

# Manager attributes, psychological factors and sustainability reporting in small and medium-sized enterprises in Ghana

Manager attributes

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Received 6 December 2022  
Revised 13 December 2022  
20 June 2023  
11 September 2023  
19 November 2023  
15 January 2024  
Accepted 6 February 2024

## Abstract

**Purpose** – The purpose of this study is to examine the effect of manager attributes and psychological factors on the adoption of sustainability reporting (SR) among small and medium-sized enterprises (SMEs) in Ghana.

**Design/methodology/approach** – The study is based on a cross-sectional data gathered using questionnaires administered to managers of SMEs in Ghana. The data is analyzed using structural equation modeling.

**Findings** – The results reveal that SME managers with requisite educational qualifications and knowledge about sustainability accounting adopt SR. The attitudes, subjective norms and perceived behavioral control of managers of SMEs on issues of sustainability also affect the adoption of SR. However, SMEs with old and long-serving managers do not adopt SR. SMEs with manager attributes such as professional education, gender and religious affiliation do not appear to adopt SR.

**Practical implications** – There is the need for regulators and other stakeholders to sensitize, persuade and provide awareness, training and educational certification to support managers of SMEs to enable them to adopt SR.

**Originality/value** – This study contributes to the literature on SR by offering a clear understanding of how manager attributes and psychological factors influence the adoption of SR by SMEs in developing countries.

**Keywords** Manager, Sustainability reporting, Upper echelon theory, Theory of planned behavior, Small and medium-sized enterprise, Ghana

**Paper type** Research paper

## 1. Introduction

Sustainable development (SD) has remained an important agenda in the last decade and will continue to be viewed as a critical issue in the foreseeable future (Holden *et al.*, 2014). Given the extent of the SD agenda, the concept of sustainability has become an increasingly relevant issue in the industry and academia, attracting more media and political attention



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which reflects greater public awareness. SD addresses the issue of how the present generation can satisfy their needs without jeopardizing the ability of future generations to meet their needs as well (WCED, 1987). Firms use a variety of resources as inputs to produce products and offer services as outputs to diverse clients. Accounting for the effects of firms' productive activities through sustainability reporting (SR), then becomes relevant to the current discourse on SD.

Incorporating SR into firms' accountability mechanisms has been widely adopted to respond to stakeholders' need for more accountability on sustainability (Buallay *et al.*, 2020). All the top 100 largest companies and 80% of companies worldwide now report on their sustainability policies and impacts on society (KPMG, 2020). Firms communicate their sustainability performance via corporate annual reports which are usually shared on their websites. This enables all interested stakeholders to access mandatory and non-mandatory governance, economic, social and environmental information about the firms (Welbeck, 2017).

Zhu *et al.* (2013) suggest that firms in China are mandated by law to make disclosures on their sustainability performance, especially those that are not captured by accounting standards, but the same cannot be said about Ghana where no specific legal framework compels firms to engage in SR.

Over the last decade, the call for SR has intensified, and this has triggered the need to conduct research to shape SR practices in particularly developing economies in Sub-Saharan Africa (Adams and Abhayawansa, 2021). Developing economies experience unique social, political and environmental challenges but surprisingly limited few have examined SR in these economies (Tilt *et al.*, 2021). Several studies (provide some of those studies here – at least three) on SR tend to focus on general disclosures of sustainability in annual reports of listed and large firms with few (e.g. give some of those studies here) considering how small and medium-sized enterprises (SMEs) are also contributing to the achievement of the SDGs in terms of their adoption of sustainability practices including SR (Masud *et al.*, 2018).

Previous studies (e.g. Aboagye-Otchere *et al.*, 2020; Welbeck, 2017) on the determinants of firms' SR reveal that institutional and organizational factors have an impact on SR. However, little is known about SMEs' SR and the role played by attitudes, intentions and demographic characteristics of SME managers (i.e. the owners or hired executives) in the adoption of SR. Hambrick and Mason (1984) note that the choices and decisions made by managers on behalf of these SMEs largely reflect the background attitudes, characteristics and psychology of these managers. SMEs in Ghana offer nearly 85% of employment positions in the manufacturing sector (Quaye and Mensah, 2019). SMEs are likewise thought to contribute around 70% of Ghana's gross domestic product and, they constitute about 99.6% of enterprises in Ghana (Ghana Statistical Service, 2016). The strategic decisions made by SMEs largely depend on their managers' power because the organizational structures of SMEs are usually less complex and less strained by organizational inertia (Tran and Pham, 2020).

In a nutshell, the study makes significant contributions to existing literature. It provides new evidence of the determinants of SR based on data from managers of SMEs in a developing economy. It must be noted that there are significant differences between SMEs and larger firms in the areas of management philosophy, organizational structure, strategic direction and other inherent managers' physiognomies that are known to have significant influence on SR behavior (Williamson *et al.*, 2006). Hillary (2004) notes that SMEs generally possess peculiarities and competencies that are different from those of the large and multinational firms. These differences may underpin SMEs' peculiar views on sustainability issues. Again, the results of this study provide evidence specific to the contexts of developing countries like Ghana. It must be emphasized that, except for a few notable studies such as

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Tauringana (2021a) and Rahaman *et al.* (2004), literature on SMEs' SR predominantly looks at firms in mature market environments in developed countries. These markets are efficient, formalized with strong systems, legislations and robust enforcement mechanisms. These characteristics contrast with the infant market environments found in developing countries which are characterized by weak systems, loose regulations and poor institutional governance structures riddled with corruption, poverty and weak stakeholder power. Country-specific contexts with varying environmental, economic, social and institutional dimensions may affect SME SR practices (Ramos *et al.*, 2013).

Additionally, unlike previous studies that adopted content analysis (Aboagye-Otchere *et al.*, 2020; Welbeck, 2017), the use of a questionnaire survey in this study provides useful information on SME managers' attributes and psychological factors influencing the adoption of SR. The findings will, therefore, enable regulators, policymakers and other stakeholders to appreciate the state of adoption of SR in Ghana. Amran and Haniffa (2011) posit that one of the possible ways to overcome the gap in understanding managers' attributes and motivations for adoption of SR is to gather more research evidence on the phenomenon especially in SMEs. Also, the result of the study confirms that the planned behavior and upper echelon theories are applicable to developing countries.

The rest of this paper is organized such that Section 2 provides the theoretical framework and hypotheses development. Sections 3 and 4 focus on the methods used, and the data analysis and results, respectively. Section 5 presents the conclusions and implications.

