904; CR=0.905; AVE=0.616</b>	<b>.919</b>	<b>7.881***</b>
Renewable and non-renewable materials used (ENV1)	.782	
Fuel/electricity/heating/cooling/steam consumption (ENV2)	.781	11.145***
Electricity/heating/cooling/steam sold (ENV3)	.660	8.756***
Reduction in energy consumption due to conservation (ENV4)	.754	10.838***
Waste and method of disposal (ENV5)	.870	12.503***
Environmental protection expenditures (ENV6)	.843	12.189***

Table 2 – continued

Model Fitness: CMIN=1159.124; DF=595; CMIN/DF=1.948; GFI=0.816; PClose=0.114; TLI=0.907; CFI=0.917; RMSEA=0.072; RMR=0.080	Std. Factor Loadings	C.R.
<b>Social Indicators (Soc1): CA=0.922; CR=0.922; AVE=0.664</b>	.903	
Benefits to full-time employees (SOC1)	.768	
Injury/injury rate/occupational diseases rate (SOC2)	.782	11.019***
Health and safety employee training (SOC3)	.862	13.873***
Equal remuneration of men and women (SOC4)	.801	11.281***
Local community development programs (SOC5)	.850	12.010***
Stakeholder engagement plans (SOC6)	.822	10.988***

Note. \*\*\*Sig. at 0.1%. This table presents the model fit indices from the confirmatory factor analysis, factor loadings, Cronbach's alpha, composite reliability, and Average Variance Extracted.

Figure 2  
Diagrammatic Presentation of CFA



Note. Confirmatory factor analysis showing the various relationships among the latent variables as well as the factor loadings of the observed variables.

### 3.5. Discriminant Validity

There are a number of techniques in assessing discriminant validity, but this study adopted a popular technique used by researchers including Dogbe et al. (2020). This technique compares the square-root of Average Variance Extracted ( $\sqrt{\text{AVE}}$ ) to the respective inter-correlation coefficients. When the  $\sqrt{\text{AVE}}$  is greater than the correlation coefficients, discriminant validity is said to have been achieved. From Table 3, it was realized that the least  $\sqrt{\text{AVE}}$  was 0.785, which was larger than the largest correlation score of 0.612. Multicollinearity (high correlation among the independent variables) is another concern when conducting a model estimation. Correlation scores of 0.8 are usually considered high and could lead to confounding effects when estimating models. In this presents study, the largest correlation score was 0.612, suggesting that multicollinearity was not present among the variables.

Table 3  
*Discriminant Validity*

Variables	ATTI	NORM	CONT	SUST_R
Attitude (ATTI)	0.785			
Normative Belief (NORM)	0.542***	<b><u>0.814</u></b>		
Control Belief (CONT)	0.612***	0.561***	<b><u>0.892</u></b>	
Sustainability Reporting (SUST_R)	0.512***	0.438**	0.590***	<b><u>0.858</u></b>

Note. \*\*\*Sig. at 0.1%.  $\sqrt{\text{AVE}}$  are bold and underlined. Discriminant validity by comparing the  $\sqrt{\text{AVE}}$  to the intercorrelation coefficients.

## 4. Results

After the reliability and validity checks, the main model was estimated using the SEM approach in Amos (v.23). Table 4 and Figure 3 present the results of the model estimation. Since this objective focused on SME owner-managers' psychological attributes, five demographic features of respondents were controlled for in the model estimation. These were respondents' age, gender, highest educational qualification, religious background, and years of working experience with the SME. These variables were controlled for to account for their potential effects on the outcome of model estimation, although their effects were not the focus of this study. Table 4 reveals that age, gender, religion, and working experience had positive but statistically insignificant effects on sustainability reporting. Although the respondents of this study were decision makers in the selected SMEs and determined whether sustainable should be reported or not, these four demographic features (age, gender, religion, and working experience) had no effect on

the outcome of the study (C. R. < 1.96). Education as a control variable had a significant positive effect on sustainability reporting among SMEs ( $\beta = 0.039$ ; C. R. < 2.17). This implies that owner-managers with higher educational qualifications were more likely to engage in sustainability reporting. This is possibly because the classroom education had enlightened them on sustainability issues and the relevance of practicing sustainability in the organization.