## 2. Theoretical framework and hypotheses development

There have been calls for the application of previously untested theories that draw on the individual and organizational contexts in SR (Agyei and Yankey, 2019). Specifically, the application of theories in psychology and management to establish why individuals exhibit certain behaviors toward SR in the context of SMEs has been mentioned. Managers of SMEs form their attitudes, opinions and perceptions based on psychological factors, which subsequently determine their reporting intentions, and SR behavior (Thoradeniya *et al.*, 2015). This study uses the theory of planned behavior (TPB) and upper echelon theory (UET) to offer insights into the effects of managers attributes and psychological factors on SR. Both theories recognize the importance of understanding human decision-making processes, whether at the individual level or within an organizational context.

Hambrick and Mason's (1984) UET has been used in several studies (list some of those studies) to provide insights into how managers' characteristics influence corporate reporting. Hambrick and Mason (1984) argue that the top management team manages the inherent complexity of firms' strategic policies and decisions with reference to their pre-existing values and beliefs about suitable strategic behavior and prior experience in similar roles. The theory contends that strategic decisions/choices can be mirrored by the background and attributes of managers. The principles underlying UET center on the bounded rationality theory (Tran and Pham, 2020) which posits that decision-making by an individual is not always dependent on rational intentions but on their ability to fully gather and analyze all circumstantial information (Simon, 1972). The theory centers on the impact of top executives' characteristics on organizational decisions and outcomes. It also operates at the firm level, examining the influence of top executives on the firm's direction.

TPB, on the other hand, tends to predict and describe human behavior. This theory emanates from the theory of reasoned action that seeks to predict top management's voluntary behaviors to understand their psychological dispositions (Ajzen and Fishbein, 1980). Several human behaviors related to our daily 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

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systematic use of available information to attain a reasonable behavioral result (Thoradeniya *et al.*, 2015). TPB focuses on understanding and predicting individual behavior based on the individual's intentions, attitudes and perceived control. In terms of the level of analysis, TPB operates at the individual level, considering factors that influence an individual's decision to perform a behavior.

Empirical literature on SMEs indicates that SMEs have become increasingly relevant in recent times with regards to meeting the needs and expectations of diverse stakeholders in developing economies. Biondi *et al.* (2000) note that understanding, applying and interpreting environmental management system standards is always tedious for SMEs. The challenges many SMEs experience in understanding and complying with some SR requirements are mostly due to their lack of technical expertise in the field (Biondi *et al.*, 2000). It is argued that SMEs in developing economies are likely not to have the capacity to understand the applicable regulations/standards on sustainability and how its related matters affect businesses. Most SMEs, therefore, strategically adopt reactive rather than proactive attitudes when confronting environmental issues (Weerasiri and Zhengang, 2012). The limited commitment to SD in Ghana is results from low level of sustainability knowledge, awareness and training of SMEs managers.

According to the UET, educational qualification is linked to tolerance for ambiguity, open-mindedness, ability to appraise alternatives and capacity for information processing (Malik *et al.*, 2020; Huang, 2013; Hambrick and Mason, 1984). The educational background of top executives determines their ethical and moral approach, as these shape their thinking ability, process and response to business circumstances (Hambrick and Mason, 1984; Manner, 2010; Malik *et al.*, 2020). Higher education is expected to enhance managers' ability to deal with the dynamics of the business environment and seize opportunities that can impact the firms' SR, which is important for SMEs' survival and growth. In other words, there is an expectation that better-educated managers have the necessary managerial skills and knowledge as education is presumably associated with self-confidence, commitment, motivation, discipline and problem-solving abilities (Malik *et al.*, 2020). SMEs are perhaps well known for their lack of SR knowledge and, therefore, require managers with higher educational backgrounds.

Professional education is an important attribute of managers of firms (Ma *et al.*, 2019). Professional education helps individuals to acquire the competencies and knowledge needed for proper practice and behavior. It is closely related to an individual's receptivity, innovation and cognitive abilities which have the tendency to directly impact their abilities to make right decisions in the face of a dynamic and complex business environment. From the perspective of UET, managers' professional education may affect their values and perceptions of SR practices, which in turn influence the SR of their firms. Lin and Ho (2011) indicates that managers' professional education is positively related to a firm's innovation activities. Lin and Ho (2011) further contend that an individual with professional education will have enhanced skills in decision-making and become more inclined to taking risks.

UET and TPB argue that firms' strategic decisions such as SR can reflect managers' background characteristics such as age. Managers' tendency to indulge in innovative activities weakens as they progress in age, possibly because of their desire to play safe, risk aversion and be more conservative (Barker and Mueller, 2002). Prior studies (give examples) have stated that younger managers are mostly enthusiastic, exuberant, ambitious, ready to share ideas and devoted to working for long hours (Barker and Mueller, 2002). As managers progress in age, they become more concerned about job and income security, and these influence their willingness to engage in projects/investments whose outcomes seem uncertain and unsustainable.

UET focuses on beliefs, thinking patterns and values of upper-level management that may affect firms' decisions (Hambrick and Mason, 1984). Top managers' gender is an

essential factor that plays an important role in the selection of strategic options and their consequences (Barako *et al.*, 2006). It is established that the management styles of females differ from males (Carvalho and Fernandes, 2019; Eagly and Johannesen-Schmidt, 2001). Eagly and Johannesen-Schmidt (2001) observe that women are more attentive to issues on corporate social responsibilities (CSR), ethics and care for others than men. Several studies also show that a firm's decision to engage in SR practices or not is influenced by the executives' gender (Tran and Pham, 2020; Huang, 2013; Manner, 2010). In this respect, many researchers argue that women managers are more often concerned about sustainability-related issues than their male counterparts (Tran and Pham, 2020). Boulouta (2013) suggests that the tendency for females to engage in unethical corporate behavior is very low as they are more inclined to exhibit society-oriented behavior.

From the perspective of UET and TPB, managers' tenure may play an important and significant role in a firm's strategic decision-making, and specifically SR decisions. The longer the period that managers occupy their office and handle business challenges, the more they acquire extensive knowledge and experience (Malik *et al.*, 2020). Managers become more strategically aware, autonomous, organized, confident and responsible when they spend more time in particular positions. Longer tenure suggests more power, less job insecurity and entrenchment, leading to a lower focus on investment in sustainability activities (Malik *et al.*, 2020). During the early years of managers' tenures, they have strong incentives and motivation to signal their capabilities to overcome career concerns.

Religious affiliation is also considered a context-specific determinant given the prominence of the religion in Ghana. Religion obviously shapes managers' attitudes and beliefs which may inform business operation values (Thoradeniya *et al.*, 2015). Angelidis and Ibrahim (2004) indicate that religious beliefs influence managerial attitude and behavior. Businesses, therefore, seek to employ many religious people at all levels of the firm. Thus, firms sited in countries noted for high religiosity are more likely to engage many religious individuals who in turn, can exert influence that can affect and shape organizational policies and preferences (Hilary and Hui, 2009). Again, in environments where religiosity is very high, executives interact with religious people to familiarize themselves with the existing religious norms and beliefs (Chantziaras *et al.*, 2020).

According to Ajzen's (1985) TPB, there are conceptually independent determinants of behavioral intention. 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 toward a certain behavior is assumed to be a function of his or her salient beliefs which signify the perceived outcomes of the behavior and his appraisal of the significance of the outcomes (Han *et al.*, 2010). Ajzen and Fishbein (1980) explain behavioral belief as a person's subjective probability to engage in a certain behavior that will lead to certain outcomes. Managers are inclined to exhibit favorable attitudes when the consequences are positively appraised. They are also more likely to carry out those specific behaviors, implying that a person's positive attitude toward a certain behavior supports his intention to engage in that behavior (Ajzen, 1991).

Subjective norm explains the perceived social pressure for a person to carry out a behavior (Ajzen, 1991). Subjective norm reflects the normative belief, or a person's perception of others' opinion about his/her behavior (Baker *et al.*, 2007). Wilmshurst and Frost (2000) reveal that subjective norm reflects internal and external pressures from shareholders, regulators, the society, potential employees, financiers and environmental lobby groups who influence firms' SR behavior (Daub, 2007). Thoradeniya *et al.* (2015) establish a positive association between executives' subjective norms in relation to SR and their intention to engage in SR.

In the tenets of TPB, *perceived behavioral control* is the third determinant of behavioral intention. Ajzen (1991) asserts that this determinant is the perceived ease or difficulty of

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carrying out a behavior, which reflects individual's previous experiences, and the anticipated outcomes of a behavior (Baker *et al.*, 2007). TPB posits that the perception of behavioral control directly affects both intentions to carry out a behavior and the actual performance of the behavior in question (Baker *et al.*, 2007). The two constituents of perceived behavioral control include control belief, which is associated with an individual's sense of the availability of resources, opportunities and skills. The second factor is perceived facilitation which is associated with an individual's assessment of the importance of those resources, opportunities and skills needed for the achievement of anticipated consequences (Baker *et al.*, 2007). Mathieson (1991) observes that perceived behavioral control has a significant influence on behavioral intention. In several firms where executives demonstrate intentions to engage in SR, they face technical difficulties which include the unreliability of SR data capturing procedures and measurements of firms' performance for disclosure purposes (Thoradeniya *et al.*, 2015). It is noted from prior studies such as Weidman *et al.* (2010) and Thoradeniya *et al.* (2015) that there are potential constraints encountered by executives, which possibly restrict their control and intentions to engage in SR.

Based on the above, the study hypothesizes that:

- H1.* There is a positive relationship between manager knowledge and awareness and adoption of SR.
- H2.* There is a positive relationship between manager educational qualification and adoption of SR.
- H3.* There is a positive relationship between manager professional education and adoption of SR.
- H4.* There is a negative relationship between manager age and adoption of SR.
- H5.* There is a positive relationship between the presence of a female manager and adoption of SR.
- H6.* There is a negative relationship between manager tenure and adoption of SR.
- H7.* There is a positive relationship between manager religious affiliation and adoption of SR.
- H8.* There is a positive relationship between manager attitudes and adoption of SR.
- H9.* There is a positive relationship between manager subjective norms and adoption of SR.
- H10.* There is a positive relationship between manager perceived behavioral control and adoption of SR.

### 3. Data and methods

The population of the study consists of 592 SMEs operating in the manufacturing and service sectors in Ghana. These SMEs are registered members of the Association of Ghana Industries, Ghana Tourism Authority and Ghana Enterprises Agency. To fairly represent the target population and minimize sampling error or bias, firms are sampled based on industrial affiliation using a simple random sampling technique. Yamane's (1973) formula is used 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 239 firms (i.e. 98 from the manufacturing and 141 from the service sectors).

The total number of questionnaires that were returned from the survey of 239 firms is 188, representing approximately 79% response rate. However, five questionnaires were partially answered leaving 183 questionnaires usable. The 183 SME respondents have industrial affiliations in this regard i.e. service 59.56% (hotel, restaurant, printing and publication, transportation) and manufacturing 40.44% (mineral water, alcohol and soft drinks, building materials, pharmaceutical products, cleaning agents and detergents). Different from previous studies, this study uses structural equation modelling (SEM) as a key multivariate tool for the analysis.

Table 1 provides information on the variables used in the study. The dependent variable for the study is SR (comprising economic reporting, environmental reporting and social reporting). The dependent variable was determined by asking the managers if their firms prepare sustainability reports covering all the dimensions. The dependent variable (SR) is coded as 0 = Not reporting on sustainability and 1 = reporting sustainability. The current study uses ten independent variables relating to SME managers and SR derived after reviewing extant literature on the subject matter, and seven control variables that are dealt with in the study's hypotheses. The review of literature highlights the effect of firm-specific characteristics on SR. This study, therefore, controlled for the effect of firm size, profitability, media visibility, ownership type, firm age, industry affiliation and financial leverage.

#### 4. Data analysis and results

The study's model is estimated using the SEM approach in Amos (v.23). To start with, exploratory factor analysis (EFA), confirmatory factor analysis (CFA) and discriminant validity are conducted as part of the validity and reliability tests.

##### 4.1 Exploratory factor analysis

The EFA helps to determine if measurement items rightly load under the respective latent variables. The study has five latent variables which are attitude, subjective norm, perceived behavioral control, knowledge and awareness and SR. Attitude, subjective norms and perceived behavioral control are proxies for manager psychological attributes, which are considered individually. The questionnaire has nine developed measurement items under attitude, nine under the subjective norms, seven under perceived behavioral control, six under knowledge and awareness and three under SR. A minimum factor loading of 0.5 is expected while measurement items are also expected to load under their respective latent variables. Measurement items that fail to meet these criteria are rejected. After the EFA, one measurement item is rejected under attitude while five items are rejected under subjective norms.