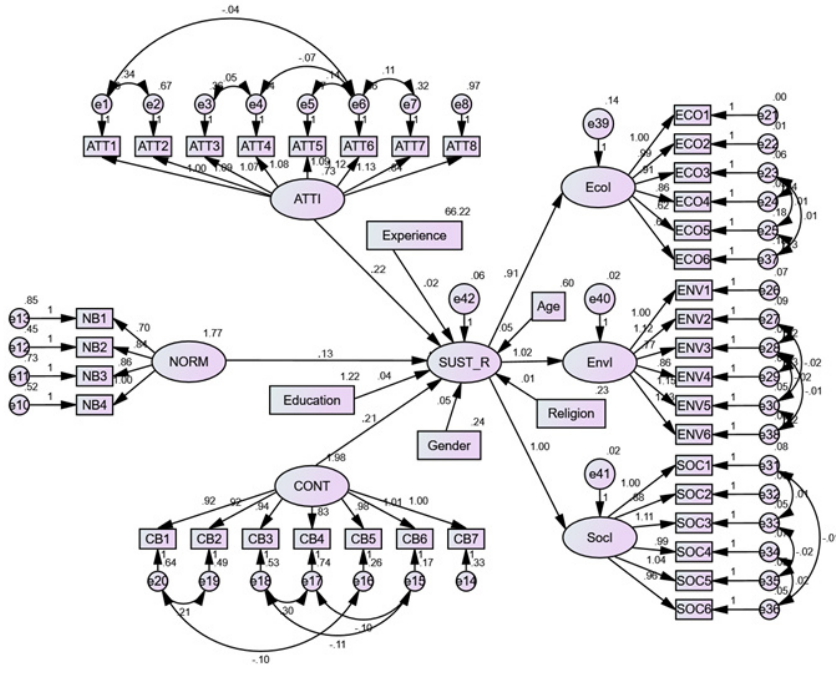
As for the main paths, it could be identified from Table 4 that all the three paths had a significant positive effect on sustainability reporting. Although the descriptive analysis pointed out poor scores for attitude and normative belief, the path estimates indicate that enhancing all the three variables improved sustainability reporting among SMEs in Ghana. Attitude towards behavior had a significant positive effect on sustainability reporting among SMEs in Ghana ( $\beta = 0.216$ ; C. R. < 7.71). Having a positive attitude towards sustainability greatly impacted sustainability reporting, amounting to an about 21.6% increase. Similarly, subjective norms had a significant positive effect on sustainability reporting among SMEs in Ghana ( $\beta = 0.134$ ; C. R. < 8.38). That implies that subjective norms of owner-managers of SMEs in Ghana, increased sustainability reporting by about 13.4%. Finally, perceived behavioral control was also found to have had a significant positive effect on sustainability reporting among SMEs in Ghana ( $\beta = 0.214$ ; C. R. < 8.92). A high level of perceived behavioral control among owner-managers of SMEs thus leads to 21.4% greater chance of reporting on sustainability issues.

Table 4  
Direct and Moderating Path Estimates

Direct Paths	Std. Estimate	UnStd. Estimate	S.E.	C.R.
Age → SUST_R	0.126	0.046	0.026	1.77
Gender → SUST_R	0.079	0.046	0.041	1.12
Education → SUST_R	0.153	0.039	0.018	2.17*
Religion → SUST_R	0.021	0.013	0.042	0.31
Experience → SUST_R	0.075	0.023	0.012	1.92
ATTI → SUST_R	0.353	0.216	0.028	7.71***
NORM → SUST_R	0.259	0.134	0.016	8.38***
CONT → SUST_R	0.271	0.214	0.024	8.92***

Note. \*\*\*Sig. at 0.1%; \*\*Sig. at 1%; \*Sig. at 5%. Path estimation using Structural Equation Modeling (SEM).

Figure 3  
Structural Equation Modeling (SEM)



Note. Diagrammatic presentation of the path estimation using Structural Equation Modeling (SEM), where attitude, subjective norm, and perceived behavioral control were the main independent variables, and sustainability reporting represents the dependent variable.

### 5. Discussion and Theoretical Contributions

The results showed a significant and positive relationship between owner-managers' attitude and the probability of SMEs adopting sustainability reporting. Implying that, owner-managers decision to engage in a positive behavior towards sustainability reporting is influenced by their attitude. Owner-managers' attitude towards a certain behavior is influenced by their evaluation of the outcome connected with such behavior and by the strength of these connections (Ajzen, 1985). The results pointed out that owner-managers' intention to engage in sustainability reporting is likely to be affected by the individuals' attitudes concerning the value of sustainability reporting. That is, the individuals' perceptions of additional costs to the firm that is associated with engaging in sustainability reporting. One notable feature of Ghanaian SMEs is that they are fully or partly managed by owner-managers in a personalized way without a formalized management

structure (Abor & Quartey, 2010). In this instance, a strategic decision such as sustainability reporting is a sole discretionary choice of the owner-manager. In line with the principles of TPB, an owner-manager who perceives that engaging in sustainability reporting will lead to positive outcomes will hold a favorable attitude towards engaging in sustainability reporting while an owner-manager who perceives that engaging in sustainability reporting will lead to negative outcomes will hold an unfavorable attitude towards engaging in sustainability reporting. The finding was consistent with the results of Thoradeniya et al. (2015) and Weidman et al. (2010).

Further, results showed a significant positive effect of owner-managers' normative belief (subjective norm) on sustainability reporting among SMEs in Ghana. The findings pinpoint that owner-managers' perception of pressure from stakeholders (government/regulators, customers and community) is likely to influence their intention to engage in sustainability reporting. Owner-managers view government/regulators as a powerful stakeholder who can enact laws, regulation and other policies that may significantly affect the operations of SMEs. Again, several SMEs in Ghana are into trading business, which involves selling their products to customers to generate profit, which is the prime motive of their existence. They therefore regard the community and customers as influential stakeholders. These findings are consistent with Neu et al. (1998), who observe that firms typically react to the "relevant public" such as government as far as environmental disclosures are concerned. Researchers (such as Thoradeniya et al., 2015; Weidman et al., 2010) also observed that normative control (subjective norm) had a significant positive influence on the intention to use technology.