From the EFA results in Table 2, the total variance extracted is 75.70%. The Kaiser–Meyer–Olkin (KMO) measures of sampling adequacy score is 0.894. This means that the sample size is adequate for the EFA. Bartlett's test of sphericity is expected to be statistically significant to indicate that there exist adequate correlations among the variables to warrant EFA. Results for this are statistically significant ( $\chi^2 = 6887.522$ ; Sig. = 0.000), indicating that EFA is appropriately conducted. The correlation determinant is expected to be not equal to zero (0) as an indication of positive definiteness. The determinant for this EFA is 1.919E-18 (greater than 0), indicating that there is positive definiteness in the data for the estimation.

##### 4.2 Confirmatory factor analysis

The results of the test conducted using CFA are presented in Table 3 which shows that the standardized factor loadings for each measurement variable are expected to be at least 0.5. This is achieved for all the measurement items, indicating that the measurement items significantly define the proposed latent variables. The composite reliability (CR) for all the items is statistically significant at 0.1% level of significance. The Cronbach's alpha (CA) for all the variables is larger

Variable	Acronym	Measurement	Key authors
<i>Dependent</i>			
Sustainability reporting	<i>SUS_RP</i>	A dummy variable assuming a value of 1 if a firm prepares sustainability reports that cover all the dimensions of sustainability; 0 if otherwise	Tauringana (2021b)
<i>Independent</i>			
Manager knowledge and awareness	<i>Omkn_Aware</i>	Average score from indicators retained after factor analysis based on the score of a five-point Likert scale	Weerasiri and Zhengang (2012), Gadenne <i>et al.</i> (2009)
Manager educational qualification	<i>OmGen_Educ</i>	A dummy variable assuming a value of 1 if a manager has an educational qualification; 0 if otherwise	Huang (2013), Manner (2010)
Manager professional education	<i>OmProf_Educ</i>	A dummy variable assuming a value of 1 if a manager has professional educational qualification; 0 if otherwise	Lin and Ho (2011), Amore <i>et al.</i> (2019)
Manager age	<i>Om_Age</i>	Age of the manager	Tran and Pham (2020)
Manager gender	<i>Om_Gender</i>	A dummy variable assuming a value of 1 if a manager is male; 0 if otherwise	Malik <i>et al.</i> (2020), Manner (2010)
Manager Tenure	<i>Om_Tenure</i>	A natural logarithm of number of years a manager has worked for a firm	Malik <i>et al.</i> (2020)
Manager religious affiliation	<i>Om_Religion</i>	A dummy variable for religion of a manager. a value of 1 for Christianity; 0 if otherwise	Angelidis and Ibrahim (2004)
Manager attitude	<i>ATTI</i>	Average score from indicators retained after factor analysis based on the score of a five-point Likert scale	Thoradeniya <i>et al.</i> (2015), Cordano and Frieze (2000)
Manager subjective norm	<i>NB</i>	Average score from indicators retained after factor analysis based on the score of a five-point Likert scale	Thoradeniya <i>et al.</i> (2015), Cordano and Frieze (2000)
Manager perceived behavioral control	<i>CONT</i>	Average score from indicators retained after factor analysis based on the score of a five-point Likert scale	Thoradeniya <i>et al.</i> (2015), Cordano and Frieze (2000)
<i>Control</i>			
Firm size	<i>Firm_Size</i>	The natural logarithm of the number of employees	Tauringana (2021b); Asare <i>et al.</i> (2021)
Profitability	<i>Profit</i>	A dummy variable assuming the value of 1 if the firm is profitable; 0 if otherwise	Shamil <i>et al.</i> (2014); Haniffa and Cooke (2005)
Media visibility	<i>Media_Vis</i>	A dummy variable assuming the value of 1 if the firm is exposed to the media; 0 if otherwise	Braam <i>et al.</i> (2016)
Ownership structure	<i>Own_Str</i>	A dummy variable assuming the value of 1 if a firm is foreign-owned; 0 if otherwise	Tauringana (2021b)
Firm age	<i>Firm_Age</i>	The natural logarithm of the number of years a firm has existed	Tauringana (2021b); Asare <i>et al.</i> (2021)
Industry affiliation	<i>Ind_Aff</i>	A dummy variable assuming the value of 1 if a firm is manufacturing; 0 if otherwise	Uyar <i>et al.</i> (2021), Welbeck (2017)
Financial leverage	<i>Fin_Lev</i>	A dummy variable assuming the value of 1 if the firm is leveraged; 0 if otherwise	Masud <i>et al.</i> (2018), Kent and Monem (2008)

**Table 1.**  
Description of variables

**Source:** Authors' estimation and compilation from extant literature

Measurement items	Components					Manager attributes
	1	2	3	4	5	
ATTI1	0.753					
ATTI2	0.799					
ATTI3	0.826					
ATTI4	0.763					
ATTI5	0.807					
ATTI6	0.803					
ATTI7	0.823					
ATTI8	0.517					
SN1		0.574				
SN2		0.719				
SN3		0.828				
SN4		0.751				
CONT1			0.864			
CONT2			0.904			
CONT3			0.874			
CONT4			0.822			
CONT5			0.914			
CONT6			0.927			
CONT7			0.917			
Kn_Aw1				0.892		
Kn_Aw2				0.887		
Kn_Aw3				0.854		
Kn_Aw4				0.818		
Kn_Aw5				0.619		
Kn_Aw6				0.572		
Env-SR					0.739	
Eco-SR					0.711	
Soc-SR					0.690	
Total variance explained						75.70%
KMO measure of sampling adequacy						0.894
Bartlett's test of sphericity		Approx. chi-square				6,887.522
		Df				666
		Sig.				0.000
a. Determinant						1.919E-18

**Notes:** Extraction method: principal component analysis; Rotation method: varimax with Kaiser normalization  
**Source:** Authors' computations from field data, 2022

**Table 2.**  
EFA

than the minimum expected value of 0.7, indicating that there is high internal consistency among the measurement variables. From the CFA results, the smallest loadings of the various variables can be seen. The least loading for each of the variable is indicate as follows: attitude (0.597), subjective norms (0.719); perceived behavioral control (0.806), manager knowledge (0.598) and SR (0.504). 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 3, it is observed that the results meet these thresholds and can, therefore, be concluded that the data appropriately fit the constructed model. To achieve convergent validity, average variance extracted (AVE) should be greater than 0.5, with CR and CA also being at least 0.7 (Fornell and Larcker, 1981).

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.
<i>Attitude (ATTI): CA = 0.927; CR = 0.927; AVE = 0.617</i>			
SR will improve the reputation of my firm (ATTI1)		0.696	–
SR will enhance the accountability to stakeholders of my firm (ATTI2)		0.735	13.477***
SR will improve stakeholder knowledge about my firm's activities toward sustainability (ATTI3)		0.836	10.464***
SR will give more information about my firm's activities for better decision-making for stakeholders (ATTI4)		0.860	10.668***
SR will improve communication within my firm (ATTI5)		0.804	10.118***
SR will help to increase the staff morale of my firm (ATTI6)		0.856	10.245***
SR will help to attract competent employees to my firm (ATTI7)		0.858	10.748***
SR will open my firm to public criticism when reporting unfavorable organizational impacts on the environment (ATTI8)		0.595	7.659***
<i>Subjective norms (SN): CA = 0.884; CR = 0.886; AVE = 0.663</i>			
Shareholders (SN1)		0.721	11.192***
Community (SN2)		0.870	14.974***
Nongovernmental organizations (SN3)		0.785	12.757***
Mass media (SN4)		0.871	–
<i>Perceived Behavioral Control (CONT): CA = 0.965; CR = 0.965; AVE = 0.796</i>			
Availability of resources (financial and time) (CONT1)		0.852	17.893***
Support from top management and employees (CONT2)		0.880	19.538***
Availability of SR guidelines (such as Global Reporting Initiative (GRI) guideline) (CONT3)		0.877	19.105***
Availability of non-financial data collection procedures (CONT4)		0.805	15.593***
Existence of a stock of specialized employees' knowledge, skills or expertise (CONT5)		0.939	24.017***
Awareness of the potential benefits of SR (CONT6)		0.959	25.774***
Familiarity with SR practices (CONT7)		0.924	–
<i>Manager knowledge and awareness (Kn_Aw): CA = 0.912; CR = 0.908; AVE = 0.626</i>			
I am familiar with the term SR (Kn_Aw1)		0.738	–
Education and training on the sustainability concept are regularly offered by the regulator (Kn_Aw2)		0.598	65.960***
My organization has a sustainability policy (Kn_Aw3)		0.861	20.043***
I am familiar with SR (social dimension) (Kn_Aw4)		0.840	16.097***
I am familiar with SR (economic dimension) (Kn_Aw5)		0.744	8.243***
I am familiar with SR (environmental dimension) (Kn_Aw6)		0.924	8.008***
<i>SR (SUS_R): CA = 0.768; CR = 0.795; AVE = 0.578</i>			
Does your firm currently report its environmental impacts (Env-SR)?		0.935	–
Does your firm currently report its economic impacts (Eco-SR)?		0.504	11.145***
Does your firm currently report its social impacts (Soc-SR)?		0.779	12.189***
<b>Notes:</b> *, **Sig. at 1%, ** Sig. at 5% and *Sig. at 10%			
<b>Source:</b> Authors' computations from field data, 2022			

**Table 3.**  
CFA

### 4.3 Discriminant validity

The study assesses discriminant validity by comparing the square root of  $\sqrt{\text{AVE}}$  to the respective inter-correlation coefficients. To claim discriminant validity, the  $\sqrt{\text{AVE}}$  should be larger than the respective inter-correlation coefficients as shown in Table 4. The least  $\sqrt{\text{AVE}}$  is 0.760 which is greater than the largest correlation score of 0.677. It is, thus, concluded that discriminant validity is achieved.

4.4 Multicollinearity

The Pearson correlation among variables shows that there is no multicollinearity challenge in the data set for the study. That is, no two predicting variables have correlation scores of more than 0.7 (Kennedy, 2008). Table 5 exhibits the correlation among the variables.

Table 6 and Figure 1 present the results of the model estimation. For the main effects (paths), the study finds the following: knowledge and awareness (Omkn\_Aware) ( $\beta = 1.134$ ; C.R. = 11.455) and educational qualification (OmGen\_Educ) ( $\beta = 0.389$ ; C.R. = 6.078) have significant positive effect on SR. Professional education (OmProf\_Educ) ( $\beta = 0.053$ ; C.R. = 1.359) has positive but insignificant effect on SR. The results again indicates that attitude (ATTI) ( $\beta = 0.634$ ; C.R. = 6.674) has a significant positive effect on SR. Age (Om\_Age) ( $\beta = -0.141$ ; C.R. = -1.986), gender (Om\_Gender) ( $\beta = -0.1082$ ; C.R. = -1.925), tenure (Om\_Tenure) ( $\beta = -0.662$ ; C.R. = -4.503) and religion (Om\_Religion) ( $\beta = -0.043$ ; C.R. = -1.049) have significant negative effects on SR. Attitude (ATTI) ( $\beta = 0.634$ ; C.R. = 6.674), subjective norms (SN) ( $\beta = 0.541$ ; C.R. = 4.704) ( $\beta = 0.541$ ; C.R. = 4.704) and perceived behavioral control (CONT) ( $\beta = 0.773$ ; C.R. = 6.902) also have significant positive effects on SR. Furthermore, all the control variables (firm size, profitability, media visibility, ownership structure, firm age, industry affiliation and financial leverage) have significant relationships with SR.

4.5 Discussion of results

Table 7 provides a summary of results for the study’s hypotheses based on the results in Table 5 and Figure 1. The following are the discussions bearing on the latter. Manager knowledge and awareness of sustainability are found to have significant positive effects on SR adoption among SMEs. This implies that a high level of sustainability knowledge and awareness among SME managers leads to the adoption of SR. Knowledge and awareness have constitute part of the critical resources that hinder SMEs from engaging in sustainability practices (Tauringana, 2021b). Bevan and Yung (2015) and Hasan (2016) indicate that the level of awareness and knowledge are positively related to environmental and SR.

The study also finds that educational qualification has a positive influence on SR among SMEs. This suggests that SMEs with managers with higher educational qualifications are more likely to adopt SR. It is noted that the level of education of a manager plays significant roles in the adoption of SR and its related policies among SMEs. This result supports the notion that education increases the confidence level of managers and significantly affects their ability to confront uncertainties. It also determines managers’ level of risk tolerance, given that persons with higher levels of education exhibit greater concern and awareness toward environmental issues (Cho et al., 2019). This finding is consistent with the results of Huang (2013), Cho et al. (2019), Amore et al. (2019), Malik et al. (2020) and Tran and Pham (2020). However, this result is inconsistent with the findings of Lewis et al. (2013) who finds a significant negative relationship between managers with law degrees and SR.