Similarly, owner-managers' perceived behavioral control (control belief) also had a significant positive influence on sustainability reporting among SMEs in Ghana. This direct evidence suggests that owner-managers' intention to engage in sustainability reporting is likely to be affected by their perception of the availability of resources (financial and time), awareness of the potential benefits of sustainability reporting, familiarity with sustainability reporting practices, support from top management and employees, the existence of a stock of specialized employees' knowledge, skills or expertise, and availability of sustainability reporting guidelines (such as Global Reporting Initiative (GRI) guidelines). This finding is in line with Thoradeniya et al. (2015), Weidman et al. (2010), and Baker et al. (2007), who reached similar conclusions. Based on the context of a developing country, the study contributes to the existing body of literature by providing new evidence based on SMEs, confirming that the key tenets of TPB are applicable in a developing country's context as they are in the case of developed economies.

## 6. Managerial Implications

The study provides evidence on the effect of owner-managers' psychological factors on sustainability reporting among SMEs. SMEs have been chosen for this study for a number of reasons. SMEs offer better evidence to test the relationship between owner-managers' psychological factors and a firm's decision-making as compared with larger firms (Tran & Pham, 2020). Furthermore, unlike large firms, SMEs are confronted with the problem of inadequate resources and the prevalence of inappropriate administrative systems, and are, therefore, inclined to rely on psychological factors, values and beliefs of owner-managers. One notable feature of Ghanaian SMEs is that they are fully or partly managed by owner-managers in a personalized way without a formalized management structure (Abor & Quartey, 2010). In this instance, a strategic decision such as sustainability reporting is the sole discretionary choice of the owner-manager. In line with the principles of TPB, an owner-manager who perceives that engaging in sustainability reporting will lead to positive outcomes will hold a favorable attitude towards engaging in sustainability reporting, whereas an owner-manager who perceives that engaging in sustainability reporting will lead to negative outcomes will hold an unfavorable attitude towards engaging in sustainability reporting. This study will, among others, guide strategic policy formulation with regard to SMEs' sustainability reporting.

## 7. Conclusion

To address the question relating to the influence of owner-managers' psychological variables on sustainability reporting, prime data was analyzed using Structural Equation Modeling (SEM). The results of the analysis indicate that all the three psychological factors in owner-managers (attitude, normative behavior, and perceived behavioral controls) had significant positive effects on sustainability reporting. The findings of the study lend support to the theoretical framework of TPB.

## 8. Limitations of the Study and Suggestions for Further Research

This study is not free from limitations despite new contributions and robust findings for policy and managerial directions. First, the study uses a closed-ended questionnaire to solicit responses from respondents for data analysis. Such a questionnaire acknowledges the presence of inherent problems of not permitting respondents to explicitly express their own views as they may want (Griffith et al., 1999). To reduce the incidence of this



limitation, provision is made at the end of the questionnaire to allow for additional information to be given by respondents if they wish to do so.

Another limitation is that the questionnaire is answered by single individuals (Yusuf & Saffu, 2005) who happened to be owner-managers. Therefore, the information provided may reflect the knowledge and perception of such individuals (Tauringana, 2020), which may differ from the reality, and there is no alternative source such as financial and other stand-alone reports for verification and confirmation. However, it is argued that sustainability practices are discretionary strategic choices of top managers who are thus well placed to provide the needed responses.

Third, the study analyzed only the data of Ghanaian SMEs and the research is constrained to the context of firms in Ghana. It is acknowledged that the small sample size, time and limited geographical scope (Haniffa & Cooke, 2005; Tauringana, 2020) might undermine the empirical generalizability of the results as regards SMEs in other jurisdictions. It is therefore recommended that future research should expand the scope to other countries to permit generalization of the research findings.

Finally, another limitation of this study is that it is cross-sectional in nature (Tauringana, 2020). Though this is justified given the time and financial constraints of the current research, it only offers a snapshot of the sustainability reporting practices of the sample firms in the period of the survey only. This situation makes it impossible to analyze SMEs' sustainability reporting practices over a period of time. Future research could consider a longitudinal study that can help confirm the impact of owner-managers' attributes on sustainability reporting for a longer period.

## Appendix

### Socially Desirable Responding (SDR) scale items

*Source:* Strahan and Gerbasi (1972)

1. You like to gossip at times
2. There have been occasions when you took advantage of someone
3. You are always willing to admit it when you make a mistake
4. You sometimes try to get even rather than forgive and forget
5. At times, you have really insisted on having things your own way
6. You have never been annoyed when people expressed ideas very different "from your own"
7. You have never deliberately said something that hurt someone's feelings

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