Variables	SUS_R	Kn_Aw	ATTI	SN	CONT
SR (SUS_R)	<i>0.760</i>				
Knowledge and awareness (Kn_Aw)	<b>0.677***</b>	<i>0.791</i>			
Attitude (ATTI)	<b>0.488***</b>	<b>0.561***</b>	<i>0.785</i>		
Subjective norms (SN)	<b>0.441**</b>	<b>0.498**</b>	<b>0.536***</b>	<i>0.814</i>	
Perceived Beh. Con (CONT)	<b>0.292***</b>	<b>0.402***</b>	<b>0.258**</b>	<b>0.557***</b>	<i>0.892</i>

Notes: \*\*\*Sig. at 1%; \*\*Sig. at 5% and \*Sig. at 10%;  $\sqrt{\text{AVE}}$  are bolded and underlined  
 Source: Authors’ Computations from Field Data, 2022

Table 4. Discriminant validity

**Table 5.**  
Correlation analysis

Variables	1	2	3	4	5	6	7	8	9
SUS_RP (1)	1								
Omkn_Aware (2)	0.665***	1							
OmGen_Educ (3)	0.159**	0.166**	1						
OmProf_Educ (4)	0.316***	0.239***	0.315***	1					
Om_Age (5)	-0.230**	0.192***	0.221***	-0.193***	1				
Om_Gender (6)	-0.184	0.274***	0.022	0.006	0.137	1			
Om_Tenure (7)	-0.266**	0.127	0.231***	-0.090	0.619***	0.133	1		
Om_Religion (8)	-0.167	0.065	0.057	0.061	-0.011	-0.058	0.138	1	
ATTI (9)	0.407***	0.536***	0.039	0.173**	0.059	0.266***	0.138	0.009	1
SN (10)	0.427***	0.459***	0.091	0.304***	-0.039	0.083	-0.081	0.183**	0.474***
CONT (11)	0.286**	0.400***	-0.067	0.049	-0.083	0.048	-0.097	0.144	0.233***
Firm_Size (12)	0.324***	0.545***	0.004	0.122	0.289***	0.117	0.337***	-0.038	0.284***
Profit (13)	0.297***	0.175**	0.165**	0.182**	0.230***	0.221***	0.180**	-0.075	0.250***
Media_Vis (14)	0.308***	0.497***	0.062	0.137	0.113	0.047	0.105	-0.006	0.208***
Own_Str (15)	0.250***	-0.143	-0.037	-0.437***	0.103	0.079	0.078	-0.151**	0.004
Firm_Age (16)	0.217***	0.412***	0.210***	0.074	0.521***	0.103	0.636***	-0.008	0.250***
Ind_Aff (17)	0.373***	0.446***	0.017	0.105	0.246***	0.318***	0.287***	-0.081	0.337***
Fin_Lev (18)	0.255***	0.432***	0.156**	0.114	0.337***	0.210***	0.228***	-0.054	0.367***

Notes: \*\*\*Sig. at 1%; \*\*Sig. at 5% and \*Sig. at 10%  
Source: Authors' computations from field data, 2022

(continued)

Variables	10	11	12	13	14	15	16	17	18
SUS_RP (1)	1								
Omkn_Aware (2)	0.517***	1							
OmGen_Educ (3)	0.274***	0.395***	1						
OmProf_Educ (4)	0.166**	-0.322***	0.089	1					
Om_Age (5)	0.319***	0.206***	0.375***	0.283***	1				
Om_Gender (6)	-0.105	0.015	-0.064	-0.123	-0.186**	1			
Om_Tenure (7)	0.122	0.028	0.535***	0.190***	0.277***	-0.173**	1		
Om_Religion (8)	0.236***	0.104	0.424***	0.354***	0.301***	-0.091	0.348***	1	
ATTI (9)	0.025	-0.077	0.224***	0.379***	0.242***	-0.059	0.302***	0.333***	1
SN (10)									
CONT (11)									
Firm_Size (12)									
Profit (13)									
Media_Vis (14)									
Own_Str (15)									
Firm_Age (16)									
Ind_Aff (17)									
Fin_Lev (18)									

Manager attributes

Table 5.

Direct paths	Std. estimate	UnStd. estimate	S.E.	C.R.
Omkn_Aware → SUS_R	0.765	1.134	0.099	11.455***
OmGen_Educ → SUS_R	0.278	0.389	0.064	6.078***
OmProf_Educ → SUS_R	0.015	0.053	0.039	1.359
Om_Age → SUS_R	-0.116	-0.141	0.071	-1.986*
Om_Gender → SUS_R	-0.038	-0.102	0.053	-1.925
Om_Tenure → SUS_R	-0.167	-0.662	0.147	-4.503***
Om_Religion → SUS_R	-0.013	-0.043	0.041	-1.049
ATTI → SUS_R	0.514	0.634	0.095	6.674***
SN → SUS_R	0.342	0.541	0.115	4.704***
CONT → SUS_R	0.523	0.773	0.112	6.902***
Firm_Size → SUS_R	0.064	0.216	0.102	2.118*
Profit → SUS_R	0.090	0.259	0.101	2.564**
Media_Vis → SUS_R	0.037	0.133	0.066	2.015*
Own Str → SUS_R	-0.045	-0.251	0.109	-2.303*
Firm_Age → SUS_R	0.042	0.184	0.093	1.978*
Ind Aff → SUS_R	0.257	0.705	0.066	10.682***
Fin Lev → SUS_R	0.102	0.306	0.059	5.186***

**Table 6.**  
Direct and  
moderating path  
estimates

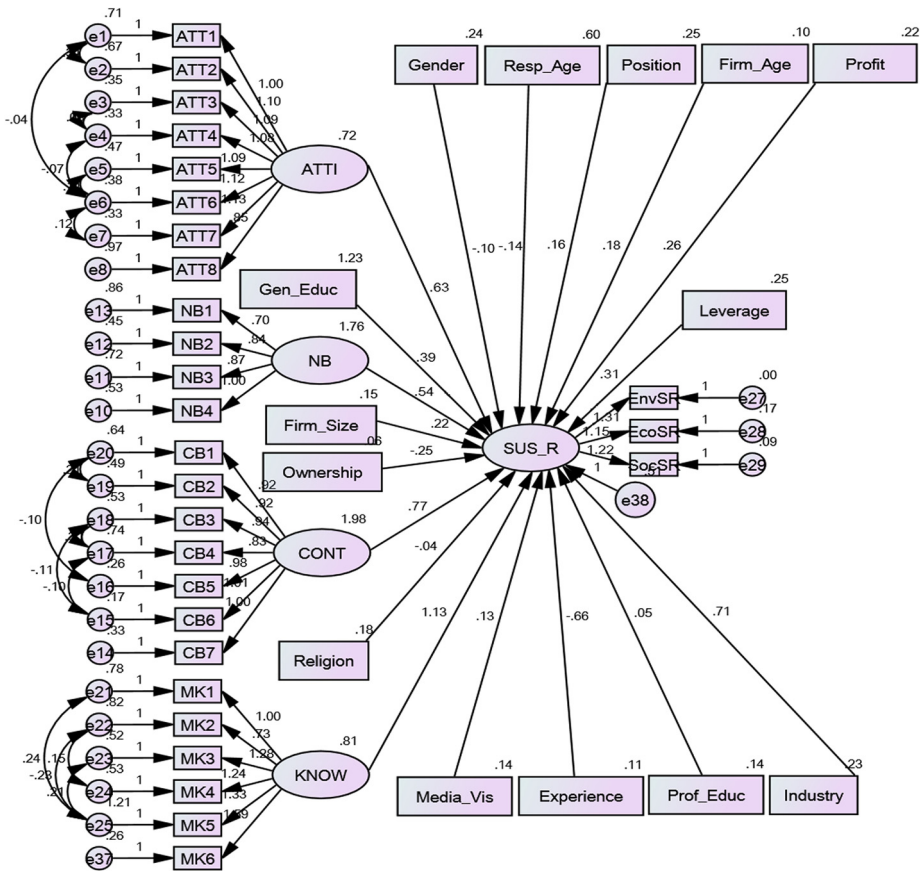
**Notes:** \*\*\*Sig. at 1%; \*\*Sig. at 5%; \*Sig. at 10%

**Source:** Authors' computations from field data, 2022

The relationship between managers' professional qualifications (Association of Chartered Certified Accountants, Institute of Chartered Accountants, Chartered Institute of Management Accountants, etc.) and SR is found to be positive, but statistically insignificant among SMEs in Ghana. This finding is not surprising because unlike professional fields such as accounting, engineering, law and medicine where professional qualification matter, the role of qualification is not the same in SME management in general (Yusuf and Saffu, 2005). Due to the lack of resources associated with SMEs (Tauringana, 2021a; Abor and Quartey, 2010), managers may not proceed to acquire professional education merely for the purpose of sharpening their skills. They would rather seek practical and advanced knowledge relevant to their field of business through continuous reading, attending workshops and seminars and learning from experts and other people's experiences (Malik *et al.*, 2020).

The age of a manager has a negative effect on SR among SMEs in Ghana. This implies that the age of a manager is an important determinant of SR. SME managers' tendency to indulge in innovative activities becomes weak as they progress in age, possibly because of their desire to play safe, their risk aversion and inclination toward being conservative (Barker and Mueller, 2002). However, Shahab *et al.* (2020) also establish that there is a higher tendency for younger managers to take actions that minimize environmental reporting as compared to their older counterparts.

The present study again reveals an insignificant negative relationship between manager gender and adoption of SR, implying that the gender of a manager does not determine the adoption of SR. This finding contrasts with the results of many of the studies from developed economies (Masud *et al.*, 2018; Shamil *et al.*, 2014; Huang, 2013; Boulouta, 2013) which find a significant positive relationship between SR and women occupying managerial positions like chief executive officers (CEOs) and corporate directorships. The study's hypothesis that the presence of women managers will increase the adoption of SR in SMEs is not only desirable in Ghana's context but will provide more equal opportunities for women's wider societal contribution to the sustainable improvement of SMEs.



Manager attributes

**Figure 1.**  
Diagrammatic presentation of SEM

**Source:** Authors' Computations from Field Data, 2022

Hypotheses	Relationship	Results
Knowledge and awareness – H1	Omkn_Aware → SR	Accepted
Educational qualification – H2	OmAca_Educ → SR	Accepted
Professional education – H3	OmProf_Educ → SR	Rejected
Age – H4	Om_Age → SR	Accepted
Gender – H5	Om_Gender → SR	Rejected
Tenure – H6	Om_Tenure → SR	Accepted
Religion – H7	Om_Religion → SR	Rejected
Attitude – H8	ATTI → SR	Accepted
Subjective norms – H9	SN → SR	Accepted
Perceived behavioral control – H10	CONT → SR	Accepted

**Source:** Authors' computations from field data, 2022

**Table 7.**  
Summary of results for hypotheses

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The tenure of a manager of SMEs has a significant negative effect on SR adoption among SMEs. This suggests that a higher level of working experience with an SME reduces the probability of SMEs engaging in SR. This finding is inconsistent with the results of [Malik et al. \(2020\)](#) but consistent with the results of [Khan et al. \(2020\)](#) and [Shahab et al. \(2020\)](#). This means that managers have numerous opportunities to address sustainability issues in their early years of employment to signal their competencies to minimize career-related problems ([Khan et al., 2020](#)). Longer tenure suggests more power, less job insecurity and entrenchment, leading to a lower focus on investments in corporate sustainability activities and related reportage ([Malik et al., 2020](#)). Furthermore, this finding supports the UET which emphasizes that the distinct attribute of a manager of an SME appears to be the key determinants for the strategic policy implementation of the firm ([Hambrick, 2007](#)).

The relationship between SME managers' religious background and SR is statistically insignificant. This finding coincides with the results of [Agle and van Buren \(1999\)](#). The possible explanation for this insignificant relationship may be that Ghanaian managers appear to be both business and profit-centered and, therefore, do not allow their religious values to mingle with their economic values. In other words, the substance of their economic values overrides their religious values in the field of business. However, this finding does not lend support to UET and is also inconsistent with the results of [Thoradeniya et al. \(2015\)](#) who observes that psychological factors relating to religion, particularly Buddhism, influence managers' beliefs to engage in SR in Sri Lanka. In a similar study, [Angelidis and Ibrahim \(2004\)](#) and [Chantziaras et al. \(2020\)](#) equally find conflicting results by establishing a significant relationship between CEOs' religious affiliation and SR.

On manager attitude, the results show a significant positive relationship between manager attitude and the probability of the SME adopting SR. This implies that managers' decision to engage in a positive behavior toward SR is influenced by their attitude. Managers' attitudes toward a certain behavior are influenced by their evaluation of the outcomes connected with such behavior and by the strength of these connections ([Ajzen, 1985](#)). One notable feature of Ghanaian SMEs is that they are fully or partly managed by managers in a personalized way, without a formalized management structure ([Abor and Quartey, 2010](#)). In this instance, a strategic decision such as adopting SR is the sole discretionary choice of the SME managers as the practice is largely voluntary in Ghana. The findings of a significant and positive association between attitude and behavioral intentions are consistent with the results of [Thoradeniya et al. \(2015\)](#) and [Weidman et al. \(2010\)](#).

Another notable result of the study is the significant positive impact of manager subjective norms (normative beliefs) on SR among SMEs in Ghana. This finding validates the principles of TPB and affirms the results of [Thoradeniya et al. \(2015\)](#) and [Weidman et al. \(2010\)](#). Similarly, manager perceived behavioral control is also found to have a significant and positive influence on SR among SMEs. These findings support [Thoradeniya et al. \(2015\)](#), [Weidman et al. \(2010\)](#) and [Baker et al. \(2007\)](#) who have similar results.

## 5. Conclusion

The evidence from the study suggests that not all manager attributes and psychological factors have significant impact on the adoption of SR of SMEs. The results show that managers' knowledge and awareness, educational level, age, tenure, attitude, subjective norms and perceived behavioral control have effects on the adoption of SR in Ghana, lending support to the UET and TPB in the context of SMEs. However, professional education, gender and religion appear to have no influence on SR adoption.

### 5.1 Implications of the findings

Manager knowledge and awareness of sustainability have a positive effect on SR in SMEs in Ghana. This implies that a high level of sustainability knowledge and awareness among managers of SMEs lead to an increase in SR adoption. Knowledge and awareness are, thus, critical resources that help managers of SMEs to engage in SR. A lack of knowledge and awareness of sustainability and its reportage can hinder SMEs from contributing to the SD agenda. The study's findings also imply that managers with some educational qualifications are more likely to engage in SR. However, SME managers with professional qualifications do not necessarily adopt SR.

Given that SMEs' adoption of SR in Ghana is low, the study recommends that regulators and policymakers collaborate with the associations of the various industries to embark on extensive public awareness creation exercises such as organizing symposiums, workshops, seminars and conferences about the socio-economic benefits of firms' sustainability activities and reporting. This will increase SME managers' knowledge and awareness of SR. Policymakers should also take initiatives to institute policies to enable both professional and academic institutions to incorporate sustainability frameworks into their curricula. This can be achieved through accreditation arrangements with the aim of shaping the beliefs of current and future leaders of SMEs. Education has the potency to enlighten the managers of SMEs on sustainability issues and the relevance of engaging in SR.

Given that the age of managers is an important determinant of SR adoption, the study contends that older managers of SMEs perhaps have weaker mental and physical stamina and are therefore less likely to cope with organizational changes or spend a lot of money on activities which take a longer period to pay back. It is obvious that the older managers appear to have different motivations and incentives compared to younger managers and that affects them in helping their SMEs adopt SR. Younger managers are better placed to make rational decisions on matters such as SR adoption. On the other hand, the gender of managers is negatively related to SR. This has been explained to mean that being a female or male manager in a Ghanaian SME does not predispose one to help an SME adopt SR. There is a need to adopt measures intended to support women by removing workplace barriers to gender equality that impede women's career progression. Again, increasing women's representation in management positions of SMEs is not only desirable in the quest to provide more equal opportunities for women but will also ensure a wider societal contribution to SD. So, given that most SME managers in Ghana are males, the study conjectures that increasing women managers in SMEs may change the narrative in future studies in this regard.

A strategic decision such as SR adoption is the sole discretionary decision of the managers of the SMEs. In this study, it is indicated that newly appointed managers have a longer projected career horizon than managers nearing the end of their tenures. In line with the principles of TPB, managers who perceive that engaging in SR will lead to positive outcomes will hold a favorable attitude toward engaging in SR while managers who perceive that engaging in SR will lead to negative outcomes will hold an unfavorable attitude toward engaging in SR. Ironically, SMEs with financial challenges consider adopting a strategic concept such as SR after a careful assessment of economic cost and benefit.

The findings indicate that managers' perception of pressure from several stakeholders (i.e. government/regulators, customers, society, creditors/lenders, mass media, shareholders) is likely to influence SMEs' intention to engage in SR. These diverse stakeholders may have a role to play in SMEs' contributions to the achievement of the SDGs in Ghana. Similarly, managers perceived behavioral control is also found to have effects on the adoption of SR among SMEs. The general perceptions and narratives on SD, SDGs and SR should be well tailored and grafted to avoid negative beliefs about the concept of sustainability. Regulators

should ensure that managers of SMEs comply with sustainability standards and practices as part of their commitment to the SD agenda.

Finally, legislations, standards and guidelines governing sustainability and its reportage should be properly synchronized and enforced to ensure that SMEs significantly contribute to the SDGs in Ghana. It is, therefore, recommended that SMEs should take into consideration the managers attributes and psychological factors such as knowledge and awareness, educational level, age, tenure, attitude, subjective norms and perceived behavioral control in the process of selecting suitable individuals to occupy management positions. The findings of the study confirm the doctrines of UET and TPB which posit that the strategic choices of firms are the reflection of the background attributes and psychological traits of their management. For instance, if SMEs desire to adjust positively to firms' SR practices, they should employ a new manager with high level of education and adequate knowledge and awareness of sustainability accounting.

### 5.2 Limitations and recommendations

This study is not free from some latent limitations despite the contributions it makes. The study uses a close-ended questionnaire to solicit responses from the respondents. Such an approach has inherent problems related to not permitting respondents to explicitly express their views as they wish. Future research can consider using interviews in their approach. Also, the research incorporated several variables in determining the impact of manager attributes and psychological factors on SR, the list of variables included is not exhaustive. There is the possibility of omitting key variables leading to model misspecification. Future studies can consider other manager demographic attributes such as marital status and foreign exposure.

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